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DEVELOPMENT, IMPLEMENTATION AND EVALUATION OF A CURRICULUM FOR TEACHING RELATIONAL COMMUNICATION SKILLS IN DENTISTRY

by

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PREFACE

"Medicine (dentistry) is not only a science, but also the art of letting our own individuality interact with the individuality of the patient" - Albert Schweitzer

The interview between dentist and patient is central to clinical dentistry. Such an interview is critical, taking only a few minutes for the dentist to establish a meaningful relationship with the patient. A dentist's behaviour, apart from clinical performance, may often be the most important aspect of the dentist-patient relationship. Thus a dentist needs to understand the individual patient, and most importantly, be able to communicate this understanding to the patient.

In view of the emerging, competitive South African dental market which is characterised by:

(i) a rapid decline in the funding of oral care;

(ii) patients' need for comprehensive dentistry that is not reflected in their demand for such, and

(iii) the cost structure of the average dental practice, the dentist-patient relationship is a crucial factor that has an influence on the viability of the average dental practice in South Africa (SA).

However, a knowledgeable, clinically competent dentist is not enough to ensure a viable practice particularly if communication difficulties between dentist and patient become an obstacle. This would prevent the dentist from discovering the exact cause of the patient's problem or alternatively, from discussing a treatment plan that the patient can fully understand and wishes the dentist to implement. Hence, the need for a dentist to enter the market with a competitive advantage (for example the ability to maintain a quality interaction with the patient) and as a result, to create a loyal patient who is prepared to invest in comprehensive dentistry. Comprehensive dentistry comprises all the clinical disciplines of dentistry, namely restorative dentistry and prosthodontics, aesthetic (cosmetic) dentistry, preventative dentistry, orthodontics, periodontics and surgery.

The School of Dentistry, University of Pretoria, recently implemented an outcomes-based curriculum. Although the curriculum is based on a bio-psycho-social approach, the clinical training and learning emphasises the "bio" aspects of the application of knowledge by means of the clinical reasoning process. As a result, almost no attention is given to the psychosocial educational needs.

Although communication skills were identified as a cross-field outcome to be achieved by dental students, students did not receive any formal communication skills training.

The School's quest to innovate, to be locally relevant and internationally competitive, as well as to train scientific and humanistic dental physicians, will only be met if the curriculum develops students' interpersonal skills that will facilitate effective and empathic relationships with patients. To enter the competitive dental market with a competitive advantage (the ability to engage in a quality interaction with the patient) is a recipe for success. Communication skills education should therefore become an essential part of dental students' undergraduate training.

With appropriate communication skills, the South African dentist will hopefully be empowered to meet the challenges in a dynamic and challenging South African dental market. As a result, the following prerequisites for a viable practice can be envisaged:

- An increase in the number of patients who have an *appreciation* for
- dentistry;
- An increased *loyalty* among patients towards the dentist;
- An increase in the *demand* for comprehensive dental care by patients;
- An improvement in the *viability* of a dental practice.

With the above in mind, a curriculum in relational communication skills was developed, implemented and evaluated that will foster dental students' relationships with their patients. This curriculum in relational communication skills is an attempt to equip dental students at the University of Pretoria with relational communication

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skills that will empower them to create a loyal patient who is prepared to enjoy a long-term, viable relationship with them as their dentist.

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ABSTRACT

A private dental practice, in order to be viable, requires patients who are loyal, dentally educated, and, as a result, prepared to invest in comprehensive dentistry. However, a vital, yet often underestimated prerequisite for creating such a patient, is the dentist's ability to communicate effectively with the patient. The *aim* of this study was to develop, implement and evaluate a curriculum in relational communication skills for third year dental students.

The *methodology* employed during the study enhanced a student-centered, problem-oriented learning approach by means of an experiential learning strategy complemented by a didactic teaching strategy (ATF-strategy). The ATF-teaching strategy was *designed* in a pre- and post-training cycle:

(i) **A**ffectively stimulate students: video recordings and evaluation of third year dental students' base line relational communication skills with a standardised patient (SP);

(ii) Presenting the **t**heory: developing students' relational communication skills by means of a didactic lecture and role playing a structured interview with peers;

(iii) Opportunity to **f**unctionalise the skills: role playing a structured interview with a SP and evaluation of students' newly developed relational communication skills by means of an assessment rubric and video recordings and -feedback.

The *subjects* in the study were third year dental students (n = 67). The following *instruments* were employed: a case study of a clinical scenario was used to role-play an interview with a SP. The SP used a "rubric", representing the six dimensions of the required relational communication skills, as an assessment instrument to provide descriptive feedback to each student. The "dentist's" feedback was a questionnaire completed by each student about his/her experience as "dentist" during the interview with the SP.

The "patient's" feedback was a questionnaire completed by the SP about his/her experience as "patient" during the interview. A study guide, describing the evidence behind relational communication skills training, as well as the relational communication skills required, was developed and a copy was issued to each student.

Quantitative and qualitative *results* were obtained.

(i) Quantitative results: both male and female students, as well as the class as a whole, scored significantly higher during training cycle 2 compared to training cycle 1 ($p < 0.0001$) for five of the six dimensions of the rubric (except Dimension: "Opening the interview"). This confirms the effectiveness of the teaching strategy to develop third year dental students' relational communication skills. Both male and female students rated the appropriateness of the teaching methods employed during the study, rather highly (4.18 and 4.26 on a five-point Likert scale, respectively);

(ii) Qualitative results: the "dentists'" feedback showed that by role-playing a structured interview, students' confidence to interact in a relaxed way with the "patient" was enhanced. Furthermore, the important roles of trust, empathy and active listening in establishing a meaningful relationship with a patient, were emphasised by most of the students.

It is *concluded* that the ATF-teaching strategy employed for teaching third year dental students relational communication skills, proved to be an effective strategy and was perceived by the students as a valuable and appropriate strategy.

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SAMEVATTING

Die lewensvatbaarheid van ‘n tandheelkundige praktyk is afhanklik van lojale, tandheelkundig opgevoede pasiënte wat bereid is om in omvattende tandheelkundige sorg te belê. ‘n Essensiële, maar onderskatte voorvereiste vir die skepping van ‘n lojale, tandheelkundig opgevoede pasiënt wat bereid is om in omvattende tandheelkundige sorg te belê, is die tandarts se vermoë om doeltreffend met die pasiënt te kommunikeer. Die *doel* van die studie was om ‘n kurrikulum in verhoudingskommunikasievaardighede vir derde jaar tandheelkunde studente te ontwikkel, implementer en evalueer.

Die *metode* wat gevolg is, het ‘n student-gesentreerde, probleem-georïenteerde opleidingsbenadering beklemtoon deur middel van ervaringsleer aangevul deur ‘n didaktiese opleidingstrategie (ATF-strategie). Die ATF-opleidingstrategie was ontwerp in ‘n voor- en ná-opleidingsiklus:

(i) **A**ffektiewe stimulering van studente: video opnames en evaluering van derde jaar tandheelkunde studente se basislyn verhoudingskommunikasievaardighede met ‘n gestandaardiseerde pasiënt (SP);

(ii) Aanbied van die **t**eorie: ontwikkeling van studente se verhoudingskommuniksievaardighede deur middel van ‘n didaktiese lesing en rolspel van gestruktureerde eweknie-onderhoude met klasmaats;

(iii) Geleentheid om vaardighede te **f**unksionaliseer: rolspel van ‘n gestruktureerde onderhoud met ‘n SP en evaluering van studente se nuut-ontwikkelde verhoudingskommunikasievaardighede deur middel van ‘n assesseringsrubriek en video opnames en -terugvoer.

Die *subjekte* in die studie was derde jaar tandheelkunde studente (n = 67). Die volgende *instrumente* is aangewend gedurende die studie: ‘n Gevalstudie wat ‘n kliniese scenario verteenwoordig was gebruik om die onderhoud met die SP te rolspeel. Die SP het ‘n “rubriek”, wat die ses dimensies van die vereiste verhoudingskommunikasievaardighede verteenwoordig het, as assesseringsinstrument gebruik ten einde beskrywende terugvoer aan elke student te verskaf.

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Die "tandarts" se terugvoer was 'n vraelys wat deur elke student voltooi is omtrent hul ervaring as "tandarts" gedurende die onderhoud met die SP. Die "pasiënt" se terugvoer was 'n vraelys wat deur die SP voltooi is omtrent haar ervaring as "pasiënt" gedurende die onderhoud. 'n Studiegids wat die getuienis uit die literatuur beskryf het, asook die vereiste verhoudingskommunikasievaardighede, was ontwikkel en 'n kopie was aan elke student voorsien.

Kwantitatiewe en kwalitatiewe *resultate* is ingesamel.

(i) Kwantitatiewe resultate: beide manlike en vroulike studente, sowel as die klas as geheel, het betekenisvolle hoër tellings behaal tydens die tweede opleidingsiklus ($p < 0.0001$) ten opsigte van vyf van die ses dimensies van die rubriek (behalwe Dimensie: "Open die onderhoud"). Dit bevestig die doeltreffendheid van die opleidingstrategie om derde jaar tandheelkunde studente se verhoudingskommunikasievaardighede te ontwikkel. Beide manlike en vroulike studente het die toepaslikheid van die opleidingsmetodes hoog aangeslaan (4.18 en 4.26 op 'n vyf-punt Likert skaal, onderskeidelik);

(ii) Kwalitatiewe resultate: die "tandarts" se terugvoer het aangedui dat deur 'n gestruktureerde onderhoud te rolspeel, studente se selfvertroue om gemaklik met die "pasiënt" interaksie te hê, versterk is. Voorts is die belangrike rol van vertroue, empatie en aktief luister, vir die vestiging van 'n verhouding met 'n pasiënt, deur die meeste studente beklemtoon.

Ter *samevatting*, die ATF-opleidingstrategie wat tydens die studie aangewend is om derde jaar tandheelkunde studente op te lei in verhoudingskommunikasievaardighede, het getoon dat dit 'n doeltreffende strategie is en is deur die studente as waardevol en toepaslik ervaar.

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CHAPTER 1 BACKGROUND

1.1 Introduction

The purpose of Chapter 1 is to provide a background or overview for the study. The problem statement and hypothesis will be presented in more detail in Chapter 3.

This study resulted from the researcher's 25 years' experience of the South African dental market which prompted the realisation that the changing South African dental market has significant implications for the delivery and viability of private dentistry in South Africa (SA). In order to reduce the impact of the changing South African dental market on the delivery and viability of private dentistry in SA, South African dental educational institutions (dental schools) need to take cognisance of the changing South African dental market. The first lesson a dental student should be taught in dental school, is that to every patient there is attached a *person* and that the viability of a dental practice depends on this *person* to bring the patient back to the practice for dental treatment.

Dental students should realise *early* in their careers - in dental school - the importance of developing and mastering sound relational communication skills with patients. If students are not taught proper communication skills in dental school, they may develop incorrect habits and pay for their mistakes later in their professional careers (1). Dental schools should create competitive dentists - perceived by patients to be *different and unique* in their relationships with patients. As a result, curricular outcomes must integrate business principles such as customer relationship management (CRM), competitiveness and differentiation with the traditional clinically- and technique-orientated dental curriculum (Table 1, below).

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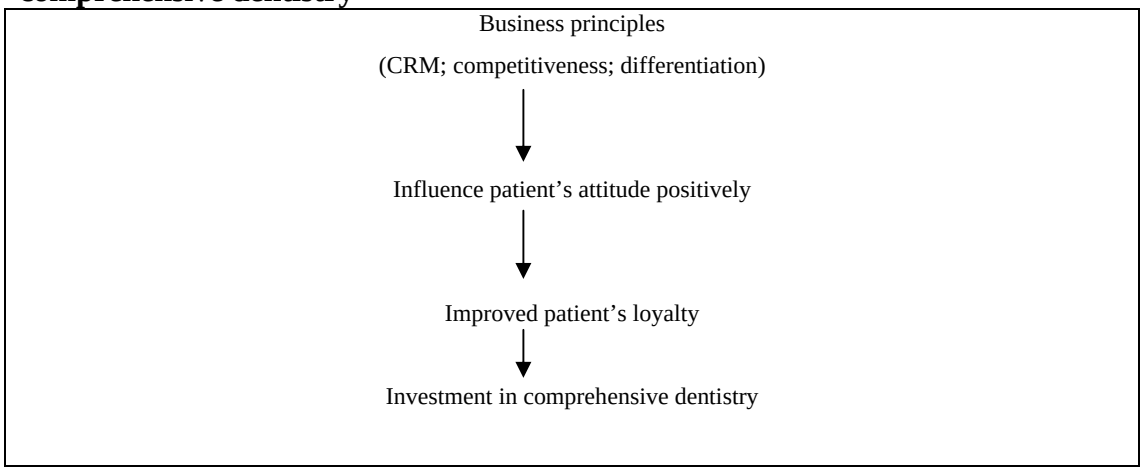
Table 1 Business principles, patient's attitude, -loyalty and investment in comprehensive dentistry



The future South African dentist must have the capacity to deal with patients' changing expectations and socio-economic realities. The future South African dentist must have the ability not only to treat the dental *patient*, but also to interact with the *person* carrying high expectations, hopes, biases and an increasing array of information (2).

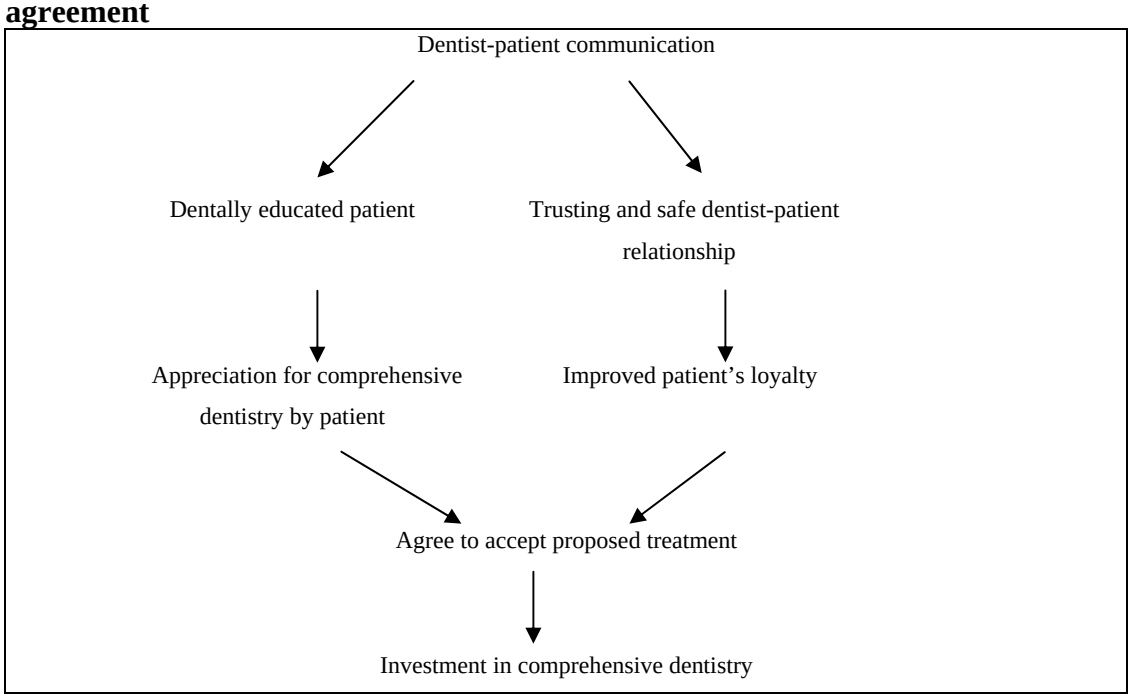
The point of departure for this study is the contention that a warm, personal and understanding dentist is the primary prerequisite in a patient's appreciation of, and demand for, comprehensive dentistry (3).

A private dental practice, in order to be viable, requires patients who are loyal and dentally educated. A loyal patient is prepared to develop a long-term, viable dentist-patient relationship (2). A dentally educated patient is prepared to invest in comprehensive dentistry (4). However, a vital, yet often underestimated prerequisite for creating a loyal, dentally educated patient is the dentist's ability to communicate effectively with a patient. In today's fast changing environment, communication skills are as important as clinical skills (2). Appropriate behaviour change on the part of the patient requires more than the giving of information to the patient. Appropriate behaviour change depends primarily on a personalised interaction with the dentist. A strong positive relationship is necessary in order for the patient to *act* upon the information.

Motivation of and agreement by the patient is the key to the acceptance of proposed treatment and consequently, achievement and maintenance of optimal oral care - and the viability of a dental practice (5)!

The result of effective communication is threefold (Table 2, below): Firstly, with education it creates a patient with an understanding of, or appreciation for, comprehensive dentistry. A patient with an understanding of comprehensive dentistry will agree to accept the proposed treatment plan (invest in comprehensive dentistry). Secondly, effective communication conveys warmth, interest, respect, empathy and sensitivity towards the patient through a patient-centered approach. As a result of this patient-centered approach, a loyal patient is created through a trusting and safe relationship. Finally, effective communication enables the dentist to deal with patients' expectations, emotions and anxieties and enable the dentist to recognise significant psychosocial factors, leading to more accurate diagnosis and treatment processes, thereby increasing patient satisfaction and -retention and, as a result, the dentist's job satisfaction (6).

Table 2 Dentist-patient communication, patient understanding, -loyalty and -agreement



A characteristic feature of a patient-centered approach by the dentist is the encouragement of patients to tell their "stories" or narratives concerning their dental illnesses, including their beliefs about, and emotions surrounding, their experiences of dental illnesses. A dentist with "narrative competence" does their patients and themselves a great service (7). The most efficient way to obtain a rich stream of diagnostically important information is to allow a patient to speak without early interruptions. Listening attentively to a patient's narrative and responding to the patient's emotions with empathy, strengthens the dentist-patient relationship, facilitates the dentist's exploration and clarification of the patient's attitudes and knowledge with regard to positive oral health.

A patient-centered approach enhances trust and loyalty and leads to improved treatment plan acceptance by the patient. Furthermore, patient-centered interviewing allows the dentist to elicit important psychosocial information, including beliefs about aetiology and treatment, important information with regard to family, work and financial status, all of which can affect patient education, the choice of treatment, and treatment plan acceptance and -compliance (7). Combining the patient's psychosocial information with the equally important biomedical information, leads to the patient's bio-psychosocial "story" - the most complete and scientific database yet available about a patient. Because the patient feels heard, understood and cared for, the patient feels special and perceives his/her experience as exceeding his/her expectations (2; 4).

Some dentists, however, do not encourage patients to tell their "stories". They may fear that it will take too long. Consequently, patients do not feel heard, understood and cared for. This results in a failure to build a healthy dentist-patient relationship (7). Only by understanding the patient's expectations, thoughts and feelings in relation to dental care, is a dentist able to influence the patient toward comprehensive dentistry (5).

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1.2 Aim of the study

The aim of the study is to develop, implement and evaluate a curriculum in relational communication skills to third year dental students in the School of Dentistry, University of Pretoria.

1.3 Objectives of the study

The objectives of the study will be to:

- Develop a cost-effective curriculum in relational communication skills for undergraduate dental education in terms of time and human resources;
- Implement the curriculum;
- Evaluate the curriculum in terms of its relevance and appropriateness.

1.4 Phases of the study

The phases of the study are as follows (Figure 1, below):

- Phase 1: Macro-analysis of the South African dental market;
- Phase 2: Dental education research intervention;
- Phase 3: Implementation and evaluation of the dental educational research intervention through action learning and - research.

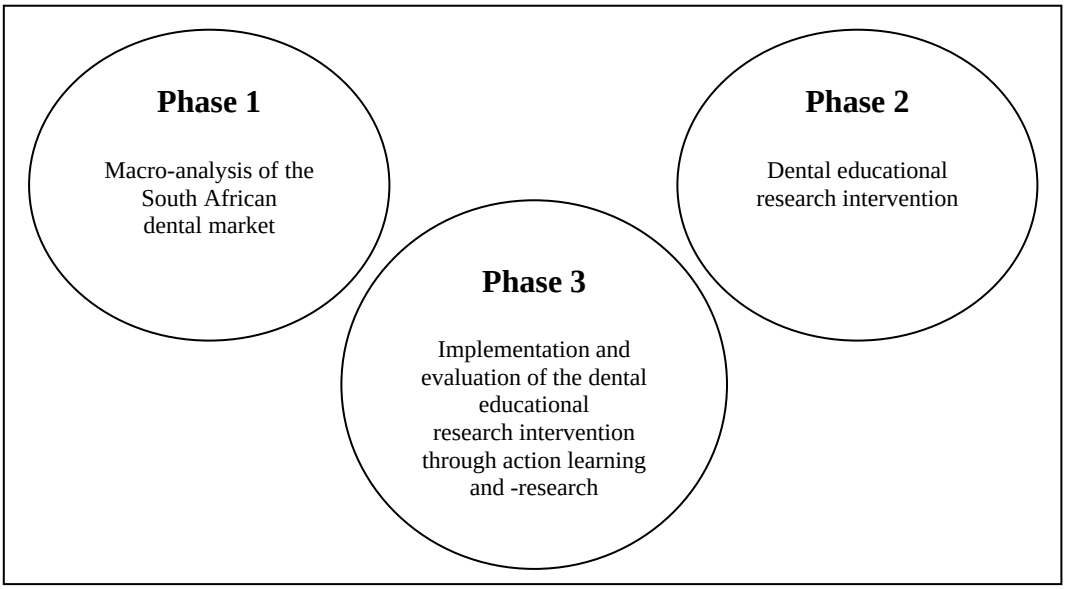

Figure 1 Phases of the study

1.5 Methodology

A cohort of 67 third year dental students comprised the subjects of the study. The methodology employed during the study enhanced a student-centered, problem-oriented learning approach by means of an experiential learning strategy complemented by a didactic teaching strategy.

1.6 Structure of the thesis

This study involves action learning and -research as well as curriculum development. Consequently, the thesis was structured to integrate the traditional research structure with the principles of action learning and -research and curriculum development.

Chapter 1: Background

Chapter 1 provides a background for the study. It illustrates the relationship between dentist-patient communication, the patient's understanding of, or appreciation for, comprehensive dentistry and the patient's eventual investment in comprehensive dentistry. Chapter 1 also illustrates the role of business principles in creating a competitive dentist. Finally it gives an overview of the aim, objectives, phases and methodology of the study, as well as the structure of the thesis.

Phase I: Macro-analysis of the South African dental market

Chapter 2: Interacting forces influencing dentistry in SA

Chapter 2 presents a macro-analysis of the South African dental market and describes the interacting forces that are influencing dentistry in SA and the implications of these interacting forces for the dental profession in SA.

Chapter 3: Problem statement & hypothesis

Chapter 3 presents the research problem. A solution to this research problem is proposed together with a consideration of the value of the proposed solution.

Chapter 4: A summary of the review of the literature

Chapter 4 presents a summary of the review of the literature that presents the most authoritative scholarship in relation to the research problem.

Phase II: Dental educational research intervention

Chapter 5: Proposed intervention

This chapter describes the dental educational research intervention, namely the development of an outcomes-based curriculum in relational communication skills.

Phase III: Implementation and evaluation of the intervention through action learning and -research

The implementation and evaluation phase of the study can be described as an action learning and -research paradigm characterised by a process of planning, implementation, observation, reflection and re-planning.

Chapter 6: Planning (Design and pilot study)

Chapter 6 describes the planning cycle of Phase III of the study, comprising the design and a description of the pilot study conducted before commencement of the implementation cycle of Phase III of the study.

Chapter 7: Implementation (Methodology)

Chapter 7 describes the implementation cycle of Phase III of the study. The implementation cycle can also be described as the methodology followed in implementing the dental educational research intervention. The methodology comprises the subjects, instruments, procedures and statistical analysis.

Chapter 8: Observation (Results)

Chapter 8 describes the observation cycle of Phase III of the study comprising quantitative and qualitative data obtained and analysed.

Chapter 9: Reflection (Discussion)

Chapter 9 discusses the main trends and patterns in the data.

Implications of the dental educational research intervention

Chapter10: Re-planning (Recommendations)

Chapter 10 describes the re-planning cycle of Phase III of the study and represents recommendations in view of the action learning and -research teaching strategy employed during the study.

1.7 Reference style

The Vancouver style of reference is being used in the thesis.

1.8 Conclusion

Chapter 1 provides a background or overview for the study. It illustrates the relationship between dentist-patient communication, the patient's understanding of, and eventual investment in, comprehensive dentistry.

Chapter 2 will present a macro-analysis of the South African dental market.

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PHASE 1 MACRO-ANALYSIS OF THE SOUTH AFRICAN DENTAL MARKET

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CHAPTER 2 INTERACTING FORCES INFLUENCING DENTISTRY IN SA

2.1 Introduction

A whole host of outside pressures and forces challenges healthcare professionals. The emerging healthcare environment and traditional ways of thinking are mutually exclusive. The emerging healthcare environment demands innovative thinking as accelerating change, increasing complexity, intensifying competition and expanding consumerism will be characteristic of the 21st century (8).

The situation with regard to dentistry in SA is similarly being influenced by these abovementioned factors, namely accelerating change, increasing complexity, intensifying competition and expanding consumerism. The interacting forces influencing dentistry in SA, namely the dental profession, the dental market and dental education, are illustrated in Figure 2 (below) and the discussion that follows.

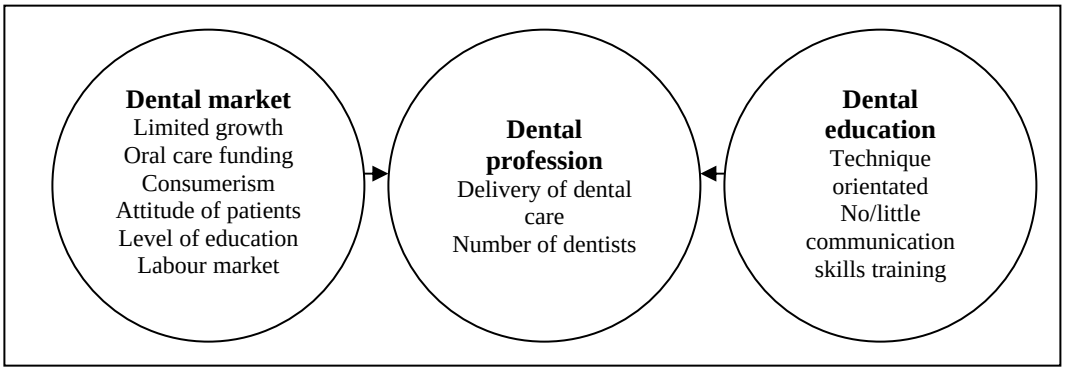

Figure 2 Interacting forces influencing dentistry in SA

2.2 The dental profession

2.2.1 Delivery of oral care in SA

The South African population can broadly be divided into two major markets as far the delivery of dentistry is concerned (Table 3, below): 20 per cent of the population is being treated in the private sector by approximately 70 per cent of the dental practitioners, while the remaining 80 per cent is being treated in the public sector by approximately 30 per cent of the available dental practitioners (9). The need for dental services in the public sector can be described as a basic need for the relief of pain and sepsis, as well as primary dental care such as simple restorations and dentures. In the private sector, as opposed to the public sector, the need for dental treatment is mainly driven by guaranteed payment by third party insurers (medical funds) for dental treatment rendered by a dentist.

Table 3 Delivery of dental health care in SA

Proportion of population	Dental care rendered by proportion of dental practitioners	Dental insurance (Member of a medical fund)	Type of dentistry
20%	70% in Private sector	Yes	Mainly needs-driven; partly demands-driven
80%	30% in Public sector	No	Needs-driven

Membership of a medical fund is the determining factor of a member's frequency of visits to the dentist, as well as the extent of dental treatment he/she is prepared to accept (Table 4, below).

Table 4 Relationship between medical fund membership and demand for dental treatment

Medical fund membership	→	Frequency of visits
	→	Extent of dental treatment (Needs-driven dentistry)

In turn, the frequency of visits and the extent of dental treatment determine the "busyness" of dentists in the private sector. As far as the "busyness" of dentists is concerned in the private sector, research done among private dental practitioners in SA indicated that 55.8 per cent of respondents were not sufficiently busy and as a result required more patients. Respondents indicated that an average of 12.7 hours per week were available to treat additional patients (10). These statistics relate to research conducted among dentists with regard to the reasons why dentists left SA (11): the second most important reason why dentists left SA, is the 'lack of profitability of dentistry in SA' (Table 5, below).

Table 5 Ten most important reasons why South African qualified dentists left SA to practise abroad (11)

1.	Crime and violence
2.	Lack of profitability of dentistry in SA
3.	Political uncertainty/instability
4.	Poor economic future/instable economy
5.	Uncertain professional prospects
6.	Medical schemes - poor/irregular payment
7.	Insecure/unpredictable future
8.	No future for children/lowering of educational standards
9.	Already settled in UK
10.	Policy of apartheid

2.2.2 Number of dentists in SA

According to the 2004 annual report of the South African Dental Association (SADA), 4235 dentists were registered with the Health Professions Council of SA (HPCSA) in 1996 (12). This figure increased to 4616 dentists in 2004 (Table 6, below). However, about 200 dentists qualified annually at the four dental schools in SA. This implies that the number of dentists should have increased by 1600 between 1996 and 2004, instead of the 381 as reflected in Table 6.

According to the Dental Traders Association of SA, the number of dentists who qualified in SA and are practising in the United Kingdom, Canada, The Netherlands, Australia or New Zealand can be estimated at 1500 (13). If these 1500 practising dentists practising abroad are added to the 4616 dentists registered with HPCSA in 2004 as reflected in Table 6, the number of dentists who qualified at South African dental schools during the period 1996 - 2004, will have increased by about 45 per cent.

Table 6 Number of dentists registered with the HPCSA for the period 1990 - 2004 (12)

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Number of dentists	3775	3944	3998	4024	4029	4102	4235	4235	4298	4347

Year	2000	2001	2002	2003	2004
Number of dentists	4472	4518	4272	4329	4616

2.3 The dental market

2.3.1 Growth of the South African population

Table 7 (below) shows that the South African population has increased by 14.5 per cent during the period 1996 - 2004 (14). This means that the number of dentists, who qualified in SA between 1996 and 2004, exceeded the growth rate of the population in SA by almost three times for the same period.

Table 7 South African population (14)

Year	Black African	Indian/Asian	Coloured	White	Total
1996	31 127 631	1 045 696	3 600 446	4 434 697	40 683 573
2001	35 416 168	1 115 467	3 994 505	4 293 640	44 819 778
2004	36 900 000	1 200 000	4 100 000	4 400 000	46 600 000

2.3.2 Oral care funding in SA

Oral care funding - guaranteed payment by third party insurers (medical funds) for dental treatment rendered by a dentist - plays an important part in SA in financing dental care in the private sector and provides many dental practitioners with a guaranteed source of income.

However, research showed that in SA the proportional pay-out for dental care by medical funds during the period 1985 - 2004, was characterised by a steady decline: 12.6 per cent of medical funds' total expenditure was spent on dental care in 1985, while during 2004 this figure dropped to 3.8 per cent (15) (Figure 3, below).

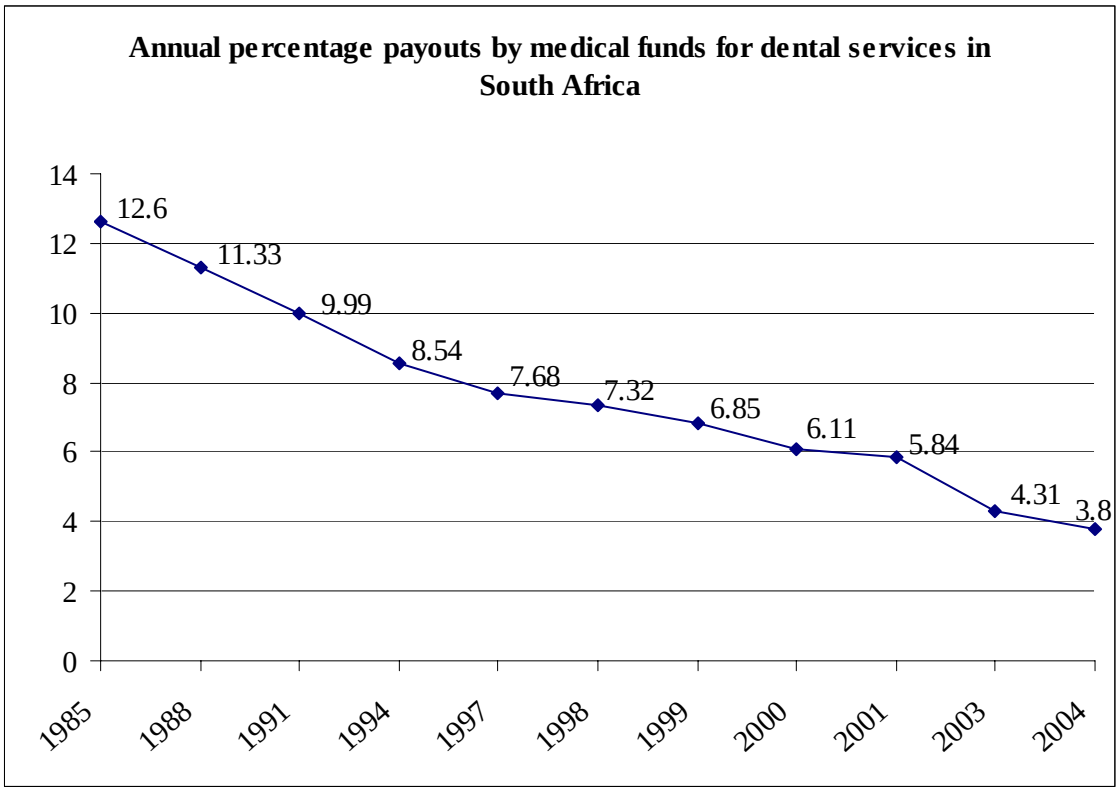

Figure 3 Oral care funding in SA: 1985 - 2004 (15)

It would be relevant to ask what impact this continuous decrease in the proportional pay-out for dental care by medical funds will have on a patient's *demand* for comprehensive, optimum dental care. This decline in oral health care funding may have an enormous impact on the dental profession in general and the delivery of dentistry in particular. Fewer patients from the 20 per cent segment of the population may make use of dental services rendered by the 80 per cent of dentists in the private sector due to financial constraints caused by a lack of dental insurance. This may well have an adverse effect on the viability of a private dental practice as well as the attractiveness of the profession as a whole.

Applications from prospective/potential students for training in dentistry will in turn be adversely affected. As a result, the continued existence of dental schools will eventually come under pressure. In order to prevent this scenario, some intervention will be needed to convert patients' need for basic dentistry into a demand for comprehensive dentistry despite having no dental insurance.

In order to stimulate the demand for comprehensive dentistry among patients without dental insurance, patients' appreciation of what dentistry can offer and loyalty towards the dentist will have to be enhanced. As a result, dental tertiary institutions will play a major role in equipping dental students with skills that will empower the dentist to create a demand for comprehensive dentistry by a loyal dental population (16).

2.3.3 Consumerism and the attitude of patients

Consumerism has significant implications for the dentist of the 21st century: patients expect to be involved in treatment decisions and to have a quality experience exceeding their expectations while visiting the dental practice (8).

According to the literature, the single most important factor contributing to a decline in loyalty towards healthcare professionals is the changing attitude of patients. Today's patients exercise more options than ever before. If a practice does not offer

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what the patient wants or needs, or if the interaction with the dentist does not *exceed* their expectations, they will not, as a result of their disappointing experience, be prepared to enter into a long-term relationship with the dentist. They will do business with one of the competitors (17).

Knowledgeable, sophisticated customers with a growing concern about value for money are increasingly "shopping around" for second opinions because they are questioning the value of professional services and the judgment of practitioners. Furthermore, the mass communication media and accessibility of computer technology with its numerous advantages lead to greater customers' expectations with regard to speed and efficiency of service from medical and dental practitioners (18).

2.3.4 Level of education of the South African population

Table 8 (below) illustrates the component of the South African population, which, in terms of their level of education, obtained at least a grade 12 qualification. It seems to have increased from 22.6 per cent in 1996 to 28.8 per cent in 2001. This may well be the portion of the population who can be targeted for comprehensive dentistry in the future as such persons will have the required resources at their disposal to demand this. However, the current growth in the number of dentists in SA is probably too high to be accommodated by such a small growth in the educated portion of the population (45 per cent as opposed to about six per cent).

Table 8 SA: level of education amongst percentage of population aged 20 years and older (14)

Year	No schooling	Some primary	Complete primary	Some secondary	Grade 12	Higher
1996	19.3	16.7	7.5	33.9	16.4	6.2
2001	17.9	16.0	6.4	30.8	20.4	8.4

2.3.5 Economic profile of the South African labour market

Table 9 (below) illustrates that the South African labour market can broadly be divided into three classes (categories) of 15 million each (19). The *upper class* can be described as a rich middle class (or bourgeoisie), comprising about four million Whites and 11 million Black Africans. They earn about 85 per cent of the total income of the population. The *middle clas*s of 15 million people can be described as the working class, comprising about 380 000 Whites and the remainder Black Africans. This class earns about 10 per cent of the total income of the population. The socio-economic situation of the upper half of the working class can be regarded as satisfactory, while the lower half of the working class can be regarded as poor. The *bottom class* can be described as a typical non-working class (underclass or lumpenproleriate). This class comprises 0.4 per cent (70 000) Whites, 0.7 per cent Asians, 4.2 per cent Coloureds and 94.7 per cent Black Africans. This class of 15 million people earns about five per cent of the total income of the population and should be regarded as precariously poor as they have no resources at their disposal that will ensure a materially civilized and humane life style.

The affluent middle class and the upper half of the working class - comprising about 22 million people - may well be the portion of the population who can be targeted for comprehensive dentistry in the future, as this portion of the population will have the required resources at their disposal to afford comprehensive dentistry. However, at present 22 million South Africans (or 48.5 per cent) are living below the poverty line (19).

Table 9 South Africa's highly stratified community (19)

Number of people		**Description of class**	**Socio-economic status**
15 million		Middle class	Affluent middle class
15 million	7.5 million	Working lower class	Satisfactory
	7.5 million		Poor
15 million		Non-working lower class	Precariously poor

Table 10 (below) illustrates comparative data for the 1996 and 2001 censuses of persons aged 15 to 65 years, by population group, according to their labour market status. The Black African and Coloured population groups show noticeably higher unemployment rates in 2001 than in 1996, with the rate for African Blacks and Coloureds increasing by 4.7 per cent and 3.5 per cent respectively, over the five years between 1996 and 2001.

Table 10 South African labour market (14)

Year	**Black African**		**Asian/Indian**		**Coloured**		**White**	
	Employed	Unemployed / Not economically active	Employed	Unemployed / Not economically active	Employed	Unemployed / Not economically active	Employed	Unemployed / Not economically active
1996	**31.6**	**68.3**	**51.3**	**48.7**	**51.3**	**48.7**	**63.6**	**36.4**
2001	**27.8**	**72.2**	**49.2**	**50.9**	**46.1**	**54.0**	**61.4**	**38.6**

The rate of unemployment in SA poses a major threat to the potential demand for comprehensive dentistry. In view of the above and given the disproportionate growth in the number of dentists compared to the growth in that portion of the South African population who have the resources at their disposal to demand comprehensive dentistry, alarming lights are starting to flash.

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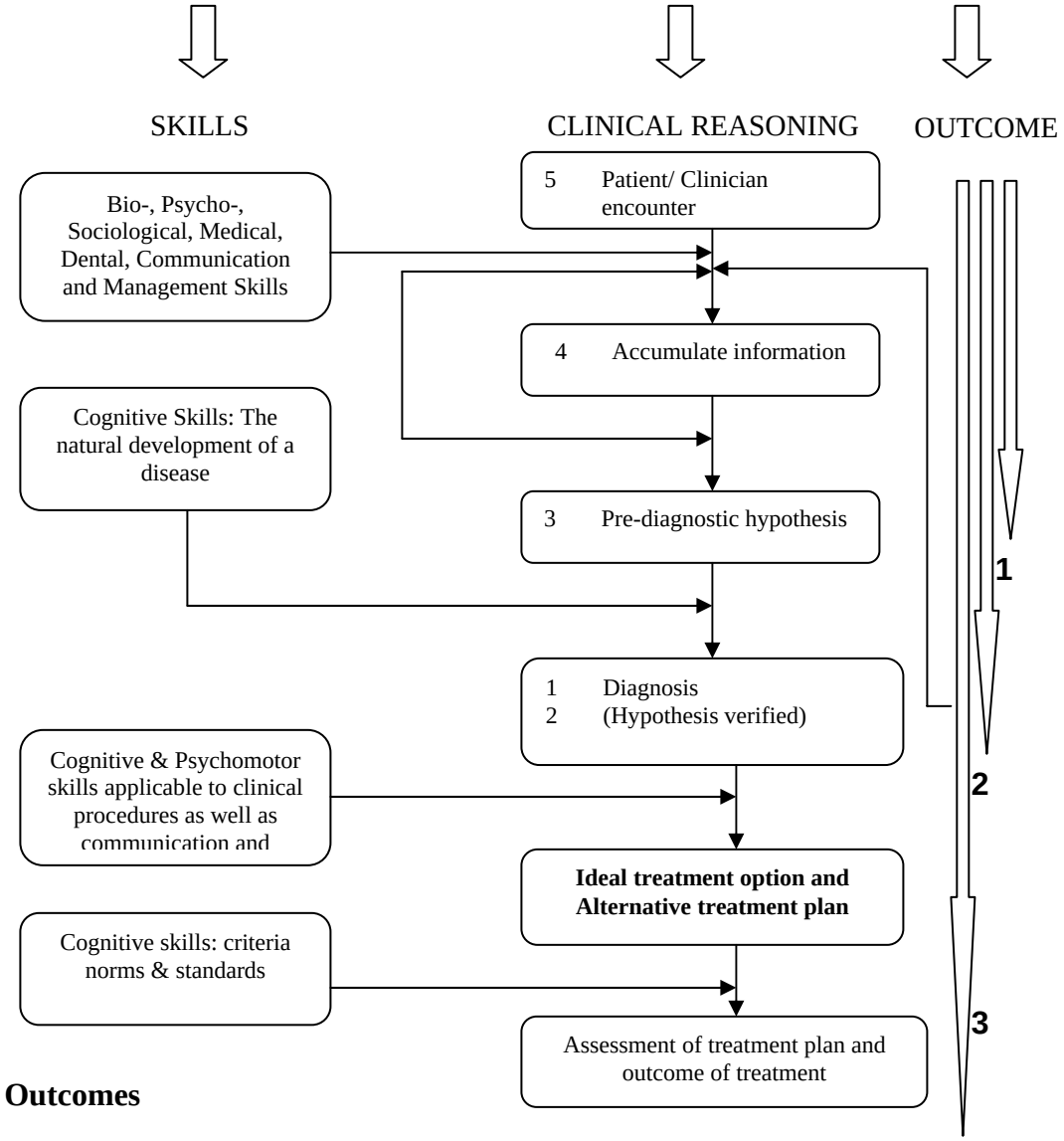
2.4 Dental education in SA

The training that students receive in dental schools, not only during their under-graduate training, but also in post-graduate education, exacerbates the failure of a treatment plan presentation. A dental school's curriculum is intensely technique-oriented. Unfortunately students often do not receive adequate training in understanding the complex interaction that characterises the dentist-patient relationship. This occurs because of curricula time restraints and the lack of school interest (16).

The School of Dentistry, University of Pretoria, recently implemented an outcomes-based curriculum. Although the curriculum is based on a bio-psycho-social approach (Figure 4, below), the clinical training and learning emphasise the bio-aspects of the application of knowledge by means of the *clinical* reasoning process, resulting in almost no attention given to the psychosocial educational needs of the student. Although communication skills were identified as a cross-field outcome to be achieved by dental students, students did not receive any formal relational communication skills training.



Outcomes

Level 1

- Take cognizance of the disease/condition in order to come to a tentative diagnosis (recognition of an abnormality) for the purpose of consultation

Level 2

For the purpose of referral be able to:

- accurately diagnose the disease or condition, and
- assess the associated risks.

Level 3

For preventive, therapeutic curative and rehabilitative purposes be able to:

- accurately diagnose the disease or condition
- assess the associated risk (determine the probability/risk of developing the disease)
- assess and develop the ideal and alternative treatment plan, explain the treatment plan and cost with the patient and sell the best plan to the patient considering all factors; and
- implement the plan and assess the outcome of the treatment.

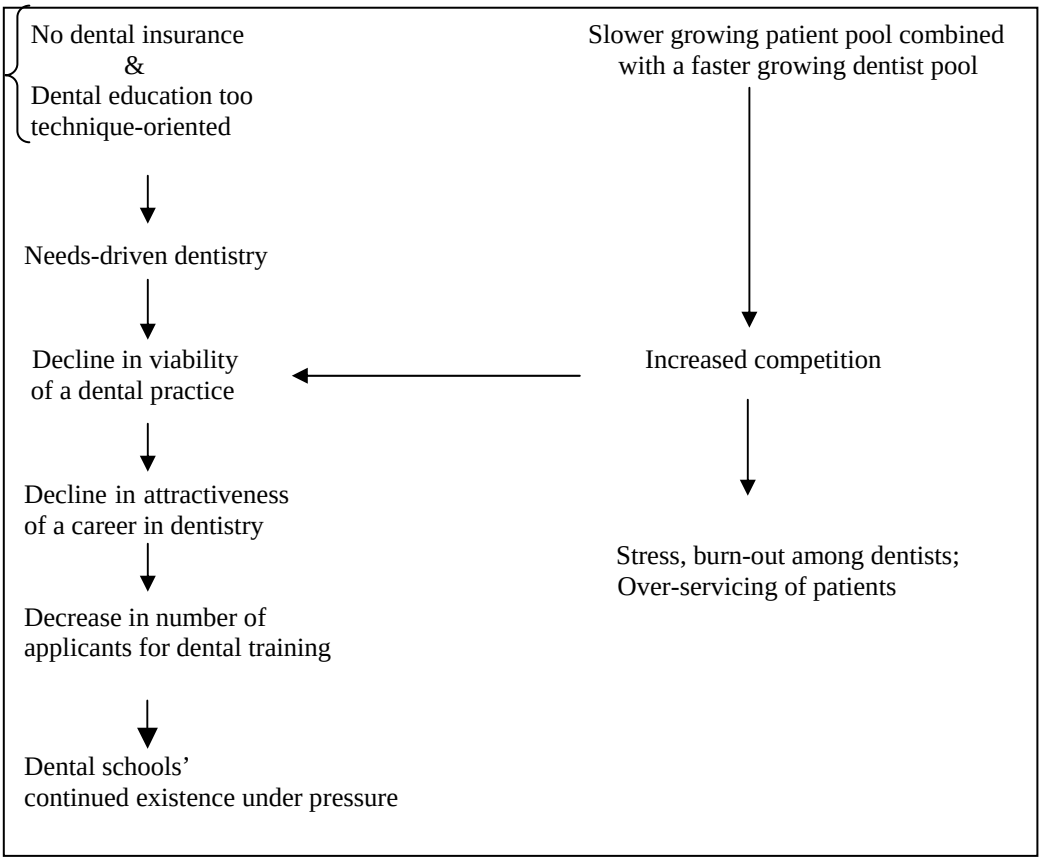
Figure 4 The Bio-, Psycho-Sociological-, Medical-, Dental-, Communication- and Managerial Skills related to the Clinical reasoning process (20)

2.5 Implications of the interacting forces

Warning lights are beginning to flash for the dental profession in SA as a lack of a demand for comprehensive dentistry among a slower growing patient pool will increase the competition among a faster growing dentist pool. A too competitive dental market may result in (Table 11):

- A decline in the viability of a dental practice;
- A decline in the attractiveness of a career in dentistry;
- An increase in stress and burn-out among dentists;
- Over-servicing of patients in order to maintain the viability of the practice;
- A decrease in the number of applicants for dental training, and
- Dental schools' continued existence would come under pressure.

Table 11 Implications of the changes in the external environment



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2.6 Conclusion

This chapter has described the interacting forces that are influencing dentistry in SA and the implications of these interacting forces for the dental profession in SA. The chapter was concluded by referring to the warning lights that are beginning to flash for the dental profession in SA: a lack of a demand for comprehensive dentistry may jeopardise the viability of a dental practice and eventually dental schools' continued existence would come under pressure because of a decrease in the number of applicants for dental training caused by a decline in the attractiveness of a career in dentistry.

Chapter 3 will present the problem statement and hypothesis of the study.

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CHAPTER 3 PROBLEM STATEMENT & HYPOTHESIS

3.1 Problem statement

The interaction between the dental profession, the dental market and dental education as presented in Figure 2 (Chapter 2, section 2.1), is conducive to a needs-driven culture characterised by low viability, tooth-at-a-time-dentistry (Figure 5, below). In order to convert this needs-driven culture into a high viability, demands-driven culture (characterised by the selection of comprehensive dentistry by a trusting, loyal patient) intervention in the traditional clinically- and technique-orientated undergraduate dental curriculum is necessary (Figure 5, below). Such intervention should be based on the evidence that customer satisfaction is a fundamental driver of customer loyalty in service markets (21). Furthermore, the intervention should have a patient-centered or customer relationship management (CRM) approach enhancing the dentist-patient relationship (22).

3.2 Hypothesis

The teaching and facilitation of communication skills by means of a skills-based approach will serve to enhance a patient-centered approach by dental undergraduate students and, as a result, the patient's dental experience. This will be achieved by developing students' interpersonal skills based on the most recent educational research. Furthermore, by creating a dentist with a competitive edge through the integration into the traditional clinically- and technique-orientated undergraduate dental curriculum of business principles such as customer relationship management (CRM), differentiation and competitiveness, the classical needs-driven culture will thereby be converted into a demands-driven culture (Figure 5, below).

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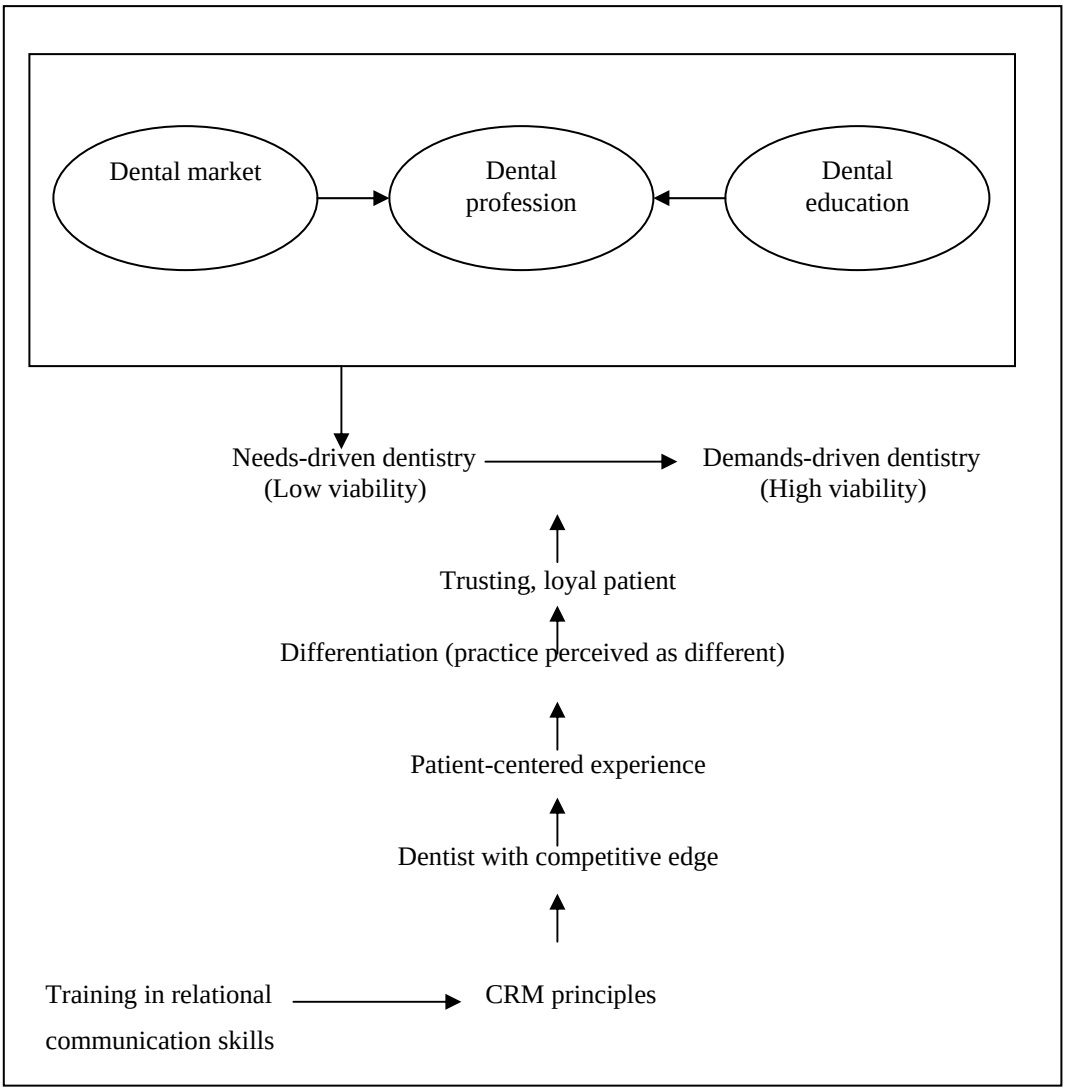

Figure 5 Proposed intervention to create a demand for comprehensive dentistry in SA

3.3 Proposed intervention

The situation with regard to dentistry in SA as presented in Chapter 2 makes it essential for dentists to enter the market equipped with skills to create a loyal patient. Entry into the competitive South African dental market without a competitive advantage (for example excellent clinical skills in combination with the ability to maintain a quality interaction with the patient) is a recipe for failure.

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The dentist's ability to establish sound relationships with patients is a major determining factor for both a healthy focus on dentistry and its enjoyment. A patient's initial experience with a dentist who does not have the necessary skills to establish a good relationship with his/her patient often leads to a lack of confidence in the dental profession. Such a dentist is likely always to have problems with patient management. It is therefore desirable to inculcate the type of training which equips a dentist to be more open to, and understanding of the patient (23).

The skills required to render needs-driven, tooth-at-a-time-dentistry characteristic of a medical fund culture, are very different from those needed to present modern, comprehensive treatment plans (24). In order to maintain the viability of a dental practice as a small business while at the same time making the practice of dentistry in SA as attractive as possible, the future South African dentist should acquire the skills to provide eloquent treatment plan presentations based on his/her ability to *listen* to patients' needs and expectations as well as to find creative ways to help patients fit dentistry into their respective lifestyles and financial budgets. Furthermore, the future South African dentist needs to be proficient in performing comprehensive dentistry and should therefore acquire the clinical training aimed at promoting confidence in performing comprehensive procedures, all of which include diagnostic skills, cosmetic dentistry, orthodontics, periodontal surgery, preventive dentistry, implantology and minor oral surgical procedures.

3.4 Envisaged outcome of proposed intervention

More attention to the communication skills of healthcare providers is likely to be given in the future owing to the confluence of forces that have highlighted the importance of communication in healthcare (25). Communication and interpersonal skills have become key criteria for the accreditation of medical (and dental) schools, as well as for the certification of those practising physicians who had adopted the following resolution in 1995: "Communication skills are integral to the education and effective function of physicians.

There must be specific instruction and evaluation of these skills as they relate to physician responsibilities, including communication with patients, families, colleagues and other health professionals". This resolution suggests not simply an opportunity, but a responsibility for medical and dental schools to teach, to facilitate learning and to assess competence in communication skills (25). Current guidelines from the American Association of Dental Schools and a recent publication by the Institute of Medicine emphasises the importance of behavioural sciences, namely the interaction of patient and healthcare provider (26). By the same token, the subcommittee for Undergraduate Education and Training of the Medical and Dental Professions' Board of the Health Professions' Council of SA, in determining accreditation standards for undergraduate medical and dental education in SA, insisted that communication skills be recommended as a required curricular outcome (27).

In view of the above, this study will need to address the development of a curriculum in relational communication skills that will empower the future South African dentist to create a dentally educated and loyal patient - a patient who is prepared to accept a proposed comprehensive treatment plan and who will maintain a long-term, viable relationship with the dentist as a result of the dentist's trustworthy nature and patient-centered approach.

The objective of this study is therefore to propose an intervention in the traditional clinically- and technique-orientated dental curriculum in order to produce a more competitive dentist for the emerging SA dental market.

The quest of the School of Dentistry, University of Pretoria, to innovate, to be locally relevant and internationally competitive, can only be met if the challenge to train *scientific and humanistic* dental physicians is accepted. A curriculum in communication skills should therefore develop students' interpersonal skills that will facilitate effective and empathic relationships with patients as well as effective collaboration with other healthcare professionals.

Students will also be better equipped to deal with patient anxiety in clinical practice, to identify ethical issues and to recognise significant psychosocial factors which would lead to more accurate diagnoses and treatment processes. All of these factors are designed to increase patient satisfaction and treatment compliance (6). Furthermore, the teaching of relational communication skills to undergraduate dental students relates well to the University of Pretoria's slogan "Innovation generation." Not only should it be expected of students to have an innovative approach, but it is essential that lecturers, tutors and/or mentors as students' role models, have an innovative approach to educational research and curriculum development.

A shift in the power structure between patients and dentists has taken place. Patients are a practitioner's link with solvency, success and growth. Patients are the determining factor in the growth and eventual success of a dental practice (8). Training in relational communication skills will empower the dentist to achieve personal, professional and financial success, based on sound financial and marketing principles.

Successful dentists owe their success to the fact that their patients trust them. They have earned that trust because they value their patients and regard them as their most important assets. Such trust stems from a bonded relationship with one's patient and is achieved by listening, acknowledging, exploring and responding (8). Adoption of such a patient-centered attitude is the one essential recipe for success in healthcare today. The client, in having a patient-centered experience and perceiving the dentist as unique and different, will in turn become a loyal patient with a genuine demand for comprehensive dentistry.

Armed with the appropriate communication skills, the South African dentist will hopefully be empowered to meet the challenges in a dynamic, competitive and challenging South African dental market. The ability to enter this market with a competitive advantage (for example the ability to engage in a quality interaction with the patient) is a recipe for success.

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A competitive advantage of this nature would lead to a profitable practice by ensuring:

- An increase in the number of patients who have an *appreciation* for
- dentistry;
- An increase in the number of patients displaying *loyalty* towards the
- dentist;
- An increase in the *demand* for comprehensive dental care by patients;
- An improvement in the *viability* of a dental practice.

3.5 Conclusion

Chapter 3 has outlined the problem to be researched. A solution to this problem has been proposed together with a consideration of the value of the proposed solution. The following quotation, exemplifying the problem statement and proposed intervention presented in this chapter, concludes the chapter: 'Without a healthy relationship, your patients are not really your patients; they are just temporary visitors to your practice. They will go wherever some third party payer (medical fund) tells them to go if they can save a buck! The patient is not to blame. We have trained patients to be that way. We have trained them to wait and see what the medical fund will pay' (28).

Chapter 4 will present a summary of the review of the literature that presents the most authoritative scholarship in relation to the research problem.

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CHAPTER 4 SUMMARY OF THE REVIEW OF THE LITERATURE

4.1 Index

The literature review will address the following:

- Consumerism and the attitude of patients
- Customer Relationship Management
- Dimensions of buyer-seller relationships
- What is trust?
- Dimensions of trust
- Trust in the patient-physician relationship
- The patient-physician relationship
- The therapeutic relationship
- Characteristics of relationship-centered care
- The link between communication skills and health outcomes
- Communication elements as indicators of relationship-centered care
- Deficiencies in communication
- Evidence that communication skills can overcome deficiencies in doctor-patient communication
- Interpersonal communication skills teaching in United States and Canadian dental schools
- Interpersonal communication skills teaching in European dental schools
- Teaching communication skills
    - Principles of how to teach and learn communication skills
    - Teaching and learning methods
    - Strategies for maximising participation and learning
    - Dealing with tensions that influence learning
- Assessing communication and interpersonal skills
- Using standardised patients to teach and evaluate interviewing skills

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- Using of video feedback to enhance communication skills training
- Potential major influences on communication
- A communication skills model
- Conclusion

4.2 Consumerism and the attitude of patients

Growing sophistication, rising levels of knowledge and growing concern about value for money are causing increasing numbers of patients to question both the value of professional services and the judgment of practitioners and, increasingly, to "shop around" for second opinions. Patients expect greater speed and efficiency from medical and dental practitioners due to the mass communication media and the accessibility of computer technology with its numerous advantages (18).

Consumerism has significant implications for the dentist of the 21st century: patients expect to be *involved* in treatment decisions and to have a *quality experience exceeding their expectations* while visiting the dental practice (8). The *changing attitude of patients* is the most important factor contributing to a decline in loyalty towards healthcare professionals. Today's patients have more options than ever before. If a practice does not offer what the patient wants or needs - if the interaction with the dentist does not *exceed* their expectations - patients may not perceive the dentist to be different and unique, and as a result, will do business with one of his/her competitors (17).

It is clear from the literature that the relationship approach is an emerging perspective in service marketing (21). In today's hyper-competitive era, long-term growth maintenance requires from businesses to find new ways of relating to customers. Therefore, instead of keeping customers at arm's length, businesses must develop strategies and tactics to develop closer relationships with their customers (29).

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If businesses - and dental practices - wish to succeed in today's competitive market where customers are becoming smarter and brand loyalty erosion is increasing, it is now the time to change! It is time to take cognisance of a new term within an old concept, namely "Customer Relationship Management" (16).

4.3 Customer Relationship Management (CRM)

Marketing concepts and definitions have remained relatively unchanged until recently (30). Businesses have traditionally focused on transaction management characterised by buyer and seller exchanges with limited communications and little or no ongoing relationship between buyer and seller (29). An extremely important management issue today is to develop an understanding of how and why a sense of loyalty develops in customers (31). Research supports the evidence that customer satisfaction is a fundamental driver of customer loyalty in service markets (21). The greater the customer's satisfaction and as a result his/her loyalty towards the company, the greater the likelihood that the customer will be retained (32).

CRM focuses on the customer and the relationship a company creates and maintains with its customers (22). CRM is a shift from mass marketing to individual "one-to-one" marketing. It involves the experience a customer has each time he/she interacts with the company with the primary objective being to retain the customer. CRM requires a long-term perspective with a strategic vision to build and maintain the long-term relationship with a customer (33). In CRM, the destroyers of relationships, for example inconsistency, forgetfulness and inappropriate behaviour, are eliminated (34).

However, not all encounters result in long-term relationships. Poor initial encounters are difficult to overcome. There is no second chance to make a good first impression! Even should subsequent encounters be positive, they may only serve to confuse the customers, leaving them unsure of the relationship and vulnerable to competitor's appeals.

CRM can be applied to the dental profession. Without a healthy relationship, patients are merely temporary visitors to a dental practice. The failure of many dentists to create a *demand* for comprehensive dentistry can often be attributed to their failure to establish a relationship that elicits the patient's "story" (expectations, psycho-social issues and emotions) (28). While presenting a treatment plan, little time is spent by the dentist to establish a sound relationship with the patient. Treatment options are offered to the patient's dental disease that are not fully understood, realised or experienced by the patient. As a result, the patient does not "buy" into the treatment recommendations proposed by the dentist (28).

From the above it is clear that any relationship between patient and dentist can be described as a buyer-seller relationship. Purchases that involve greater risk for the buyer tend to increase the intensity of the relationship between buyer and seller (29). The dentist-patient relationship can be quite intense due to the average patient's perception of the risk involved in visiting the dentist!

4.4 Dimensions of buyer-seller relationships

Although making, enabling and keeping promises are extremely important elements in creating a relationship with a buyer, developing an emotional relation with the buyer is equally important. The four key dimensions for developing these emotional relations between a buyer and a seller are bonding, empathy, reciprocity and trust (29).

Bonding: A long-term relationship between buyer and seller requires a bond that joins the two. Mutual interests or dependencies must be identified and satisfied in order to cement the relationship. Customers with strong bonds to an organisation are more likely to remain committed to continuing their relationships with the organisation (29).

Empathy is the ability to see a situation from the perspective of another party. Empathy encourages customer loyalty by the reassurance that the company cares about customers' concerns (29). Understanding customer needs and motivations helps businesses to improve the effectiveness of their goods and services. Patients of health maintenance organisations (HMOs) for example, often complain of feeling dehumanised when they contact their health-care providers for help or information (29).

Reciprocity: give-and-take is a part of every relationship. One party makes allowances and grants favours to the other in exchange for the same treatment when the need arises. In business relationships, this give-and-take process weaves a web of commitment between buyer and seller, binding them ever closer together (29).

Trust is the glue that holds a relationship together. Trust is one party's confidence that it can rely on the other's integrity to deliver what it promises. When a business follows through on its commitments to customers, trust grows and allegiance is fortified (29).

4.5 What is trust?

A certain degree of trust is said to be inevitable or unavoidable in treatment relationships (35). Numerous definitions of trust have been proposed (36; 37; 38). The majority of these definitions stress the optimistic acceptance of a vulnerable situation in which the truster believes the trustee will have the former's interests at heart. Trust and vulnerability cannot be considered separately as there is no need for trust in the absence of vulnerability. Since trust arises from patients' needs for physicians, the greater the sense of vulnerability, the higher the potential for trust. Trust in a known physician is based primarily on personal experience and individual personality. The greater the risk, the greater the potential for either trust or distrust.

When interpersonal trust assumes that the motives of the trusted one are benevolent and caring, it takes on an emotional quality that extends beyond mere calculated expectations based on an objective assessment of risks. For this reason, it is perfectly possible to trust an unskilled but very caring doctor or to distrust one who is highly competent but aloof. This emotional, non-rational component of trust is especially prominent in the medical context.

Trust should not be confused with satisfaction - a similar attitude that is widely used to measure performance. In contrast to trust, which is a forward-looking evaluation of an ongoing relationship, satisfaction is an assessment of one or more past events (39). Trust and satisfaction are closely related in that trusting patients are likely to be more satisfied, and previous good encounters are likely to foster greater trust. Trust, however, is concerned with much more than assessing service delivery. Trust is an attitude directed at a physician's character and personality and toward an ongoing relationship. One study has found that trust is more reliable than satisfaction in predicting which patients will remain with their respective physicians and who will comply with treatment recommendations (40).

Patient trust is consistently found to be related to factors such as physician's communication style and interpersonal skills (40; 41; 42; 43). Surprisingly, the length of a doctor-patient relationship or the total number of visits is only weakly associated with trust (40; 42; 43; 44). This indicates that patients form their impressions relatively quickly and that trust does not depend greatly on how well patients know their doctors.

Trust in physicians correlates positively with adherence to treatment recommendations, with not changing physicians, not seeking second opinions, willingness to recommend a physician to others, fewer disputes with the physician, perceived effectiveness of care and improvement in self-reported health (40; 41; 45; 46).

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4.6 Dimensions of trust

According to the literature, trust can be divided into five dimensions (Table 12, below): fidelity, competence, honesty, confidentiality and global trust (44; 47; 48; 49; 50; 51; 52; 53; 54; 55).

Fidelity is having a patient's best interests at heart and not taking advantage of his/her vulnerability. Fidelity can be expressed through the related concept of loyalty, and consists of caring, respect, advocacy and avoiding conflicts of interest.

Competence means to produce the best achievable results by avoiding mistakes. Mistakes can be cognitive, which are errors in judgement, or technical, which are errors in execution. Most patients have difficulty assessing technical competence directly, so their views of competence are heavily influenced by a physician's interpersonal competence (communication skills and bedside manners).

Honesty is telling the truth and avoiding intentional falsehoods. Dishonesty can include outright lies, half-truths or deception by silence. Dishonesty can be further classified according to who benefits from such dishonesty: (i) the physician by failing to admit mistakes; (ii) the patient (or family) by giving false hope or triggering placebo effects; or (iii) an institution by covering up the processes, criteria or constraints for making important decisions.

Confidentiality entails the protection and proper use of sensitive or private information. It does not require absolute secrecy but rather that information be revealed only as necessary for proper medical care. It appears that, although confidentiality is important, most patients appear to enter treatment relationships with an assumption of confidentiality that either does not vary much or which varies predictably with other aspects of trust.

The final dimension of trust is *global trust* intended to describe the more holistic aspect of trust. This dimension is irreducible and is also referred to as the "soul of trust."

Table 12 Dimensions of trust

Dimension	Description of dimension
Fidelity	To have a patient's best interests at heart
Competence	To produce the best achievable results by avoiding mistakes
Honesty	Telling the truth and avoiding intentional falsehoods
Confidentiality	The protection and proper use of sensitive or private information
Global trust	The more holistic aspect of trust

4.7 Trust in the patient-physician relationship

Because few patients who receive healthcare services have the medical (dental) knowledge to ratify the care they have received, they rely, as customers, on other cues and processes when they evaluate healthcare. As illustrated in Figure 6, trust and commitment are key elements for retaining customers. Trust is particularly critical for service related organisations since the product - a service - is intangible and difficult to evaluate before or after a purchase. Trust exists when one party has confidence in the reliability and integrity of the exchange partner. Commitment refers to the belief by both parties that the relationship is worth working on to ensure that it endures indefinitely. However, commitment cannot exist without trust being first established (56).

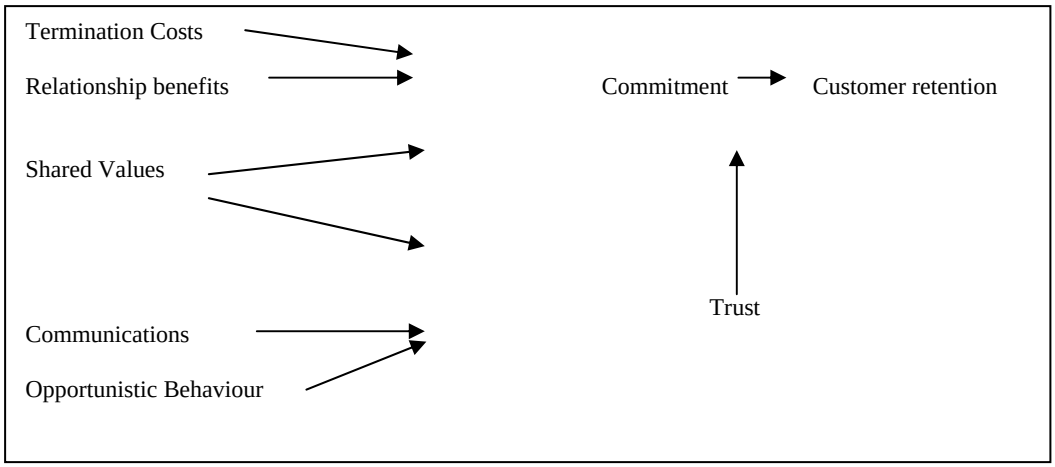

Figure 6 Trust, commitment and the retention of customers (56)

Trust has been shown to effect a host of important behaviours and attitudes, including patients' willingness to seek care, to reveal sensitive information, to submit to treatment, to participate in research, to adhere to treatment regimens, to remain with a physician, or to recommend a particular physician to others (45; 57; 58; 59; 60; 61; 62).

4.8 The patient-physician relationship

The construct of the doctor-patient relationship and its expression through the medical dialogue, has been described or alluded to in the history of medicine since the time of the Greeks (Plato) and in the modern medical and social sciences literature for the past 50 years (57; 63; 64; 65; 66; 67). Nevertheless, historians of modern medicine have tracked an undeniable decline in the centrality of communication to the care process (68).

In his study of the history of doctors and patients, Shorter (68) attributes the decline of communication to the ascendancy of the molecular- and chemistry-oriented sciences as the predominant 20th century medical paradigm. This change was fundamental in directing the physician-patient interaction away from the person of the patient to the biochemistry and patho-physiology of the patient.

Just as the molecular and chemistry oriented sciences were adopted as the 20th century medical paradigm, incorporation of the patient's perspective into medicine's definition of the patient's need has been suggested as the medical paradigm of the 21st century (69; 70; 71).

4.9 The therapeutic relationship

Power relations in medical visits are expressed through several key elements, including: (i) who sets the agenda and goals of the visit (the physician/the physician and patient in negotiation/the patient); (ii) the role of patients' values (assumed by the physician to be consistent with their own, jointly explored by the patient and physician, or unexamined); and (iii) the functional role assumed by the physician (guardian, advisor or consultant). Application of these core elements can be useful in recognising the variety of power relations expressed in models of the doctor-patient relationship (72) (Table 13, below).

Table 13 Prototypes of the doctor-patient relationship (72)

Patient power	**Physician power**	
	High physician power	*Low physician power*
High patient power	Mutuality	Consumerism
Goals and agenda	Negotiated	Patient set
Patient values	Jointly examined	Unexamined
Physician's role	Advisor	Technical consultant
Low patient power	Paternalism	Default
Goals and agenda	Physician set	Unclear
Patient values	Assumed	Unclear
Physician's role	Guardian	Unclear

Mutuality reflects the strengths and resources of each participant on a relatively even footing. As much as power in the relationship is balanced, the goals, agenda and decisions related to the visit are the result of negotiation between partners, both the patient and the physician become part of a joint venture. The medical dialogue is the vehicle through which patient values are explicitly articulated and explored. Throughout this process the physician acts as a counsellor or advisor.

The prototype of *paternalism* is most prevalent, but not necessarily most efficient or desirable. In this model of relations, physicians dominate agenda setting, goals and decision-making with regard to information and services. The medical condition is defined in biomedical terms and the patient's voice is largely absent. The physician's obligation is to act in the patient's "best interest." The determination of "best interest" however is largely based on the assumption that patient's values and preferences are the same as that of the physician. The guiding model is that of the physician as guardian, acting in the patient's best interest regardless of patient's preferences.

In the third prototype of *consumerism*, the typical power relationship between doctors and patients may be reversed. Patients set the goal and agenda of the visit and take sole responsibility for decision-making. A cooperating physician accommodates patients' demands for information and technical services. Patient's values are defined and fixed by the patient and unexamined by the physician. This type of relationship redefines the medical encounter as a marketplace transaction. Power rests in the buyer (patient) who can make the decision to buy (seek care) or not, as seen fit (73). The physician's role is limited to technical consultant with the obligation to provide information and services contingent on patient preferences (and within professional norms).

Just as the paternalistic model can be criticised for its narrow exclusion of the patient's perspective, fault can also be found with the consumerist model as too narrowly limiting the physician's role. The optimal relationship model, then, appears to be that of mutuality.

When expectations of patient and physician are at odds or when the need for change in the relationship cannot be negotiated, the relationship may come to a dysfunctional standstill - a kind of relationship default (82).

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4.10 Characteristics of relationship-centered care

Relationship-centered visits are characterised as: (i) medically functional, (ii) informative, (iii) facilitative, (iv) responsive and (v) participatory (74; 75; 76; 77; 78).

The *first* of these is the extent to which the relationship fulfils the provision of basic medical tasks. Included among these tasks are structuring of the visit, efficient use of time and resources, smooth organisation and sequencing of the visit, and team-building among health professionals (78; 87). This includes technical tasks related to physical examination, diagnosis and treatment.

Secondly, the relationship must be facilitative in eliciting the patient's full spectrum of concerns and agenda for the visit. Within this context the patient's ability to tell the story of his/her illness holds the key to the establishment and integration of the patient's perspective in all subsequent care. Telling of the story is the method by which the meaning of the illness and the meaning of the disease are integrated and interpreted by both doctor and patient. Particularly critical is elicitation in the psychosocial realm of experience. A patient's experience of illness is often reflected in how it affects one's quality of life and daily functioning, one's family, social and professional functioning and relations, and one's own feelings and emotions. Awareness of how these challenges are met and coped with, is critical to the finding of common ground and establishment of authentic dialogue (83; 84; 85).

Thirdly, the visit must be responsive to the patient's emotional state and concerns. Physicians are not simply expert consultants; they are individuals to whom people go when they feel particularly vulnerable. Showing support, empathy, concern, and legitimation, as well as explicit probes regarding feelings and emotions are important elements of rapport building and key to a patient feeling known and understood (79; 83; 84; 85).

Fourthly, the relationship must be informative, providing both technical information and expertise and behavioural recommendations in a manner, which is understandable, useful and motivating. A consistent finding in studies of doctors and patients conducted over the past 25 years has been that patients want as much information as possible from their physicians. The importance of this information appears as critical to the patient's capacity to cope with the overwhelming uncertainty and anxieties of illness as its substantive contribution to directing patient actions (79).

Finally, the fifth element of the relationship is that it must be participatory. Physicians have a responsibility and obligation to help patients assume an authentic and responsible role in the medical dialogue and in decision making. The educator model is more egalitarian and collaborative than the traditional doctor-patient model, and as such is core to the building of a mutual partnership (80).

4.11 The link between communication skills and health outcomes

First developed by Byrne & Long in 1976 (63), the concept of patient-centeredness has raised particular interest over recent years. Patient-centeredness has been recommended as the preferred style of doctor-patient communication as a means to improve patient outcomes (81; 82; 83). Therefore, patient-centeredness is currently regarded as the preferred mode of doctor-patient communication. With its focus on the patient's perspective, this approach is in line with the shift towards seeing the patient as a consumer of healthcare and the patient's charter (84).

Physician-patient communication is linked to a variety of patient health outcomes, including emotional health, symptom resolution, functional status, physiologic measures (blood pressure and blood sugar level) and pain control (85). Information sharing with the patient is a powerful communication function clearly linked to health outcomes.

Stewart (78) suggested that improvements in communication require a shift in the balance of power between physician and patient. However, this shift should not be a full pendulum swing to patient autonomy. When the medical dialogue is a *shared* process, outcomes are improved. Neither physician dominance nor total abdication of power was related to positive patient outcomes; rather, engagement in a process that leads to agreement on the problem and its solution appears to be the optimum alternative (78).

4.12 Communication elements as indicators of relationship-centered care

A meta-analysis of communication studies found that the approximately 250 different elements of communication measured in the reviewed studies could be reduced to five primary and secondary categories as displayed in Table 14 (86).

Table 14 Conceptual groupings in physician communication categories (86)

Primary categories	Information giving	Question asking	Partnership-building	Rapport-building	Socio-emotional talk
Secondary categories	• Information consent o Biomedical o Psychosocial • Information manner o Aggravated o Mitigated	• Question content o Biomedical o Psychosocial o Compliance-related • Question format o Closed o Open	• Active enlistment • Lowered dominance	• Emotionally responsive talk	• Positive • Negative • Social conversations

The *first* of the communication categories is information giving. The content of the informative exchange is most often distinguished as primarily biomedical (related directly to medical symptoms or history) or psychosocial (related to the broader social, psychological or emotional context of the medical problem or symptoms).

The *second* primary category of exchange is information seeking which includes question asking across several categories (general, biomedical, psychosocial), although again, additional content categories were also evident (86). For instance, biomedical topics were sub-categorised into those relating to medical history and symptoms, therapeutic regimen and treatment, (further refined in some studies to compliance-specific related questions), and lifestyle and health promotion questions. Several different question-asking formats were also evident. Most commonly, open- and closed-questions were identified, but sometimes, leading or rhetorical questions were coded.

The *third* primary category of exchange relates to partnership building (86). Partnership building can be seen to occur when the physician actively facilitates patient participation in the medical visit and/or attempts to equalise status by assuming a less dominating stance within the relationship. The two classes of partnering behaviour can be distinguished as reflecting 'enlistment', the active facilitation of patient input and 'lowered dominance', the assuming of a less controlling or dominant role. Both appear to play very important facilitative roles.

The *fourth* category relates to rapport-building behaviours that explicitly convey emotional content, both verbally and non-verbally (86). It is distinguished from psychosocial exchange, which puts a medical problem or symptom within a broad psychosocial context, as the explicit expression of feelings and emotions. This broad category of talk includes statements of worry and concern, reassurance, empathy, legitimation and positive regard. Emotional talk is also communicated implicitly through body language, facial expressions and voice quality.

A *fifth* category relates broadly to socio-emotional behaviours of several kinds (86). Included here are positive-, negative- and social talk. Positive talk captures the general positive atmosphere created in the visit through verbal behaviours such as agreements, approvals and compliments. Positive non-verbal communication includes nods, smiles, eye contact, forward and open body lean and vocal qualities of friendliness, sincerity and interest. Negative verbal expressions of criticism or disapproval, as well as qualities of irritation, dominance and disinterest and non-verbal indicators through frowns, closed and distant body language, avoidance of eye contact, also convey emotionally charged communication. Social conversation is not as emotionally charged positive- or negative talk, but does convey friendliness and personal regard. Social conversation is defined as non-medical exchanges, largely social pleasantries and greetings, usually a linguistic bridge from the social opening or closing of the visit to the business of the visit.

Another study (87) illustrates the usefulness of the building-block approach to combining communication elements (Table 15, below). Five patterns of relationship evident in primary care visits were identified in this study: (i) narrowly biomedical, (ii) biomedical (in-transition), (iii) bio-psychosocial, (iv) psychosocial and (v) consumerist. The first two could be considered reflections of the paternalistic model described earlier; the third and fourth patterns represent variations on relationship-centered models, while the last represents consumerism. In this study, it was also found that partnership building behaviour - checking patient understanding, eliciting expectations and opinions, encouraging patients to talk, as well as providing orientation statements which help patients anticipate what will happen next in the visit, were associated with a history of fewer malpractice suits. Socio-emotional exchanges, especially positive exchanges including humour and laughter also appeared with a history of fewer malpractice suits (87).

Table 15 Patterns of relationships in primary care settings (87)

Patterns of communication	Characteristics
Bio-medical (± 32% of visits)	• Patient and physician satisfaction lowest in the bio-medical restricted models • Physician verbal dominance • Minimal psycho-social exchange • Low patient communication • Physician question asking (high level)
Bio-medical (± 32% of visits) (in-transition)	• Physician controlled • Slightly more psycho-social exchange • High physician question-asking
Bio-psycho-social (20% of visits)	• Patient and physician satisfaction highest in participatory models • Mutual and collaborative model of exchange reflecting relationship-centered visits. • Lower physician verbal dominance • Patients' health values and preferences negotiated • Autonomy, self-understanding, self-discovery
Psycho-social (8% of visits)	• Physician acted as friend/therapist • Preponderance of talk in the psycho-social domain • Equal ratio of patient and physician talk • High patient control of communication • Dialogue about social and emotional implications • Dialogue about life issues beyond bio-medical circumstances
Consumerist (8% of visits)	• Few physician's questions • High number of patient questions • Little psycho-social exploration • Physician provided bio-medical information • Physician acted as competent technical expert providing relevant factual information.

Table 16 (below) represents a summary of the link between relationship characteristics and communication elements of relationship-centered care.

Table 16 Summary of the link between buyer-seller relationships, doctor-patient relationships and communication elements of relationship-centered care

Dimensions of buyer-seller relationships	Doctor-patient relationships	Characteristics of relationship-centered care	Physician communication categories	Patterns of relationships
Bonding	Mutuality	Medically-functional	Information giving	Bio-medical
Empathy	Paternalism	Informative	Question asking	Bio-medical (in transition)
Reciprocity	Consumerism	Facilitative	Partnership building	Bio-psycho-social
Trust	Default	Responsive	Rapport building	Psycho-social
		Participatory	Socio-emotional talk	Consumerist

4.13 Deficiencies in communication

Doctors (including dentists), often fail in their key task of communicating with patients. As a result, only half of the complaints and concerns of patients are likely to be elicited (88). Too often doctors obtain little information about patients' perceptions of their problems or about the physical, emotional and social impact of the problems (89). When doctors provide information they do so in an inflexible way and tend to ignore what individual patients wish to know and less than half of psychological morbidity in patients is recognised (74). They pay too little attention in ascertaining how well patients have understood what they have been told for often patients do not adhere to the treatment and advice that the doctor offers, and levels of patient satisfaction are variable (90).

Until fairly recently, little attention was paid in either the undergraduate- or postgraduate curriculum in ensuring that doctors (dentists) acquire the necessary skills to communicate well with patients. Doctors have therefore been reluctant to depart from a strictly medical (bio) model, to deal with psycho-social issues and to adopt a more negotiating and partnership style (74; 90). They have been unwilling to enquire about the social and emotional impact of patients' problems on the patient and family as this might unleash distress, take up too much time or threaten their own emotional status. Consequently, doctors tend to respond to emotional cues with strategies that block further disclosure (74).

Kurtz, Silverman and Draper (74) describe in detail the research evidence, which demonstrates that there are substantial deficiencies in communication between doctors and patients (Table 17, below):

Table 17 Categories of deficiencies in communication

Discovering reasons for patient's attendance	Gathering information	Explanation and planning	Patient adherence	Medico-legal issues	Lack of empathy and understanding

- Discovering reasons for patient's attendance
  - 54% of patients' complaints and 45% of their concerns are not elicited.
  - In 50% of visits, the patient and the doctor do not agree on the nature of the main presenting problem.
  - Doctors frequently interrupt patients so soon after they begin their opening statement that patients fail to disclose significant concerns.
- Gathering information
  - Doctors often pursue a "doctor-centered", closed approach to information gathering that discourages patients from telling their story or voicing their concerns.

- Both a “high control style” and premature focus on medical problems can lead to an over narrow approach to hypothesis generation and to inaccurate consultations.

- Explanation and planning
  - In general, physicians impart sparse information to their patients, with the result that most patients wish their doctors to provide more information than they do.
  - Doctors overestimate by as much as 900% the time they devote to explanation and planning in the consultation.
  - Patients and doctors disagree over the relative importance of imparting different types of medical information: patients place the highest value on information about prognosis, diagnosis and causation of their condition while doctors overestimate their patients’ desires for information concerning treatment and drug therapy.
  - Doctors consistently use jargon that patients do not understand.
- Patient adherence
  - Patients do not comply or adhere to the plans that doctors make: on average, 50% do not take their medicine at all or take it incorrectly.
- Medico-legal issues
  - Breakdown in communication between patients and physicians is a critical factor leading to malpractice litigation.
- Lack of empathy and understanding
  - Numerous reports of patient dissatisfaction with the doctor-patient relationship appear in the media. Many articles comment on doctors’ lack of understanding of the patient as a person with individual concerns and wishes.
  - In medical education significant problems exist in the development of relationship-building skills; it is not correct to assume that doctors either have the ability to communicate empathically with their patients or that they will acquire this ability during their medical training.

4.14 Evidence that communication skills can overcome deficiencies in doctor-patient communication

Many studies over the past 25 years have demonstrated that communication skills can make a difference in all of the following objective measurements of health care (91) (Table 18, below):

Table 18 Deficiencies in doctor-patient communication that can be overcome by communication skills

Process of the interview	Patient satisfaction	Patient recall and understanding	Adherence to treatment plans

- Process of the interview
  - The longer the doctor waits before interrupting at the beginning of the interview, the more likely he/she is to discover the full spread of issues that the patient wishes to discuss and the less likely will it be that new complaints arise at the end of the interview.
  - The use of open rather than closed questions and the technique of attentive listening leads to disclosure of patients' significant concerns.
- Patient satisfaction
  - Greater "patient centeredness" in the interview leads to greater patient satisfaction.
  - Discovering and acknowledging patients' expectations improves patient satisfaction.
  - Physician non-verbal communication (eye contact, posture, nods, appropriate distance, communication of emotion through face and voice) is positively related to patient satisfaction.
  - Patient satisfaction is directly related to the amount of information that they perceive has been given by their doctors.
- Patient recall and understanding
  - Asking patients to repeat in their own words what they understand by the information they have just been given, increases their retention of that information by 30%.

- Adherence
  - Patients who are viewed as partners, informed of treatment rationales and helped in understanding their disease are more likely to comply with the proposed treatment plan.
  - Discovering patients' expectations leads to greater patient adherence to treatment plans made.

4.15 Interpersonal communication skills teaching in United States and Canadian dental schools

When American patients were asked what they liked most about their own dentist, communication skills, "interpersonal caring" and professionalism appeared to be the first three qualities mentioned (92). However, research (93) showed that in many North American dental schools:

- Instruction in interpersonal communication skills appears to be inadequate;
- It is not well integrated into the four-year curriculum;
- It does not include any theoretical background or foundation;
- It is taught mostly using passive learning techniques and does not include adequate student evaluation;
- Only one-third of schools had courses specifically focusing on interpersonal communication;
- More than half of the schools offered these types of courses only during the first two years;
- The most common topics were communication skills, patient interviewing and patient education/consultation;
- The most frequently used method of teaching was lectures; active practice was used less often;
- Written evaluation was the primary instructional tool; whereas more sophisticated performance-oriented assessments were used less often;
- About half of the teachers did not have a degree in dentistry (D.D.S.) – the non-dentists were primarily psychologists;

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- At least eight of the 40 schools surveyed do not appear to meet the accreditation guidelines for pre-doctoral programmes in this area of instruction;
- Schools offering more extensive instruction were more likely to offer active rather than passive teaching and use more sophisticated student evaluation strategies, and
- Research suggests a need for re-evaluation of teaching in this subject area.

4.16 Interpersonal communication skills teaching in European dental schools

Thirteen of the fourteen dental schools in the United Kingdom offer formal behavioural sciences programmes in the undergraduate curriculum, while all fourteen schools cover the topic of communication skills to some extent (6; 94). However, the course content, the teaching methods employed as well as the credentials of the teaching staff varied considerably. Many programs emphasised theoretical aspects of communication rather than providing opportunities for skills-based practice. Teaching methods generally entailed the use of a didactic teaching style and a large group format. Teaching staff were usually selected from one discipline only (for example dentists) with little interdisciplinary teaching by dentists, psychologists and sociologists (6). The lack of time and resources allocated to communication skills training and the failure of many programs to adopt a skills training approach, is a matter for concern (94).

In a recent national survey by the Dutch Consumers Association, patients reported that communication skills are one of the most important features upon which they judge their dentist (92). A Finnish survey also found that patients considered communication skills and information supply as the main characteristics of the ideal dentist (92).

Teaching communication skills has become an accepted part of the dental curriculum in the Netherlands (92). Courses in communication skills training have been offered as part of the required curriculum at the Academic Centre for Dentistry Amsterdam (ACTA) since 1972. Recent curriculum guidelines are very clear about the necessity of communication skills training for dentists. However, many European countries still lack structural training in this field (92).

4.17 Teaching communication skills

Communication is an essential skill that dentists need in practice. Teaching will be more effective if it contains practical experience and feedback. Feedback should be direct and constructive in a supporting environment. Effective feedback takes place in a one-to-one or small-group setting (95).

It is recommended in the literature that learners be given examples of the core skills of communication, some background reading and models and thereafter an opportunity to carry out these skills with constructive feedback. Experiential learning and feedback are the most effective ways to improve communication skills (95).

A collaborative approach to teaching communication skills is advocated where learner-directed and facilitator-directed learning complement each other. (74) (Figure 7, below):

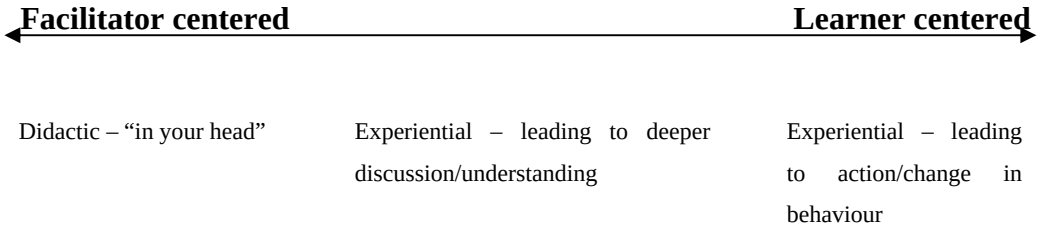

Figure 7 Continuum of the collaborative approach in teaching communication skills (74)

The didactic component of the recommended collaborative teaching approach includes lectures, group presentations and reading. It is essential to bear in mind that, although didactic methods per se do not generate skills, intellectual understanding enhances and guide the use of skills and aid the exploration of attitudes and issues by learners. Furthermore, although didactic methods may be stimulating and enable learners to understand what it takes to communicate effectively, they do not lead to changes in behaviour or to the development of skills or mastery and application in practice (74). This explains why a didactic component should be complemented by an experiential teaching approach.

Adult learners are motivated to learn when they perceive learning to be relevant to their current situation and when it enables them to acquire skills and knowledge, which they can use in immediate and practical ways. The more relevant the learning is to the real world of their immediate experience, the more quickly and effectively adults learn. Using a problem-based approach in practice requires the following strategies (74):

- Discovering learners' perceived needs;
- Creating a supportive climate;
- Developing appropriate experiential material, and
- Taking a problem-based approach to analysing the consultation.

Current educational research indicates that students may learn much more effectively when they are allowed to guide their own educational efforts (76). This has also been called the "discovery" method or "problem-oriented" approach to education. Since no instructional program in interviewing can hope to attain all the objectives, instructors are encouraged to invite their students to help in determining the appropriate focus and emphasis in each instructional session as well as the teaching methods utilised.

In learning a new skill, learners typically go through four stages as they develop from novices into mature professionals (78) (Table 19, below). The respective roles of the teacher and learner change as the student becomes more skilled. In the *stages of initial awareness* and *awkward use*, the teacher is the expert; the task is to define objectives, demonstrate the skill, guide the student, provide feedback and evaluate the student's performance. The student's task is to follow instructions.

In the *stage of conscious application*, the teacher is a facilitator who suggests alternatives, negotiates objectives and shares evaluation with the learner. The student's task is to select appropriate alternatives and to share in the evaluation. In the *stage of natural integration*, the teacher is a consultant who provides feedback. The student's task is to define his or her own objectives and evaluate his/her own performance.

Table 19 Four developmental stages from a novice to a mature professional (78)

Stage	Description of stage
Stage 1	Initial awareness
Stage 2	Awkward use
Stage 3	Conscious application
Stage 4	Natural integration

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4.17.1 Principles of how to teach and learn communication skills

The appropriate approach to communication skills teaching has resulted in much debate. It is clear from the literature that two viewpoints dominate the discussion, with proponents divided into separate “attitudes” and “skills” camps (74).

The skills approach helps learners to acquire the numerous skills that research and experience have shown to aid physician-patient communication and to incorporate them into their own style of communicating. According to the skills approach, practising the skills is an essential prerequisite to improve physician-patient communication. As a result, learners need the opportunity to practise (functionalise) the appropriate skills so that it becomes part of their repertoire and can be used appropriately and intentionally whenever the situation dictates (74).

Proponents of the attitude argument suggest that doctors may well possess appropriate skills and may be using them already in circumstances outside of medicine. However, they are not transferring the use of these skills to the consulting room because of important blocks in their relationship with patients that need to be overcome before any progress can be made. The fundamental question relates to the doctor’s beliefs about the roles of patient and doctor in the therapeutic process. The doctor with a disease-orientated, doctor-centered attitude does not appreciate the patient’s views as being important and emotional issues are avoided. According to the attitude approach, the block to communication does not lie primarily with poor skills, but at a deeper level of attitude and emotions. Only when restrictive attitudinal blocks have been confronted and changed will the doctor be able to relate appropriately and effectively to his/her patients (74).

The skills and attitude approaches are linked together by the concept of outcome. In skills based teaching learners are encouraged to first identify the outcomes required for effective communication. Only then can they choose the skills that will enable them to achieve the outcome. As opposed to the skills approach, the attitude approach encourages learners to explore the outcomes they are aiming for by examining the very roots of their relationships with patients and what it is that they and the patients are trying to achieve during the consultation (74).

Arguments in favour of the skills approach include importance to ensure that learners are able to convert their newfound intentions into appropriate behaviour and that the acquisition of skills can open the path to changes in attitude (74).

4.17.2 Teaching and learning methods

Research evidence shows that certain methods are necessary for communication teaching (Table 20, below). A great deal depends on the level of interest, experience and motivation of the learner, and the resources and organisation of the teaching program (74; 76).

Table 20 Methods used in communication training

Role-play
Readings
Lectures
Demonstration
Practice
Observation and feedback
Repetitive practice
Modified live patient interviews
Small groups

A short description of the abovementioned methods follows.

Role-play (74)

Role-play is a valuable and versatile method that can be used to ensure success in communication skills teaching. A specific form of role-play is where one learner becomes the patient for an entire interview while a second learner (who does not know the case) plays the dentist. It allows instructors to focus on particular aspects of interviewing for the benefit of demonstration, practice or feedback (76).

Readings (76)

Assigned reading, sometimes followed by class or group discussion, can be an invaluable source of knowledge about interviewing. Reading can provide a conceptual framework around which skills can be practiced and developed. However, interviewing proficiency is a skill that can be aided by knowledge, but high degrees of knowledge do not guarantee any particular level of skill.

Lectures (76)

The strengths and weaknesses of lectures are very similar to those of reading material. Knowledge can be transmitted through lectures and attitudes can be influenced, but lectures do very little toward the development of psychomotor skills.

Demonstration (76)

Demonstration plays a uniquely powerful role in influencing learner skills. Learners can watch videotapes of effective interviewing or observe live demonstrations by an instructor with real patients. Interviewing skills can also be effectively demonstrated by using role-play or standardised patient techniques. It provides an invaluable first step to learning. It is much easier for students to imitate what they actually see than to produce de novo what they are instructed to do through readings or lectures. Imitation should not, however, be taken too literally.

While direct imitation may be appropriate for learning some basic skills, it is also important for learners to feel free to adapt what they have seen to suit their own particular style. This freedom is particularly important for learning higher-order skills. Complex and higher-order skills are much more subtle and cannot be easily imitated. As a result, they depend more on the individual characteristics and style of the particular doctor (dentist).

The most important part of effective demonstration is to observe a model in discrete, digestible chunks. A demonstration must be short enough - not more than three to four minutes - for learners to be able to remember what they saw, and it also must be able to be analysed in categories of behaviour that are understandable and digestible.

Practice (76)

There is no substitute for practice. Interviewing can be practiced in role-play, with simulated patients, or with real patients. Through practice it is, however, possible to develop bad habits that interfere with communication skills. In order for practice to be optimally useful to learners, practice needs to be coupled with observation and feedback.

Observation and feedback (76)

Feedback should be obtained immediately after the designated behaviour. Feedback can be obtained from teachers, videotapes or real patients. Feedback is much more useful if it is concrete and specific. The potential for learning is inversely related to the time between actual performance and feedback. When obtaining feedback, learners should receive both positive and negative, but constructive, feedback. It is usually better to obtain positive feedback first. Often, learners and teachers are too quick to focus only on negative behaviours. In order to help develop skills in self-observation, it is often particularly useful for learners to give their own positive and negative feedback to themselves first and then seek feedback from other observers.

Stewart *et al.*, (78) suggested that feedback should have the following characteristics:

- Is descriptive, rather than evaluative - for example, "I noticed that you avoided eye contact with the patient" versus "You are rather weak in interviewing skills."
- Is specific, rather than general - for example, "You picked up well on the patient's toothache but seemed uncertain how to explore the patient's expectations about treatment" versus "Your clinical skills need some improvement."
- Focuses on behaviour, rather than on personality - for example, "Your infrequent use of silence and open-ended questions reduces the chances of the patient telling what's on his/her mind" versus "You don't show sufficient interest in your patients."
- Involves sharing information, rather than giving advice. This encourages learners to decide for themselves how to handle the problem.
- Limits the amount of information to how much learners can use, rather than overloading them.
- Is verified or checked with learners - for example, "How do you feel the interview went?" versus "You were terrific!" Positive feedback may be confusing or unhelpful if students thought they really did a poor job.
- Pays attention to the consequences of feedback. The verbal and non-verbal responses of students are noted. Students are asked to comment on the feedback.
- Avoids collusion: It is not always essential to provide brutally frank feedback; this may be harmful. However, it is vital not to provide meaningless and misleading or dishonest feedback - for example, "That was okay," when it was really poorly done.

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Repetitive practice (76)

Once a learner has obtained feedback on his/her performance, it is essential that this feedback be utilised in repeated efforts. Often feedback is given in learning situations without learners having the opportunity to practice the skill again and to attain a more successful outcome. This is unfortunate because a major opportunity for significant learning is missed if feedback is obtained without the opportunity for repetitive practice. Repeated practice under the observation of an instructor also allows the opportunity for the learner to test whether he or she actually mastered the problem at hand.

Modified live patient interviews (76)

There is no substitute for practising on real patients to learn good interviewing skills. Every patient is indeed different, and the complexities of interviewing cannot be demonstrated by using only simulated patients or role-play scenarios. Practise with live patients lends richness and credibility to training that cannot be duplicated by other techniques.

Live patient interviewing can at times be modified in certain educationally useful ways that add to these powerful effects. When the learner is observed in his/her interviews with real patients, the learner can get the opportunity to benefit from immediate feedback on a variety of communication techniques. After an interview is completed, patients themselves can be asked to provide their own feedback on the learner's performance. Patients can be asked to tell the learners what techniques seemed to work well and what parts did not work as well. Obtaining honest feedback from real patients can be difficult, but it is possible if the learner convinces the patient that he/she is sincere in the effort to obtain both positive and negative feedback.

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Small groups (76)

Interviewing is best learned in small groups of four to six learners. A small student-to-teacher ratio allows the instructor to observe each learner and to develop a critical understanding of individualised strengths and weaknesses. This effort is certainly faculty intensive, but no way has been found around this problem to date. Standardised patients (SPs) have been utilised to give individualised feedback, but their usefulness is limited to those particular cases on which they have been trained. When SPs are allowed to give more generalised feedback, there is a danger that they may overstep the situations for which they have been trained. Effective learning, then, requires at least some close supervision by medical (dental) academic staff.

4.17.3 Strategies for maximising participation and learning

Optimal learning and skill development occur in a supportive climate of trust and openness as opposed to a defensive climate of mistrust and defensiveness (74). Table 21 (below) illustrates the six categories of behaviour that are characteristic of a supportive climate and defensive climate.

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Table 21 Categories of learning climates (adapted from 74)

Supportive climate	Defensive climate
Description Non-judgemental presentation of perceptions; Avoiding terms like "good" or "bad"	*Evaluation* Passing judgement; blaming, criticising or praising; questioning motives or standards
Problem orientation Collaboration; mutually defining and solving problems rather than telling someone what to do	*Control* Telling other people what to do or how to feel or think
Spontaneity No "hidden agendas"; straightforwardness	*Strategy* Manipulating through the use of tricks or hidden agendas; hiding intentions
Empathy Willingness to become involved with others; identifying with, respecting, accepting, understanding others	*Neutrality* Indifference, aloofness; viewing the other person as an object of study
Equality Willingness to participate with the other person, to mutually define and solve problems	*Superiority* Failure to recognise the worth of the other person, arousing feelings of inadequacy; communicating that one is better than the other
Provisionalism (tentativeness) Willingness to explore alternative points of view or plans of action	*Certainty (dogmatism)* Resisting consideration of alternatives; emphasis on proving a point rather than solving the problem

4.17.4 Dealing with tensions that influence learning

Because communication is closely bound to self-concept and esteem, emotions ranging from mild frustration to outright anger are likely to accompany the issues of self-confidence, defensiveness and conflict among learners from time to time. The emotions that arise may be unrelated to communication issues and simply surface in the supportive environment that has been established.

Various strategies exist for working with the tensions and emotions that emerge (74):

- Distinguish between types of tension
  - Intrapersonal
  - Interpersonal
- Working on improving low confidence or low self-esteem
- Handling mistakes, failure and risk-taking fears
- Handling disagreements
- Dealing with anger.

4.18 Assessing communication- and interpersonal skills

The growing interest in the field of patient-doctor communication has resulted in a proliferation of communication assessment instruments. Several recent articles reviewing the literature pointed out several difficulties in reviewing this topic: the large number of different assessment tools; the great variety of variables and concepts being assessed; the large number of outcome variables; the different definitions of good communication and the differing purposes for the studies (96). A comprehensive review and comparison of instruments used to assess patient-doctor interaction over the period 1986 - 1996, has revealed a large number and a wide variety of instruments which depend on various data collection techniques (96). Few are widely used and many have never been demonstrated to be reliable or valid, making it difficult to compare the findings of different studies (96).

Attempts to assess communication skills have proven challenging on a number of fronts (97). Some of the problems include a variation in the skills to be assessed and the way in which learning demonstrates those skills. A number of studies using a variety of assessment techniques demonstrate inadequate inter-rater agreement and poor generalisability, particularly when using academic staff to assess learners' communication skills (97).

Various tools exist for assessing communication and interpersonal skills: (i) SPs using sophisticated behavioural checklists such as the Calgary-Cambridge and SEGUE scales to observe behaviour in interactions; (ii) surveys of patients' experience in interactions; (iii) examinations using oral, essay or multiple choice response questions (98); (iv) tools that take advantage of advanced computer and audio-visual technologies, like the Roter Interaction Analysis System (RIAS) and videotape feedback; and (v) OSCEs (26).

The checklist remains the most frequently used assessment tool for assessing communication behaviours. Over 25 communication and interpersonal skills rating checklists are described in the literature, but only a few have been widely used (98). Currently there is no gold standard, and standardisation of instruments across clinical settings remains an important future challenge.

Although these assessment tools consider both communication and interpersonal skills, none of the tools persuasively answers the main question: *Did the physician satisfy the essential reason for which the patient sought help?* Each assessment tool focuses on physician behaviours that have been considered to be critical to a successful transaction with the patient. Although they measure observable behaviours, they do not measure their effect on the patient. A property of the medical encounter that is becoming increasingly topical and relevant is the property of *meaning*. *Meaning* is a property of neither the patient nor the physician, but of both. Just as only the patient can define the meaning of illness, only its participants can define the meaning of the clinical encounter. Although the clinical encounter may have meaning for both the doctor and the patient, the *quality* of the interaction is determined by *meaning as defined by the patient* (99).

In 2002 communication experts convened in Kalamazoo, Michigan, to assess what is known about the ability to evaluate physician communication skills. The participants agreed that while theory and research regarding medical communication has become stronger, a physician could perform well on checklists that assess communication skills but still fail to address a patient's central need, and vice versa (99). The Kalamazoo II report suggested the following (98):

- The same assessment tool may be used for formative evaluation and feedback during training or for summative and high-stakes evaluations for promotion, certification, etc.;
- Demonstration of interactive skills demands observation and ratings of real or simulated physician-patient encounters. The raters may be actual patients, trained simulated patients or other professionals who complete checklists or answer questions in a survey;
- Selection of the tools chosen by an educational program will depend on the resources available and validity required. At a minimum, competence in communication- and interpersonal skills should be taught and evaluated by trained faculty coaches and evaluators using standardised checklists;
- The therapeutic essence of the doctor-patient relationship should include the patient's perspective obtained either from ratings or surveys after encounters.

4.19 Using standardised patients to teach and evaluate interviewing skills

Dental educators tend to focus on psychomotor skills and valuing technical performance over critical thinking skills (100) and are therefore currently being challenged to introduce new and better teaching methods (26).

Since 1964, medical education has utilised standardised patients (SPs) – lay people trained to simulate a patient's illness in a standardised way to portray standardised scenarios for students to practice gathering for relevant history and symptoms, diagnosis and treatment planning in actual patient situations (26).

SP-based teaching and assessment present students with the same problems and decisions they would face with real patients, and then assess critical thinking by evaluating steps in the process of a student-patient interaction. SP-based instruction and assessment incorporate relevant aspects of clinical and behavioural sciences in a realistic setting (100). SPs are trained to "portray a patient that does not vary from student to student (101).

Numerous reports from medical educators indicate that the use of SPs as instructors can be a very effective and efficient method for teaching physical examination, clinical sciences and behavioural sciences in realistic settings (26). SPs can accurately and consistently portray patients and can assess students' performance. Students have difficulty distinguishing between real and simulated patients.

Although standardised patient instructors (SPIs) are used as part of the instructional program in nearly 95 per cent of medical schools, their use in dental education programmes have been more limited (100; 101; 102; 103; 104; 105; 106). However, two studies about teaching communication skills to undergraduate dental students using SPs, reported that students enjoyed and valued the training (6; 107).

Patient satisfaction, in this new era of relationship-based care, is a function of the patient's involvement in treatment planning and goal setting. Therefore, it becomes important that dental schools familiarise students with patient issues and teach them how to talk effectively to patients about their expectations and emotions and to incorporate these into a discussion of the treatment plan for the patient. SPs can be used effectively toward this end (101; 105). Advantages associated with the use of SPs are clear:

- Cases are predetermined thereby guaranteeing specific experiences;
- Students gain practice on sensitive issues without risk to a real patient;
- Students gain confidence and expertise, making the transition to the clinical setting easier, and
- SPs are available on demand, making time management more flexible.

In another study, 90 - 96 per cent of medical students rated the SP-instructor's feedback as valuable. The students also reported that the skills acquired were likely to be used, and they had learned "much" or "very much" (108).

At the University of Illinois, College of Dentistry, two SP instructor programs were developed: one to teach freshman communication and examination skills, and the second to teach aspects of geriatric dentistry (103). Academic staff and SP student evaluations were compared. The results showed high agreement in evaluating student behaviours, thus supporting the conclusion that SP instructors can accurately evaluate student performance (103).

In a study by Fitzgerald *et al*., (104) students' perceptions of the value of a newly created SPI interaction in preparation for their third year clinical experience, were assessed. It was strongly perceived by students as valuable and improved their clinical communication skills. A study by Van der Molen *et al*., (106) developed and evaluated a communication skills training programme for the management of dental anxiety. The results showed that the communication skills training had an effect on the knowledge and a substantial effect on the behaviour of the students. Results from the learner report showed that the students acquired important insights into their own capacities and limitations and it was recommended that knowledge and behaviour examinations should be introduced as a regular part of the curricula for undergraduate students in dentistry.

However, the use of SPs in teaching communication skills, have limitations (109). SP programs are most useful for the evaluation of adult clinical problems, but less useful for assessment of paediatric clinical skills. Ethical and reliability issues limit the use of children in SP scenarios (109). A virtualised standardised patient (VSP) system was described in the literature, which could serve as an adjunct to live actors for teaching and evaluating patient interviewing skills (110).

4.20 Use of video feedback to enhance communication skills training

Substantial evidence exists that communication skills can be taught and that the physician's interviewing performance can be improved. Also, there is compelling evidence that experiential methods of communication skills instruction are superior to more traditional didactic approaches (111). In particular, studies of video review and feedback of student performance in interviews have consistently produced positive gains in communication skills. Despite the evidence of success as an effective educational strategy, only a minority of communication training programmes provide systematic feedback to trainees on videotaped performance with real patients or simulated patients (111). Although a number of communication assessment tools are available, few studies have directly linked skills assessment to video feedback.

Videotaping is used to enhance skill development, to heighten student self-awareness and to evaluate student mastery of required curriculum content. Academics from disciplines including medicine, nursing and speech and language therapy reported using videotaping as an educational methodology (112). The reported effects of using videotaping include increasing the level of student involvement in learning; increasing academic staff effectiveness in evaluation; avoiding detrimental patient consequences with novice nurses; decreasing the amount of lecturers' time required for evaluation; increasing students' self-awareness and enhancing student learning outcomes (112). However, in a study to teach students health promotion interviewing skills, videotaping was rated as the least valuable aspect of the program (108). (It is not clear whether it was "to be videotaped" or whether it was the "feedback by means of videotape" that was rated negatively by the students).

An innovative video feedback method, involving an established analytical framework used through an interactive CD-ROM platform, is reported in the literature (111). The authors assessed acceptability both to students (in this case paediatric residents) and faculty members, as well as evaluating a brief teaching intervention (one hour of video feedback linked with a one hour didactic and role play session). The method was found to be acceptable to all parties, and the intervention was associated with a range of changes in communication, mostly in a positive direction. Residents generally felt their skills had improved as a result of the feedback, and faculty members preferred the method to more traditional approaches to feedback.

Dental schools today are faced with the concurrent problems of dwindling financial resources and a student population experiencing difficulty with the academic demands of dental school. SP-based instruction has the potential to be a very effective and financially efficient teaching tool. As students assess themselves through watching videotapes of their own and expert performances and gain mastery of skills in less time, lecturers' time needed for teaching and remediation could be reduced. (100).

4.21 Potential major influences on communication

Female residents demonstrated greater changes in communication skills than males, in line with the results of work by other researchers (111; 113).

Ethnicity is another potential major influence on communication. Students born in non-Western countries placed a greater degree of importance on communication skills than students born in Western countries (113).

Personality differences between doctors and patients in relation to communication were also investigated by employing the Myers-Briggs Type Indicator (114). Significant differences were found in most of the dimensions of personality measures, including those said to be pertinent to communication.

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The authors suggest that this might account for some of the well-recognised failures of communication between doctors and patients. The author's suggestion that doctors (and presumably students) might benefit from education and training in the concept of personality type differences, and their pointers as to how to "flex" their own style to take account of such differences so as to improve communication, have merit. They also remind us that communication skills teaching should not be divorced from other areas of personal and professional development, particularly in the area of teaching about diversity, and that fostering self-awareness is an important component of medical education (114).

4.22 A communication skills model

In May 1999, a total of 21 leaders from major medical education and professional organisations and representatives of five currently used models of doctor-patient communication (Table 22, below) attended an invitational conference. The participants focused on delineating a coherent set of essential elements in physician-patient communication to facilitate the development, implementation and evaluation of communication-oriented curricula in medical education (91).

Table 22 Five currently used models of doctor-patient communication

Bayer Institute for Healthcare Communication E4 Model (115)	Three Function Model/Brown Interview Checklist (116)	The Calgary-Cambridge Observation Guide (74)	Patient-centered clinical method (117)	SEGUE Framework for teaching and assessing communication skills (118)
• Engage the patient • Join the patient • Elicit the agenda and the story • Set the agenda	Information gathering skills	Initiating the session	Exploring both the disease and the illness experience	**S**et the stage
• Empathise with the patient • The setting • Create a setting that is psychologically safe	Facilitation skills	Gathering information Exploration of problems Understanding the patient's perspective Structuring the consultation	Understanding the whole person	**E**licit information
• Educate the patient • Assess the patient's understanding • Assume questions • Assure understanding	Relationship skills	Building the relationship – facilitating patient's involvement	Finding common ground	**G**ive information
• Enlistment • Decision making • Adherence	Patient education and counselling skills	Explaining and planning	Incorporating prevention and health promotion	**U**nderstand the patient's perspective
		Closing the session	Enhancing the patient-doctor relationship	**E**nd the encounter
			Being realistic	

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This conference resulted in *The Kalamazoo Consensus Statement* (91) which, identified the following tasks and skills as essential elements of physician-patient communication (Table 23, below):

Table 23 The Kalamazoo Consensus Statement: essential elements of physician-patient communication (91)

Task	Skills
1. To build a relationship - the fundamental communication task	a. Elicit the patient's story. b. Awareness that ideas, feelings and values influence the relationship. c. Respect patient's active participation.
2. To open the discussion	a. Allow patient to complete his/her opening statement. b. Elicit the patient's full set of concerns. c. Establish/maintain a personal connection.
3. To gather information	a. Use open-ended and closed-ended questions appropriately. b. Structure, clarify and summarise information. c. Active listening using non-verbal (for example eye contact) and verbal (for example words of encouragement) techniques.
4. To gain an understanding of the patient's perspective	a. Explore contextual factors (for example family, culture, gender, age, socio-economic status, spirituality). b. Explore beliefs, concerns and expectations about health and illness. c. Acknowledge and respond to the patient's ideas, feelings and values.
5. To share information	a. Use language the patient can understand. b. Check for understanding. c. Encourage questions.
6. To reach an agreement on problems and plans	a. Encourage the patient to participate in decisions to the extent he/she desires. b. Check the patient's willingness and ability to follow the plan. c. Identify and enlist resources and supports.
7. To provide closure	a. Ask whether the patient has other issues or concerns. b. Summarise and affirm agreement with the plan of action. c. Discuss follow-up (for example next visit, plan for unexpected outcomes).

4.23 Conclusion

The deterioration of communication is attributed to the ascendancy of the molecular- and chemistry-oriented sciences as the predominant 20th century medical paradigm. This resulted in a shift of the physician-patient interaction away from the person of the patient to the biochemistry and patho-physiology of the patient. The incorporation of the patient's perspective into medicine's definition of the patient's need has been suggested as the medical paradigm of the 21st century (68).

A reasonable and appropriate conclusion from the above literature review is that physicians should demonstrate empathy and compassion in their interaction with patients. Amidst an increasing dehumanisation of healthcare, research suggests an association between a physician's caring attitude and the patient's trust in a physician and satisfaction and compliance with proposed health care. When patients perceive their interaction with their physician to be personalised - they are listened to, respected and believe that they are talking to someone who wishes to help them - they feel special and cared for. Therefore, the dentist's attitude is most important when communicating with patients. Dental students' clinical mindset should therefore be reinforced with "softer" skills such as to:

- Build strong relationships with patients through communication skills;
- Discover a patient's "story" in terms of his/her expectations, psychosocial concerns and emotions;
- Present clear and effective treatment plans that will enhance a demand for comprehensive dentistry, and
- Integrate the fundamentals of business-, management- and leadership skills, with the traditional clinically- and technique-orientated undergraduate dental curriculum.

Phase 2 of the study, dental educational research intervention, will be presented in the following chapter.

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PHASE II: DENTAL EDUCATIONAL RESEARCH INTERVENTION

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CHAPTER 5 PROPOSED INTERVENTION

5.1 Introduction

The current chapter describes the dental educational research intervention comprising the development of an outcomes-based curriculum in relational communication skills (Figure 8, below).

Until recently, little or no emphasis was placed on the development of interpersonal communication skills because dental students' cognitive and clinical development have always been emphasised. Time restraints and lack of faculty interest also played a part (16; 119). However, an increasing number of proponents of communications skills teaching argue that communication is a core clinical skill rather than an optional extra and should comprise an essential part of the undergraduate dental curriculum. A recent review done by Aspergren for the Association for Medical Education in Europe concludes that there is overwhelming support for the fact that communication can be taught and learned (120). This, however, requires the development of a relevant, *outcomes-based* curriculum in relational communication skills.

It is suggested, however, that instead of continuing to develop communication skills teaching/assessment instruments for each new research project, clinicians and researchers should rather work together to document the reliability and validity of existing instruments. It is strongly recommended that future efforts be aimed at refining existing instruments rather than the development of novel measures (96).

In view of the above, and given the close relationship between dentistry and medicine, the similar nature of doctor-patient and dentist-patient interactions, as well as the integration of medical and dental science in the undergraduate dental curriculum at the University of Pretoria (Figure 4 - Chapter 2, section 2.4), it was decided to explore the literature in terms of currently used doctor-patient communication models in medicine and determine whether such models could be applied in dentistry (91).

5.2 Curriculum development

The process of curriculum development followed in this study is presented in Figure 8 (below).

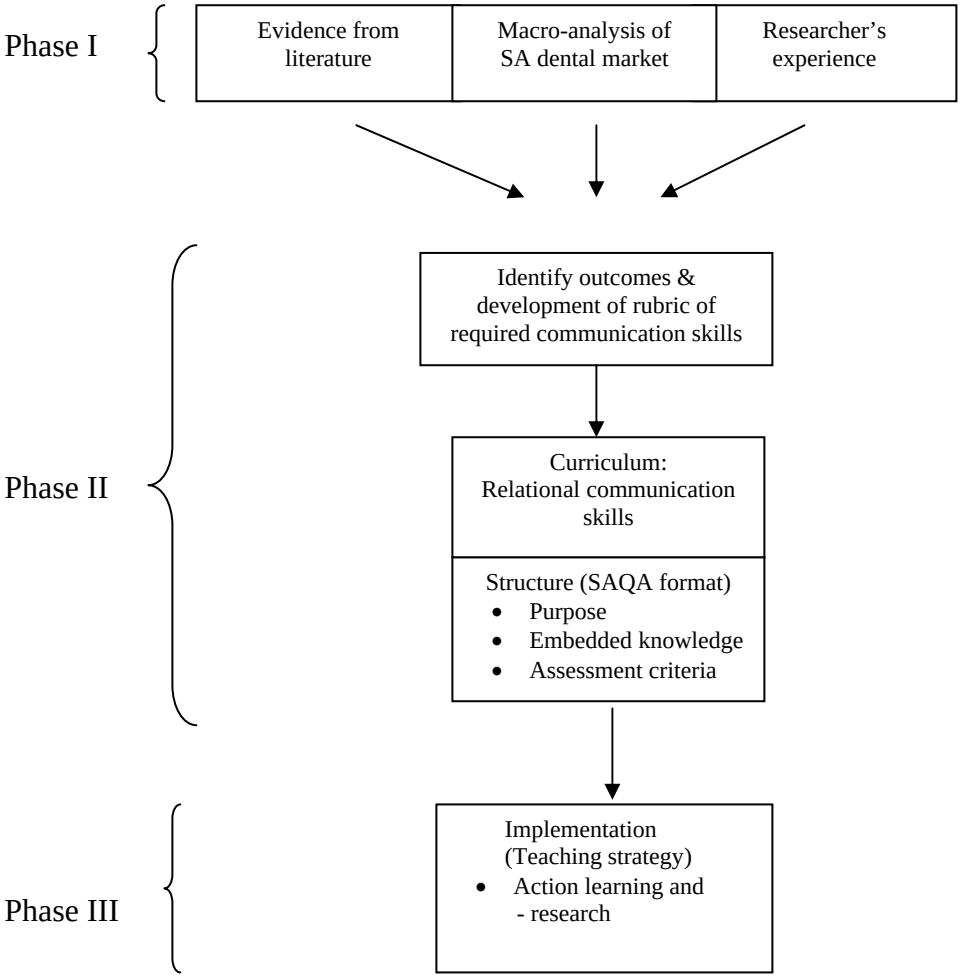

Figure 8 Process of curriculum development in relational communication skills

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5.2.1 Identifying outcomes

The first step that was employed in developing an outcomes-based curriculum in relational communication skills was the identification of those specific outcomes and sub-outcomes essential for the dentist to be competitive in the emerging South African dental market in terms of relational communication skills.

These specific outcomes and sub-outcomes were identified through a combination of evidence from the literature (Chapter 4), a macro-analysis of the South African dental market (Chapter 2) and the researcher's 25 years' personal experience of the South African dental market (Figure 8, above). As was described in the literature review (Chapter 4), the five currently used models of doctor-patient communication (Table 22 - Chapter 4, section 4.22) were combined in The Kalamazoo Consensus Statement (Table 23 - Chapter 4, section 4.22) which represents the essential elements of physician-patient communication. However, The Kalamazoo Consensus Statement was further developed by combining it with the Competency Keys: Actualizing the Gold Standards of Communication Skills (121) (Table 24, below), as well the researcher's 25 years' personal experience of the South African dental market.

Table 24 Competency keys: Actualizing the gold standard of communication skills

Introduces self clearly and appropriately
Empathises with and supports the patient
Uses non-verbal communication to make the verbal communication more effective
Avoids the use of medical jargon throughout the interview
Confirms the basic diagnosis
Explores patient's knowledge base of the diagnosis
Prioritizes treatment options and educates the patient to these options
Elicits the patient's preferences and commitment to a treatment plan
Reviews the treatment plan and obtains a mutual statement of commitment
Establishes the treatment plan time-line and follow-up care
Encourages me to ask questions and responds appropriately to my questions throughout the interview
Responds appropriately to the patient's feelings throughout the interview
Accepts the legitimacy of the patient's perspective (non-judgmental)

The abovementioned developmental process resulted in those required specific outcomes and sub-outcomes essential for the dentist to be competitive in the emerging South African dental market in terms of relational communication skills (Table 25, below).

Table 25 Outcomes and sub-outcomes essential for the dentist to be competitive in the emerging South African dental market

Specific outcomes	Sub-outcomes
Opening the interview	▪ Greets the patient ▪ Obtains the patient's name ▪ Introduces self ▪ Attends to physical comfort (here and throughout interview) ▪ Identifies and confirms patient's problem
Gathering information: Structuring the interview	▪ Negotiates an agenda for consultation ▪ Progresses from one section to another using transitional statements (includes rationale for next section) ▪ Attends to timing
Gathering information: Exploration of problems	▪ Encourages patient to give history of chief complaint ▪ Uses open questioning technique(s) ▪ Uses closed questioning technique(s) ▪ Listens attentively (no interruptions; time for patient to think before answering) ▪ Facilitates patient's responses (use of encouragement, silence, repetition, paraphrasing, interpretation) ▪ Clarifies patient's statements which are vague and need amplification ▪ Summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted
Understanding the patient's perspective	▪ Determines patient's expectations regarding each problem ▪ Picks up verbal cues (patient's need to contribute information/ask questions; information overload; distress) ▪ Picks up non-verbal cues (patient's need to contribute information/ask questions; information overload; distress) ▪ Encourages expressions of feelings ▪ Encourages patient to contribute ideas/suggestions/preferences/beliefs ▪ Accepts legitimacy of patient's views/beliefs (non-judgmental)
Sharing information	▪ Discusses options ▪ Discusses consequences of no action ▪ Provides information (procedures; processes; benefits & advantages; value & purpose) ▪ Uses easily understood language (avoids or adequately explains jargon) ▪ Shares own thoughts; ideas/dilemmas/thought processes
Reaching an agreement on problems and plans	▪ Elicits patient's understanding about plans and treatments ▪ Obtains patients' view of need for action (perceived benefits) ▪ Takes patient's lifestyle, beliefs, cultural background and abilities into consideration ▪ Negotiates mutually acceptable plan (encourages patient to make choices; address concerns) ▪ Encourages patient to be involved in implementing treztment plan (to take responsibility and be self-reliant) ▪ Asks about patient's support network for decision-making
Providing closure	▪ Summarises session briefly ▪ Contracts with patient regarding next step(s) for patient and ▪ dentist ▪ Explains possible unexpected outcomes and safety-nets ▪ appropriately
Building the relationship	▪ Demonstrates interest ▪ Demonstrates respect ▪ Communicates warmth ▪ Demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice) ▪ Reading, writing, use of computer do not interfere with dialogue/rapport ▪ Shows empathy with patient ▪ Deals sensitively with embarrassing and disturbing topics ▪ Bonds with the patient

5.2.2 Development of Rubric

The next step was to convert the Table of specific outcomes and sub-outcomes - Table 25, above - into a logical and sensible structure (rubric) for teaching and assessing communication skills. This resulted in a *combined* rubric representing an example or template of the required relational communication tasks and skills. It comprises seven communication tasks. For each of the seven communication tasks, various skills are listed, resulting in a total of 43 skills (Table 26, below; Appendix A).

This combined rubric has been chosen as the basis for the proposed curriculum for the purpose of teaching relational communication skills to 3rd years dental students at the University of Pretoria for the following reasons:

- Most of the elements included in this framework are present in each of the five currently used models (Table 22 - Chapter 4, section 4.22) for doctor-patient communication. It represents the collaboration and consensus of individuals with a variety of backgrounds and interests in medical education;
- It provides a logical and sensible structure for teaching and assessing communication skills;
- It focuses on the required knowledge, skills, behaviour and attitudes necessary for establishing a sound dentist-patient relationship;
- It emphasises a patient-centered approach by focusing on the patient's expectations, emotional and psychosocial issues (7), and
- It emphasises a facilitative - as well as an action dimension (74).

Table 26 Combined rubric: combination of The Kalamazoo Consensus Statement (91), the Competency Keys: Actualizing the Gold Standards of Communication Skills (121) as well as researcher's 25 years' experience of the South African dental market

Item number	
	A. Opening the interview
1	Greets the patient
2	Obtains the patient's name
3	Introduces self
4	Attends to physical comfort (here and throughout interview)
5	Identifies and confirms patient's problem
	B. Gathering information
	(i) Structuring the interview
6	Negotiates an agenda for consultation
7	Progresses from one section to another using transitional statements (includes rationale for next section)
8	Attends to timing
	(ii) Exploration of problems
9	Encourages patient to give history of chief complaint
10	Uses open questioning technique(s)
11	Uses closed questioning technique(s)
12	Listens attentively (no interruptions; time for patient to think before answering)
13	Facilitates patient's responses (use of encouragement, silence, repetition, paraphrasing, interpretation)
14	Clarifies patient's statements which are vague and need amplification
15	Summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted
	C. Understanding the patient's perspective
16	Determines patient's expectations regarding each problem
17	Picks up verbal cues (patient's need to contribute information/ask questions; information overload; distress)
18	Picks up non-verbal cues (patient's need to contribute information/ask questions; information overload; distress)
19	Encourages expressions of feelings
20	Encourages patient to contribute ideas/suggestions/preferences/beliefs
21	Accepts legitimacy of patient's views/beliefs (non-judgmental)
	D. Sharing information
22	Discusses options
23	Discusses consequences of no action
24	Provides information (procedures; processes; benefits & advantages; value & purpose)
25	Uses easily understood language (avoids or adequately explains jargon)
26	Shares own thoughts; ideas/dilemmas/thought processes
	E. Reaching an agreement on problems and plans
27	Elicits patient's understanding about plans and treatments
28	Obtains patients' view of need for action (perceived benefits)
29	Takes patient's lifestyle, beliefs, cultural background and abilities into consideration
30	Negotiates mutually acceptable plan (encourages patient to make choices; address concerns)
31	Encourages patient to be involved in implementing treatment plan (to take responsibility and be self-reliant)
32	Asks about patient's support network for decision-making
	F. Providing closure
33	Summarises session briefly
34	Contracts with patient regarding next step(s) for patient and dentist
35	Explains possible unexpected outcomes and safety-nets appropriately
	G. Building a relationship
36	Demonstrates interest
37	Demonstrates respect
38	Communicates warmth
39	Demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice)
40	Reading, writing, use of computer do not interfere with dialogue/rapport
41	Shows empathy with patient
42	Deals sensitively with embarrassing and disturbing topics
43	Bonds with the patient

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5.2.3 Structuring the curriculum

The curriculum was structured according to the format required by the South African Qualifications Authority (SAQA) and compiled as a study guide (Appendix C). Each student was issued with a copy of the study guide. The structure of the curriculum comprises the following three dimensions:

5.2.3.1 The *purpose* of a curriculum in relational communication skills was stated.

5.2.3.2 *Embedded knowledge* representing the supporting evidence from the literature was defined.

5.2.3.3 *Assessment criteria* were derived from the outcomes and sub-outcomes.

5.3 Conclusion

Chapter 5 described the dental educational research intervention, namely the development of an outcomes-based curriculum in relational communication skills.

Chapter 6 will describe the planning cycle of Phase III of the study - implementation and evaluation of the dental educational research intervention. This planning cycle is part of an action learning and -research paradigm characterised by a process of planning, implementation, observation, reflection and re-planning (Table 27 - Chapter 6, section 6.1).

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PHASE III: IMPLEMENTATION AND EVALUATION OF THE DENTAL EDUCATIONAL RESEARCH INTERVENTION THROUGH ACTION LEARNING AND -RESEARCH

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CHAPTER 6 PLANNING

6.1 Introduction

This chapter describes the planning cycle of Phase III of the study - implementation and evaluation of the dental educational research intervention. The planning cycle comprises the design and a description of the pilot study conducted before commencement of the implementation cycle of Phase III of the study.

Table 27 Research strategy followed during the study

Phase of the study	Action learning and -research paradigm/cycle	Corresponding research structure
Phase III: Implementation and evaluation of the intervention through action learning and -research	Planning	Design, pilot study
	Implementation	Methodology • Subjects • Instruments • Procedures • Statistical analysis
	Observation	Results
	Reflection	Discussion
	Re-planning	Recommendations

6.2 Design

The implementation cycle of Phase III of the study was designed in a pre- and a post-training cycle comprising five steps (Figure 9, below). The rationale for this design is the following:

- A pre- and post-training cycle enables the researcher to evaluate the effect of the proposed dental educational research intervention on students' observable relational communication skills;

- In order to enhance student-centered, problem-oriented learning, the design ensures the exposure of students to an experiential learning strategy complemented by a didactic teaching strategy (Steps 1 & 3 - Figure 9). The purpose of first exposing students to an experiential learning strategy (Step 1 - Figure 9), is to stimulate students affectively - to "experience the experience" - about the nature and process of conducting an interview. As a result, students' identification with, and realisation of the importance of the theoretical evidence supporting communication skills teaching are enhanced. The evidence behind communication skills teaching, the cognitive aspects as well as the required communication skills are presented during the didactic teaching strategy (Step 3 - Figure 9). The experiential teaching strategy is repeated after the didactic teaching strategy to enable students to functionalise the acquired skills through repetitive practice (Step 4 - Figure 9);
- The purpose of the gradual approach-design by means of interviews with peers (Step 1 - Figure 9) followed by interviews with the SP (Step 4 - Figure 9), is threefold:
  - To ensure that students gain confidence and expertise in a safe and supportive environment;
  - To provide students with the opportunity to reflect on the process of relational communication skills development by experiencing the role of "dentist" and "patient", and
  - To ensure a smooth transition from interviewing a SP to interviewing real patients during students' clinical years.

- Self-evaluation and peer evaluation (Step 1 - Figure 9) followed by evaluation by the SP (Step 5 - Figure 9), will enhance students' experiential learning. Evaluation of students' communication skills by the SP (Step 5 - Figure 9) by means of the assessment rubric ensures objective, reliable and credible assessment.

Step 1	Pre-training cycle (Training cycle 1)	Experiential learning opportunity ("experience the experience")	Didactic teaching	Peers	Video recordings of 3rd year dental students' base line communication skills	Self-evaluation
Step 2					Evaluation of 3rd year dental students' base line communication skills	
Step 3		Cognitive evidence	Didactic teaching	Lecturers Videos Experiential learning/role play	Developing 3rd year dental students' communication skills by teaching	
Step 4	Post-training cycle (Training cycle 2)	Experiment/practice		Experiential learning/role play SP	Video recordings of 3rd year dental students' newly developed communication skills	
Step 5		Evaluate			Evaluation of 3rd year dental students' newly developed communication skills	Evaluation by SP

Figure 9 Design of the implementation cycle of Phase III of the study: pre- and post- training cycles

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6.3 Pilot study

A pilot study was conducted with 10 fourth-year and 10 second-year students before commencement of the implementation cycle of Phase III of the study. The purpose of this pilot study was twofold:

- To evaluate the research process, the SP's use of the assessment rubric and the appropriateness of two of the instruments, namely the "Patient's" feedback and the "Dentist's" feedback. (The rationale behind the design of these questionnaires will be discussed in Chapter 7, sub-sections 7.3.3 and 7.3.4 respectively), and
- To ensure the eventual "richness" and trustworthiness of the data collected.

The pilot study confirmed the following:

- The SP experienced the rubric (Appendix A) as an appropriate and user-friendly assessment instrument;
- The questionnaire: "Patient's" feedback (Appendix E), employed as assessment instrument by the SP, complemented the rubric as assessment instruments employed by the SP, and
- The six categories of the original questionnaire: "Dentist's" feedback (Appendix F) that required open-ended, qualitative feedback was experienced as inadequate. In order to ensure "richness" and trustworthiness of data, students' open-ended, qualitative feedback needed to be enhanced by a quantitative rating scale. A qualitative data analysis process (described below) was employed to develop a quantitative rating scale to form part of the questionnaire: "Dentist's" feedback.

Through a process of qualitative data analysis, called triangulation (122) (Figure 10, below), the *originally* developed "Dentist's" feedback questionnaire (Appendix F) was converted into the *final* "Dentist's" feedback questionnaire (Appendix G). A description of the process of triangulation follows.

Six categories that required open-ended, qualitative feedback were initially selected and included in the originally developed "Dentist's" feedback questionnaire (Appendix F). These six categories were as follows:

- Communication skills' contribution to the dentist-patient relationship;
- Communication as "dentist": strong points in terms of communication;
- Aspects of communication that need further development;
- Experience of role-playing as a "dentist";
- Communication as "dentist": most enjoyable experiences, and
- Communication as "dentist": least enjoyable experiences

The 10 fourth-year and 10 second-year students who participated in the pilot study, were requested to provide feedback by means of the abovementioned categories about their experiences as "dentist" during their interviews with the SP. This feedback from the students provided a rich variety of viewpoints/inputs about the "dentist"-SP interaction.

The process of observing something from different viewpoints is called triangulation (122). There are several types of triangulation (122). Two types were used in this study:

- *Triangulation of measures* ensures that confidence in obtaining an accurate measure of the students' experiences, feelings and needs, is greater if something is measured in more than one way, and
- *Triangulation of method* means the mixing of qualitative and quantitative styles of research. The two styles of research have different, but complementary strengths. A research approach including both styles is referred to as a multi-method approach which is more comprehensive and ensures a "richness" of data. The use of multi-methods enables the researcher to synthesise or generate a theory (122).

Students' qualitative feedback to the open-ended statement: "Communications skills' contribution to the dentist-patient relationship" will be used to illustrate the application of the above description to generate a theory.

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Step 1: Search for general statements: identifying the story

The process of qualitative data analysis is not a fixed linear approach, but instead the researcher moves in analytical circles – a data analysis spiral. These circular movements represent a search for general statements about relationships among categories of data – to generate a theory from the available data, called a grounded theory (122). Step 1 entails the writing, in a few sentences, the general character of the story as contained in the feedback by the students. The following sentences represent the general character of the students' feedback: 'Communication skills will ensure a trusting relationship characterised by openness. This will enhance the dentist's understanding of the patients' expectations. A personalised relationship will ensure the retention of the patient, compliance with the treatment plan as well as promotion of the practice by the patient.

Step 2: Category formation: moving from description to conceptualisation

To move from the story to the storyline: the most important feature in the story has to be given a name. Category formation represents the most important or central part of qualitative data analysis. It involves identifying five or six general themes by separating an observation, sentence or paragraph into pieces, followed by grouping concepts that seem to represents the same situation, event, idea or perception. This is called categorising.

Step 3: Name the category: making a choice between two or more relevant features

The next step following categorising is to name the category. The name should be logically related to the data it represents. Another important source of names is the words and phrases used by students themselves that immediately draw one's attention to them. These terms are called "in vivo codes" (122). Sometimes two features in the data seem to be equally important or of interest.

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It is essential, however, to make a choice between them in order to achieve the tight integration and the dense development of categories required for a grounded theory (122).

Step 4: Develop the categories in terms of their characteristics and dimensions

The core category must be developed in terms of its characteristics. This resulted in the *originally* developed questionnaire: "Dentist's" feedback (Appendix F) converted into the *final* questionnaire: "Dentist's" feedback (Appendix G).

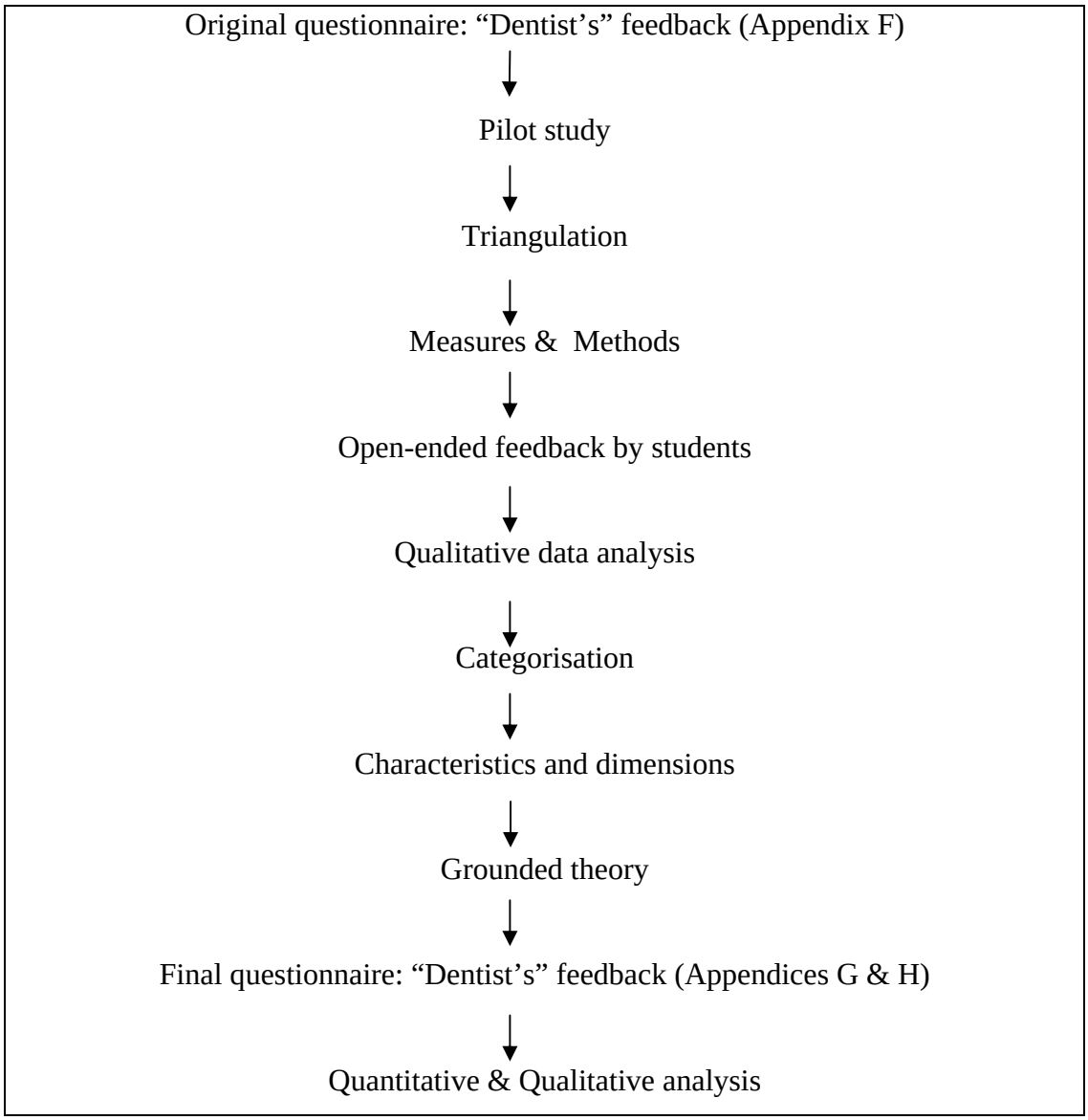

Figure 10 Process of qualitative data analysis

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6.4 Conclusion

Chapter 6 described the design of, and pilot study conducted during, the planning cycle of Phase III of the study.

Chapter 7 will address the implementation cycle of Phase III of the study.

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CHAPTER 7 IMPLEMENTATION

7.1 Introduction

The current chapter describes the implementation cycle of Phase III of the study for example implementation and evaluation of the dental educational research intervention. The implementation cycle can also be described as the methodology followed in implementing the dental educational research intervention (Figure 9 - Chapter 6, section 6.2). The methodology comprises the subjects, instruments, procedures and statistical analysis.

7.2 Subjects

A cohort of 67 third year dental students comprised the subjects of the study. The demographics of the subjects were as follows: the majority (n = 42; 63%) was female. 48 students (72%) were White, 12 students (18%) were African and seven students (10%) were Asian. The average age of the group was 21.8 years (male = 22.8 years; female = 21.2 years). The cohort of 67 students was divided in 16 smaller groups of four students each and one group of three students.

7.3 Instruments

7.3.1 Study guide (Appendix C)

A study guide was compiled and each student issued with a copy. The study guide was structured in the format required by the South African Qualifications Authority (SAQA) and contained the purpose (the rationale for communication skills teaching), embedded knowledge (the cognitive aspects and evidence supporting communication skills teaching), as well as assessment criteria (the communication skills required).

7.3.2 Case study (Appendix D)

A case study was developed which represented a clinical scenario comprising the full scope of bio-psychosocial skills required during the dentist-patient interview. The clinical scenario represented a patient with the following problem: a carious lesion on the right maxillary first premolar; a defective restoration on the left maxillary central incisor; a discoloured right maxillary central incisor; gingivitis and an impacted left mandibular wisdom tooth. Each student interviewed the SP using the case study.

7.3.3 "Patient's" feedback (Appendix E)

The questionnaire: "Patient's" feedback was designed to focus particularly upon the relationship between dentist and patient, patient understanding, -loyalty and -agreement (Table 2 - Chapter 1, section 1.1). The SP, as "patient", rated her experiences of the "dentist's" communication skills during her interview with each student on a five-point Likert scale (123). Likert scales are commonly used to measure attitude, providing 'a range of responses to a given question or statement' (124).

7.3.4 "Dentist's" feedback (Appendices F, G & H)

Six categories were initially selected and included in the originally developed "Dentist's" feedback questionnaire (Appendix F). The rationale for the selection of these six categories is presented in Table 28 (below). The six categories were the following:

- Communication skills' contribution to the dentist-patient relationship;
- Communication as "dentist": strong points of communication;
- Aspects of communication that need further development;
- Experience of role-playing as a "dentist";
- Communication as "dentist": most enjoyable experiences, and
- Communication as "dentist": least enjoyable experiences.

As was described in the pilot study (Chapter 6, section 6.3), the originally developed "Dentist's" feedback questionnaire (Appendix F) was converted into the final "Dentist's" feedback questionnaire (Appendix G). In order to obtain the "dentist's" feedback after video recording during step 4 of the implementation phase (Figure 9 - Chapter 6, section 6.2), the adjusted "Dentist's" feedback (Appendix G) was expanded to include quantitative- and qualitative feedback from the students about the lectures and teaching methods employed (Appendix H).

Each student provided quantitative and qualitative feedback about his/her experience as "dentist" during the interview with the SP on a five-point Likert scale and by answering open-ended questions, respectively.

Table 28 Questionnaire: "Dentist's" feedback: categories and rationale for selection

Category	Rationale for selection
Communication skills' contribution to the dentist-patient relationship	To determine students' perception of the important role of communication in the dentist-patient relationship
Communication as "dentist": strong points of communication	To allow students to reflect on their experiences of the dentist-patient interaction
Aspects of communication that need further development	To determine how students perceive their own communication skills
Experience of role-playing as a "dentist"	To allow students to reflect on their experiences of the dentist-patient interaction
Communication as "dentist": most enjoyable experiences	To determine how students perceive their own communication skills
Communication as "dentist": least enjoyable experiences	To determine how students perceive their own communication skills

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7.3.5 Training of a standardised patient

A professional actress was trained as a standardised patient (SP) to portray the case study (clinical scenario) in a consistent, reproducible and measurable manner (125). To assist the SP in understanding the nature of the dental scenario and its presenting signs and symptoms, written case notes were prepared for the SP to review (Appendix D). During training of the SP, the assessment rubric (Appendix A) served to educate her about the nature of the dentist-patient interaction. The SP was provided with guided feedback as she rehearsed the desired physical and verbal responses during her interaction with the "dentist."

7.4 Procedures

The procedures employed during the implementation cycle of Phase III of the study can be divided into five steps (Figure 9 - Chapter 6, section 6.2) in order to compare students' communication skills between the pre- and post training cycles.

Step 1: Students' base line communication skills were obtained by means of video recordings of their interviews with the SP.

Step 2: Students' base line communication skills were evaluated by means of video recordings and -feedback as well as by the SP using the assessment rubric (Appendix A). As the rubric represented an example or template of the required communication skills, it was implemented and used as an assessment instrument by the SP from her observation of students' communication skills. During the feedback session immediately after the interview, the SP provided descriptive feedback to each student by means of the video recordings to demonstrate, reflect and develop his/her individual competency. The process of video reviews is a powerful and effective teaching tool providing guidance for experiential learning and reflective self-assessment (111).

Each student was rated as follows by the SP (Appendix A): “1” if the skill was not employed; “2” if the skill was partially employed; “3” if the skill was adequately employed and “4” if the skill was fully employed. This method of evaluation ensured transparency and credibility as students could see exactly what elements of communication were being assessed and how these related to their performance.

Step 3: Development of students’ communication skills through a didactic lecture, video demonstration and experiential learning strategy:

- A one-and-a-half-hour didactic lecture during which the rationale for communication skills teaching, the cognitive aspects and evidence supporting communication skills teaching, as well as the communication skills required were presented to the class as a whole;
- A video demonstration of the principles of the interview, and
- Experiential learning over a two-week period through role-playing and peer evaluation in small groups of eight students each. Each small group of eight students had access to a venue equipped with a video player and was allocated two three-hour sessions to develop their skills in terms of the dentist-patient interview.

Step 4: Students’ newly developed communication skills were obtained by means of video recordings of their interviews with the SP.

Step 5: Evaluation of students’ newly developed communication skills by means of video recordings and -feedback as well as assessment of their skills by the SP using the assessment rubric (Appendix A).

Table 29 (below) provides a summary of the instruments and procedures employed during Phase III of the study.

Table 29 Summary of the instruments and procedures employed during Phase III of the study

Date	*Procedure*	*Description of procedure*	*Instruments employed for each procedure*
January 2004	Preparatory phase		• Develop a study guide • Develop a clinical case study • Develop "Patient's" feedback questionnaire • Develop "Dentist's" feedback questionnaire • Training of a SP
February – March 2004	Obtaining students' base line communication skills	• Groups of 4 students each • Each student interviews SP • Video recording of "dentist"-SP interview	• Video recording • "Patient's" feedback (Appendix E) • "Dentist's" feedback (Appendix G)
February – March 2004	Evaluation of students' base line communication skills	• Evaluation of video recordings by: o SP o Peers o Self	• Combined rubric (Appendix A)
April 2004	Development of students' communication skills by teaching	• Class divided into groups of 8 students each • Role-playing by each group • Peer evaluation • Self-evaluation	• Combination of cognitive material, didactic methods, demonstrations, role-playing, feedback, reflection • Combined rubric (Appendix A)
May – July 2004	Obtaining students' newly developed communication skills	• Groups of 4 students each • Each student interviews SP • Video recording of "dentist"-SP interview	• Video recording • "Patient's" feedback (Appendix E) • "Dentist's" feedback (Appendix H)
May – July 2004	Evaluation of students' newly developed communication skills	• Evaluation of video recordings by: o SP o Peers o Self	• Combined rubric (Appendix A)
July – November 2004	Evaluation of the appropriateness of teaching strategy and instruments	• Statistical data analysis • Adjustment to methodology and instruments	• "Dentist's" feedback (Appendix H)

7.5 Statistical analysis

The instruments employed in the study were designed to ensure that a quantitative data analysis procedure would be supplemented by a qualitative data analysis procedure. This approach is described in the literature as a multi-method design approach (122). Employing the two methods in parallel ensures more comprehensive data and as a result, greater confidence in the results of the study (122).

The combined rubric (Table 26 - Chapter 5, section 5.2.2; Appendix A) was employed during steps 2 and 5 (Figure 9 - Chapter 6, section 6.2) of the implementation cycle of Phase III of the study to assess students' base line communication skills and newly developed communication skills, respectively. The data obtained was statistically analysed to investigate and confirm the construct validity and internal consistency of the combined rubric by means of a series of factor- and item analyses according to Eigen values and Cronbach's alpha coefficient, respectively. The series of factor- and item analyses determined which items contribute to which dimension of the rubric as well as each item's degree of contribution (loading) to a particular dimension. Each set of items' contribution to a particular dimension is a function of the inter-item correlation within a particular set of items.

Changes in students' interviewing skills were determined and measured by means of the Wilcoxon Rank Sum Test and the Signed Rank Test for training cycle 1 and 2 respectively. To determine the differences in students' performance between training cycles 1 and 2, it is necessary to mention the following: Paired data, for example Rubric for training cycle 1 versus Rubric for training cycle 2 (Table 36 - Chapter 8, section 8.2.1.4) was compared by applying the non-parametric Signed Rank Test (Wilcoxon Signed Rank Test). In effect this is comparing the mean of a pre-value (training cycle 1) to the mean of a post-value (training cycle 2) in the case of training cycles.

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Scores on the original individual Likert score and composite Likert scores based on the individual scores, did contain many ties and were transformed as follows: to each of these scores a small random value was added in such a manner so as to preserve the ordering on the original Likert and composite Likert scales and to break the above-mentioned ties. These transformed scores were then used in the non-parametric statistical analysis (Wilcoxon Rank Sum Test) to compare independent groups for example gender (male versus female). This would in effect be comparing means (or medians) between groups. This was done to exclude the confounding effect of gender in the learning process since only one SP of one gender was used in the study.

A five per cent level of significance was chosen for all statistical tests.

7.6 Conclusion

Chapter 7 described the implementation cycle or methodology of Phase III of the study, comprising the subjects, instruments, procedures and statistical analysis.

Chapter 8 will address the observation cycle, or results of Phase III of the study.

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CHAPTER 8 OBSERVATION

8.1 Introduction

The current chapter describes the results of the study as the observation cycle can also be described as the results obtained during Phase III of the study - the implementation and evaluation phase of the dental educational research intervention. Quantitative and qualitative data were obtained and analysed.

8.2 Quantitative data analysis

Results were obtained by means of four instruments:

- The "Rubric" that was employed by the SP as an assessment tool during training cycles* 1 & 2;
- "Patient's" feedback during training cycles 1 & 2;
- "Dentist's" feedback completed by each student after interviews with the SP during training cycle 1, and
- "Dentist's" feedback completed by each student after interviews with the SP during training cycle 2.

(* Training cycle 1 = Pre-training video recordings of students' base line communication skills; Training cycle 2 = Post-training video recordings of students' newly developed communication skills - See Figure 9 - Chapter 6, section 6.2).

The quantitative results will be presented as follows:

8.2.1 Rubric (Appendix A)

8.2.1.1 Investigation of the construct validity of the combined rubric by means of a series of factor- and item analyses according to factor loadings.

8.2.1.2 Male students compared with female students within training cycle 1.

8.2.1.3 Male students compared with female students within training cycle 2.

8.2.1.4 Male students during training cycle 1 compared with male students during training cycle 2.

8.2.1.5 Female students during training cycle 1 compared with female students during training cycle 2.

8.2.1.6 Comparing male students with female students within training cycle 1.

8.2.1.7 Comparing male students with female students within training cycle 2.

8.2.2 "Patient's" feedback (Appendix E)

8.2.2.1 Male students compared with female students within training cycle 1.

8.2.2.2 Male students compared with female students within training cycle 2.

8.2.2.3 Male students during training cycle 1 compared with male students during training cycle 2.

8.2.2.4 Female students during training cycle 1 compared with female students during training cycle 2.

8.2.3 "Patient's" feedback compared with Rubric

8.2.3.1 Male students during training cycle 1.

8.2.3.2 Female students during training cycle 1.

8.2.3.3 Male students during training cycle 2.

8.2.3.4 Female students during training cycle 2.

8.2.3.5 "Patient's" feedback compared with Rubric's dimensions: "Sharing information" and "Building the relationship"

8.2.4 "Patient's" feedback compared with "Dentist's" feedback

8.2.4.1 Male students during training cycle 1 compared with male students during training cycle 2.

8.2.4.2 Female students during training cycle 1 compared with female students during training cycle 2.

8.2.5 "Dentist's" feedback (Appendices G & H)

8.2.5.1 Male students compared with female students within training cycle 1.

8.2.5.1.1 Male students compared with female students within training cycle 1 in terms of "experience as dentist."

8.2.5.1.2 Male students compared with female students within training cycle 1 in terms of "How communication skills contribute to the dentist-patient relationship in respect of …"

8.2.5.1.3 Male students compared with female students within training cycle 1 in terms of "Communication as "dentist" in respect of…"

8.2.5.1.4 Male students compared with female students within training cycle 1 in terms of "Aspects of communication that needs further development".

8.2.5.1.5 Male students compared with female students within training cycle 1 in terms of "Experience as role-playing as a "dentist".

8.2.5.1.6 Male students compared with female students within training cycle 1 in terms of "How "dentist" experienced session"

8.2.5.2 Male students compared with female students within training cycle 2.

8.2.5.2.1 Male students compared with female students within training cycle 2 in terms of "experience as dentist."

8.2.5.2.2 Male students compared with female students within training cycle 2 in terms of "How communication skills contribute to the dentist-patient relationship in respect of …"

8.2.5.2.3 Male students compared with female students within training cycle 2 in terms of "Communication as "dentist" in respect of…"

8.2.5.2.4 Male students compared with female students within training cycle 2 in terms of "Aspects of communication that needs further development"

8.2.5.2.5 Male students compared with female students within training cycle 2 in terms of "Experience as role-playing as a "dentist"

8.2.5.2.6 Male students compared with female students within training cycle 2 in terms of "How "dentist" experienced session"

8.2.5.3 Male students during training cycle 1 compared with male students during training cycle 2.

8.2.5.4 Female students during training cycle 1 compared with female students during training cycle 2.

8.2.6 "Dentist's" feedback compared with Rubric

8.2.6.1 Statement: "I am comfortable interviewing patients" compared with the total Rubric score.

8.2.6.2 Statement: "I am comfortable interviewing patients" compared with each of the Rubric's six dimensions.

8.2.6.3 All five aspects of "experience as dentist" compared with each of the Rubric's six dimensions.

8.2.6.4 "Dentist's" feedback in terms of importance of topics addressed in lectures.

8.2.6.5 "Dentist's" feedback in terms of appropriateness of teaching methods employed.

8.2.1 Rubric (Appendix A)

8.2.1.1 Investigation of the construct validity of the combined rubric (Table 26 - Chapter 5, section 5.2.2) by means of a series of factor- and item analyses according to factor loadings.

Table 30 Factor- and item analysis of the combined rubric according to factor loadings

Variable number	Dimension	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
11	B(i)	0.70756						
43	G	0.70426						
8	A	0.66876						
34	E	0.65492						
37	F	0.64274						
28	D	0.62851						
33	E	0.62831						
26	D	0.53914						
31	E	0.53013						
12	B(ii)	0.49984						
24	C	0.49055						
27	D	0.46228						
41	G		0.80262					
46	G		0.78588					
44	G		0.75139					
40	G		0.68710					
39	G		0.64596					
45	G		0.53764					
42	G		0.47469					
17	B(ii)			0.71658				
18	B(ii)			0.70641				
15	B(ii)			0.63933				
22	C			0.63243				
16	B(ii)			0.59277				
13	B(ii)			0.53471				
14	B(ii)			0.48426				
19	C			0.43793				
35	E				0.78030			
7	A				0.65657			
32	E				0.63346			
30	E				0.60707			
29	D				0.57031			
23	C				0.49728			
21	C					0.65413		
20	C					0.61940		
36	F					0.60343		
9	B(i)					0.60204		
10	B(i)					0.59387		
25	D					0.53311		
6	A						0.87675	
4	A						0.87156	
5	A						0.76675	
38	F							0.93413

As a result of the factor- and item analysis presented in Table 30 (above), the following adjustments were made to the combined rubric:

Variable numbers 8, 11, 12, 24, 26, 27, 28, 31, 33, 34, 37, and 43 all loaded towards Factor 1 and were left unchanged.

Variable numbers 39, 40, 41, 42, 44, 45 and 46 were kept as a group as they all loaded towards Factor 2 and comprised Dimension G of the combined rubric.

The same applied to Variable numbers 7, 23, 29, 30, 32 and 35, which loaded towards factor 4, and Variable numbers 9, 10, 20, 21, 25 and 36, which loaded towards Factor 5.

Variable numbers 9, 10 and 11 comprising the original sub-dimension B (ii): "Exploration of problems", did not load towards the same factors: 9 and 10 loaded towards Factor 5, while 11 loaded towards Factor 1. They were left unchanged. As a result, sub-dimension B (i): "Structuring the consultation" was dismissed as at least three items should load towards a factor to justify a dimension's independence (126). As a result of sub-dimension B (i)'s dismissal, sub-dimension B (ii)'s viability was jeopardized and was dismissed. Sub-dimension B (i) became Dimension B and was renamed from "Gathering information" to "Structuring the interview." Sub-dimension B (ii) was incorporated in Dimension C - "Understanding the patient's perspective."

Variable numbers 13, 14, 15, 16, 17, 18 and 22 were kept as a group as they all loaded convincingly towards Factor 3 and they all comprised the original Dimension B (ii) except for variable number 22. Variable number 22 was kept as part of this group, as it loaded rather strongly - 63.24% - towards Factor 3. For the same argument, Variable number 19 was not included in this group as it's loading towards Factor 3 was rather weak - 43.79%.

Variable numbers 4, 5 & 6 were kept as a group as they all loaded towards factor 6. Variable numbers 7and 8 were separated form the original group.

Variable number 38 was dismissed, as it was the only item that loaded towards Factor 7. This resulted in the dismissal of the original Dimension: "Providing closure", as at least three items should load towards a particular factor to justify a dimension's independence (126).

During the next step, six dimensions - as opposed to the seven dimensions as proposed in the combined rubric - were selected according to Eigen values as these six dimensions explained 73.30% of the variation in the data (Table 31, below).

Table 31 Eigen values of the factors and percentage loading of each dimension

Dimension	Eigen value	Proportion (% loading)	Cumulative
1	22.67	0.5397	0.5397
2	2.82	0.0671	0.6068
3	1.85	0.0441	0.6509
4	1.29	0.0308	0.6817
5	1.19	0.0266	0.7083
6	1.04	0.0247	0.7330

Table 31 illustrates that Dimension 1 of the rubric explained 53.97% of the variation in the data; Dimension 2 explained 6.71%; Dimension 3 explained 4.41%; Dimension 4 explained 3.08%; Dimension 5 explained 2.66% and Dimension 6 explained 2.47% of the variation in the data.

A further round of item analysis was performed to confirm the adjusted structure of the rubric. The adjusted rubric comprised six dimensions as a result of the factor analysis referred to in Table 30.

A final round of factor- and item analysis was repeated to obtain an acceptable Cronbach's alpha coefficient value for each dimension of the rubric (Table 32, below). This item analysis was judged by using the values as calculated for Chronbach's alpha coefficient. The effect of final round of factor- and item analysis was that certain items were completely removed to obtain an acceptable Cronbach's alpha coefficient value for each dimension of the rubric. According to the factor analysis presented in Table 32 (below), some of the items could be grouped under more than one dimension as a result of their loadings towards more than one dimension of the rubric. Practical considerations also played a role in the final grouping of the items.

(The dimensions do not follow a chronological order as during a dentist-patient interview, but is reported as it was produced through the statistical analysis).

Table 32 Final Cronbach's alpha analysis

Dimension	Variable number	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Chronbach's value (%) after adjustment
1. Reaching an agreement	11	1					
	43	1	7				
	8	1	2				
	37	1					
	28	1					
	34	1	4	2			
	33	1	4	2			
	12*	1	2	5			
	31	1	4	6			
	24	1	4	3	2		
	Chronbach's value (%) before adjustment	94.1					93.7
2. Understanding the patient's perspective	17	2					
	18	2	4				
	22	2	3				
	16	2	1	3			
	15	2	7				
	13	2	5	1			
	23	2	4				
	19	2	4	1	5	3	
	14	2	5	1			
	Chronbach's value (%) before adjustment	94.8					95.0
3. Building a relationship	41	3					
	46	3					
	44	3	1				
	40	3	5				
	39	3	5	7	2		
	45	3	1	2			
	Chronbach's value (%) before adjustment	92.9					92.8
4. Sharing information	35	4					
	7*	4	2				
	32	4					
	30	4	1	5			
	29	4	2=1	1=2			
	27	4	1	2			
	Chronbach's value (%) before adjustment	89.9					89.6

5. Structuring the interview	21	5	2				
	20	5	3				
	9	5	1				
	10	5	1				
	36*	5	1				
	25*	5	1	4			
	Chronbach's value (%) before adjustment	90.7					88.2

6. Opening the interview	6	6					
	4	6					
	5	6					
	Chronbach's value (%) before adjustment	80.7					80.7

	26*	7	1	4			
	42*	7	3	1			
	Chronbach's value (%) before adjustment	-0.84					

As a result of the final factor- and item analysis, the following adjustments were made:

- Variable number 12 - "encourages patient to give history of chief complaint" - was moved from Dimension 1 ("Reaching an agreement") to Dimension 5 ("Structuring the interview"). It is more sensible and logical to encourage the patient to give the history of the chief complaint early during the interview ("Structuring the interview") instead of towards the end the interview ("Reaching an agreement").
- Variable number 7 - "attends to patient's physical comfort" - was moved from Dimension 4 ("Sharing information") to Dimension 2 ("Understanding the patient's perspective"). The patient's comfort should be attended to as early as possible after the start of the interview.
- Variable number 36 - "Summarise session briefly" - was moved from Dimension 5 ("Structuring the interview") to Dimension 1 ("Reaching an agreement"). The session should be summarised towards the end.
- Variable number 25 - "Discusses options" - was moved from Dimension 5 ("Structuring the interview") to Dimension 4 ("Sharing information"). It is more appropriate and logical to "Discuss options" while presenting the treatment plan ("Sharing information").

- Variable number 26 - “Discusses consequences of no action” - and Variable number 42 - “Demonstrates appropriate non-verbal behaviour” - were the only two items which loaded towards dimension 7, although negative and very low (Cronbach’s alpha coefficient = - 0.84). Also, as at least three items are required to make up a dimension (126), it was decided to move Variable number 26 to Dimensions 4 (“Sharing information”) Variable number 42 to Dimension 3 (“Building the relationship”).

This resulted in the following final, *adjusted* rubric (Table 33, below; Appendix B) consisting of six dimensions (A - F) and 42 items (1 - 42) as opposed to the initial, *combined* rubric’s seven dimensions (A - G) and 43 items (1 - 43). The six dimensions of the adjusted rubric are as follows:

- Opening the interview;
- Structuring the interview (Replaced Dimension: “Gathering information” comprising “Structuring the interview” and “Exploration of problems”);
- Understanding the patient’s perspective;
- Sharing information;
- Reaching an agreement (Original Dimension: “Providing closure” incorporated here);
- Building a relationship.

Table 33 Adjusted rubric comprising six dimensions (A-F) and 42 items (1-42)

A.	**Opening the interview**
1.	Greets the patient
2.	Introduces self
3.	Obtains the patient's name
B.	**Structuring the interview**
4.	Negotiates an agenda for consultation
5.	Encourages patient to give history of chief complaint
6.	Picks up verbal cues (patient's need to contribute information/ask questions; information overload; distress)
7.	Picks up non-verbal cues (patient's need to contribute information/ask questions; information overload; distress)
8.	Progresses from one section to another using transitional statements (includes rationale for next section)
C.	**Understanding the patient's perspective**
9.	Attends to physical comfort (here and throughout interview)
10.	Determines patient's expectations regarding each problem
11.	Encourages expressions of feelings
12.	Uses open questioning technique
13.	Uses closed questioning techniques
14.	Facilitates patient's responses (use of encouragement, silence, repetition, paraphrasing, interpretation)
15.	Listens attentively (no interruptions; time for patient to think before answering)
16.	Clarifies patient's statements which are vague and need amplification
17.	Summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted
18.	Encourages patient to contribute ideas/suggestions/preferences/beliefs
D.	**Sharing information**
19.	Provides information (procedures; processes; benefits & advantages; value & purpose)
20.	Discusses options
21.	Discusses consequences of no action
22.	Shares own thoughts; ideas/dilemmas/thought processes
23.	Elicits patient's understanding about plans and treatments
24.	Takes patient's lifestyle, beliefs, cultural background and abilities into consideration
25.	Asks about patient's support network for decision-making
E.	**Reaching an agreement on problems and plans**
26.	Attends to timing
27.	Reading, writing, use of computer do not interfere with dialogue/rapport
28.	Confirms patient's problem
29.	Obtains patients' view of need for action (perceived benefits)
30.	Accepts legitimacy of patient's views/beliefs (non-judgmental)
31.	Negotiates mutually acceptable plan (encourages patient to make choices; addresses concerns)
32.	Encourages patient to be involved in implementing plans (to take responsibility and be self-reliant)
33.	Uses easily understood language (avoids or adequately explains jargon)
34.	Contracts with patient regarding next step(s) for patient and dentist
35.	Summarises session briefly
F.	**Building a relationship**
36.	Demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice)
37.	Demonstrates interest
38.	Demonstrates respect
39.	Communicates warmth
40.	Bonds with the patient
41.	Shows empathy with patient
42.	Deals sensitively with embarrassing and disturbing topics

The six dimensions can also be referred to as communication tasks, while the 42 items can be referred to as communication skills.

Table 34 (below) compares the tasks and skills of the combined- and adjusted rubrics, respectively. The main differences between the combined and adjusted rubrics are the following:

- "Gathering information" as a task in the combined rubric was dismissed and replaced by the task "Structuring the interview" in the adjusted rubric.
- The sub-task "Exploration of problems" in the combined rubric was incorporated with the task "Understanding the patient's perspective" in the adjusted rubric.
- The task "Providing closure" in the combined rubric was dismissed and incorporated with the task "Reaching an agreement on problems and plans" in the adjusted rubric.

Table 34 Initial, combined rubric (left column) compared with final, adjusted rubric (right column)

A. Opening the interview **1.** Greets the patient **2.** Obtains the patient's name **3.** Introduces self **4.** Attends to physical comfort (here and throughout interview) **5.** Identifies and confirms patient's problem	**A. Opening the interview** **1.** Greets the patient **2.** Introduces self **3.** Obtains the patient's name
B. Gathering information *(i) Structuring the interview* **6.** Negotiates an agenda for consultation **7.** Progresses from one section to another using transitional statements (includes rationale for next section) **8.** Attends to timing	**B. Structuring the interview** **4.** Negotiates an agenda for consultation **5.** Encourages patient to give history of chief complaint **6.** Picks up verbal cues (patient's need to contribute information/ask questions; information overload; distress) **7.** Picks up non-verbal cues (patient's need to contribute information/ask questions; information overload; distress) **8.** Progress form one section to another using transitional statements (includes rationale for next section)
(ii) Exploration of problems **9.** Encourages patient to give history of chief complaint **10.** Uses open questioning technique(s) **11.** Uses closed questioning technique(s) **12.** Listens attentively (no interruptions; time for patient to **13.** Facilitates patient's responses (use of encouragement, **14.** Clarifies patient's statements which are vague and need amplification **15.** Summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted	
C. Understanding the patient's perspective **16.** Determines patient's expectations regarding each problem **17.** Picks up verbal cues (patient's need to contribute information/ask questions; information overload; distress) **18.** Picks up non-verbal cues (patient's need to contribute information/ask questions; information overload; distress) **19.** Encourages expressions of feelings **20.** Encourages patient to contribute ideas/suggestions/ preferences/beliefs **21.** Accepts legitimacy of patient's views/beliefs (non-judgmental)	**C. Understanding the patient's perspective** **9.** Attends to physical comfort (here and throughout interview) **10.** Determines patient's expectations regarding each problem **11.** Encourages expressions of feelings **12.** Uses open questioning technique **13.** Uses closed questioning techniques **14.** Facilitates patient's responses (use of encouragement, silence, repetition, paraphrasing, interpretation) **15.** Listens attentively (no interruptions; time for patient to think before answering) **16.** Clarifies patient's statements which are vague and need amplification **17.** Summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted **18.** Encourages patient to contribute ideas/suggestions/references/ beliefs

D. Sharing information **22.** Discusses options **23.** Discusses consequences of no action **24.** Provides information (procedures; processes; benefits & advantages; value & purpose) **25** Uses easily understood language (avoids or adequately explains jargon) **26.** Shares own thoughts; ideas/dilemmas/thought processes	**D. Sharing information** **19.** Provides information (procedures; processes; benefits & advantages; value & purpose) **20.** Discusses options **21.** Discusses consequences of no action **22.** Shares own thoughts; ideas/dilemmas/thought processes **23.** Elicits patient's understanding about plans and treatments **24.** Takes patient's lifestyle, beliefs, cultural background and abilities into consideration **25.** Asks about patient's support network for decision-making
E. Reaching an agreement on problems and plans **27.** Elicits patient's understanding about plans and treatments **28.** Obtains patients' view of need for action (perceived benefits) **29.** Takes patient's lifestyle, beliefs, cultural background **30.** Negotiates mutually acceptable plan (encourages patient to make choices; addresses concerns) **31.** Encourages patient to be involved in implementing treatment plan (to take responsibility and be self-reliant) **32.** Asks about patient's support network for decision-making	**E. Reaching an agreement on problems and plans** **26.** Attends to timing **27.** Reading, writing, use of computer do not interfere with dialogue/rapport **28.** Confirms patient's problem **29.** Obtains patients' view of need for action (perceived benefits) **30.** Accepts legitimacy of patient's views/beliefs (non-judgmental) **31.** Negotiates mutually acceptable plan (encourages patient to make choices; addresses concerns) **32.** Encourages patient to be involved in implementing plans (to take responsibility and be self-reliant) **33.** Uses easily understood language (avoids or adequately explains jargon) **34.** Contracts with patient regarding next step(s) for patient and dentist **35.** Summarises session briefly
F. Providing closure **33.** Summarises session briefly **34.** Contracts with patient regarding next step(s) for patient and dentist **35.** Explains possible unexpected outcomes and safety-nets appropriately	**F. Building a relationship** **36.** Demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice) **37.** Demonstrates interest **38.** Demonstrates respect **39.** Communicates warmth **40.** Bonds with the patient **41.** Shows empathy with patient **42.** Deals sensitively with embarrassing and disturbing topics
G. Building a relationship **36.** Demonstrates interest **37.** Demonstrates respect **38.** Communicates warmth **39.** Demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice) **40.** Reading, writing, use of computer do not interfere with dialogue/rapport **41.** Shows empathy with patient **42.** Deals sensitively with embarrassing and disturbing topics **43.** Bonds with the patient	

8.2.1.2 Male students compared with female students within training cycle 1.

8.2.1.3 Male students compared with female students within training cycle 2.

Table 35 Comparing gender within training cycles by Wilcoxon's Rank Sum Test

Training cycle	Parameter	Male		Female		
		Mean n = 25	**SD**	**Mean n = 42**	**SD**	**p-value (< 0.05)**
1	Dimension: Opening the interview	3.52	0.50	3.39	0.54	0.2911
	Dimension: Structuring the interview	1.95	0.41	1.93	0.41	0.7992
	Dimension: Understanding patient's perspective	1.55	0.47	1.44	0.27	0.5500
	Dimension: Sharing information	1.46	0.50	1.37	0.18	0.7699
	Dimension: Reaching an agreement	1.94	0.42	1.88	0.30	0.6840
	Dimension: Building the relationship	2.36	0.68	2.30	0.48	0.6840
	Rubric Total	2.13	0.38	2.05	0.23	0.6020
2	Dimension: Opening the interview	3.29	0.59	3.60	0.45	0.0495*
	Dimension: Structuring the interview	3.17	0.53	3.19	0.52	0.8611
	Dimension: Understanding patient's perspective	2.68	0.66	2.68	0.71	0.9432
	Dimension: Sharing information	2.20	0.63	2.28	0.63	0.6925
	Dimension: Reaching an agreement	3.13	0.47	3.15	0.54	0.6925
	Dimension: Building the relationship	3.14	0.62	3.28	0.55	0.4718
	Rubric Total	2.94	0.48	3.03	0.48	0.4178
*** = significant on 5% level**						

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Table 35 indicates that male students scored higher than female students during training cycle 1 in all six dimensions of the rubric. The total mean score for male students for training cycle 1 was 2.13 as compared with female students' mean score of 2.05. For training cycle 2, however, female students obtained higher mean scores than male students for all the dimensions of the rubric except for Dimension: "Understanding the patient's perspective" in which male and female students obtained equal mean scores of 2.68. The total mean score for male students for training cycle 2 was 2.94 as compared with female students' mean score of 3.03. Both male and female students obtained higher scores during training cycle 2 as compared with training cycle 1, except that male students scored lower in Dimension: "Opening the interview" during the second cycle than during the first cycle (3.29 compared to 3.52). However, no significant differences existed between male and female students with regard to the different dimensions of the Rubric in either the first or second cycle - except that during cycle 2, female students performed significantly better than male students in terms of Dimension: "Opening the interview."

8.2.1.4 Male students during training cycle 1 compared with male students during training cycle 2.

8.2.1.5 Female students during training cycle 1 compared with female students during training cycle 2.

Table 36 Rubric: comparing training cycle within gender by Signed Rank Test

Parameter	Male			Female			Total class		
Difference: Round 1 – Round 2	**Mean n = 25**	**SD**	**p-value (< 0.05)**	**Mean n = 42**	**SD**	**p-value (< 0.05)**	**Mean n = 67**	**SD**	**p-value (< 0.05)**
Dimension: Opening the interview	0.23	0.64	0.0491*	-0.23	0.58	0.0165*	-0.06	0.64	0.4933
Dimension: Structuring the interview	-1.22	0.58	< 0.0001*	-1.25	0.69	< 0.0001*	-1.24	0.64	< 0.0001*
Dimension: Understanding the patient's perspective	-1.13	0.64	< 0.0001*	-1.23	0.70	< 0.0001*	-1.19	0.67	< 0.0001*
Dimension: Sharing information	-0.74	0.63	< 0.0001*	-0.91	0.66	< 0.0001*	-0.85	0.65	< 0.0001*
Dimension: Reaching an agreement	-1.18	0.49	< 0.0001*	-1.28	0.58	< 0.0001*	-1.24	0.55	< 0.0001*
Dimension: Building the relationship	-0.78	0.87	< 0.0001*	-0.98	0.65	< 0.0001*	-0.91	0.74	< 0.0001*
Rubric Total	-0.80	0.49	< 0.0001*	-0.98	0.50	< 0.0001*	-0.91	0.50	< 0.0001*
*** = significant on 5% level**									

Table 36 indicates that both male and female students (including the class as a whole) scored significantly higher during training cycle 2 than training cycle 1 ($p < 0.0001$) for all dimensions except Dimension: "Opening the interview." Male students scored higher during cycle 1 than cycle 2 for Dimension: "Opening the interview" (3.52 versus 3.29 - Table 35). Although female students and the class as a whole scored higher during the second training cycle compared to the first training cycle for the Dimension: "Opening the interview", the differences were not significant.

Table 36 also indicates significant higher scores during training cycle 2 compared to training cycle 1 for the total rubric ($p < 0.0001$). From Table 36 it is clear that students' ratings improved significantly from training cycle 1 to training cycle 2.

8.2.1.6 Comparing male students with female students within training cycle 1.

8.2.1.7 Comparing male students with female students within training cycle 2.

Table 37 Rubric: comparing between gender and between training cycles by Wilcoxon's Rank Sum Test

Parameter	Male n = 25		Female n = 42		p-value (< 0.05)
	Mean	SD	Mean	SD	
Difference Total Rubric	-0.80	0.49	-0.98	0.50	0.2566
* = significant on 5% level					

Table 37 indicates that no significant differences exist between male and female students in terms of each gender's development in communication skills between training cycle 1 and 2. Communication skills training did not benefit a specific gender significantly more than for the other gender (p = 0.2566).

8.2.2 "Patient's" feedback (Appendix E)

8.2.2.1 Male students compared with female students within training cycle1.

8.2.2.2 Male students compared with female students within training cycle 2.

Table 38 "Patient's" feedback: comparing gender by Wilcoxon's Rank Sum Test

Training cycle	Parameter	Male N=25		Female N=42		
		Mean	SD	Mean	SD	p-value (< 0.05)
1	V4: I have a better understanding of dentistry	1.20	0.65	1.14	1.00	0.8387
	V5: I have an improved understanding of my dental health	1.32	0.69	1.21	0.41	0.4012
	V6: I have a mental picture of my oral condition	1.16	0.55	1.21	0.56	0.7409
	V7: A bonded relationship has been established between me and the "dentist"	2.04	1.21	1.84	0.88	0.5671
	V8: I will return for treatment	2.12	1.13	1.91	0.87	0.8189
	V9: I have confidence in the "dentist's" skills	2.16	1.14	1.77	0.81	0.4763
	V10: I am prepared to accept the proposed treatment plan	2.32	0.90	2.02	0.83	0.1618
	V11: I am satisfied with the experience	1.88	1.01	1.67	0.81	0.4842
	V12: I am motivated to keep my appointments	1.84	1.07	1.63	0.87	0.2034
	V13: I will pay my account promptly	2.16	1.11	1.70	0.86	0.1035
	Average score for items 4 to 13	1.82	0.79	1.61	0.56	0.2230

2	V4: I have a better understanding of dentistry	2.40	1.12	2.38	0.96	0.6361
	V5: I have an improved understanding of my dental health	2.72	1.02	2.86	1.03	0.7215
	V6: I have a mental picture of my oral condition	3.16	0.90	3.14	0.95	0.9845
	V7: A bonded relationship has been established between me and the "dentist"	2.96	0.98	3.24	1.10	0.7118
	V8: I will return for treatment	3.32	1.07	3.31	1.05	0.6641
	V9: I have confidence in the "dentist's" skills	3.36	1.19	3.12	1.11	0.2967
	V10: I am prepared to accept the proposed treatment plan	3.36	1.19	3.52	1.04	0.7312
	V11: I am satisfied with the experience	3.16	1.11	3.21	1.12	0.8815
	V12: I am motivated to keep my appointments	3.12	1.13	3.07	1.24	0.9638
	V13: I will pay my account promptly	3.16	1.11	3.21	1.22	0.6086
	Average score for items 4 to 13	3.07	0.97	3.11	0.94	1.0000
*** = significant on 5% level**						

Table 38 indicates that, in terms of the "patient's" feedback, there were no significant differences between male and female students in either training cycle one or two. The average score for male students was higher than female students during training cycle 1 (1.82 compared to 1.61). However, female students obtained a higher average score during training cycle 2 than male students (3.11 compared to 3.07). This finding corresponds with the SP's feedback in terms of the Rubric (Table 35). Furthermore, while for five of the variables male students scored higher during the first training cycle, female students obtained higher scores for these variables during training cycle 2. These variables were the following: "I have an improved understanding of my dental health"; "I have a mental picture of my oral condition"; "A bonded relationship has been established between the "dentist" and me"; "I am satisfied with the experience" and "I will pay my account promptly."

8.2.2.3 Male students during training cycle 1 compared with male students during training cycle 2.

Table 39 "Patient's" feedback: comparing male students by training cycles by Wilcoxon's Rank Sum Test

Parameter	Cycle 1		Cycle 2		
	Mean n = 25	SD	Mean n = 25	SD	p-value (< 0.05)
V4: I have a better understanding of dentistry	1.20	0.65	2.40	1.19	< 0.0001*
V5: I have an improved understanding of my dental health	1.32	0.69	2.72	1.02	< 0.0001*
V6: I have a mental picture of my oral condition	1.16	0.55	3.16	0.90	< 0.0001*
V7: A bonded relationship has been established between me and the "dentist"	2.04	1.21	2.96	0.98	0.0043*
V8: I will return for treatment	2.12	1.13	3.32	1.07	0.0006*
V9: I have confidence in the "dentist's" skills	2.16	1.14	3.36	1.19	0.0010*
V10: I am prepared to accept the proposed treatment plan	2.32	0.90	3.36	1.19	0.0007*
V11: I am satisfied with the experience	1.88	1.01	3.16	1.11	0.0004*
V12: I am motivated to keep my appointments	1.84	1.07	3.12	1.13	0.0001*
V13: I will pay my account promptly	2.16	1.11	3.16	1.11	0.0020*

Table 39 indicates that the "Patient's" feedback was significantly higher for training cycle 2 than for training cycle 1 with regard to male students ($p < 0.05$). This is a confirmation of the results represented in Table 36 in terms of the Rubric.

8.2.2.4 Female students during training cycle 1 compared with female students during training cycle 2.

Table 40 "Patient's" feedback: comparing female students by training cycles by Wilcoxon's Rank Sum Test

Parameter	Cycle 1		Cycle 2		
	Mean n = 42	SD	Mean n = 42	SD	p-value (< 0.05)
V4: I have a better understanding of dentistry	1.14	0.35	2.38	0.96	< 0.0001*
V5: I have an improved understanding of my dental health	1.21	0.41	2.86	1.03	< 0.0001*
V6: I have a mental picture of my oral condition	1.21	0.56	3.14	0.95	< 0.0001*
V7: A bonded relationship has been established between me and the "dentist"	1.84	0.87	3.24	1.10	< 0.0001*
V8: I will return for treatment	1.91	0.87	3.31	1.05	< 0.0001*
V9: I have confidence in the "dentist's" skills	1.77	0.81	3.12	1.11	< 0.0001*
V10: I am prepared to accept the proposed treatment plan	2.02	0.83	3.52	1.04	< 0.0001*
V11: I am satisfied with the experience	1.67	0.81	3.21	1.17	<0.0001*
V12: I am motivated to keep my appointments	1.63	0.87	3.07	1.24	<0.0001*
V13: I will pay my account promptly	1.70	0.86	3.21	1.22	<0.0001*

Table 40 indicates that the "Patient's" feedback was significantly higher for training cycle 2 than for training cycle 1 with regard to female students ($p < 0.0001$). This is a confirmation of the results represented in Table 36 in terms of the Rubric.

8.2.3 "Patient's" feedback compared with Rubric

8.2.3.1 Male students during training cycle 1.

8.2.3.2 Female students during training cycle 1.

8.2.3.3 Male students during training cycle 2.

8.2.3.4 Female students during training cycle 2.

Table 41 "Patient's" feedback: comparing with Rubric

Training cycle	Male			Female			Total		
	Mean n = 25	SD	p-value (< 0.05)	Mean n = 42	SD	p-value (< 0.05)	Mean n = 67	SD	p-value (< 0.05)
1	-0.31	0.49	< 0.0001*	-0.44	0.46	0.0028*	-0.39	0.47	< 0.0001*
2	0.14	0.58	0.3677	0.08	0.61	0.2280	0.10	0.60	0.1399

Table 41 indicates that during training cycle 1, both male and female students scored significantly higher (- 0.31 and - 0.44, respectively) in terms of the Rubric than in terms of the "Patient's" feedback ($p < 0.0001$ and $p = 0.0028$, respectively). During training cycle 2, however, both male and female students scored higher in terms of the "Patient's" feedback than the Rubric (0.14 and 0.08, respectively). Also, students did not score significantly differently in terms of the "Patient's feedback compared to the Rubric during cycle 2.

8.2.3.5 "Patient's" feedback compared with Rubric's Dimensions: "Sharing information" and "Building the relationship"

Table 42 "Patient's" feedback: comparing with Rubric by Signed Rank Test for Training Cycle 1

Training cycle	Parameter		Mean N = 67	SD	p-value (<0.05)
	Patient's" feedback	Rubric			
1	A bonded relationship has been established between me and the "dentist"	Bonds with the patient	-0.33	0.84	< 0.0011*
	I have a better understanding of dentistry/I have an improved understanding of my dental health/I have a mental picture of my oral condition	Sharing information	-0.20	0.29	< 0.0001*
	I will return for treatment/I have confidence in the dentist's" skills/I am prepared to accept the proposed treatment plan/ I am satisfied with the experience/I am motivated to keep my appointments/I will pay my account promptly	Building the relationship	-0.43	0.63	< 0.0001*
	A bonded relationship has been established between me and the "dentist"	Opening the interview	-1.89	1.20	< 0.0001*

Table 42 (continued) "Patient's" feedback: comparing with Rubric by Signed Rank Test for Training Cycle 2

Training cycle	Parameter		Mean N = 67	SD	p-value (<0.05)
	Patient's" feedback	Rubric			
2	A bonded relationship has been established between me and the "dentist"	Bonds with the patient	0.09	0.60	0.2281
	I have a better understanding of dentistry/I have an improved understanding of my dental health/I have a mental picture of my oral condition	Sharing information	0.53	0.53	< 0.0001*
	I will return for treatment/I have confidence in the dentist's" skills/I am prepared to accept the proposed treatment plan/ I am satisfied with the experience/I am motivated to keep my appointments/I will pay my account promptly	Building the relationship	0.02	0.74	0.6044
	A bonded relationship has been established between me and the "dentist"	Opening the interview	-0.61	1.19	< 0.0001*
*** = significant on 5% level**					

Table 42 (continued) indicates that the SP rated the students' significantly higher ($p < 0.05$) in terms of the Rubric (negative values) than in terms of the "Patient's" feedback during training cycle 1. During cycle 2, the SP rated the students significantly higher ($p < 0.0001$) in terms of the Rubric only in terms of "Opening the interview" compared to "A bonded relationship has been established between me and the "dentist".

8.2.4 "Patient's" feedback compared with "Dentist's" feedback

8.2.4.1 Male students during training cycle 1 compared with male students during training cycle 2.

8.2.4.2 Female students during training cycle 1 compared with female students during training cycle 2.

Table 43 "Patient's" feedback: comparing with "Dentist's" feedback

Training cycle	Parameter	Mean n = 67	SD	p-value (< 0.05)
1	P4-13/D4-8**	-1.90	0.87	< 0.0001*
2	P4-13/D4-8	-0.62	0.94	< 0.0001*
* = significant on 5% level				

** P4 - 13: Variable numbers 4 - 13 of "Patient's" feedback (Appendix E).

D4 - 8: Variable numbers 4 - 8 of "Dentist's" feedback (Appendix G).

Table 43 indicates that "dentists" (students) rated themselves significantly higher ($p < 0.0001$) in both cycles 1 and 2 compared to their ratings by the SP.

8.2.5 "Dentist's" feedback (Appendices G & H)

8.2.5.1 Male students compared with female students within training cycle 1

8.2.5.1.1 Male students compared with female students within training cycle 1 in terms of "experience as dentist."

8.2.5.2 Male students compared with female students within training cycle 2

8.2.5.2.1 Male students compared with female students within training cycle 2 in terms of "experience as dentist."

Table 44 "Dentist's" feedback: comparing gender by Wilcoxon's Rank Sum Test

Training cycle	Parameter	Male		Female		
	Experience as "dentist"	**Mean n= 25**	**SD**	**Mean n = 42**	**SD**	**p-value (< 0.05)**
1	V4: I am comfortable interviewing patients	3.92	0.86	3.28	0.88	0.0051*
	V5: I am sensitive to psychosocial aspects of the patient's illness	3.68	0.85	3.49	0.80	0.4607
	V6: I am able to relate to patient	3.92	0.57	3.74	0.69	0.8787
	V7: I am able to elicit information from the patient	3.76	0.83	3.42	0.76	0.0709
	V8: I am able to communicate empathy	3.68	0.90	3.44	0.77	0.2796
	Average score for items 4 to 8	3.79	0.58	3.47	0.59	0.0518
2	V4: I am comfortable interviewing patients	3.96	0.61	3.71	0.64	0.0685
	V5: I am sensitive to psychosocial aspects of the patient's illness	3.80	0.58	3.62	0.79	0.9638
	V6: I am able to relate to the patient	3.80	0.50	3.71	0.74	0.4104
	V7: I am able to elicit information from the patient	3.96	0.61	3.48	0.55	0.0036*
	V8: I am able to communicate empathy	3.68	0.56	3.67	0.69	0.5466
	Average score for items 4 to 8	3.84	0.42	3.64	0.49	0.2176

*** = significant on 5% level**

Table 44 illustrates the fact that male students were significantly more “comfortable interviewing patients” compared to female students during training cycle 1 ($p = 0.0051$). However, no significant differences existed between male and female students with regard to the other aspects of their “experience as dentist” during training cycle 1. With regard to training cycle 2, male students felt significantly more “able to elicit information” than female students ($p = 0.0036$). Male students rated their experience as “dentist” higher than female students in terms of all the variables during both training cycles 1 and 2.

8.2.5.1.2 Male students compared with female students within training cycle 1

in terms of “How communication skills contribute to the dentist-patient relationship in respect of …”

8.2.5.2.2 Male students compared with female students within training cycle 2

in terms of “How communication skills contribute to the dentist-patient relationship in respect of …”

Table 45 "Dentist's" feedback: comparing gender by Wilcoxon's Rank Sum Test

Training cycle	Parameter	Male		Female		
	How communication skills contribute to the dentist-patient relationship in respect of …	**Mean n = 25**	**SD**	**Mean n = 42**	**SD**	**p-value (< 0.05)**
1	V9: enhancing the patient's trust in you as dentist	4.20	0.96	4.32	0.92	0.2126
	V10: ensuring a relaxed relationship between the patient and you as dentist	4.20	0.87	4.30	0.77	0.8988
	V11: ensuring a willingness by the patient to share information with you as dentist	4.20	0.71	4.05	0.79	0.7313
	V12: improving, as dentist, my understanding of the patient's expectations of the dentist-patient relationship	3.92	0.86	4.26	0.76	0.0860
	V13: ensuring that the patient will return for treatment	4.32	0.75	4.16	0.81	0.2853
	V14: ensuring that the patient promotes the dental practice	4.08	0.81	4.19	0.79	0.3871
	V15: ensuring the patient's compliance with the proposed treatment plan	4.04	0.73	4.21	0.86	0.0771
	V16: personalising the treatment	3.96	0.84	4.12	1.10	0.1945
	Average score for items 9 to 16	4.12	0.64	4.20	0.70	0.4827
2	V9: enhancing the patient's trust in you as dentist	4.12	0.67	4.02	0.87	0.7410
	V10: ensuring a relaxed relationship between the patient and you as dentist	4.04	0.68	4.02	0.84	0.8306
	V11: ensuring a willingness by the patient to share information with you as dentist	4.08	0.76	4.10	0.79	0.9638
	V12: improving, as dentist, my understanding of the patient's expectations of the dentist-patient relationship	4.08	0.70	4.10	0.69	0.8815
	V13: ensuring that the patient will return for treatment	4.32	0.56	4.12	0.77	0.4178
	V14: ensuring that the patient promotes the dental practice	4.12	0.60	4.14	0.81	0.7904
	V15: ensuring the patient's compliance with the proposed treatment plan	4.04	0.68	4.29	0.60	0.0363*
	V16: personalising the treatment	4.24	0.83	4.02	0.92	0.3277
	Average score for items 9 to 16	4.13	0.46	4.10	0.61	0.7947
*** = significant on 5% level**						

Table 45 indicates that no significant differences existed between male and female students' rating of "How communication skills contribute to the dentist-patient relationship in respect of …" except for "…ensuring the patient's compliance with the proposed treatment plan" which was rated significantly higher by female students ($p = 0.0363$) during training cycle 2. While male students' average rating of "How communication skills contribute to the dentist-patient relationship in respect of …" was lower than female students' rating during training cycle 1 (4.12 compared to 4.20), male students' average rating exceeded that of female students during training cycle 2 (4.13 compared to 4.10).

8.2.5.1.3 Male students compared with female students within training cycle 1 in terms of "Communication as "dentist" in respect of…"

8.2.5.2.3 Male students compared with female students within training cycle 2 in terms of "Communication as "dentist" in respect of…"

Table 46 "Dentist's" feedback: comparing gender by Wilcoxon's Rank Sum Test

Training cycle	Parameter	Male		Female		
	Communication in respect of your …	**Mean n = 25**	**SD**	**Mean n = 42**	**SD**	**p-value (< 0.05)**
1	V19: ability to empathise with the patient	3.64	0.76	3.21	0.83	0.0729
	V20: ability to explain clearly the diagnosis to the patient	3.64	0.91	3.21	0.94	0.1543
	V21: ability to elicit information from the patient	3.60	0.96	3.12	0.79	0.0932
	V22: relaxed way of communicating with the patient	3.72	1.02	3.09	0.92	0.0073*
	V23: ability to make the patient feel at ease	3.72	0.93	3.19	0.79	0.0236
	V24: ability to communicate in a respectful way with the patient	4.12	0.93	3.74	0.88	0.0501
	Average score for items 19 to 24	3.74	0.74	3.26	0.65	0.0089*
2	V19: ability to empathise with the patient	3.84	0.62	3.76	0.61	0.6830
	V20: ability to explain clearly the diagnosis to the patient	4.28	0.61	3.98	0.68	0.2016
	V21: ability to elicit information from the patient	4.00	0.76	3.60	0.63	0.0340*
	V22: relaxed way of communicating with the patient	3.84	0.85	3.62	0.76	0.2459
	V23: ability to make the patient feel at ease	3.76	0.72	3.52	0.80	0.2016
	V24: ability to communicate in a respectful way with the patient	4.28	0.54	3.98	0.64	0.0207*
	Average score for items 19 to 24	4.00	0.46	3.74	0.46	0.0512

*** = significant on 5% level**

Table 46 indicates that male students rated their communication significantly more relaxed than that of female students during training cycle 1 ($p = 0.0073$). The average score for all the items were significantly higher for male students than for female students during training cycle 1 ($p = 0.0089$). As far as training during cycle 2 was concerned, male students rated their communication in respect of their "ability to elicit information from the patient" and "ability to communicate in a respectful way with the patient" significantly higher than female students ($p = 0.0340$ and $p = 0.0207$, respectively). Male students' average rating in terms of their communication was also higher than the average rating for female students during training cycle 2.

8.2.5.1.4 Male students compared with female students within training cycle 1 in terms of "Aspects of communication that needs further development."

8.2.5.2.4 Male students compared with female students within training cycle 2 in terms of "Aspects of communication that needs further development."

Table 47 (below) indicates that no significant differences exist between male and female students' rating of "aspects of communication that needs further development" except that during training cycle 1, female students rated "My posture and position as ideal non-verbal behaviour" as an aspect that needed further development.

The average scores for both training cycles 1 and 2 were slightly higher for female students than for male students (3.28/3.26 and 3.10/3.02) according to Table 47. The average scores for both male and female students declined from training cycle 1 to 2: for male students from 3.26 to 3.02 and for female students from 3.28 to 3.10.

Table 47 "Dentist's" feedback: comparing gender by Wilcoxon's Rank Sum Test

Training cycle	Parameter	Male		Female		
	Aspects of communication that need further development	**Mean n = 25**	**SD**	**Mean n = 42**	**SD**	**p-value (< 0.05)**
1	V27: My ability to share information with the patient	3.56	0.96	3.37	0.87	0.3531
	V28: My ability to communicate empathy with the patient	3.36	0.91	3.07	0.91	0.1945
	V29: My ability to elicit information from the patient	3.32	1.03	3.44	0.80	0.1989
	V30: My ability to allow the patient to ask questions	3.48	1.05	3.37	1.07	0.6199
	V31: My ability to conduct the interview in a structured way	3.24	1.01	3.49	0.86	0.2523
	V32: My ability to listen attentively	3.36	0.86	3.07	0.91	0.4842
	V33: My ability to make eye contact	3.28	1.31	3.05	1.13	0.3089
	V34: My posture and position as ideal non-verbal behaviour	3.04	0.89	3.37	0.85	0.0306*
	V35: My use of facial expressions as ideal non-verbal behaviour	3.04	0.98	3.26	0.76	0.2630
	V36: My use of voice in communication with the patient	2.79	1.02	3.33	0.84	0.0336*
	Average score of items 27 to 36	3.26	0.77	3.28	0.52	0.8934
2	V27: My ability to share information with the patient	3.08	1.12	3.29	0.99	0.6735
	V28: My ability to communicate empathy with the patient	3.00	0.87	3.21	1.05	0.4405
	V29: My ability to elicit information from the patient	3.04	1.10	3.10	0.85	0.6641
	V30: My ability to allow the patient to ask questions	3.04	1.14	2.95	1.06	0.5295
	V31: My ability to conduct the interview in a structured way	3.20	0.82	3.26	0.96	0.8815
	V32: My ability to listen attentively	2.96	1.27	3.02	1.14	0.7215
	V33: My ability to make eye contact	3.00	1.22	3.02	1.30	0.6830
	V34: My posture and position as ideal non-verbal behaviour	3.00	0.87	2.98	0.92	0.8004
	V35: My use of facial expressions as ideal non-verbal behaviour	2.96	0.93	3.10	0.91	0.4104
	V36: My use of voice in communication with the patient	2.96	1.17	3.12	0.99	0.8509
	Average score of items 27 to 36	3.02	0.83	3.10	0.76	0.7162
*** = significant on 5% level**						

8.2.5.1.5 Male students compared with female students within training cycle 1 in terms of "Experience as role-playing as a "dentist"

8.2.5.2.5 Male students compared with female students within training cycle 2 in terms of "Experience as role-playing as a "dentist"

Table 48 "Dentist's" feedback: comparing gender by Wilcoxon's Rank Sum Test

Training cycle	Parameter	Male		Female		
	Experience of role-playing as a "dentist"	**Mean n = 25**	**SD**	**Mean n = 42**	**SD**	**p-value (< 0.05)**
1	V39: Experience of comfort	3.60	1.00	3.00	0.90	0.0296*
	V40: Learning about the patient	3.64	0.70	3.40	0.90	0.3211
	V41: The importance of attentive listening	3.92	0.86	3.86	0.94	0.6289
	V42: Structured way of communicating	3.76	0.78	3.49	0.94	0.3401
	V43: Novel way of learning to communicate with the patient	3.72	0.84	3.49	0.86	0.4156
	Average score of items 39 to 43	3.73	0.63	3.45	0.65	0.1786
2	V39: Experience of comfort	3.68	0.63	3.48	0.71	0.1557
	V40: Learning about the patient	3.96	0.73	3.67	0.65	0.1797
	V41: The importance of attentive listening	4.32	0.56	4.10	0.66	0.0666
	V42: Structured way of communicating	4.12	0.67	3.79	0.90	0.2512
	V43: Novel way of learning to communicate with the patient	3.64	0.95	3.74	0.89	0.9020
	Average score of items 39 to 43	3.94	0.47	3.75	0.53	0.2128

*** = significant on 5% level**

Table 48 indicates that male students felt significantly more "comfortable" than female students during training cycle 1 (p = 0.0296). Male students had, in general, a more positive experience than female students during both training cycles. Both male and female students' ratings increased from training cycle 1 to training cycle 2: for male students from 3.73 to 3.94 and for female students from 3.45 to 3.75.

8.2.5.1.6 Male students compared with female students within training cycle 1 in terms of "How "dentist" experienced session"

8.2.5.2.6 Male students compared with female students within training cycle 2 in terms of "How "dentist" experienced session"

Table 49 "Dentist's" feedback: comparing gender by Wilcoxon's Rank Sum Test

Training cycle	Parameter	Male		Female		
	How "dentist" experienced session …	**Mean n = 25**	**SD**	**Mean n = 42**	**SD**	**p-value (< 0.05)**
1	V46: in respect of your interaction with the patient	4.20	0.87	3.67	0.75	0.0039*
	V47: as a novel learning experience	4.12	0.78	4.23	0.65	0.5248
	V48: as a relevant learning experience	4.48	0.65	4.37	0.69	0.6109
	V49: in respect of your control of the situation	3.84	0.85	3.33	0.71	0.0213*
	V50: in terms of being recorded on video	3.44	1.16	2.58	1.10	0.0009*
	V51: in respect of **your** perception of the patient's impression of you	3.68	0.80	2.98	0.89	0.0009*
	V52: in respect of being **unable** to proceed with treatment	2.68	1.14	2.60	0.73	0.5165
	Average score of items 46 to 52	3.78	0.51	3.40	0.49	0.0037*

2	V46: in respect of your interaction with the patient	4.04	0.68	3.69	0.64	0.0666
	V47: as a novel learning experience	4.04	0.93	3.86	0.81	0.0425*
	V48: as a relevant learning experience	4.36	0.57	4.17	0.66	0.2459
	V49: in respect of your control of the situation	3.96	0.84	3.57	0.59	0.0271*
	V50: in terms of being recorded on video	3.52	0.96	3.05	1.34	0.2157
	V51: in respect of **your** perception of the patient's impression of you	3.72	0.68	3.38	0.79	0.0705
	V52: in respect of being **unable** to proceed with treatment	2.44	1.04	2.76	0.85	0.2621
	Average score of items 46 to 52	3.73	0.49	3.50	0.53	0.1344
*** = significant on 5% level**						

Table 49 indicates that male students experienced the sessions significantly more enjoyable than did female students during training cycle 1, with regard to the following aspects:

- Interaction with the "patient" ($p = 0.0039$), who happened to be a woman.
- Control of the situation ($p = 0.0213$)
- Being video recorded ($p = 0.0009$)
- Perception of the patient's impression of you ($p = 0.0009$).

During training cycle 2, however, only two aspects were rated significantly higher by male students than female students:

- A novel learning experience (p = 0.0425)
- Control of the situation (p = 0.0271).

8.2.5.3 Male students during training cycle 1 compared with male students during training cycle 2.

8.2.5.4 Female students during training cycle 1 compared with female students during training cycle 2.

Table 50 "Dentist's" feedback: comparing by training cycle by Signed Rank Test

Parameter	Male			Female			Total class		
Difference: Round 1 – Round 2	**Mean n = 25**	**SD**	**p-value (<0.05)**	**Mean n = 42**	**SD**	**p-value (<0.05)**	**Mean n = 67**	**SD**	**p-value (<0.05)**
Experience as "dentist"	-0.05	0.62	0.6708	-0.16	0.65	0.1070	-0.12	0.63	0.1414
How communication skills contribute to the dentist-patient relationship in respect of…	-0.02	0.55	0.7626	0.12	0.80	0.4400	0.07	0.71	0.6454
Communication in respect of your…	-0.26	0.79	0.1791	-0.50	0.56	< 0.0001*	-0.41	0.66	< 0.0001*
Aspects of communication that need further development	0.23	0.86	0.1809	0.18	0.77	0.2402	0.20	0.80	0.0848
Experience as role-playing as "dentist"	-0.22	0.47	0.0219*	-0.31	0.63	0.0010*	-0.27	0.57	< 0.0001*
How "dentist" experienced session…	0.05	0.56	0.7338	-0.12	0.55	0.1850	-0.05	0.56	0.4126
*** = significant on 5% level**									

Table 50 indicates that both male and female students rated their "experience as dentist" significantly higher during the second training cycle than during the first training cycle ($p = 0.0219$ and $p = 0.0010$ respectively). However, female students also rated their "communication as dentist" significantly higher during the second training cycle as compared with the first training cycle ($p < 0.0001$). Both male and female students rated "Aspects of communication that need further development" higher during training cycle 1 than training cycle 2 as indicted by the positive values of 0.23 and 0.18 respectively (Table 50). Female students also rated "communication skills' contribution to the dentist-patient relationship" higher during the first training cycle than during the second training cycle as reflected in the positive value of 0.12.

8.2.6 "Dentist's" feedback (Appendix H) compared with Rubric

8.2.6.1 Statement: "I am comfortable interviewing patients" compared with the total Rubric score

8.2.6.2 Statement: "I am comfortable interviewing patients" compared with each of the Rubric' six dimensions

8.2.6.3 All five aspects of "experience as dentist" compared with each of the Rubric's six dimensions

Table 51 "Dentist's" feedback: comparing with Rubric by Signed Rank Test

Training cycle	Parameter**		Mean n= 67	SD	p-value (< 0.05)
	"Dentist's" feedback	Rubric			
1	D4	Total Rubric score	1.43	0.97	< 0.0001*
	D4	Dim1	1.61	0.98	< 0.0001*
	D4	Dim2	2.03	1.00	< 0.0001*
	D4	Dim3	1.19	1.10	< 0.0001*
	D4	Dim4	2.11	0.98	< 0.0001*.
	D4	Dim5	1.58	0.98	< 0.0001*
	D4	Dim6	0.08	1.07	0.4578
	D4-8	Dim1	1.69	0.72	< 0.0001*
	D4-8	Dim2	2.11	0.70	< 0.0001*
	D4-8	Dim3	1.27	0.86	< 0.0001*
	D4-8	Dim4	2.19	0.72	< 0.0001*
	D4-8	Dim5	1.66	0.74	< 0.0001*
	D4-8	Dim6	0.15	0.78	0.0990
2	D4	Total score Rubric	0.81	0.76	< 0.0001*
	D4	Dim1	0.67	0.78	< 0.0001*
	D4	Dim2	1.13	0.91	< 0.0001*
	D4	Dim3	0.58	0.82	< 0.0001*
	D4	Dim4	1.56	0.87	< 0.0001*.
	D4	Dim5	0.63	0.83	< 0.0001*
	D4	Dim6	0.32	0.75	< 0.0007*
	D4-8	Dim1	0.57	0.68	< 0.0001*
	D4-8	Dim2	1.04	0.77	< 0.0001*
	D4-8	Dim3	0.49	0.68	< 0.0001*
	D4-8	Dim4	1.47	0.72	< 0.0001*
	D4-8	Dim5	0.53	0.65	< 0.0001*
	D4-8	Dim6	0.23	0.63	0.0051*
*** = significant on 5% level**					

** D4 = Variable number 4 in questionnaire: "Dentist's" feedback = "I am comfortable interviewing patients."

D4 - 8 = Variable number 4 - 8 in questionnaire: "Dentist's" feedback = "I am comfortable interviewing patients/I am sensitive to psychosocial aspects of the patient's illness/I am able to relate to the patient/I am able to elicit information from the patient/I am able to communicate empathy."

Dim 1 = Dimension 1 according to factor analysis (Table 32, section 8.2.1) = Reaching an agreement

Dim 2 = Dimension 2 according to factor analysis (Table 32) = Understanding the patient's perspective.

Dim 3 = Dimension 3 according to factor analysis (Table 32) = Building a relationship

Dim 4 = Dimension 4 according to factor analysis (Table 32) = Sharing information

Dim 5 = Dimension 5 according to factor analysis (Table 32) = Structuring the interview

Dim 6 = Dimension 6 according to factor analysis (Table 32) = Opening the interview

Table 51 indicates that students, by means of the questionnaire: "Dentist's" feedback, scored the statement "I am comfortable interviewing patients" (D4) significantly higher ($p < 0.0001$) during both the first and second training cycles as compared with the SP's score in terms of the students' overall communication skills by means of the rubric, except for Dimension 6: "Opening the interview" during training cycle 1.

The five aspects of "experience as dentist" were all scored significantly higher by the students ($p < 0.0001$) during both the first and second training cycles as compared to the score by the SP in terms of the students' overall communication skills by means of the rubric, except for Dimension 6: "Opening the interview" of the rubric during training cycle 1 ($p = 0.0990$).

Overall, Table 51 indicates that students rated themselves higher as compared with the SP's rating of their communication skills.

8.2.6.4 "Dentist's" feedback in terms of importance of topics addressed in lectures

Table 52 "Dentist's" feedback: importance of topics addressed in lectures

Training cycle	Parameter	Male		Female		Total group	
	The importance of the following topics in terms of the lectures …	**Mean n = 25**	**SD**	**Mean n = 42**	**SD**	**Mean n = 67**	**SD**
2	Importance of dentist-patient relationship	4.60	0.12	4.64	0.58	4.63	0.57
	The **theoretical** basis defining the therapeutic relationship	3.88	0.83	3.88	0.86	3.88	0.84
	The **philosophical** basis defining the therapeutic relationship	3.64	0.99	3.69	0.81	3.67	0.88
	Characteristics of relationship-centered care	4.16	0.75	4.12	0.67	4.13	0.69
	Communication elements as indicators of relationship-centered care	4.16	0.75	4.17	0.85	4.16	0.81
	Trust in the dentist-patient relationship	4.52	0.59	4.64	0.58	4.60	0.58
	What trust is	4.24	0.78	4.24	0.82	4.24	0.80
	Predictors of trust	4.52	0.59	4.36	0.69	4.42	0.65
	Trust and satisfaction	4.44	0.58	4.45	0.74	4.45	0.68
	Dimensions of trust	4.36	0.70	4.14	0.84	4.22	0.79
	The essential elements (tasks) of dentist-patient communication	4.40	0.65	4.40	0.83	4.40	0.76
	Average score	4.27	0.67	4.25	0.75	4.25	0.73

Table 52 indicates that both male and female students rated the importance of the respective topics addressed during the lecture, as rather important - average scores for male and female students were 4.27 and 4.25, respectively.

8.2.6.5 "Dentist's" feedback in terms of appropriateness of teaching methods employed

Table 53 "Dentist's" feedback: appropriateness of teaching methods employed

Training cycle	Parameter	Male		Female		Total group	
	Methods employed in terms of the whole teaching experience	**Mean n = 25**	**SD**	**Mean n = 42**	**SD**	**Mean n = 67**	**SD**
2	**Lectures**	3.88	0.67	3.67	1.03	3.75	0.91
	Making **video** recordings	4.20	0.76	4.33	0.85	4.28	0.81
	Use of a **standardised patient**	4.36	0.76	4.50	0.63	4.45	0.68
	Evaluation of skills by means of **"Rubric"**	4.04	0.68	4.14	0.72	4.10	0.70
	The **"dentist's"** feedback	4.16	0.85	4.36	0.76	4.28	0.79
	The **"patient's"** feedback	4.44	0.71	4.57	0.59	4.52	0.64
	Average	4.18	0.74	4.26	0.76	4.23	0.76

Table 53 indicates that both male and female students rated the appropriateness of the teaching methods employed during the study, rather high. Female students rated the appropriateness of the teaching methods employed during the study slightly higher than male students - 4.26 compared to 4.18.

8.2.7 Qualitative data: Summary of main findings

- As a result of the factor- and item analyses employed in the study, the initial, combined rubric of relational communication skills consisting of seven dimensions (A - G) and 43 items (1 - 43), was converted into a final, adjusted rubric consisting of six dimensions (A - F) and 42 items (1 - 42).
- Male students scored higher than female students during training cycle 1 in all six dimensions of the rubric.
- For training cycle 2, female students obtained higher mean scores than male students for all the dimensions of the rubric except for Dimension: "Understanding the patient's perspective" in which male and female students obtained equal mean scores of 2.68.
- No significant differences existed between male and female students with regard to the different dimensions of the Rubric in either the first or second cycle - except that during cycle 2, female students performed significantly better than male students in terms of Dimension: "Opening the interview."
- Both male and female students (including the class as a whole) scored significantly higher during training cycle 2 than training cycle 1 ($p < 0.0001$) for all dimensions except Dimension: "Opening the interview."
- No significant differences existed between male and female students in terms of each gender's development in communication skills between training cycle 1 and 2. Communication skills training did not benefit a specific gender significantly more than for the other gender ($p = 0.2566$).
- In terms of the "patient's" feedback, there were no significant differences between male and female students in either training cycle one or two. This finding corresponds with the SP's feedback in terms of the Rubric.
- "Patient's" feedback was significantly higher for training cycle 2 than for training cycle 1 with regard to male - and female students ($p < 0.05$ and $p < 0.0001$, respectively).
- Male students were significantly more "comfortable interviewing patients" compared to female students during training cycle 1 ($p = 0.0051$). However, no

significant differences existed between male and female students with regard to the other aspects of their "experience as dentist" during training cycle 1.

- Male students rated their communication significantly more relaxed than that of female students during training cycle 1 ($p = 0.0073$).
- No significant differences exist between male and female students' rating of "aspects of communication that needs further development" except that during training cycle 1, female students rated "My posture and position as ideal non-verbal behaviour" as an aspect that needed further development.
- Male students felt significantly more "comfortable" than female students during training cycle 1 ($p = 0.0296$).
- Male students experienced the sessions significantly more enjoyable than did female students during training cycle 1.
- Both male and female students rated their "experience as dentist" significantly higher during the second training cycle than during the first training cycle ($p = 0.0219$ and $p = 0.0010$ respectively).
- Female students also rated their "communication as dentist" significantly higher during the second training cycle as compared with the first training cycle ($p < 0.0001$).
- Students rated themselves higher as compared with the SP's rating of their communication skills.
- Both male and female students rated the importance of the respective topics addressed during the lecture, as rather important - average scores for male and female students were 4.27 and 4.25, respectively.

8.3 Qualitative data analysis

Results were obtained by means of the following two instruments:

8.3.1 "Dentist's" feedback (Appendix G) completed by each student after interview with the SP during training cycle 1 (Step 1, Figure 9 - Chapter 6, section 6.2)

8.3.2 "Dentist's" feedback (Appendix H) completed by each student after interview with the SP during training cycle 2 (Step 4, Figure 9 - Chapter 6, section 6.2)

Students completed the questionnaires: "Dentist's" feedback (Appendices G & H) immediately after the video recordings of their interviews with the SP during training cycles 1 & 2, respectively (Figure 9 - Chapter 6, section 6.2). The students were asked to give feedback in terms of the following aspects of their interviews with the SP:

- Experience as "dentist"
- Communication skills' contribution to the dentist-patient relationship
- Communication as "dentist"
  - Weak and strong points
  - Aspects of communication that need further development
  - Experience of role-playing as "dentist"
  - Least and most enjoyable experiences
- Most important things learned from the lectures
- Suggestions to improve the development of communication skills of 3rd year dental students

Students' verbatim feedback has been summarised in Appendix J and is reflected in Figures 11 & 12 as well as Tables 54 - 57, below.

- Communication skills' contribution to the dentist-patient relationship

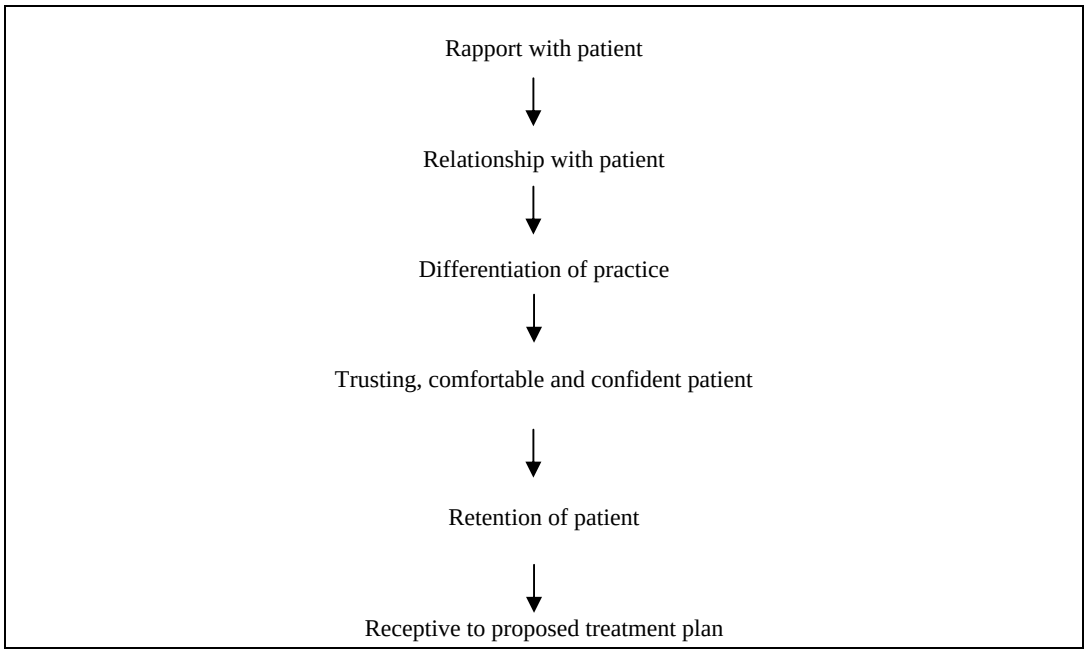

Figure 11 Communication skills' contribution to the dentist-patient relationship

Figure 11 clarifies students' perceptions that relational communication skills will eventually assist them in winning patients who are receptive to a particular proposed treatment plan. This will be effected through a sound relationship with the patient, resulting in the latter perceiving the practice as different and unique, for example a trusting, comfortable and confident patient who is prepared to stay with the practice. This is an encouraging observation by the students in view of the "Problem statement" as presented in Chapter 3 (section 3.1).

- Weak and strong points and those aspects of communication that need further development

Students' weak and strong points, as well as aspects of their communication skills that need further development, can be divided into three main categories, namely non-verbal communication, dentist-patient relationships and structuring of the interview (Table 54, below).

This can probably be attributed to the video-feedback during which students were able to observe themselves and to self-reflect on their respective performances. The video-feedback enables each student to observe him-/herself "from a distance" - to become more objective rather than subjective - and as result each student's attention would be focused on his/her relationship with the patient as well as his/her "interview lacking structure."

Table 54 Weak and strong points and those aspects of communication that need further development

Non-verbal communication	Dentist-patient relationship	Structure of the interview
Too much hand movement	Too little empathy	Not enough structure
Mumbles (Tone of voice)	Too little warmth	
Not relaxed	Do not listen enough	
Too little confidence	Too rushed	
Poor body language	Too little interaction on emotional level	
Posture and position	Not professional enough	

- Experience of role-play as "dentist"

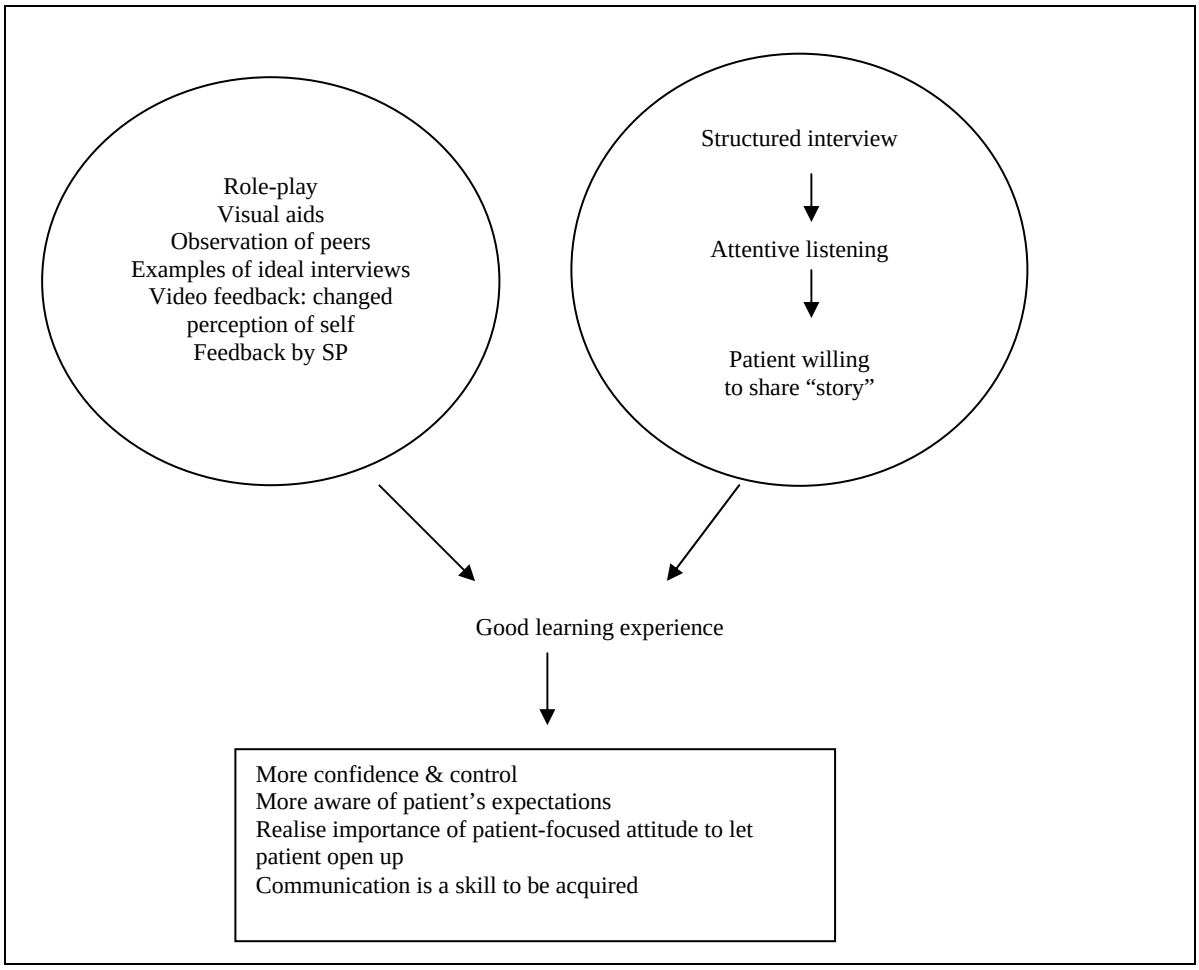

Figure 12 Experience of role-play as "dentist"

Figure 12 (above) summarises students' experiences of role-play as "dentist". It is clear that students experienced the different teaching strategies (Table 53 - Chapter 8, section 8.2.6.5) such as role-play, observation of peers, examples of ideal interviews, video feedback and feedback by SP as a "good learning experience". Students' feedback also showed that by conducting a structured interview, they were able to listen attentively to the "patient", who as a result of the student's attentive listening, was prepared to share her "story". Also, students perceived their performance during the second training cycle as an improvement compared to their performance during the first training cycle.

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This is clear from the following remarks by the students during their second training cycle: “More confidence & control”; “More aware of patient’s expectations”; “Realise importance of patient-focused attitude to let patient open up” and “Communication is a skill to be acquired.”

- Least and most enjoyable experiences

Students’ feedback in terms of their least and most enjoyable experiences during role-play as “dentist” can be divided into three categories (Table 55, below): positive-, mixed- and negative experiences. It was clear from students’ feedback, that the positive experiences by far outweighed the negative experiences (Appendix J).

Table 55 Students' least and most enjoyable experiences during role-play as "dentist"

Positive experiences	Mixed experiences	Negative experiences
Pleasant & meaningful	Stressful, but extremely enlightening	Too nervous in front of camera
Very informative	As much as I disliked being video-taped at first, but after seeing the video it really helps	Not fair to watch video with other students
Useful way of learning		Uneasy being video recorded
Learned a lot		Communication could be more effective with a broader background of dentistry
Enjoyed thoroughly		Felt worse than the first round. Felt that the interview went on too long. Felt that the patient was bored.
Wonderful experience		
Good learning experience		
Fun learning experience		
Excellent experience		
Entirely appropriate way of learning		
Video feedback is extremely helpful		
Structure is an excellent aid		

- Most important things learned from the lectures

Table 56 (below) provides a summary of students' feedback to the question: "What are the most important things you have learned from the lectures?" It confirms that students accept the rationale and evidence supporting communication skills teaching and are prepared to deal with it in a practical way.

Table 56 Most important things learned from the lectures

- A patient-centered approach is important to establish trust between dentist and patient
- Patient-centeredness is about:
  - Listening to, and bonding with, the patient
  - Appropriate communication
  - Eliciting patient's emotions
  - To get in touch with patient's emotions
  - Learning about patients' expectations
  - An openness towards the patient
  - Respect for the patient as person
  - Building trust
- Initial relationship impacts on the long-term relationship with the patient
- A break-down in communication results in patients not returning for treatment
- See the person behind the teeth (bio-psychosocial dimensions)
- The dentist-patient interview must be structured

- What suggestions do you have to improve development of communication skills of 3rd year dental students? Students' inputs with regard to communications skills teaching are essential - especially as the project will be repeated within an action learning and -research paradigm. From these inputs it was clear that students required more practice as well as interactions with different patients (not only the SP). Some students also experienced their lack of dental knowledge to impact negatively on their learning experience (Table 57, below).

Table 57 Suggestions to improve development of communication skills

- More practice
- More practice with different patients
- More direct interaction with real patients
- To do the training when students have more dental knowledge
- One week block (instead of two weeks)
- There should be a role-play presented to the entire class to highlight the different approaches and mishaps that may occur

8.4 Summary and conclusion

This chapter documented the quantitative and qualitative results of the study. Tables 58, 59 and 60 (below) provide an appropriate way to conclude the chapter as they provide a compendium of students' learning experiences (127). This kind of feedback is exactly what any researcher could have hoped for and provides the encouragement and energy for future attempts in communication skills teaching of undergraduate dental students at the School of Dentistry, University of Pretoria.

Students' feedback showed that by role-playing a structured interview, their confidence to interact in a relaxed way with the "patient" was enhanced (Table 58, below).

Table 58 Effect of role-playing an interview on students' confidence

- "The visual aids helped to give more information to the patient. The structure given in the lecture helped me to be more confident. I am more relaxed now compared to the first time."
- "Good learning exercise! Such practice situations will improve my communication skills. One becomes more relaxed and enjoys it."
- "This practice helped us and enabled us to approach the patient and also helped us to improve our confidence and this be able to express ourselves."

The important roles of trust, empathy and active listening in establishing a relationship with a patient, were emphasised by most of the students (Table 59, below).

Table 59 Roles of trust, empathy and active listening on relationship with patient

- "The more I relaxed the more I became to relaise my true self and the patient's inner feelings for example putting myself into my patient's shoes. Some really touched me."
- "I realised that listening ATTENTIVELY makes it easier for me to find out more about my patient."
- "I think it is important that we are given things that establish trust. Trust is very important. As a dentist, the patient must trust you."
- "You have to have a patient-centered approach. LISTEN. See the PERSON behind the teeth!"
- "The most important things I have learned from the lectures are how to establish trust, to make use of visual aids to explain the problem to the patient; to listen to the patient and to conduct the interview in a structured way."

Third year dental students positively perceived the learning of relational communication skills (Table 60, below).

Table 60 Students' perceptions about their learning of communication skills

- "It was an excellent learning experience!"
- "Extremely enlightening!"
- "The video was extremely helpful. I was able to realise and see my mistakes. It's much better seeing your mistakes than being told by an examiner."
- "I believe that this form of training is very versatile for students, because we acquire skills that will empower us to sell dentistry and be able to retain patients. The most exciting part is video recording and feedback from fellow students and the lecturer as well as the patient."
- "The step-by-step procedure really helped me. Doing the actual interview practicing with friends and being in the patient's position made me understand what it feels like to be in a patient's position and how I would like to be treated if I was the patient."
- "This method is definitely the best way to teach communication skills. Good to do video analysis afterwards."

Chapter 9 will reflect on the results presented in this chapter.

CHAPTER 9 REFLECTION

9.1 Introduction

The current chapter will discuss the main trends and patterns in the data as it was presented in chapter 8.

This study describes the development, implementation and evaluation of a curriculum in relational communication skills. The teaching strategy employed during the study was designed to develop students' communication skills by means of an experiential and didactic teaching approach. As the focus was on the development of 3rd year dental students' communication skills through the employment of specific procedures and instruments, students conducted interviews with a SP on the basis of a realistic clinical scenario during pre- and post-training cycles. All the interviews were videotaped and evaluated in order to compare students' communication skills during the pre-training cycle with students' newly developed skills during the post-training cycle.

The discussion will follow the same sequence as the results presented in the previous chapter.

9.2 Rubric: investigation of the construct validity of the combined rubric (Tables 30 - 34; Chapter 8, section 8.2.1)

It is recommended in the literature that existing communication teaching assessment instruments should rather be refined in terms of their reliability and validity instead of continuing to develop an assessment instrument for each new research project (96). For this study, the combined rubric (Table 26 - Chapter 5, section 5.2.2; Appendix A) was chosen as the basis for the proposed curriculum for the purpose of teaching relational communication skills.

Since the combined rubric was a combination of six existing communication models (Table 22 - Chapter 4, section 4.22 and Table 24 - Chapter 5, section 5.2.1) with the researcher's experience of the South African dental market, it was attempted to refine the chosen instrument (combined rubric) in terms of its reliability and validity through a series of factor- and item analyses (Tables 30 - 32; Chapter 8, section 8.2.1.1). This resulted in an adjusted instrument (rubric) (Table 33 - Chapter 8, section 8.2.1.1; Appendix B) that is ideally suited as an assessment instrument for the teaching of relational communication skills to undergraduate students in dentistry.

9.3 Rubric (Tables 35 - 37)

As was explained in Chapter 7, section7.5, non-parametric statistical analyses (Wilcoxon Rank Sum Test) were employed on transformed data.

Both male and female students obtained higher scores for *all* dimensions of the rubric during training cycle 2 as compared with training cycle 1, except for the Dimension: "Opening the interview" where male students scored lower during the second cycle as compared with the first cycle (3.29 compared to 3.52). In a recent study in a Japanese *medical* school, students obtained a higher score only for the Dimension: "Understanding the patient's perspective" (128).

Male students were rated higher than female students during training cycle 1, while female students were rated higher during training cycle 2. This finding could be attributed to the fact that the ability to communicate skilfully and with purpose rarely occurs as a gift - it is learned (6). Female students probably have a more positive attitude towards communication skills training than male students. This finding confirms other studies recorded in the literature that female students demonstrate greater change in communication skills than their male counterparts (111; 113). Another factor that could have attributed to this finding is that male students appeared to display a higher level of confidence during training cycle 1.

All students (including the class as a whole) scored higher during training cycle 2 - an indication that students benefited significantly from the teaching strategy that was followed during the study. However, communication skills teaching did not benefit a specific gender more than the other (Table 36 - Chapter 8, section 8.2.1.4).

Previous research indicated that, for many dental schools in the United States and the United Kingdom, communication skills training involved didactic teaching practices and few opportunities for in-vivo practices (93; 94). However, this study confirms that skills, attitudes and knowledge can be discussed, lectured and practised in the classroom, but communication skills develop with practice, feedback and repetitive performance (Table 57 - Chapter 8, section 8.3) (129).

9.4 "Patient's" feedback (Tables 38 - 40)

Male students were rated higher by the SP in terms of the questionnaire: "Patient's" feedback although not significantly so than female students. This is an indication of the SP's consistent feedback in terms of the rubric and "Patient's" feedback. Female students performed better during training cycle 2 - again confirmation of the literature that female students demonstrated greater change in communication skills teaching than males (111; 113). It also confirms that women, in clinical settings, are often considered to be more positively inclined towards communication than men (107). The SP's rating about important issues such as "I have an improved understanding of my dental health"; "I have a mental picture of my oral condition"; "A bonded relationship has been established between the "dentist" and me"; "I am satisfied with the experience" and "I will pay my account promptly", was higher for female students. Female students are probably more at ease to relate to the emotional side of the patient and are probably also more inclined to make use of visual aids when presenting the treatment plan to the patient, resulting in a more receptive and loyal patient.

Both male and female students scored significantly higher during training cycle 2 (Table 39 - Chapter 8, section 8.2.2.3 and Table 40 - Chapter 8, section 8.2.2.4). This is a confirmation that students benefited from the teaching strategy that was followed during the study.

9.5 "Patient's" feedback compared with Rubric

(Table 41 - Chapter 8, section 8.2.3 and Table 42 - Chapter 8, section 8.2.3.5)

The SP rated students significantly higher during training cycle 1 in terms of the rubric than in terms of the "Patient's" feedback. During training cycle 2, however, scores in terms of the "Patient's" feedback were higher than scores in terms of the rubric, although not significantly so. A possible explanation could be that during training cycle 1 the SP's feedback in terms of the rubric was more subjective than in terms of her feedback by means of the questionnaire: "Patient's" feedback. However, the SP's experience during training cycle 1 resulted in more objective feedback during training cycle 2 in terms of both the rubric and "Patient's" feedback.

9.6 "Patient's" feedback compared with "Dentist's" feedback

(Table 43 - Chapter 8, section 8.2.4)

Students rated themselves higher as compared with their ratings by the SP. This could be due to the fact that students, in general, are in a phase of their lives that is characterised by confidence and high self-esteem. It could probably also be due to the SP's reinforcing role as well as the supportive atmosphere that prevailed during the interviews, which gave students an over-confident self-perception about their performances.

9.7 "Dentist's" feedback

9.7.1 Experience as "dentist" (Table 44 - Chapter 8, section 8.2.5)

Male students felt significantly more "comfortable interviewing patients" than female students during training cycle 1. Male students regarded themselves significantly more "able to elicit information" during training cycle 2. Furthermore, male students had a more positive "experience as dentist" - probably due to female students' lack of confidence initially or female students being less impetuous.

9.7.2 Communication skills' contribution to dentist-patient relationship
(Table 45 - Chapter 8, sections 8.2.5.1.2 & 2 and Figure 11 - Chapter 8, section 8.3)

Female students were more convinced that communication skills would ensure the patient's compliance with the proposed treatment plan. Male students' average rating of 'communication skills' contribution to the dentist-patient relationship', increased as the study progressed. This could indicate that male students became more convinced about the role of communication skills in the dentist-patient relationship as the study progressed. The finding that a large percentage of students considered communication skills to be more important after having completed the course, was confirmed in the literature (6). The opposite, however could be said about female students.

Figure 11 appears to clarify students' perceptions that communication skills would eventually result in a patient who is receptive to the proposed treatment plan. This will be effected through a sound relationship with the patient, resulting in a patient perceiving the practice as different and unique. This in turn leads to a trusting, comfortable and confident patient prepared to stay with the practice. Such is an encouraging observation by the students in view of the "Problem statement" as presented in Chapter 3, section 3.1.

9.7.3 Communication as “dentist” in respect of …
(Table 46 - Chapter 8, sections 8.2.5.1.3 & 8.2.5.2.3)

Male students rated their ‘communication as “dentist” in respect of …’ significantly more relaxed as female students during training cycle 1. The same applied to training cycle 2 although not significantly so. This finding is probably also due to female students’ initial “lack of confidence” or female students being less impetuous.

9.7.4 Aspects of communication that need further development
(Table 47 - Chapter 8, sections 8.2.5.1.4 & 8.2.5.2.4 and Table 54 - Chapter 8, section 8.3)

Female students indicated that “My posture and position as ideal non-verbal behaviour”, was an aspect that needed further development. Average scores for female students were slightly higher than for male students. This could be an indication that female students tend to realise their “weaknesses” more readily than male students and are prepared to address them. Furthermore, that women in clinical settings are often considered to be more positively inclined towards communication than men (107).

The average scores for both male and female students in terms of ‘Aspects of communication that need further development’, declined from training cycle 1 to 2. This may be an indication that students felt more confident during training cycle 2 as compared with training cycle 1 about their communication skills and that students benefited from the video-feedback about their respective performances.

Students’ weak and strong points, as well as aspects of their communication skills that need further development, can be divided into three main categories, namely non-verbal communication, dentist-patient relationship and structuring the interview (Table 54 - Chapter 8, section 8.3).

This can probably be attributed to the video-feedback which enabled students to observe themselves and to self-reflect about their performance. The video-feedback enabled each student to observe him-/herself "from a distance" - to become more objective rather than subjective - and as result each student's attention was focused on his/her relationship with the patient as well as his/her "interview lacking structure."

9.7.5 Experience of role-play as "dentist"

(Table 48 - Chapter 8, sections 8.2.5.1.5 & 8.2.5.2.5; Table 55 - Chapter 8, section 8.3; Table 58 - Chapter 8, section 8.4; Figure 12 - Chapter 8, section 8.3)

Male students felt significantly more "comfortable" than female students during training cycle 1. However, both male and female students' ratings increased from training cycle 1 to training cycle 2 - an indication that students gained confidence as the study progressed. This finding corresponds with students' qualitative feedback (Tables 55, 58 and Figure 12).

Figure 12 summarises students' experiences of role-play as "dentist". It is clear that students experienced the different teaching strategies (Table 53 - Chapter 8, section 8.2.6.5) such as role-play, observation of peers, examples of ideal interviews, video feedback and feedback by SP as a "good learning experience". Students' feedback also showed that by conducting a structured interview, students were able to listen attentively to the "patient", who as a result of the student's attentive listening, was prepared to share her "story". Also, students perceived their performance during the second training cycle as an improvement as compared with their performance during the first training cycle. This is clear from the following remarks by the students during the second training cycle: "More confidence & control"; "More aware of patient's expectations"; "Realise importance of patient-focused attitude to let patient open up" and "Communication is a skill to be acquired."

9.7.6 How "dentist" experienced the session

(Table 49 - Chapter 8, section 8.2.5.1.6 & 8.2.5.2.6; Table 55 - Chapter 8, section 8.3)

Male students experienced the sessions significantly more enjoyable than female students during training cycle 1 with regard to the following aspects:

- Interaction with the patient
- Control of the situation
- Being video recorded
- Perception of the patient's impression of you.

This could be an indication that male students had more confidence in their interaction with the *female* SP. During training cycle 2, however, only two aspects were rated significantly higher by male students than female students:

- A novel learning experience
- Control of the situation.

This is an indication that female students felt more confident during training cycle 2, which is again confirmation of the literature that female students demonstrated greater change in communication skills than males (111; 113).

Students' experiences of role-play as "dentist" can be divided into three categories (Table 55): Positive-, mixed- and negative experiences. It was clear from students' feedback, that the positive experiences by far outweighed the negative experiences (Appendix J).

9.7.7 "Dentist's" feedback: comparing by training cycle (Table 50 - Chapter 8, sections 8.2.5.3 & 8.2.5.4)

Comparing training cycle 1 with training cycle 2, both male and female students rated their "experiences as dentist" significantly higher during the second training cycle. This could be due to students being more relaxed and aware of the situation as their confidence increased.

Female students rated "communication as dentist" significantly higher during the second training cycle - probably because female students' confidence, which was on a lower level than that of male students initially, improved more as a result. Both male and female students rated "Aspects of communication that need further development" higher during training cycle 1 than training cycle 2 - an indication that students perceived their skills to have improved from training cycle 1 to training cycle 2.

9.8 "Dentist's" feedback compared with Rubric

(Table 51- Chapter 8, section 8.2.6)

Table 51 confirmed what was reported in section 9.6 (above) in terms of Table 43: students rated themselves higher than the ratings they received by the SP. The same reasons are probably applicable for example students in general, are in a phase of their lives that is characterised by confidence and high self- esteem. It could probably also be due to the SP's reinforcing role during the interview as well as the supportive atmosphere that prevailed during the interviews, which gave students an over-confident self-perception about their performances.

9.9 "Dentist's" feedback in terms of topics addressed

(Table 52 - Chapter 8, section 8.2.6.4)

Both male and female students rated the importance of the receptive topics addressed during the lecture as rather important (4.27 and 4.25 on a scale of 5, respectively). As the curriculum is outcomes-based, it is an indication that students felt comfortable with the content of the curriculum and as a result were able to identify with the outcomes required to be competitive in an emerging South African dental market.

9.10 Appropriateness of teaching methods

(Table 53 - Chapter 8, section 8.2.6.5)

Both male and female students rated the appropriateness of the teaching strategies rather high - average scores of 4.18 and 4.26 on a scale of 5, respectively.

Students rated this course in communication skills teaching highly in terms of its perceived educational value, relevance and enjoyment. Such a favourable rating is consistent with previous studies of communication skills programs in dentistry (6; 92; 107; 130; 131; 132; 133). Students' positive evaluations may be as a result of the following:

- The methodology followed - especially the skills-based, experiential teaching approach - facilitates students' reflection on their learning experiences.
- By experiencing the role of "dentist" and "patient", students' experiential learning processes were enhanced.
- Self-evaluation, peer evaluation and evaluation by the SP, enhanced the experiential learning process and ensured positive reinforcement of the message as well as the retention of skills.
- Students gained confidence and expertise as the study progressed, which will hopefully make the transition to the clinical setting with real patients easier.
- A realistic, clinically based case study gave students exposure to psychosocial and lifestyle factors relevant to oral disease processes (6; 134).

Relational communication skills development during this course was achieved through role-playing interviews with a SP. Assessment and feedback by the SP by means of an assessment rubric and video feedback enabled each student to do self-reflection. Feedback regarding a student's interpersonal skills needs to be skilfully done (6).

It occurred directly after the interviews (Figure 9 - Steps 2 & 5 - Chapter 6, section 6.2) and took place in a constructive and sensitive way. Furthermore, the gathering of information from the "patient" requires a shift from dentist-centered communication to patient-centered communication (6). This was clearly demonstrated during this research project, when before training (training cycle 1), students tended to focus on the disease process to the exclusion of the patient's "story" (expectations, psychosocial issues and emotions) (Tables 35 - 37; Chapter 8, section 8.2.1.2 - 8.2.1.7). The feedback sessions by means of the video-feedback provided an ideal opportunity to address this tendency among students.

The teaching personnel during the research project involved a lecturer (a dentist) and the SP. It afforded the students a positive experience (Appendix J). This type of team approach exposed students to different areas of expertise during feedback.

Although the majority of students realise the importance of relational communication skills' contribution to the dentist-patient relationship (Figure 11 - Chapter 8, section 8.3), the reality is that the term "communication skills" is perceived as an intrinsic part of an individual's personality, his/her cognitive functioning and social experience (6). Also, it may suggest to students that they will be learning skills that they already possess, or that which is merely common sense or instinctively acquired. Furthermore, the fact that students are often asked to make changes to aspects of their appearance and behaviour that are of a highly personal nature, makes communication skills teaching and training very challenging. As a result, initial resistance and scepticism were addressed by stressing the fact that the term "communication skills" was referring to the dentist-patient interaction. This implies that in professional clinical consultations the expectation of reciprocity and equal sharing of conversation is not the same as in the case of ordinary conversation.

Furthermore, although closed and leading questions are characteristics of everyday conversation, they can be counterproductive in a dental consultation (6). Froelich and Bishop have noted that the ability to communicate skilfully and with purpose rarely occurs as a gift - it is learned (135).

9.11 Most important outcomes of the study

- Third year dental students positively perceived the learning of relational communication skills as a valuable and relevant experience.
- Students also perceived the teaching strategy employed for developing communications skills as appropriate and helpful. (Tables 55 & 60 - Chapter 8, section 8.3).
- The outcomes-based curriculum developed for this study provided a sound foundation for the learning experiences of the students.
- Another positive aspect of this study was the small group size: sixteen groups of four students each and one group of three students. This was in contrast to a study done in Dunedin, New Zealand by Hannah, Millichamp & Ayers (6). Their large group size (four groups of sixteen to seventeen students) may have led to lower ratings of tutor sensitivity to students' concerns, needs and progress than anticipated. They suggested that smaller groups would increase student participation and would enable more individual teaching. However, they suggested that groups should contain a maximum of ten to eleven students.
- Experience gained from this study, however, was that a group of four students seemed to be the ideal size for optimal participation and maximum benefit from lecturer and SP feedback.
- Another area that could be improved in their study according to Hannah, Millichamp & Ayers, related to the manner in which students conducted their videotaped interview sessions (6).
- Each student was asked to perform his/her interview in front of their class mates. Again, experience gained from this study was that students preferred to conduct the interview with the SP in the absence of peers or the lecturer.

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9.12 Conclusion

Chapter 9 described the main trends and patterns in the data. The overall impression is that students benefited from the teaching of relational communication skills in that they gained skills to enhance their interaction with a patient. Furthermore, students developed an understanding of the importance of communication skills in the dentist-patient relationship. They became convinced that a sound dentist-patient relationship resulted in a patient being more receptive to proposed treatment.

Chapter 10 will present the re-planning cycle of the implementation and evaluation phase of the study.

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IMPLICATIONS OF THE DENTAL EDUCATIONAL RESEARCH INTERVENTION

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CHAPTER 10 RE-PLANNING

10.1 Introduction

The re-planning cycle of Phase III of the study comprises reflection on, and recommendations as a result of the implementation and evaluation phase of the study.

- Reflection will be done in terms of the following:
  - Contribution of the study in providing a solution to the research
  - Achievement of the aim and objectives of the study
  - Strengths and limitations of the study.
- Recommendations will be made, in view of the action learning and -research strategy employed during the study, in terms of the following:
  - Development of a curriculum in relational communication skills
  - Recommended teaching strategy to follow
  - Considerations for implementing a curriculum in relational communication skills in South African dental schools
  - Integrating business principles into the traditional clinically- and technique-orientated dental curriculum
  - The future.

10.2 Reflection

10.2.1 Contribution of the study in providing a solution to the research problem

The “Problem statement” presented in Chapter 3 (section 3.1), stated the necessity of converting the low viability, needs-driven culture characteristic of a medical fund culture, into a high viability, demands-driven culture characterised by the selection of comprehensive dentistry by a trusting and loyal patient. Such conversion should be based on the evidence that customer satisfaction is a fundamental driver of customer loyalty in service markets.

Furthermore, the intervention should have a patient-focused or customer relationship management (CRM)-approach enhancing the dentist-patient relationship. Results of the study (Chapter 8) clearly indicate that students' communication skills improved significantly from training cycle 1 to training cycle 2 (Tables 35 & 36 - Chapter 8, section 8.2.1.2 - 8.2.1.5). The adjusted rubric (Table 33 - Chapter 8, section 8.2.1) was the result of a thorough investigation of the construct validity of the original combined rubric (Table 26 - Chapter 5, section 5.2.2) through a series of factor- and item analyses. The adjusted rubric comprises six dimensions, two of which enhance a patient-centered approach by the dentist towards the patient. The Dimension: "Building the relationship" comprises the skills required to convey warmth, interest, respect, empathy and sensitivity towards the patient. The Dimension: "Understanding the patient's perspective" enable the dentist to focus on the psycho-social dimensions (expectations, emotions, chief complaint and psycho-social issues) of the patient. As a result, both these dimensions of the adjusted rubric will, if properly employed, attract a trusting and loyal patient receptive to proposed treatment.

10.2.2 Achievement of the aim and objectives of the study

The aim of the study (Chapter 1, section 1.2) - to develop, implement and evaluate a curriculum for teaching relational communication skills in dentistry - was achieved.

As far as the achievement of the three objectives of the study are concerned (Chapter 1, section 1.3):

10.2.2.1 Develop a cost-effective curriculum in terms of time and human resources

The complex nature of relational communication skills teaching as well as the necessity for repeating or functionalising these skills makes this a challenging objective. However, two lecturers supported by two SPs, will go a long way in teaching relational communication skills to a class of 60 students divided in groups of four students each, over a period of one year (Table 62, below).

10.2.2.2 Implement the curriculum

The curriculum was effectively implemented as presented in Figure 9 (Chapter 6, section 6.2).

10.2.2.3 Evaluate the curriculum in terms of its relevance and appropriateness

The curriculum was rated as being relevant and appropriate by the students (Tables 52 & 53 - Chapter 8, section 8.2.6.4 & 8.2.6.5). The average scores for male and female students were 4.27 and 4.25 respectively on a scale of 5.

10.2.3 Strengths and limitations of the study

Among the strengths of the study are:

- The large number of participants (n = 67)
- The small sizes of the groups of students (16 groups of four students each and one group of three students)
- The standardised teaching method (rated 4.18 and 4.26 on a scale of 5 by male and female students, respectively)
- The design of the study in a pre- and post-training cycle.

A limitation of the study might be the reliance on subjective responses by the SP and students. However, the researcher is convinced that that by far the majority of responses - both qualitative and quantitative - are genuine and reliable responses by both the SP and students.

10.3 Recommendations

10.3.1 Development of a curriculum in relational communication skills

As was discussed in chapter 7 (section 7.5), the construct validity of the combined rubric (Table 26 - Chapter 5, section 5.2.2; Appendix A), was investigated through a series of factor- and item-analyses. This investigation resulted in an adjusted rubric (Table 33 - Chapter 8, section 8.2.1; Appendix B). As was illustrated in Figure 8 (Chapter 5, section 5.2), outcomes essential for the dentist to be competitive in the emerging South African dental market should be derived from research-based evidence. As a result, the adjusted rubric (Table 33) - as it provides research-based evidence - is recommended for use in determining those specific outcomes and sub-outcomes regarded as essential for a dentist to be competitive in the emerging South African dental market. These outcomes and sub-outcomes are presented in Table 61, below. It is recommended that the curriculum in relational communication skills be derived from these outcomes.

The curriculum should be structured according to the required SAQA format in terms of a purpose, embedded knowledge and assessment criteria and presented to the students as a study guide (Appendix C). Adjustments to the content of the curriculum and teaching strategy, should be made through a process of action learning and -research (Figure 13, below).

Table 61 Essential outcomes for the dentist to be competitive in the emerging South African dental market (derived from Table 33)

Specific outcome	Sub-outcome
1. Opening the interview	• Greets the patient • Introduces self • Obtains the patient's name
2. Structuring the interview	• Negotiates an agenda for consultation • Encourages patient to give history of chief complaint • Picks up verbal cues (patient's need to contribute information/ask questions; information overload; distress) • Picks up non-verbal cues (patient's need to contribute information/ask questions; information overload; distress) • Progresses from one section to another using transitional statement (includes rationale for next section)
3. Understanding the patient's perspective	• Attends to physical comfort (here and throughout interview) • Determines patient's expectations regarding each problem • Encourages expressions of feelings • Uses open questioning technique • Uses closed questioning techniques • Facilitates patient's responses (use of encouragement, silence, repetition, paraphrasing, interpretation) • Listens attentively (no interruptions; time for patient to think before answering) • Clarifies patient's statements which are vague and need amplification • Summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted • Encourages patient to contribute ideas/suggestions/preferences/beliefs
4. Sharing information	• Provides information (procedures; processes; benefits & advantages; value & purpose) • Discusses options • Discusses consequences of no action • Shares own thoughts; ideas/dilemmas/thought processes • Elicits patient's understanding about plans and treatments • Takes patient's lifestyle, beliefs, cultural background and abilities into consideration • Asks about patient's support network for decision-making
5. Reaching an agreement on problems and plans	• Attends to timing • Reading, writing, use of computer do not interfere with dialogue/rapport • Confirms patient's problem • Obtains patients' view of need for action (perceived benefits) • Accepts legitimacy of patient's views/beliefs (non-judgmental) • Negotiates mutually acceptable plan (encourages patient to make choices; addresses concerns) • Encourages patient to be involved in implementing plans (to take responsibility and be self-reliant) • Uses easily understood language (avoids or adequately explains jargon) • Contracts with patient regarding next step(s) for patient and dentist • Summarises session briefly
6. Building a relationship	• Demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice) • Demonstrates interest • Demonstrates respect • Communicates warmth • Bonds with the patient • Shows empathy with patient • Deals sensitively with embarrassing and disturbing topics

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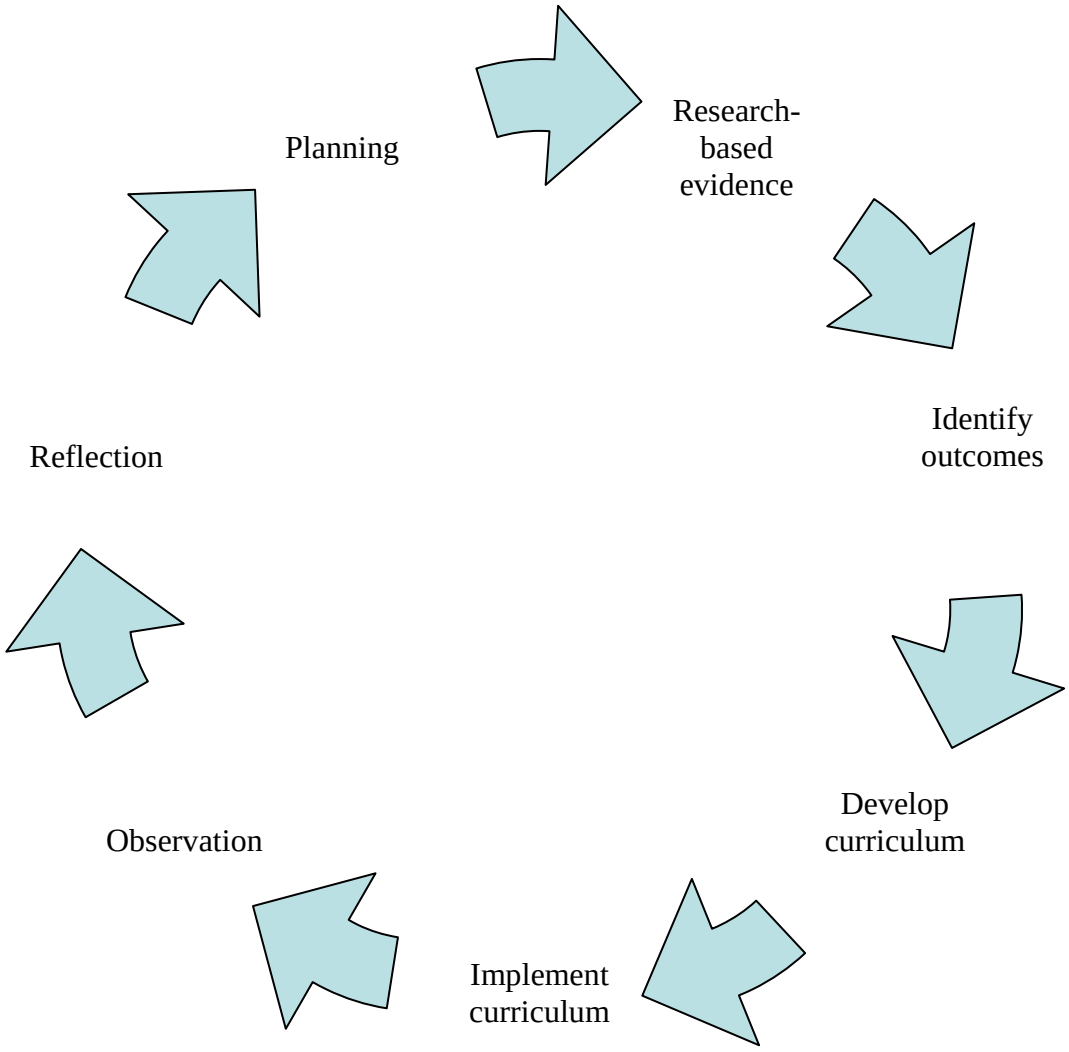

Figure 13 Recommended process of curriculum development in relational communication skills

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10.3.2 Recommended teaching strategy

Table 62, below illustrates the teaching strategy recommended to develop undergraduate dental students' relational communication skills. It should comprise the following three strategies (ATF-strategy):

- **A**ffectively stimulate students
- **T**heoretical input
- **F**unctionalisation of relational communication skills.

Table 62 Recommended teaching strategy as a result of action learning and -research (ATF-strategy)

Semester	Teaching strategy	Objective/ rationale	Session	Teaching method	Teaching principles
1	Phase 1: Affectively stimulate students	Allow students to "experience the experience"	1	• Students to be divided in small groups of four students • Each student role-plays an interview with peer* by means of a clinical case study.	• Groups of four students each • A systematic teaching approach (see teaching method) • The focus should be more on experiential learning by students than didactic teaching by lecturer • Role-play with peers should be followed by role-play with a SP (see teaching method) • Video-recordings of students' interviews with peers & SP • Transparent assessment by means of an assessment rubric and video feedback • A credible SP
	Phase 2: Theoretical input	Discuss rationale, evidence, cognitive aspects and communication skills required	2	• One-hour orientation lecture explaining the rationale and evidence from literature supporting communication skills training and teaching. • Each student issued with a copy of study guide • Video demonstration of ideal interview (7 minutes) • Discussing the rubric as assessment instrument ensuring transparency.	
	Phase 3: Functionalisation of relational communication skills	Opportunity to practice the skills through experiential learning	3	Each student practices role-play of steps 1-3 of interview with *peers* enhanced by video recording and -feedback.	
			4	Each student practices role-play of steps 4-6 of interview with *peers* enhanced by video recording and -feedback.	
2			5 - 8	Each student practices role-play of steps 1- 6 of interview with *SP* enhanced by video recording and -feedback. Rubric employed as assessment instrument.	

The abovementioned recommended teaching approach is based on (i) evidence derived from the literature and (ii) action learning and -research experience gained during the study. Specific teaching principles and -methods should be employed in order to achieve optimal educational benefits. The literature refers to the lack of an experiential teaching approach in dental schools (Chapter 4, sections 4.15 & 4.16). Research suggests that effective teaching in interpersonal communication skills should be continuous and should gradually increase in complexity as students progress through the curriculum (93). Teaching in pre-clinical and clinical settings should be complementary. Many U.S. and Canadian dental schools failed to provide students with gradual exposure to communication, building from basic principles to complex concepts such as patient education/consultation and managing difficult patients (93). Without the foundation of communication theory as well as skills presented in earlier years, it seems unlikely that students could truly grasp such complex material. A notable finding in these schools is that students' interviews with simulated patients and other active learning methods are used less in dental curricula than in medical schools (93). This study will hopefully initiate a change to this culture in South African dental schools.

During active learning a student interactively participates in learning activities. Active practice is necessary to learn communication skills (93). One of the advantages in applying this methodology with simulated patients is that the simulated patient can give feedback from the patient's point of view. Vannette *et al*., (136) found that simulated patients' feedback out-performed that of academic staff in effecting changes in students' interviewing skills. Since the purpose of education is to provide students with appropriate skills, the lecture-only approach used in many schools is not sufficient.

Table 56 (Chapter 8, section 8.3) provides a summary of students' feedback to the question: "What are the most important things you have learned from the lectures?" Students' feedback confirms their acceptance of the rationale and evidence supporting communication skills teaching and they are prepared to deal with it in a practical way. Students' inputs with regard to communication skills teaching are essential - especially as the project will be repeated within an action learning and -research paradigm. From these inputs it was clear that students required more practice as well as interactions with different patients (not only with the SP).

In view of the above and given the complex nature of relational communication skills teaching, the general lack of awareness of the unique nature of relational communication skills in clinical settings and the fact that behavioral change which is lasting requires numerous opportunities to practice and to undergo continual reinforcement, the researcher became convinced that students should first be affectively stimulated (for example to experience the experience) before introduced to the theoretical part of communication skills teaching. Following the theoretical input, students should have numerous opportunities to practise newly acquired communication skills.

Previous research indicated that, for many dental schools in the United Kingdom and the United States, communication skills training involved didactic teaching practices and few opportunities for in-vivo practices (93); (94). However, this study confirms that skills, attitudes and knowledge can be discussed, lectured and practised in the classroom, but communication skills develop with practice, feedback and repetitive performance (Table 57 - Chapter 8, section 8.3) (129).

The ATF-teaching strategy is an attempt to ensure the attainment of educational benefits which are a function of students' perceptions of their learning experiences as relevant, pleasant and adding value to their training.

These teaching principles and -methods include the following:

- Active learning through role-play with peers* followed by role-play with SP
- Performance-orientated assessment by means of an assessment rubric
- Effective demonstration of an interview in digestible chunks
- Small groups of four students each
- Constructive feedback
- Supportive learning atmosphere
- Video-recordings and -feedback of students' interviews
- Reflective self-assessment
- Repetitive practice.

* Interviews with peers have advantages as well as disadvantages. It is the ideal way to "break the ice" initially. Students feel more relaxed and not too intimidated by being video-recorded. Initial skepticism of relational communication skills teaching could be due to a lack of knowledge about the specific components thereof. However, the disadvantage of peer-interviewing is that peers know each other too well and as a result find it difficult to experience the peer as a "real" patient.

These teaching principles and -methods are supported by evidence from the literature (6; 23; 76; 93).

Students' confidence to interact in a relaxed way with the "patient" was enhanced by role-playing a structured interview (Table 58 - Chapter 8, section 8.4). It is anticipated that the recommended ATF-teaching strategy will ensure a smooth transition to students' interviews with real patients during their clinical years.

10.3.3 Considerations for implementing a curriculum in relational communication skills in South African dental schools

The future South African dentist must possess the necessary skills to deal with patients' changing expectations and socio-economic realities. The future South African dentist must have the ability not only to treat dental diseases, but also to interact with a human being carrying high expectations, hopes, biases and an increasing array of information. In today's environment, relational communication skills are equally as important as clinical skills (2) (Table 2 - Chapter 1, section 1.1).

As far as the future with regard to relational communication skills teaching in South African dental schools is concerned, the following suggestions should be considered:

- Dental schools should be encouraged to embrace the concept of relational communication skills training and to find adequate time and resources in order to do justice to a module in relational communications skills. (This could be achieved by using the pressure from dental professional bodies and institutions).
- Communication skills teaching should become part of the curriculum of each dental school in SA and should be based on the most recent research literature (6).
- A strong argument in favour of a formal curriculum in communication skills is that such skills actually improve learners' clinical performance. The prospect of improved clinical performance would interest doubters who otherwise view communication skills as an add-on extra of little clinical benefit (74).
- Without the active backing of deans of the institutions and managers of programmes, worthwhile change will not be achieved.

- Dental schools are moving from a traditional- to a problem-based curriculum, which offers considerable overlap with communication skills training methods and provides an ideal opportunity to include a curriculum in relational communication skills.
- Communication needs to be an integral part of the dental curriculum instead of being divorced from "real dentistry" and taught in a separate, self-contained course. It is essential to integrate all four areas of comprehensive dental practice which together determine clinical competence of a student, namely, knowledge, communication skills, problem solving and physical examination (74).
- It should be formally structured and organised and presented in a helical rather than a linear approach. Neither a once-off module nor sequential modules are adequate. Students should be allowed to revisit areas previously covered (74).
- Communication skills teaching should focus on all six dimensions of the dentist-patient interview (Table 33 - Chapter 8, section 8.2.1). Active practice with simulated patients is essential to learn communication skills (93).
- Communication skills teaching should be presented in the earlier years of the curriculum.
- The effectiveness of a communication skills teaching programme should be evaluated through educational research.
- Students need to gain gradual experience of the dentist-patient interview: first with peers followed by SPs before they are faced with real patients. In addition a transition from basic principles to complex concepts such as patient education/consultation is necessary (93).
- Assessment often drives a student's learning. Unless a subject is assessed, students may not perceive it as an essential requirement for clinical practice but rather as a "soft" subject of secondary importance (74). This makes the development of an assessment rubric, as was employed during this study, essential.

- Teaching of relational communication skills is labour-intensive and requires one facilitator for every four learners. As a result, facilitator training must be considered in addition to relational communication skills teaching for students. Furthermore, good communication skills teaching is an ongoing process. As the resource implications of such a curriculum and teaching programme are significant, development of the curriculum must take into account the existing limited human-, time- and financial resources and attempt to remedy the situation accordingly (137).
- In order to ensure optimal learning and educational benefits, the curriculum should be implemented in a safe, supportive and encouraging environment (74). The facilitator and SP will play a significant role in this regard!

10.3.4 Integrating business principles into the traditional clinically- and technique-orientated dental curriculum

Given the business-like nature of a private dental practice, training in relational communication skills will empower the dentist to achieve personal, professional and financial success based on sound business, financial and marketing principles. However, dental students should realise *early* in their careers - in dental school - the importance of developing and mastering sound relational communication skills with patients. If students are not taught proper relational communication skills in dental school, they may develop incorrect habits and pay for their mistakes later in their professional careers (1).

The dentist's attitude is most important when communicating with patients and therefore should dental students' clinical mindset be reinforced with "softer" skills such as:

- Building strong relationships with patients through communication skills.
- Discovering a patient's "story" in terms of his/her expectations, psychosocial concerns and emotions.
- Skills in presenting clear and effective treatment plans that will enhance a demand for comprehensive dentistry.
- Integrating business-, management- and leadership skills, into the traditional clinically- and technique-orientated dental curriculum.

A competitive dentist (for example one with a competitive edge) is perceived by the patient to be *different and unique* in his/her relationship with the patient. As was illustrated in Chapter 4 (section 4.3), customer satisfaction is a prerequisite for customer loyalty. As a result, curricular outcomes of the traditional clinically- and technique-orientated dental curriculum must include business principles such as customer relationship management (CRM), competitiveness and differentiation. The greater the patient's satisfaction and as a result his/her loyalty towards that dentist, the greater the likelihood that the patient will be retained (32).

10.3.5 The future

As far as the future is concerned, the following must needs be mentioned: in order to meet the increasingly competitive dental market in SA, a course in relational communication skills teaching should provide experience which will (138):

- Develop increased awareness, sensitivity and perceptions of oneself and others.
- Enhance skills and attitudes conducive to good human relations and awareness of the importance of those factors to the South African dentist of the 21st century.

- Develop investigative skills and attitudes which will help the dentist to identify problems of managing human resources in both a dental practice and the community at large.
- Provide an opportunity for students to relate to the problem at hand and to learn from each other through active participation in small group sessions.

10.4 Conclusion

South African dentists will need to be able to increase the number of patients who have a demand for comprehensive dentistry in order to ensure a viable career in dentistry. Consequently, the dentist must be equipped with relational communication skills that will attract a loyal, dentally educated patient. Furthermore, the future South African dentist must be equipped with skills both to elicit and to listen to patients' "stories" (for example their expectations, psychosocial issues and emotions). Finally, the future South African dentist must be able to effectively and clearly present comprehensive treatment plans.

The emerging South African dental market necessitates more effective dentist-patient interactions that will result in improved outcomes in terms of patient- and dentist satisfaction, patient loyalty and -retention and compliance with proposed treatment plans. More effective dentist-patient interactions in terms of accuracy, efficiency, respect, trust, warmth and empathy will result in collaboration and reduced conflicts and complaints between dentist and patient.

As educators, our job does not stop with developing curricula comprising a purpose statement, embedded knowledge, assessment criteria or teaching strategies. We must rather look at the context and culture in which we teach, and make adjustments to that context if we are to be successful. As education researchers, we need to focus more attention on understanding and developing methods for intervention in the all important "hidden curriculum."

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The latter may be defined as “commonly held understandings, customs, rituals and all other aspects so often taken-for-granted” (139).

As educators, it is our duty to intervene in the life-space that we call dental education.

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Appendix A

Combined Rubric for assessment of "dentist's" communication skills

(SP's evaluation of "dentist's" communication skills)

Indicate ratings by drawing a circle (O) around the appropriate number in a shaded box

Respondent number V1 [ ] 1

Training cycle V2 [ ] 4

Gender (Male = **1** and Female = **2**) V3 [ ] 5

A. Opening the interview

1. Greets the patient

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V4	[ ] 6

2. Obtains the patient's name

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V5	[ ] 7

3. Introduces self

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V6	[ ] 8

4. Attends to physical comfort (here and throughout interview)

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V7	[ ] 9

5. Identifies and confirms patient's problem

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V8	[ ] 10

B. Gathering information

(i) Structuring the consultation

6. Negotiates an agenda for consultation

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V9	[ ] 11

7. Progresses from one section to another using transitional statements (includes rationale for next section)

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V10	[ ] 12

8. Attends to timing

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V11		13

(ii) *Exploration of problems*

9. Encourages patient to give history of chief complaint

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V12		14

10. Uses open questioning technique(s)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V13		15

11. Uses closed questioning technique(s)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V14		16

12. Listens attentively (no interruptions; time for patient to think before answering)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V15		17

13. Facilitates patient's responses (use of encouragement, silence, repetition, paraphrasing, interpretation)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V16		18

14. Clarifies patient's statements which are vague and need amplification

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V17		19

15. Summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V18		20

C. **Understanding the patient's perspective**

16. Determines patient's expectations regarding each problem

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V19		21

17. Picks up verbal cues (patient's need to contribute information/ask questions; information overload; distress)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V20		22

18. Picks up non-verbal cues (patient's need to contribute information/ask questions; information overload; distress)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V21		23

19. Encourages expressions of feelings

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V22		24

20. Encourages patient to contribute ideas/suggestions/preferences/beliefs

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V23		25

21. Accepts legitimacy of patient's views/beliefs (non-judgmental)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V24		26

D. Sharing information

22. Discusses options

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V25		27

23. Discusses consequences of no action

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V26		28

24. Provides information (procedures; processes; benefits & advantages; value & purpose)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V27		29

25. Uses easily understood language (avoids or adequately explains jargon)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V28		30

26. Shares own thoughts; ideas/dilemmas/thought processes

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V29		31

E. Reaching an agreement on problems and plans

27. Elicits patient's understanding about plans and treatments

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V30	32

28. Obtains patients' view of need for action (perceived benefits)

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V31	33

29. Takes patient's lifestyle, beliefs, cultural background and abilities into consideration

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V32	34

30. Negotiates mutually acceptable plan(s) (encourages patient to make choices; addresses concerns)

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V33	35

31. Encourages patient to be involved in implementing plan(s) (to take responsibility and be self-reliant)

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V34	36

32. Asks about patient's support network for decision-making

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V35	37

F. Providing closure

33. Summarises session briefly

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V36	38

34. Contracts with patient regarding next step(s) for patient and dentist

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V37	39

35. Explains possible unexpected outcomes and safety-nets appropriately

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V38	40

G. Building a relationship

36. Demonstrates interest

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V39	41

37. Demonstrates respect

Not employed	Partially employed	Acceptably employed	Fully employed		
1	**2**	**3**	**4**	V40	42

38. Communicates warmth

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V41		43

39. Demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V42		44

40. Reading, writing, use of computer do not interfere with dialogue/rapport

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V43		4544

41. Shows empathy with patient

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V44		46

42. Deals sensitively with embarrassing and disturbing topics

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V45		47

43. Bonds with the patient

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V46		48

Appendix B

Adjusted Rubric for assessment of "dentist's" communication skills

Indicate ratings by drawing a circle (O) around the appropriate number in a shaded box

Respondent number V1 [ ] 1

Training cycle V2 [ ] 4

Gender (Male = 1 and Female = 2) V3 [ ] 5

A. Opening the interview

1. Greets the patient

Not employed	Partially employed	Acceptably employed	Fully employed
1	**2**	**3**	**4**

V4 [ ] 6

2. Introduces self

Not employed	Partially employed	Acceptably employed	Fully employed
1	**2**	**3**	**4**

V5 [ ] 7

3. Obtains the patient's name

Not employed	Partially employed	Acceptably employed	Fully employed
1	**2**	**3**	**4**

V6 [ ] 8

B. Structuring the consultation

4. Negotiates an agenda for consultation

Not employed	Partially employed	Acceptably employed	Fully employed
1	**2**	**3**	**4**

V7 [ ] 9

5. Encourages patient to give history of chief complaint

Not employed	Partially employed	Acceptably employed	Fully employed
1	**2**	**3**	**4**

V8 [ ] 10

6. Picks up verbal cues (patient's need to contribute information/ask questions; information overload; distress)

Not employed	Partially employed	Acceptably employed	Fully employed
1	**2**	**3**	**4**

V9 [ ] 11

7. Picks up non-verbal cues (patient's need to contribute information/ask questions; information overload; distress)

Not employed	Partially employed	Acceptably employed	Fully employed
1	**2**	**3**	**4**

V10 [ ] 12

8. Progresses from one section to another using transitional statements (includes rationale for next section)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V11		13

C. Understanding the patient's perspective

9. Attends to physical comfort (here and throughout interview)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V12		14

10. Determines patient's expectations regarding each problem

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V13		15

11. Encourages expressions of feelings

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V14		16

12. Uses open questioning technique

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V15		17

13. Uses closed questioning techniques

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V16		18

14. Facilitates patient's responses (use of encouragement, silence, repetition, paraphrasing, interpretation)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V17		19

15. Listens attentively (no interruptions; time for patient to think before answering)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V18		20

16. Clarifies patient's statements which are vague and need amplification

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V19		21

17. Summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V20		22

18. Encourages patient to contribute ideas/suggestions/preferences/beliefs

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V21		23

D. Sharing information

19. Provides information (procedures; processes; benefits & advantages; value & purpose)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V22		24

20. Discusses options

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V23		25

21. Discusses consequences of no action

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V24		26

22. Shares own thoughts; ideas/dilemmas/thought processes

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V25		27

23. Elicits patient's understanding about plans and treatments

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V26		28

24. Takes patient's lifestyle, beliefs, cultural background and abilities into consideration

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V27		29

25. Asks about patient's support network for decision-making

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V28		30

E. Reaching an agreement on problems and plans

26. Attends to timing

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V29		31

27. Reading, writing, use of computer do not interfere with dialogue/rapport

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V30		32

28. Confirms patient's problem

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V31		33

29. Obtains patients' view of need for action (perceived benefits)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V32		34

30. Accepts legitimacy of patient's views/beliefs (non-judgmental)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V33		35

31. Negotiates mutually acceptable plan (encourages patient to make choices; addresses concerns)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V34		36

32. Encourages patient to be involved in implementing plans (to take responsibility and be self-reliant)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V35		37

33. Uses easily understood language (avoids or adequately explains jargon)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V36		38

34. Contracts with patient regarding next step(s) for patient and dentist

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V37		39

35. Summarises session briefly

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V38		40

F. Building a relationship

36. Demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice)

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V39		41

37. Demonstrates interest

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V40		42

38. Demonstrates respect

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V41		43

39. Communicates warmth

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V42		44

40. Bonds with the patient

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V43		45

41. Shows empathy with patient

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V44		46

42. Deals sensitively with embarrassing and disturbing topics

Not employed	Partially employed	Acceptably employed	Fully employed			
1	**2**	**3**	**4**	V45		47

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Appendix C

Study guide

I. Purpose

The purpose of a curriculum in relational communication skills is to enable undergraduate dental students to:

- Acquire relationship-building skills;
- Interview patients comfortably;
- Focus on psychosocial effects of the patient's dental disease (chief complaint);
- Establish a relationship with the patient;
- Communicate with patient empathically;
- Inform patient adequately (share information);
- Employ a patient-centered, open approach;
- Encourage patients to tell their story or voice their concern(s);
- Use attentive listening and, open, rather than closed questions;
- Encourage the patient to disclose significant concerns;
- Discover the full range of issues that the patient wants to discuss;
- Encourage the patient to ask rather more, than too few questions in order to obtain more information;
- Give individualised attention by understanding each patient as a person with individual concerns and wishes;
- Involve patients as partners which will ensure that patients adhere to proposed treatment plans;
- Discover patients' expectations;
- Develop understanding of oral disease(s);
- Inform patient of treatment rationales;
- Avoid a breakdown in communication that can lead to malpractice litigation;
- Create a demand for the selection of comprehensive dental care by patients;

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- Increase the number of patients who are dentally educated;
- Increase loyalty among patients towards the dentist and dental team;
- Improve the profitability of a dental practice.

II. Embedded knowledge

The following are the topics that will form part of the content of the curriculum and serve as rationale and evidence for communication skills teaching:

- Rationale for communication skills teaching and learning
- Communication: definition and content
- Dimensions of buyer-seller relationships
- What is trust?
- Dimensions of trust
- Trust in the patient-physician relationship
- The patient-physician relationship
- The therapeutic relationship
- Characteristics of relationship-centered care
- Communication elements as indicators of relationship-centered care
- The dentist-patient relationship
- Connected relationships
- Disconnected relationships
- The essential elements (tasks) of dentist-patient communication
- Pre-examination interview
- Clinical examination
- Treatment plan presentation
- Treatment plan acceptance
- Discussing money

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III. Assessment criteria

Assessment criteria provide guidance to the student in achieving the required outcomes. The essential outcomes (Table 58) for the dentist to be competitive in the emerging South African dental market, acted as template and model for the development of the assessment criteria (standards) for each of the specific outcomes and sub-outcomes as listed below:

A. Opening the interview

1. Patient is greeted in a warm, respectful and enthusiastic way
2. Dentist (students) introduces himself to the patient
3. The patient's name is obtained that will ensure interest in the patient

B. Structuring the interview

4. An agenda is negotiated in terms of time available and issues to be discussed
5. Patient is encouraged to give history of chief complaint
6. Dentist (student) picks up verbal cues to ensure a caring attitude (patient's need to contribute information/ask questions; information overload; distress)
7. Dentist (student) picks up non-verbal cues to ensure a caring attitude (patient's need to contribute information/ask questions; information overload; distress)
8. Dentist (student) progresses from one section to another using transitional statements (includes rationale for next section)

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C. Understanding the patient's perspective

9. Dentist (student) attends to patient's physical comfort (here and throughout interview)
10. Patient's expectations regarding each problem are determined in an attentive manner
11. Patient is encouraged to express his feelings through (an) emotionally focused question(s)
12. Open questioning techniques are used to elicit patient's "story" (physical symptoms, psychosocial context, emotions)
13. Closed questioning techniques are used to elicit patient's "story" (expectations, physical symptoms, psychosocial context and emotions)
14. Patient's responses are facilitated through the use of encouragement, silence, repetition, paraphrasing, interpretation
15. Dentist (student) listens attentively to patient (no interruptions; time for patient to think before answering)
16. Dentist (student) clarifies patient's statements, which are vague and need amplification
17. Dentist (student) summarises at end of a specific line of inquiry to verify own interpretation of what patient has said to ensure no important data was omitted
18. Dentist (student) encourages patient to contribute ideas/suggestions/ preferences/ beliefs

D. Sharing information

19. Dentist (student) provides information with regard to proposed treatment (procedures; processes; benefits & advantages; value & purpose)
20. Dentist (student) discusses options
21. Dentist (student) discusses consequences of no action
22. Patient shares own thoughts; ideas/dilemmas/thought processes

23. Dentist (student) elicits patient's understanding about plans and treatments
24. Dentist (student) takes patient's lifestyle, beliefs, cultural background and abilities into consideration
25. Dentist (student) asks about patient's support network for decision-making

E. Reaching an agreement on problems and plans

26. Dentist (student) attends to timing
27. Dentist (student) ensures that reading, writing, use of computer does not interfere with dialogue/rapport with patient
28. Dentist (student) confirms patient's problem
29. Dentist (student) obtains patients' view of need for action (perceived benefits)
30. Dentist (student) accepts legitimacy of patient's views/beliefs (non-judgmental)
31. Dentist (student) negotiates mutually acceptable plan (encourages patient to make choices; addresses concerns)
32. Dentist (student) encourages patient to be involved in implementing plans (to take responsibility and be self-reliant)
33. Dentist (student) uses easily understood language (avoids or adequately explains jargon)
34. Dentist (student) contracts with patient regarding next step(s) for patient and dentist
35. Dentist (student) summarises session briefly

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F. Building a relationship

36. Dentist (student) demonstrates appropriate non-verbal behaviour (for example eye contact, posture & position, movement, facial expression, use of voice)
37. Dentist (student) demonstrates interest in the patient
38. Dentist (student) demonstrates respect towards the patient
39. Dentist (student) communicates warmth towards the patient
40. Dentist (student) bonds with the patient
41. Dentist (student) shows empathy with patient
42. Dentist (student) deals sensitively with embarrassing and disturbing topics.

IV. Content

The content is evidence-based and as result will change continuously. Therefore it is not included in Appendix C. Apart from the topics included under “Embedded knowledge” which comprise the “Content” of the curriculum, a learning instrument was also compiled which combines the specific outcomes and sub-outcomes with “What the student needs to do” and “Criteria for a patient-focused approach”. The aim with this learning instrument is to establish a link between the theory and practice in order to enable the student to “see” the link between the outcomes he/she needs to achieve and a patient-focused approach during the interview with the patient.

Appendix D

Case study

A case study utilised as a learning instrument to facilitate problem-based/orientated learning during communication skills teaching

Background

You have qualified 6 months ago as dentist at the University of Pretoria.

You have joined a practice and treat patients from Monday to Friday from 07h30 to 16h30, as well as every second Saturday from 08h00 to 13h00.

Patient's history

- She last visited a dentist 2 years ago and was referred to you by friends of her.
- The patient decided not to return for treatment at her previous dentist because he started preparing a cavity on tooth 36 (which was not anaesthetised) instead of tooth 46 (which was anaesthetised). Her perception was that the dentist was rushed and was not focused on the treatment to be performed.
- The patient does not belong to a medical aid.

Main complaint

Your patient does not have a specific complaint, except for a dull pain in the left lower jaw. She requested you to do a complete examination of the mouth and teeth.

Clinical examination

You have examined the patient during the consultation appointment and found the following:

1. Tooth 38 is impacted and partially erupted. Removal of the tooth is indicated. Failure to remove the tooth will lead to infection of the gum (gingiva) around the tooth, which will cause serious discomfort and pain for the patient. Cost to remove the tooth surgically (under local anaesthetic): R600;
2. Tooth 14 has a carious lesion. The tooth will have to be restored with amalgam (R90) or a tooth coloured restoration (R200);
3. Tooth 21's restoration is defective – replacement is indicated (R250);
4. Tooth 11 is discoloured. Bleaching of the tooth will improve the tooth aesthetically (R350). (Since the patient is female, aesthetics is probably a major concern to the patient);
5. Bleeding gingiva. Teeth need to be scaled and polished (R120). Oral hygiene instruction is also indicated (R30). If the condition persists, it will affect the supporting tissue, which eventually can lead to loss of the teeth.

Medical history

Nothing abnormally was found regarding the medical history - the patient is healthy. The patient is not using any medication.

Your task

1st part of the interview: Suppose you meet the patient for the first time. Establish a relationship with the patient by focusing on Tasks 1, 2, 3 and 6 of the interview.

2nd part of the interview: Suppose that the patient returns for the post-examination appointment. Discuss the above mentioned treatment plan with the patient (diagnosis, treatment options, priorities, cost, etc) by focusing on Tasks 4, 5 & 6 of the interview.

You must also ensure that you interact with the patient in such a way that the patient not only will develop trust in you as dentist, but will also be prepared to have a long-term relationship with you as her dentist.

Explanatory notes

Tooth 38 is the wisdom tooth in the left lower jaw. "Impacted" means the tooth is unable to erupt fully due to the presence of bone in its path of eruption. The "roof of gingiva" covering the tooth makes the effective removal of plaque difficult and therefore the infection, pain and discomfort will persist.

Tooth 14 is the first premolar at the upper right side of the mouth. The carious lesion will soon make it difficult for the patient to eat/drink sweet or cold stuff. The lesion is on the biting surface of the tooth.

The amalgam filling is the "grey/silver" filling present in the majority of patients' molar teeth. A tooth-coloured filling has a white colour. Amalgam has been used in the past as the filling material of choice in molar and premolar teeth, but since aesthetic dentistry has become an important treatment option, many patients prefer the so called "white restoration."

Tooth 21 (incisor) is situated in the upper jaw, immediately left of the midline. The restoration is defective since the bonding between tooth and restoration is not optimal. (The role of the previous dentist in the failure of the filling is uncertain. Failure of the filling is probably due to technical factors).

Tooth 11 is like the 21 in the upper jaw, immediately right of the midline. Bleaching is the process of whitening a tooth involving the dentine and enamel of the tooth.

The bleeding gums (gingiva) appear throughout the mouth. It is caused by an inflammatory process in reaction to counter the infection caused by plaque.

Oral hygiene instruction is to explain the causes and development of plaque as well as to demonstrate the correct brushing technique(s) to the patient. The purpose is to enable the patient to maintain proper oral hygiene.

Supporting tissue (bone, ligaments) surrounds the tooth and ensures proper anchorage of the tooth in the bone. Destruction of the supporting tissue by plaque, will eventually lead to loss of the teeth.

Additional information

1. Patient's chief complaint	2. Patient's "story" (physical symptoms, psychosocial context, emotions)	3. Diagnosis
▪ A dull, continuous pain in left, lower jaw. ▪ Wants an examination of the mouth and teeth.	▪ *Physical symptoms:* ▪ A dull, continuous pain in left, lower jaw, for the past 2 weeks. ▪ Pain is deteriorating. ▪ Gets worse at night.	▪ Impacted tooth ▪ Caries ▪ Discoloration ▪ Gingivitis
	▪ *Psychosocial context:* ▪ Concerned that she might loose her job, because she has just started a new job and had to take 4 days sick leave because of the pain. ▪ Her husband has lost his job. ▪ She is very busy at work. ▪ She has twin boys – aged 4. ▪ She finds it difficult to cope with the situation and is therefore very tired and stressed.	
	▪ *She is experiencing the following emotions:* ▪ anger ▪ frustration ▪ worry.	

Appendix E

"Patient's" feedback

(SP's evaluation of her experience as "patient")

Indicate ratings by drawing a circle (O) around the appropriate number in a shaded box

Form number V1 [ ] 1

Training cycle V2 [ ] 4

Gender (Male = **1** and Female = **2**) V3 [ ] 5

Dear "Patient"

The relationship between dentist and patient is very important to ensure the success of proposed dental treatment. Please give your feedback about your experience as "patient". Your feedback is essential information necessary for us to take corrective steps with regard to the development of dental students' communication skills.

Rate, on a scale of **1** – **5** (where **1** = **Poor/Disagree** and **5** = **Excellent/Agree)**, your **experience** as "**patient**".

Statement	**Rating**							
I have a better understanding of dentistry	**1**	**2**	**3**	**4**	**5**	V4	[ ]	6
I have an improved understanding of my dental health	**1**	**2**	**3**	**4**	**5**	V5	[ ]	7
I have a mental picture of my oral condition	**1**	**2**	**3**	**4**	**5**	V6	[ ]	8
A bonded relationship has been established between me and the "dentist"	**1**	**2**	**3**	**4**	**5**	V7	[ ]	9
I will return for treatment	**1**	**2**	**3**	**4**	**5**	V8	[ ]	10
I have confidence in the "dentist's" skills	**1**	**2**	**3**	**4**	**5**	V9	[ ]	11
I am prepared to accept the proposed treatment plan	**1**	**2**	**3**	**4**	**5**	V10	[ ]	12
I am satisfied with the experience	**1**	**2**	**3**	**4**	**5**	V11	[ ]	13
I am motivated to keep my appointments	**1**	**2**	**3**	**4**	**5**	V12	[ ]	14
I will pay my account promptly	**1**	**2**	**3**	**4**	**5**	V13	[ ]	15

Thank you for your candid and objective feedback

Appendix F

"Dentist's" feedback

(Student's evaluation of his/her experience as "dentist")

(Originally developed questionnaire used in pilot study)

Indicate ratings by drawing a circle (O) around the appropriate number in a shaded box or write your answer into the shaded space provided

Form number V1 [ ] 1

Training cycle V2 [ ] 4

Dear "Dentist"

The relationship between dentist and patient is very important to ensure the success of proposed dental treatment. We would appreciate your feedback about your experience as 'dentist" in communicating with your "patient". Your feedback is essential information necessary for us to take corrective steps with regard to the development of dental students' communication skills.

1. Would you be so kind as to rate your **experience** as "**dentist**" on a scale of **1** – **5** where **1** = **Poor** and **5** = **Excellent**

Statement	**Rating**						
I am comfortable interviewing patients.	**1**	**2**	**3**	**4**	**5**	V3 [ ]	5
I am sensitive to psychosocial aspects of the patient's illness.	**1**	**2**	**3**	**4**	**5**	V4 [ ]	6
I am able to relate to the patient.	**1**	**2**	**3**	**4**	**5**	V5 [ ]	7
I am able to elicit information from the patient.	**1**	**2**	**3**	**4**	**5**	V6 [ ]	8
I am able to communicate empathy.	**1**	**2**	**3**	**4**	**5**	V7 [ ]	9

2. How could **communication skills** contribute to the dentist-patient relationship?

V8 [ ] 10
V9 [ ] 12
V10 [ ] 14

3. Considering your own communication as "**dentist**" today-

a. What would you regard as your **strong points** in terms of your communication skills?

V12 ☐ 18
V13 ☐ 20

b. What aspects of your **communication need further development**?

V15 ☐ 24
V16 ☐ 26

c. How did you **experience** role-playing as a "**dentist**"?

V17 ☐ 28

d. What did you find **most enjoyable** in today's session?

V18 ☐ 30

e. What did you find **least enjoyable** in today's session?

V19 ☐ 32

Thank you for your candid and objective feedback

Appendix G

"Dentist's" feedback

(Student's evaluation of his/her experience as "dentist")

(Adjusted questionnaire: originally developed Appendix F adjusted through a process of triangulation during pilot study. Employed after video recording during step 1 of implementation phase)

Indicate ratings by drawing a circle (O) around the appropriate number in a shaded box or write your answer into the shaded space provided

Form number V1 [ ] 1

Training cycle V2 [ ] 4

Gender (Male = **1** and Female = **2**) V3 [ ] 5

Dear "Dentist"

The relationship between dentist and patient is very important to ensure the success of proposed dental treatment. We would appreciate your feedback about your experience as 'dentist" in communicating with your "patient". Your feedback is essential information necessary for us to take corrective steps with regard to the development of dental students' communication skills.

1. Rate, on a scale of **1** – **5,** (where **1** = **Poor/Disagree** and **5** = **Excellent/Agree),** your **experience** as "**dentist**" for each statement below:

Statement	**Rating**						
I am comfortable interviewing patients	**1**	**2**	**3**	**4**	**5**	V4 [ ]	6
I am sensitive to psychosocial aspects of the patient's illness	**1**	**2**	**3**	**4**	**5**	V5 [ ]	7
I am able to relate to the patient	**1**	**2**	**3**	**4**	**5**	V6 [ ]	8
I am able to elicit information from the patient	**1**	**2**	**3**	**4**	**5**	V7 [ ]	9
I am able to communicate empathy	**1**	**2**	**3**	**4**	**5**	V8 [ ]	10

2a. Rate, on a scale of **1** – **5** (where **1** = **Poor contribution** and **5** = **Excellent contribution**), how **communication skills contribute** to the dentist-patient relationship in respect of ....

Statement	**Rating**								
Enhancing the patient's trust in you as dentist	**1**	**2**	**3**	**4**	**5**	V9		11
Ensuring a relaxed relationship between the patient and you as dentist	**1**	**2**	**3**	**4**	**5**	V10		12
Ensuring a willingness by the patient to share information with you as dentist	**1**	**2**	**3**	**4**	**5**	V11		13
Improving, as dentist, my understanding of the patient's expectations of the dentist-patient relationship	**1**	**2**	**3**	**4**	**5**	V12		14
Ensuring that the patient will return for treatment	**1**	**2**	**3**	**4**	**5**	V13		15
Ensuring that the patient promotes the dental practice	**1**	**2**	**3**	**4**	**5**	V14		16
Ensuring the patient's compliance with the proposed treatment plan	**1**	**2**	**3**	**4**	**5**	V15		17
Personalising the treatment	**1**	**2**	**3**	**4**	**5**	V16		18

2b. Other comments

	V17		19
	V18		21

3a. Consider your own communication as "**dentist**" today-
Rate, on a scale of **1** – **5** (where **1** = **Weak** and **5** = **Strong**) **your communication** in respect of your ....

Statement	**Rating**								
Ability to empathise with the patient	**1**	**2**	**3**	**4**	**5**	V19		23
Ability to explain clearly the diagnosis to the patient	**1**	**2**	**3**	**4**	**5**	V20		24
Ability to elicit information from the patient	**1**	**2**	**3**	**4**	**5**	V21		25
Relaxed way of communicating with the patient	**1**	**2**	**3**	**4**	**5**	V22		26
Ability to make the patient feel at ease	**1**	**2**	**3**	**4**	**5**	V23		27
Ability to communicate in a respectful way with the patient	**1**	**2**	**3**	**4**	**5**	V24		28

3b. Other comments

	V25		29
	V26		31

4a. Consider your own communication as "**dentist**" today-

Rate, on a scale of **1** – **5** (where **1** = **Needs no development** and **5** = **Needs development**), those aspects of **your communication** that **need further development**:

Statement	**Rating**							
My ability to share information with the patient	**1**	**2**	**3**	**4**	**5**	V27		33
My ability to communicate empathy with the patient	**1**	**2**	**3**	**4**	**5**	V28		34
My ability to elicit information from the patient	**1**	**2**	**3**	**4**	**5**	V29		35
My ability to allow the patient to ask questions	**1**	**2**	**3**	**4**	**5**	V30		36
My ability to conduct the interview in a structured way	**1**	**2**	**3**	**4**	**5**	V31		37
My ability to listen attentively	**1**	**2**	**3**	**4**	**5**	V32		38
My skill to make eye contact	**1**	**2**	**3**	**4**	**5**	V33		39
My posture and position as ideal non-verbal behaviour	**1**	**2**	**3**	**4**	**5**	V34		40
My use of facial expressions as ideal non-verbal behaviour	**1**	**2**	**3**	**4**	**5**	V35		41
My use of voice in communication with the patient	**1**	**2**	**3**	**4**	**5**	V36		42

4b. Other comments

	V37		43
	V38		45

5a. Consider your own communication as "**dentist**" today-

Rate, on a scale of **1** - **5** (where **1** = **Not my experience** and **5** = **Definitely my experience**), your **experience** of role-playing as a "**dentist**"?

Statement	**Rating**							
Experience of comfort	**1**	**2**	**3**	**4**	**5**	V39		47
Learning about the patient	**1**	**2**	**3**	**4**	**5**	V40		48
The importance of attentive listening	**1**	**2**	**3**	**4**	**5**	V41		49
Structured way of communicating	**1**	**2**	**3**	**4**	**5**	V42		50
Novel way of learning to communicate with the patient	**1**	**2**	**3**	**4**	**5**	V43		51

5b. Other comments

	V44		52
	V45		54

6a. Consider your own communication as "**dentist**" today-
Rate, on a scale of **1** - **5** (where **1** = **Least enjoyable** and **5** = **Most enjoyable**), how you **experienced** today's session .....

Statement	**Rating**							
In respect of your interaction with the patient	**1**	**2**	**3**	**4**	**5**	V46		56
As a novel learning experience	**1**	**2**	**3**	**4**	**5**	V47		57
As a relevant learning experience	**1**	**2**	**3**	**4**	**5**	V48		58
In respect of your control of the situation	**1**	**2**	**3**	**4**	**5**	V49		59
In terms of being recorded on video	**1**	**2**	**3**	**4**	**5**	V50		60
In respect of **your** perception of the patient's impression of you	**1**	**2**	**3**	**4**	**5**	V51		61
In respect of being **unable** to proceed with treatment	**1**	**2**	**3**	**4**	**5**	V52		62

6b. Other comments

	V53		63
	V54		65

Thank you for your candid and objective feedback

Appendix H

"Dentist's" feedback

(Student's evaluation of his/her experience as "dentist")

(Expanded version of Appendix G in order to obtain additional information about lectures and teaching methods. Employed after video recording during step 4 of implementation phase)

Indicate ratings by drawing a circle (O) around the appropriate number in a shaded box or write your answer into the shaded space provided

Form number V1 [ ] 1

Training cycle V2 [ ] 4

Gender (Male = **1** and Female = **2**) V3 [ ] 5

Dear "Dentist"

The relationship between dentist and patient is very important to ensure the success of proposed dental treatment. We would appreciate your feedback about your experience as 'dentist" in communicating with your "patient". Your feedback is essential information necessary for us to take corrective steps with regard to the development of dental students' communication skills.

1. Rate, on a scale of **1** – **5** (where **1** = **Poor/Disagree** and **5** = **Excellent/Agree),** your **experience** as "**dentist**", for each statement below:

Statement	**Rating**						
I am comfortable interviewing patients	**1**	**2**	**3**	**4**	**5**	V4 [ ]	6
I am sensitive to psychosocial aspects of the patient's illness	**1**	**2**	**3**	**4**	**5**	V5 [ ]	7
I am able to relate to the patient	**1**	**2**	**3**	**4**	**5**	V6 [ ]	8
I am able to elicit information from the patient	**1**	**2**	**3**	**4**	**5**	V7 [ ]	9
I am able to communicate empathy	**1**	**2**	**3**	**4**	**5**	V8 [ ]	10

2a. Rate, on a scale of **1** – **5** (where **1** = **Poor contribution** and **5** = **Excellent contribution**), how **communication skills contribute** to the dentist-patient relationship in respect of ....

Statement	Rating								
enhancing the patient's trust in you as dentist	**1**	**2**	**3**	**4**	**5**	V9		11
ensuring a relaxed relationship between the patient and you as dentist	**1**	**2**	**3**	**4**	**5**	V10		12
ensuring a willingness by the patient to share information with you as dentist	**1**	**2**	**3**	**4**	**5**	V11		13
improving, as dentist, my understanding of the patient's expectations of the dentist-patient relationship	**1**	**2**	**3**	**4**	**5**	V12		14
ensuring that the patient will return for treatment	**1**	**2**	**3**	**4**	**5**	V13		15
ensuring that the patient promotes the dental practice	**1**	**2**	**3**	**4**	**5**	V14		16
ensuring the patient's compliance with the proposed treatment plan	**1**	**2**	**3**	**4**	**5**	V15		17
personalising the treatment	**1**	**2**	**3**	**4**	**5**	V16		18

2b. Other comments

	V17	19
	V18	21

3a. Consider your own communication as "**dentist**" today-

Rate, on a scale of **1** – **5** (where **1** = **Weak** and **5** = **Strong**) **your communication** in respect of your ....

Statement	Rating								
ability to empathise with the patient	**1**	**2**	**3**	**4**	**5**	V19		23
ability to explain clearly the diagnosis to the patient	**1**	**2**	**3**	**4**	**5**	V20		24
ability to elicit information from the patient	**1**	**2**	**3**	**4**	**5**	V21		25
relaxed way of communicating with the patient	**1**	**2**	**3**	**4**	**5**	V22		26
ability to make the patient feel at ease	**1**	**2**	**3**	**4**	**5**	V23		27
ability to communicate in a respectful way with the patient	**1**	**2**	**3**	**4**	**5**	V24		28

3b. Other comments

	V25	29
	V26	31

4a. Consider your own communication as "**dentist**" today-

Rate, on a scale of **1** – **5** (where **1** = **Needs no development** and **5** = **Needs development**), those aspects of **your communication** that **need further development**:

Statement	**Rating**							
My ability to share information with the patient	**1**	**2**	**3**	**4**	**5**	V27		33
My ability to communicate empathy with the patient	**1**	**2**	**3**	**4**	**5**	V28		34
My ability to elicit information from the patient	**1**	**2**	**3**	**4**	**5**	V29		35
My ability to allow the patient to ask questions	**1**	**2**	**3**	**4**	**5**	V30		36
My ability to conduct the interview in a structured way	**1**	**2**	**3**	**4**	**5**	V31		37
My ability to listen attentively	**1**	**2**	**3**	**4**	**5**	V32		38
My skill to make eye contact	**1**	**2**	**3**	**4**	**5**	V33		39
My posture and position as ideal non-verbal behaviour	**1**	**2**	**3**	**4**	**5**	V34		40
My use of facial expressions as ideal non-verbal behaviour	**1**	**2**	**3**	**4**	**5**	V35		41
My use of voice in communication with the patient	**1**	**2**	**3**	**4**	**5**	V36		42

4b. Other comments

	V37		43
	V38		45

5a. Consider your own communication as "**dentist**" today-

Rate, on a scale of **1** - **5** (where **1** = **Not my experience** and **5** = **Definitely my experience**), your **experience** of role-playing as a "**dentist**"?

Statement	**Rating**							
Experience of comfort	**1**	**2**	**3**	**4**	**5**	V39		47
Learning about the patient	**1**	**2**	**3**	**4**	**5**	V40		48
The importance of attentive listening	**1**	**2**	**3**	**4**	**5**	V41		49
Structured way of communicating	**1**	**2**	**3**	**4**	**5**	V42		50
Novel way of learning to communicate with the patient	**1**	**2**	**3**	**4**	**5**	V43		51

5b. Other comments

	V44		52
	V45		54

6a. Consider your own communication as "**dentist**" today-

Rate, on a scale of **1** - **5** (where **1** = **Least enjoyable** and **5** = **Most enjoyable**), how you **experienced** today's session .....

Statement	**Rating**								
in respect of your interaction with the patient	**1**	**2**	**3**	**4**	**5**	V46		56
as a novel learning experience	**1**	**2**	**3**	**4**	**5**	V47		57
as a relevant learning experience	**1**	**2**	**3**	**4**	**5**	V48		58
in respect of your control of the situation	**1**	**2**	**3**	**4**	**5**	V49		59
in terms of being recorded on video	**1**	**2**	**3**	**4**	**5**	V50		60
in respect of **your** perception of the patient's impression of you	**1**	**2**	**3**	**4**	**5**	V51		61
in respect of being **unable** to proceed with treatment	**1**	**2**	**3**	**4**	**5**	V52		62

6b. Other comments

	V53		63
	V54		65

7a. Thinking back to the **lectures** you had on the following **topics**-

Rate, on a scale of **1** - **5** (where **1** = **Not important** and **5** = **Most important**), the **importance** of each of the following **topics**:

Topic	**Rating**								
The dentist-patient relationship	**1**	**2**	**3**	**4**	**5**	V55		67
The **theoretical** basis defining the therapeutic relationship	**1**	**2**	**3**	**4**	**5**	V56		68
The **philosophical** basis defining the therapeutic relationship	**1**	**2**	**3**	**4**	**5**	V57		69
Characteristics of relationship-centered care	**1**	**2**	**3**	**4**	**5**	V58		70
Communication elements as indicators of relationship-centered care	**1**	**2**	**3**	**4**	**5**	V59		71
Trust in the dentist-patient relationship	**1**	**2**	**3**	**4**	**5**	V60		72
What trust is	**1**	**2**	**3**	**4**	**5**	V61		73
Predictors of trust (What influences trust)	**1**	**2**	**3**	**4**	**5**	V62		74
Trust and satisfaction	**1**	**2**	**3**	**4**	**5**	V63		75
Dimensions of trust	**1**	**2**	**3**	**4**	**5**	V64		76
The essential elements (tasks) of dentist-patient communication	**1**	**2**	**3**	**4**	**5**	V65		77

7b. What are the **most important things** you have **learned** from the lectures?

	V66		78
	V67		80
	V68		82
	V69		84

8. Thinking back to **the whole teaching experience**, rate, on a scale of **1** - **5** (where **1** = **Not appropriate** and **5** = **Appropriate**), each of the following methods employed to develop students' **communication skills**:

Methods	**Rating**							
Lectures	**1**	**2**	**3**	**4**	**5**	V70		86
Making video recordings	**1**	**2**	**3**	**4**	**5**	V71		87
Use of a "Standardised Patient"	**1**	**2**	**3**	**4**	**5**	V72		88
Evaluation of skills by means of the "Rubric"	**1**	**2**	**3**	**4**	**5**	V73		89
The "**dentist's**" feedback	**1**	**2**	**3**	**4**	**5**	V74		90
The "**patient's**" feedback	**1**	**2**	**3**	**4**	**5**	V75		91

9. What suggestions do you have to improve development of **communication skills** of **3rd** year dental students?

	V76		92
	V77		94
	V78		96
	V79		98

Thank you for your candid and objective feedback

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Appendix I

SP's report

During my work with the students I have paid particularly attention to:

- Communication skills
- Low-/High Self-image
- Body language
- Energy, enthusiasm
- Empathy
- The person behind the teeth

The aim of these sessions is to assist the dental students with their communication- and consultation skills.

Due to the fact that medical aid funds are quickly vanishing, it is important for future dentists to be able "sell" dentistry to their patients. After the consultation, it is of the utmost importance for the patient to feel that he/she **needs** the proposed dental treatment. Dental students and future dentists must realise and remember that they need 'the person to bring back the patient', according to Dr White. Therefore they need to form a relationship with their patients. Their patients likewise need to feel that they like and are able to trust their respective dentists; otherwise they might not feel a need to return.

This, however, is easier said than done.

Communication, as such, is a complex and complicated concept. It involves the person as a whole. An individual with more self-confidence will be able to communicate better than one with less confidence. Therefore a more confident person must necessarily create a better impression, although this does not necessarily mean he/she is the better dentist.

In other words, the individual with less confidence or a lower self-image, who conveys this fact to the patient by means of body language, (a subconscious submissive manner or mannerisms etc.) will obviously have a lesser chance to be successful than an individual with more self-confidence. The average patient is unable to judge whether any individual is a good dentist or not.

During the sessions with the students, I have concentrated on any outward signs, or signals, that may be suggestive of a low self-image and which may lead to their patients to doubt their ability as a dentist. I have made them aware of these aspects of their method of communication and have given suggestions whereby their outward show of confidence may be improved upon.

The outward (artificial) process of body language does eventually become internalised. Hence an outward pretence of self-confidence, if habitually practiced, may eventually become an inherent part of one's personality.

During the second half of the interviews, when I saw the students for a second time, there was much improvement in this field. A number of students mentioned that their everyday self-confidence outside of the field of dentistry had also improved.

Body language cannot be concealed. It creates a major subconscious impression on the person with whom one is communicating. I have caused students to become conscious of this fact, especially in cases where a clumsy body posture affects speech and energy levels resulting in mumbling or lethargy. Patients often regard dentists who display such characteristics as incompetent.

A patient who visits a confident and enthusiastic dentist will be enthusiastic about the work that needs to be done in his/her mouth. On the other hand, a patient who visits a dentist who shows little self-confidence and gives the impression of lethargy or laziness will leave the consultation feeling tired and drained.

The patient will later feel that returning to the dentist will cost him/her too much time and effort. Apart from this, he/she may also feel that the proposed treatment is non-essential and that it would be best to cancel all future appointments. It is therefore obvious which dentist will do better financially. It is also obvious that students need to be made aware of these facts.

It is often difficult to display empathy towards an individual whom one scarcely knows. However, it is an essential emotion to display when dealing with patients who must be made to feel that the dentist understands them. It is the best means of gaining a patient's confidence. Most of the students find this particularly difficult at first and require much practice.

Students are often unable to display empathy if they themselves feel in any way threatened. They may be afraid of not being able to handle a given situation.

During sessions with the students many of the above concerns were voiced. By making use of a simulated patient, students learn to convey empathy without feeling that they are losing control.

One final aspect, I wish to mention on is "the person behind the teeth". It is important for dentists to learn to take the individual into consideration rather than regarding him/her as a "collection of teeth to be worked on." The patient needs to feel that he/she is being treated as a human being and this is only possible through proper communication.

2. The Method

We made use of a combination of
a) a video recording, and
b) a rubric.

The video recording was used during the interview. The student and the "patient" were recorded during the consultation. This video was shown to the students immediately after the interviews were conducted.

Students reacted very positively to this approach. It allows them to view their method of conducting a consultation in an objective manner. It creates a stronger impression on them because it allows them to see themselves objectively. They can see and hear their mistakes and will therefore appreciate the feedback they receive. They will also be aware of which aspects they will need to improve upon. Comments like: "I am constantly touching my hair" or "I am constantly repeating myself and am beginning to irritate myself" were not uncommon.

The video enables me to judge them more objectively by means of the rubric. It is physically impossible to remain totally objective after sitting through four consultations. Later - after one has experienced as many as 20 consultations - the video becomes important in enabling one to give an objective evaluation.

After each consultation I answered a few questions following my "gut" feeling" in order to record my subjective feelings. These were later compared to the findings in the rubric.

The rubric is subdivided into a number of dimensions, each consisting of different questions specifically relating to a specific part of the consultation.

The rubric is of the utmost importance in maintaining the objectiveness of the questions and answers given by the evaluator. It is more accurate than any written report as it compels the evaluator to answer the same questions and to concentrate on the same aspects of each consultation. It also makes the students aware of which aspects of the consultation are most important and which must be improved upon.

The rubric is very detailed and allows the evaluator to be very specific in his/her evaluation. It also allows certain aspects of the consultation to be examined, which may otherwise have been missed by the evaluator.

I have come to regard the rubric as an invaluable tool for effective evaluation.

Dental students at the University of Pretoria are very fortunate to be given the opportunity to learn and apply communication- and consultation skills before they begin working on patients. It will, in my opinion afford them a positive advantage and they will undoubtedly perform far better in practice than those who have not had this opportunity.

This will obviously reflect very positively on the University of Pretoria.

Louise Schweickerdt 31 May 2004

Appendix J

Students' verbatim feedback about their learning experiences

▪ **Feedback after training cycle 1**	▪ **Feedback after training cycle 2**
▪ *Communication skills' contribution to the dentist-patient relationship* ▪ "Communication skills are very important to establish rapport with the patient" ▪ "Patients will return for treatment if they perceive the relationship with the dentist to be relaxed" ▪ Enable the dentist to win the patient's confidence" ▪ "Communication skills - especially the use of non-verbal behaviour (body language) - are essential to make the patient feel comfortable. Extremely vital!" ▪ "Communication is the most important part of the dentist-patient relationship and plays a major role in the retention of patients" ▪ "I think the more one talks to patients, the better you get in discussing things" ▪ "Enable the dentist to establish a personal relationship with the patient which will facilitate treatment plan presentation"	▪ *Communication skills' contribution to the dentist-patient relationship* ▪ "I think establishing rapport is very important in maintaining and keeping patients" ▪ "Communication skills are required to facilitate and eventually make a final diagnosis" ▪ "Communication is the most important part of any relationship and the reason why patients will trust you or not" ▪ "I am increasingly more aware that THIS (communication skills) will probably make the difference between an average and an excellent practice!" ▪ "Very important – especially to retain your patients" ▪ "Communication skills are of vital importance, whether they are verbal or non-verbal gestures" ▪ " Important to treat the patient well as a person as well as to meet the patient's needs"
▪ *Weak and strong points* ▪ "It was difficult to explain some concepts to the patient" ▪ "Due to lack of knowledge regarding dentistry, it was rather difficult to explain to the patient what the diagnosis is" ▪ "My communication is not so bad, but I could not structure my interview in a rightful manner. I skipped and entertained a lot of things at the same time"	▪ *Weak and strong points* ▪ "I should spend more time to elicit the patient's emotions" ▪ "I don't spend enough time listening to the patient and allow the patient time to talk it through" ▪ "I use a lot of language that is informal and I wonder if this seems disrespectful to the patient" ▪ "I am still a bit uncertain about how much to deal with the patient on the emotional level"

▪ "I did not conduct the interview according to a structure. I must show more empathy and warmth towards the patient. I must be more confident; must explain the agenda of the interview to the patient and must listen to the patient" ▪ "Be more relaxed" ▪ "Very poor – made too much use of my hands to explain. No professional demeanour; mumbled and did not show empathy; did not listen and I was too rushed" ▪ "Should use more professional language"	▪ I find it difficult to discuss the treatment plan with the patient" ▪ "I've gone too quickly through the interview" ▪ "Still a lot to learn, but this type of training helps definitely!" ▪ "It's in me to empathise, but I always have difficulties in having a smooth interview. For some reason I always look disorganized" ▪ "I'm still not sure if I can empathise with the patient or make the patient feel at ease, because I was also a little uncomfortable myself" ▪ "I need to relax more and concentrate more" ▪ "I should act more professionally"
▪ *Those aspects of communication that need further development* ▪ "How to structure my interview" ▪ "Must stop slouching" ▪ "Empathy, listening skills, demeanour, tone of voice, too rushed" ▪ "I want to say too many things at once and too fast" ▪ "I should improve my poor body language" ▪ "I don't listen to the patient"	▪ *Those aspects of communication that need further development* ▪ "Need to relax more" ▪ "Listen and let the patient talk it through" ▪ "There was still some aspects I wasn't certain of for example posture" ▪ "The lack of interaction with a real patient contributes to my uncertainty, but the more practice, the more improvement"
▪ *Your experience of role-playing as a "dentist"* ▪ "This has enabled me to realise that a consultation is not very easy and therefore it's a skill that one acquires" ▪ "I need to know how to respond appropriately to situations" ▪ "The feedback from the "patient" is very helpful – feedback I would otherwise not have been given" ▪ "Was comfortable, just have to learn empathy and let the patient talk without interrupting the patient" ▪ "I have learned not to use medical jargon and learned a lot form other students' interviews"	▪ *Your experience of role-playing as a "dentist"* ▪ "I had more confidence compared to the first round" ▪ "I feel that I have more control of the interview than the previous time" ▪ "Much better than the previous time. Exposure and practice improve my competence" ▪ "I now realise the importance of the dentist-patient relationship" ▪ "During the second round the interview went much smoother after we were taught the principles of interviewing" ▪ "Feel much better than the first time"

▪ "On the video it was clear how I actually treat people. I regard myself as a warm, approachable person, but I seemed to be a bit harsh. I definitely need to learn a lot about handling of a patient" ▪ "It is very important to have an open discussion with my patient, because I will have to know exactly what bothers him/her" ▪ "I realised the importance of needing a structured interview – need to learn how and what to say" ▪ "An excellent learning experience!" ▪ "It is important to conduct the interview according to a structure that will ensure that all information are elicited from patient"	▪ "I had more structure in my interview. Definitely an improvement!" ▪ "Today's interview was actually better than the first one in the sense that I was more confident but still disorganized. Getting the grips of things though" ▪ "The more I relaxed the more I began to realise my true self as well as the patient's inner feelings, for example putting myself into my patient's shoes" ▪ "I became more aware of the patient's point of view (expectations)" ▪ "I feel much more confident in conducting an interview, especially showing more empathy and allowing the patient to communicate more" ▪ "I've tried my best to get as much information as possible, but my way of giving back treatment plan is not there yet" ▪ "I think the role-play sets the ground for future patient relationships" ▪ "The visual aids helped to give more information to the patient. The structure given in the lecture helped me to be more confident. I am more relaxed now compared to the first time" ▪ "Good learning exercise! Such practice situations will improve my communication skills. One becomes relaxed and enjoys it" ▪ "This practice helped us and enabled us to approach the patient and also helped us to improve our confidence and thus be able to express ourselves" ▪ "The examples of ideal interviews helped a lot. It is assuring and satisfying to know that you are establishing a sound relationship with your patient"

	▪ "I have realised that listening ATTENTIVELY makes it more easy for me to find out more about my patient" ▪ "Practice makes perfect. The video feedback helped tremendously to realise my mistakes"
▪ *Least and most enjoyable experiences* ▪ "It was wonderful experience. The video recording prepares me to put much effort in" ▪ "It was a good learning experience" ▪ "Excellent experience – definitely worth while" ▪ "A fun learning experience" ▪ "A very informative session! One learns a lot about your communication skills by watching yourself on the video as well as the positive feedback" ▪ "Stressful experience but extremely enlightening!" ▪ "Too nervous in front of the camera" ▪ "As much as I disliked the "video" at first – but after seeing the video it really helps" ▪ "It is important to do it now (3rd year) – so we can improve. It is important to watch other students because you learn from what they do and their mistakes. I think that this exercise is important to show us where we need to improve to be successful, caring dentists" ▪ "Pleasant and meaningful way of learning" ▪ "I have enjoyed it thoroughly and learned a lot!" ▪ "You need to "see" your mistakes first before you can eliminate them" ▪ "Video- and "patient"- feedback were very enlightening and helped a lot"	▪ *Least and most enjoyable experiences* ▪ "I don't think it is fair to watch your video with everyone because it is your video and I think it must be private" ▪ "Uneasy of being video recorded on video" ▪ "The interview structure is an excellent aid to conduct a structured interview" ▪ "It was an entirely appropriate manner of learning communication skills. I enjoyed the course even if I was taken out of my comfort zone" ▪ "The whole experience is very important – especially in view of the fact that we will be dealing with real patients in the fourth year. I have learned a lot about myself" ▪ "The structure helped a lot! I feel much more at ease to conduct an interview with a patient" ▪ "The video is extremely helpful. I was able to realise and see my mistakes. It's much better seeing your mistakes than being told by an examiner"

▪ "A useful way of learning by taking you out of your comfort zone as will the case be in practice"	
	▪ *What are the most important things you have learned from the lectures?* ▪ "You have to have a patient-centered approach. LISTEN! See the PERSON behind the teeth!" ▪ "That an interview needs to be structured. Know what the patient expects from me. Try to bond with the patient and build trust" ▪ "How to communicate with my patient in the most appropriate way" ▪ "How to elicit the patient's emotions" ▪ 'Patients' needs (expectations) are of great importance and you should attend to it!" ▪ "To get in touch with the patient, and really listen to and talk to your patient" ▪ "A patient must be seen a whole person (bio-psychosocial); the patient must be respected; the patient must have trust and confidence in the dentist" ▪ "The lectures have given me a framework (structure) on which I can now structure a patient-centered interview. All I need is practice now. I've realized the importance of building a good dentist-patient relationship and how it impacts on a long-term relationship with the patient" ▪ "How to know what patient-centeredness is" "A breakdown in communication between patient and dentist is a major reason for patients not returning for treatment"

	"How to establish trust; to make use of visual aids to explain the problem to the patient; to listen to the patient; to conduct the interview in a structured way" "Trust is essential in a dentist-patient relationship. Be open. Be easy to talk to!" "I think it is important that we are given things that establish trust. Trust is very important. As a dentist, the patient must trust you"
	▪ *What suggestions do you have to improve development of communication skills of 3rd year dental students?* ▪ "More practice with different patients" ▪ "More direct interactions with real patients. Visits to wards to show what is expected from the dentist" ▪ "To experience the real situation in a dental practice" ▪ "To communicate more with other patients and get more exposure" ▪ "More interview sessions and discussions (feedback) of the interviews. It is absolutely essential for developing dentists" ▪ "There should be role-play in the entire class in order to practically highlight the different approaches and mishaps that may occur during a consultation" ▪ "Try to do the practical things a bit sooner after the lectures" ▪ "The training should take place at a later stage when students have more dental knowledge at their disposal"

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Appendix K

School of Dentistry

STUDENT INFORMATION LEAFLET AND INFORMED CONSENT

Introduction

The School of Dentistry at the University of Pretoria, recently implemented an outcomes-based curriculum. Essential components of the curriculum are knowledge, problem solving and physical examination of the patient. Together these three components form the very essence of good clinical practice. However, communication skills should become a fourth component: without appropriate communication skills, all other clinical efforts can easily be wasted. Without appropriate communication skills, dental students will not be empowered to meet the challenges in a dynamic and challenging dental market. Good communication skills will benefit you in the following ways:

- Identify patients' problems more accurately;
- Patients adjust better psychologically and are more satisfied with their care;
- Have greater job satisfaction and less work stress;
- Efficiently discover the problems or issues that the patient wishes to address;
- Accurately obtain the full history from the patient;
- Jointly make an acceptable, understood management plan that patients can adhere to;
- Supportively form a relationship that helps reduce conflicts for both patient and doctor.

The School's quest to innovate, to be locally relevant and internationally competitive as well as to train scientific and humanistic dental physicians, will only be met if the challenge to create high-quality learning experiences at all levels of dental education, is accepted. When dentists use communication skills effectively, both they and their patients benefit.

Teaching relational communication skills

Communication skills will be taught by means of a model that has been developed for teaching relational communication skills to students in dentistry at the University of Pretoria. This will eventually lead to:

- The selection of comprehensive, optimum dental care by patients
- An increase in the number of patients who have an appreciation for dentistry;
- An increase in loyalty among patients towards the dentist and the dental team;
- An improvement in the profitability of a dental practice.

Each student will conduct two interviews with one standardised patient. Each interview will take 20 minutes and will be conducted according to a given scenario. The interviews will take place in the skills laboratory situated in the HW Snyman - North building. Peer- and self-evaluation of students' communication skills will be done as well as evaluation by a standardised patient. Students will also answer questionnaires about their experiences.

Purpose of the research

The purpose of the research is to evaluate communication skills teaching and use the information to scientifically and accountably revise teaching in following years.

Duration of the research

The study will last for 12 months during the 3rd year.

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Consent

I, ……., willingly consent that the information provided (answering questionnaires about my experiences and feedback by a standardised patient) during the course in communication skills training, may be used to scientifically and accountably revise the teaching of communication skills in following years.

…… has explained the purpose of the training to me and I understand that the results will be used for research purposes. I also understand that the information I provide will be treated anonymously and with confidentiality and that my identity will be protected.
I also give permission that my interview with the standardised patient may be videotaped.

Voluntary Consent concerning questionnaires and certain procedures
Note:
The implication of completing the questionnaire is that informed consent has been obtained from you. Thus any information derived from your form (which will be totally anonymous) may be used for publication.
As all information or data are anonymous, you must understand that you will not be able to recall your consent, as your information will not be traceable.

…… ……
Signature: Participant Date

…….. ……
Signature: Researcher Date

…….. ……
Signature: Witness Date
(This consent form will also be available in Afrikaans)