

**BEING DECLARED COMPETENT:
PERSPECTIVES OF ORAL
HYGIENE STUDENTS
ON CLINICAL PERFORMANCE
ASSESSMENT**

BY

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SUMMARY OF THE RESEARCH

Clinical performance assessment (CPA), which includes performance criteria, that define what students are expected to learn and practically demonstrate, is used to declare students competent by determining their level of skill. The purpose of this research was to explore student perceptions on the clinical assessment and how assessment contributed to enhancement of competency, and was driven by the question “How do oral hygiene students’ perceptions on clinical performance assessment (CPA) influence their learning experience?”

A qualitative approach was followed, rooted in an interpretivist paradigm, using a case study design. The sample consisted of all 19 second-year oral hygiene students who wrote a narrative, and four of the 19 students with whom semi-structured interviews were held. Data was collected by asking the students to write the narratives, and after analysis thereof, the interviews were held. Data was analyzed throughout the data collection process, using a coding framework.

The oral hygiene students understood that CPA tested their clinical skills as well as their theoretical knowledge, measures progression and improvement. They expressed negativity about the assessors' inconsistent use of performance criteria, inadequate feedback, and the unprofessional relationship of certain assessors with them. These issues led to frustration, confusion, and demotivation, and impacted negatively on students' learning and competency. Being humiliated in front of the patient or being shouted at led to demotivation. Students coped with assessment by adapting to what an assessor wanted, focusing on patient feedback, and just accepting the results. Students recommended that there be more feedback and discussion with the assessor about strengths and weaknesses. This was how they learned and became competent. They should be allowed to express an opinion and discuss issues with the assessor.

Key words: oral hygiene student, perceptions, clinical competence, clinical performance assessment, learning, qualitative research

DECLARATION

I, René Cecilia du Bruyn, declare that this dissertation entitled, “**Being declared competent: perspectives of oral hygiene students on clinical performance assessment**”, which I herewith submit to the University of Pretoria for a Master’s Degree in Education (Assessment and Quality Assurance), is my own original work, and has never been submitted for any degree to any other institute of higher learning.

.....
RC DU BRUYN

.....
DATE

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LIST OF ABBREVIATIONS

CBA: Competency-based Assessment
CBE: Competency-based Education
CHE: Council for Higher Education
CPA: Clinical Performance Assessment
HEQC: Higher Education Quality Committee
HPCSA: Health Professions Council of South Africa
LEP: Longitudinal Evaluation of Performance
NQF: National Qualifications Framework
OBA: Outcomes-Based Assessment
OBE: Outcomes-Based Education
RNCS: Revised National Curriculum Statement
SAQA: South African Qualifications Authority
SCOT: Structured Clinical Operative Test
VKM 270: Preventive Oral Health 270

CHAPTER 1

INTRODUCTION

Changes to assessment practice often have a greater influence on students' study patterns than teaching and the curriculum. If we want to influence what and how students learn, then assessment is the starting point – David Boud (1998).

1.1 INTRODUCTION

Many education systems in countries across the world such as Australia, New Zealand and England have changed their thinking about teaching, learning and assessment from the traditional teacher-centred content-based paradigm to one that is outcomes-based and learner-centred. A new education system in South Africa inevitably led to different and new ideas about teaching, learning and assessing. Educational problems such as equal access to schools, equal educational opportunities, inadequate finance, and irrelevant curricula existed before 1994 (Van der Horst & McDonald, 1997). It seemed that the educational system had not been keeping up with the challenges of real-life situations and learners had to be prepared to “live for change and change for life” (Du Toit & Du Toit, 2004, p. 4). Numerous calls have been made by the South African Qualifications Authority (SAQA) to integrate assessment, teaching and learning, and to ensure more authentic ways of assessment. This change had been precipitated by a need to provide opportunities for everybody in South Africa to learn, and to send out learners into the workforce with the knowledge, skills and values, which would ensure that they succeed in a working environment (Kotze, 2002). This has occurred not only on school level but also on higher education level. The Higher Education Act, 101 of 1997, emphasizes amongst other things the restructuring and transformation of programmes and institutions, and to provide optimal opportunities for learning. In the faculty of Health Sciences, University of Pretoria, where I am a lecturer, many changes have been implemented, especially in light of the unique learning environment that medical and dental education entails. The learning environment in dental schools is unique because of the clinical and practical aspects thereof, and the presence of patients.

Many dental schools around the globe, such as the University of Dundee, the Baylor College of Dentistry, and the University of Western Australia, and our School of Dentistry at the

University of Pretoria, have faced many challenges, specifically regarding assessment of clinical performance. The current trend in dental education worldwide is towards competency-based education (CBE) focusing on the knowledge, professional skills, and behaviour required to begin practicing in the dental field. Appropriate assessment methods are required to assess the defined outcomes or competencies, as set out in the curriculum. A new way of assessing clinical competence of oral hygiene students had been implemented five years ago (see Section 1.7 for a discussion on how the ‘old’ and the ‘new’ assessment differ). In accordance with good assessment practices, evaluation of the efficacy and effectiveness of assessment is of importance. This research forms part of such evaluation, as it looks at the views and perceptions that students hold about the assessment. Students, together with the assessors, are the major role-players in the process of assessment (see Section 2.4).

The aim of this research therefore, is to obtain an in-depth perspective on students’ experiences, perceptions, and recommendations on clinical performance assessment (CPA). The findings of this research could contribute in modifying and improving the assessment method used for CBE. I am of the opinion that students’ views about their educational experience could assist in determining the strengths and weaknesses of the assessment method. I believe that change in education is necessary, but I also believe that changes that are implemented should be monitored and evaluated to ensure that students are offered a chance for optimal learning, and becoming competent.

In this introductory chapter the reader is informed about the context and background of this assessment method (see Section 1.2), which will be referred to as CPA. This is followed by information about the assessment in the specific module (see Section 1.3), and what an oral hygiene student does (see Section 1.4). My role as researcher (see Section 1.5) is also discussed. Furthermore, the purpose (see Section 1.6), rationale (see Section 1.7), and research questions (see Section 1.8) are discussed.

1.2 THE CONTEXT

1.2.1 OUTCOMES-BASED EDUCATION

Outcomes-based education (OBE) was implemented in South Africa since the adoption of the document *A Policy Framework for Education and Training* in January 1994. This

philosophy is based on the assumption that all learners, in this instance students, can learn and succeed, and that successful learning leads to even more successful learning (Du Toit & Du Toit, 2004). The higher education system was transformed according to the Higher Education Act, 101 of 1997, together with school education with the aim to widen access, improve throughput and completion rates, and produce graduates with skills and knowledge appropriate and relevant to society and economy (CHE, 2004). It is based on outcomes or the end results that should clearly define the knowledge, understanding, skills, attitudes and values that students should achieve. The emphasis is on performance, and the demonstration of competence or skill, rather than merely written evidence of knowledge (Yip & Smales, 2000). Performance here refers to the cognitive development of learning that takes place in students' minds while assessment is undertaken to determine whether the student is competent, or still needs assistance in order to achieve a particular outcome. Assessment is also used for developmental or formative purposes, namely to inform students of their strengths and weaknesses. Outcomes-based assessment (OBA) therefore requires continuous or ongoing assessment in conjunction with end-of-course examination. According to the Council for Higher Education (CHE) and its Higher Education Quality Committee (HEQC), assessment procedures should prioritise and test the set competencies, in order for students to acquire the intended competency outcomes.

One of the roots of OBE is CBE in which learning outcomes are linked to the required skills, and the level of proficiency required in these skills (Du Toit & Du Toit, 2004). The outcomes or competencies are linked to workforce needs as determined by employers and the profession. The focus is on the outcome of the education rather than the process, but the process(es) should be carried out with the outcome of the competency in mind. A competency-based educational approach also focuses on knowledge application, rather than just gaining of knowledge (Council on Education for Public Health, 2006). This approach furthermore, focuses on formative assessment to incorporate frequent feedback that provides information on progress in an ongoing way, i.e. continuous while students are learning. In dentistry competency refers to the skills, understanding and professional values of an individual ready to begin independent dental or allied oral health-care practice (Yip & Smales, 2000). Competency is not achieved right away but is gained over time moving from being taught to self-directed learning. In other words the student gets to a stage where s/he can work autonomously, make decisions, and take responsibility for those decisions. In order for students to master this, assessment practices should be in place that assist students in

becoming competent. In CBE, student performance is assessed, and it necessitates more complex assessment than for instance classroom assessment, because students are assessed in an authentic work-based environment that includes patients. Students carry out an activity or produce a product in order to demonstrate their learning and to show what they are able to do in real or authentic situations, for example performing certain procedures on a patient (Airasian, 2001). The assessment could therefore also be referred to as authentic, or alternative, or work-based assessment.

1.2.2 CLINICAL PERFORMANCE ASSESSMENT

I have discussed outcomes, performance, and competencies, but how does this fit into the clinical assessment of oral hygiene students? CPA has been implemented by the Department of Community Dentistry, University of Pretoria to declare Oral Hygiene students either competent or incompetent for clinical practice. In other words, the focus is on competency outcomes that define what students are expected to learn. The learning environment is authentic or work-based, as already mentioned, as it resembles where the student will one-day practice as a professional. Engagement with the environment leads to learning because the student constructs new knowledge based on previous experience (Mossey & Newton, 2001). Constructing knowledge is at the core of a competency-based curriculum, and will be discussed later in this section. The assessment is aimed at determining the level of competence of students, making use of performance criteria that can be observed and judged. Multiple observations of performance are undertaken, and referred to as continuous assessment.

The assessment focuses on the process and product of the clinical procedures that the oral hygienist performs. These procedures are promulgated by the Health Professions Council of South Africa (HPCSA) and are included as part of the rubric in use (see Appendix A). In OBE the product, i.e. the expected result is, for example, the completed patient examination form after a full oral examination was performed. When the product is assessed, the assessor will determine to what extent facts or conceptual knowledge were attained (Airasian, 2001). The process, i.e. the learning process that leads to results, is, for example, how to use the instruments correctly in the examination process. Process assessment is important in higher cognition and diverse thinking (Airasian 2001). CPA therefore aims at assessing the practical application of theory, and integration of all subjects into the clinical practice. The assessment

is done to ensure competence, and to drive learning towards a standard of competence (Bookhan, Becker & Oosthuizen, 2005; Mossey & Newton, 2001). As the assessment is done in a real and authentic situation as already mentioned, it encompasses the true ‘does’ as well as the ‘shows how’ (Davies, 2005). The student is also assessed by how s/he understands the clinical situation, however, and by presenting the patient to the assessor, the student also gets the opportunity to explain his/her thinking (Shaffer, Gordon & Bennett, 2004).

1.2.3 LEARNING

Considering learning and learning theories, the School of Dentistry’s approach in CBE is a combination of behaviourism and constructivism (refer to Chapter 2 Section 2.4.6 for further discussion), with greater emphasis on real-life roles that competent students should perform in the setting where oral hygiene practice will be performed. I hold this view because, from the behaviourist perspective, the assessor, who also acts as the ‘teacher,’ has a training role which expects from the student to respond correctly to instruction (James, 2006). Basic skills are introduced before complex skills. Feedback in the form of praise and correction of mistakes is used to make the connection between stimulus and response (James, 2006). Performance is rated as either correct or incorrect, and where there is poor performance, more practice and more repetition is undertaken to master a certain skill. On the other hand, there is also active engagement of students, requiring them to think critically, and solve problems when treating patients, thus referring to constructivism (Jones & Brader-Araje, 2002).

Constructivists believe that students construct knowledge as they make sense of new experiences. When working on patients, they depend on prior experience and knowledge to construct new knowledge (Mossey & Newton, 2001). Students have to think critically to make a diagnosis, for example during the clinical thinking process. They also have to solve problems that the patient present with during a consultation and oral examination. The authentic environment ultimately forces students to think and act beyond their current level of competence, with the assessor only ‘scaffolding’ when necessary. ‘Scaffolding’ in this sense means that the assessor or even a peer acts as the “more expert other” providing assistance until the student can cope on his/her own (James, 2006, p. 57). Learners are therefore enabled to construct more and more comprehensive understanding through activities that match their cognitive capabilities (Jones & Brader-Araje, 2002). Students learn from various

sources during their clinical practice. They learn for example from the clinical procedures through repetition, from the patient that presents with specific systemic and oral conditions, from the assessor through discussion and feedback, and from fellow students when assisting each other in the clinical ward.

1.2.4 LEVELS OF COMPETENCE

To be competent, the entry-level oral hygienist has to perform at or above the acceptable defined standard. The scope of the oral hygienist is promulgated by Act No 56 of 1974 and endorsed by the HPCSA. Oral hygiene students are trained within this scope and in accordance with standards laid down by the relevant professional board of the HPCSA. The procedures that form part of this scope are reflected in the rubric (see Appendix A). Miller's pyramid, as illustrated in Figure 1.1 (Davies, 2005; Miller, 1990), gives an indication of the four levels of competence, and in the training of professionals all four levels are relevant. Performance assessment per se falls into the upper three levels, where clinical or practical work is assessed in a real situation in an integrated authentic way (University of Pretoria, 2003). In this way poor performers are identified, but attention is also focused on personal development of students by identifying and building upon strengths and weaknesses (Davies, 2005). On the lowest level, which is the 'know' level, the student learns the theory and facts of oral hygiene practice. When this is connected to, for instance, Bloom's taxonomy, the student needs to know, to name and to describe. On the next level, which is the 'know-how' level, the student has to indicate that s/he knows how to perform certain procedures by explaining, for example, how a scaling and polishing is done. The 'shows how' and 'does' level is where the actual performing of procedures on patients comes into, and where the student gets the opportunity to put theory into practice, and to integrate different modules in a comprehensive way. Here planning, analysing, compiling and justifying indicate that cognition is on a higher-order level where the student brings theory into practice. For example an oral hygiene student needs to know the criteria to determine the caries risk of a patient, and should be able to classify the patient according to this, but also in relation of what s/he finds in the mouth, and what the patient's habits are. Then s/he has to plan and compile a preventive treatment plan to lower the risk and evaluate this over a period of time.

MILLER'S PYRAMID

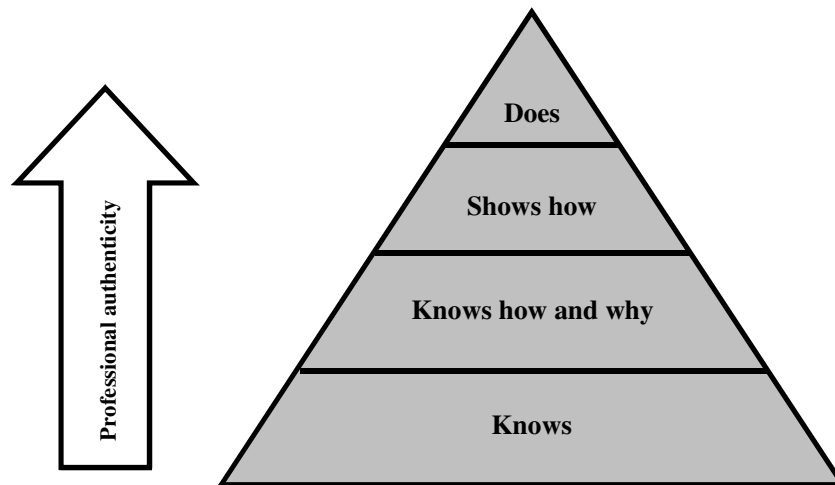


Figure 1.1. Miller's pyramid for assessing clinical competence

As already mentioned, the assessment is based on criteria that require students to demonstrate skills, attitudes and understanding necessary to practice as an oral hygienist (Whipp, Ferguson, Wells & Iacopino, 2000; Yip & Smales, 2000). The students learn 'in context', which in dentistry means orientation of the learning environment towards the clinical environment, in which the student will eventually practice as a professional (Mossey & Newton, 2001). Clinical learning is centred on the provision of patient care that makes the learning process more complex (Fugill, 2005). Due to the broad spectrum of oral problems and medical conditions, students are required to integrate all of their skills when working with and on a patient. The type and complexity of patient-care problems that the students face during their training are the same as those encountered in practice. The student performs irreversible procedures that should not harm the patient.

1.3 THE ASSESSMENT

Clinical learning forms part of the module Preventive Oral Health 270 (VKM 270), and CPA is done by using a rubric (see Appendix A) with performance criteria. It contains a scoring guide that describes the level at which the student performs. A rubric is a guideline that explains how well students are performing in relation to standards (Johnson, 1996). It is a scoring device that allows the assessor to distinguish how effectively students are performing

assigned tasks. Criteria are descriptors that clarify what is required to succeed at certain tasks (Johnson, 1996). Rubrics were chosen as they assess quality, they require assessors to know exactly what is important, and to prioritise minimum standards (Potgieter & Du Toit, 2004). The scoring rubric includes a scale from 0 – 3 reflecting the various levels of performance corresponding with written descriptions or criteria interpreting quality performance. Each of the procedures is divided into standards that give an indication of competence. The pass rate for this module, VKM 270, is 70%, which equals a rating of 2. A rating of 2 (70-75%) is an indication of the norm, i.e. to be competent, a rating of 3 (75%+) gives credit to the student who does more than is required and who performs above the norm. Ratings of 0 (0-49%) and 1 (50-69%) give an indication that the student is not yet competent and is performing below the set norm. Eight lecturers, qualified dentists and oral hygienists from the Department of Community Dentistry, participate in the assessment, and are trained to perform the assessment.

Assessment in VKM 270 is done by observing students whilst working on patients in the clinical ward. A student is assisted and corrected whilst performing the procedures, and while having interaction with the patient. When the student then feels ready, and the task is completed, the assessor is called for assessment. The assessor then sits with the student and the patient, and the work that was performed is presented. A discussion is held about the assessor's findings, and verbal feedback is given to the student on strengths and weaknesses, mistakes and recommendations. Written feedback is also given in the student record book, and a rating is allocated. Two assessors are on duty with more or less 8-10 students per session. A practical session lasts two hours of which there are three per day. It could therefore happen that one student sees three patients per day.

1.4 THE ORAL HYGIENE STUDENT

Oral Hygiene students are trained at the School of Dentistry, University of Pretoria. They are health professionals focusing on the prevention of oral diseases such as caries (tooth decay) and periodontitis (gum infection). They also promote oral health through education and instruction by means of the following process (University of Pretoria, 2006):

- Data capturing and interpretation necessary to make a correct diagnosis of the risk level of the patient in terms of diseases and conditions of the stomatognathic system (the oral cavity) and relevant systemic diseases, as well as conditions that may influence the

treatment plan and when necessary, refer the patient to a dentist or specialist for treatment;

- The design of a safe alternative treatment plan within the range of the practice of Oral Hygiene;
- The management and implementation of the chosen treatment alternative as well as the evaluation of the treatment;
- The establishment of a healthy relationship with the patient, based on communication as a core competency;
- The effective and efficient management and administration of the Oral Hygiene section of a dental practice/clinic.

Competencies for the oral hygienist indicate the knowledge, skills and attitudes the student must acquire through learning, training and experience. By acquiring and attaining knowledge, skills, and attitudes the oral hygiene student becomes a competent and caring practitioner in the delivery of oral hygiene services in public and private settings.

1.5 THE RESEARCHER

I am a lecturer at the School of Dentistry and primarily involved with the training of Oral Hygiene students. I have a keen interest in assessment and assessment practices. Assessment to me means to determine where the student is in terms of ‘knowing and performing’. This means a continuous gathering of evidence or information regarding the student to decide what should be done if a ‘lack of knowing and performing’ is detected. The purpose of assessment therefore is primarily for learning. The student plays a major role in this process because s/he should take responsibility for his/her own learning, s/he should do self-assessment, and s/he should have self-awareness of strengths and weaknesses. The student and assessor or ‘clinical teacher’ should have a close-knit relationship, and both should have equal responsibility and say in this assessment for learning. A relationship of trust and professionalism between the assessor and student therefore is of utmost importance.

I am involved with the CPA as an assessor, but my involvement goes beyond that in that I instigated change, driving towards a continuous formative way of assessing clinical competence. I was actively involved in compiling the rubric with the levels of performance. I am therefore familiar with the workings of the CPA. I am also very familiar with students

who participated in the study. Therefore, careful attention had to be paid to the influence of bias. However, the students felt very comfortable to participate in the research, because they also trusted me, and this could be seen as an advantage.

I collected the data myself and did not make use of a research assistant. By not using a research assistant to collect data, students could have been placed in a vulnerable position. I was one of eight assessors involved in the clinical assessment, however. The students were aware of this, and this setup meant that I had limited influence over the final results. A rubric was used, and all marks were indicated in each student's record book, making the assessment transparent.

In this study, I have interpreted multiple realities to make sense of the 'how' and the 'why,' and presented it in a descriptive and narrative way following a qualitative approach. I did not accept the view of a stable, coherent, uniform world (Gay & Airasian, 2003). The group of students participating in the study had different perspectives, and assigned different meanings to the clinical performance assessment under question, capturing rich data. I had personal interaction with the participants, and constructed reality through what was seen through their experience (Cohen, Manion & Morrison, 2000). I acted as a research instrument bringing my own experience and construction into the research. This research is therefore subjective, because of the personal involvement of the researcher.

1.6 PURPOSE OF THE STUDY

The purpose of this study was to explore the perceptions of oral hygiene students about CPA they are exposed to, and to find out how this influenced their learning experience. I was also keen to find out what they knew about assessment, and if and how it contributed to their becoming competent. I needed to hear their perceptions and views on the implementation of the assessment. I do believe in evaluating one's educational practice to become aware of strengths and weaknesses and any problems that might exist. Change and renewal can only be implemented when all the facts are on the table. Doing research on CPA forced me to read extensively on the topic and to be aware of what was happening at other dental schools. I believe it is good practice to measure teaching and learning practices against others.

Students are the ones who are exposed to and involved in CPA, and they come into this experience with certain expectations, perceptions and prior experience (Drew, 2001; Struyven, Dochy & Janssens, 2005). Assessors should take note of this and should be aware of how this ultimately contributes to learning, or may even be a barrier to learning. Through assessment, academic staff directly exerts power over their students (Schönwetter, Lavigne, Mazurat & Nazarko, 2006). Learning and becoming competent should always be the ultimate goal to which both students and teachers/assessors strive for. It is of utmost importance to evaluate policies to implement assessment from time to time, in order to ensure continuous quality (CHE, 2004).

1.7 RATIONALE OF THE STUDY

In OBE, it is important that all learners, and in this instance students, gain the necessary knowledge, skills and attitudes/values to be successful lifelong learners, who will fulfil meaningful roles in real life (Department of Education, 2002). This requires the construction of powerful learning environments to support learners to achieve and maximise the set outcomes or competencies. According to Du Toit and Du Toit (2004), OBE is based on three assumptions namely:

- All learners can learn and succeed, but not in the same day in the same way;
- Successful learning promotes even more successful learning;
- Schools and higher education institutions control the conditions that directly affect learning.

Du Toit and Du Toit (2004) state that these three assumptions act as the rationale for the implementation of OBE with its four principles namely:

- Clarity of focus meaning that the focus should be on the end result or outcome of learning;
- Expanded opportunity, meaning that students should be provided with more than one opportunity to succeed and that they should be exposed to meaningful and quality learning experiences;
- High expectations, whereby standards of the level of performance are raised, students are motivated to succeed, and students are assessed, making use of criterion-referenced assessment;

- The curriculum is designed down by starting with the outcomes and what the students should be able to do at the end.

When implementing OBA, it is important that these principles be included in whatever assessment approach, strategy or method is used. SAQA policy (SAQA, 2005) indicates that teaching, learning and assessment should focus on supporting the student's progressive attainment of theoretical knowledge, skills, and attitudes. Assessment should be in service of learning and the learner, and not an end in itself (SAQA, 2005).

The Higher Education Act 101 of 1997 demanded changes in higher education systems that necessitated the restructuring and transformation of programmes and institutions. This included advancing of knowledge and learning to keep up with international standards of academic quality. The School of Dentistry, as many other dental schools around the globe, has implemented OBE in both the dental and oral hygiene curricula, as part of restructuring and transformation. Previously, a more traditional disciplined-based approach was followed. Now an outcomes-based or more specifically a competency-based approach is followed as explained earlier in the chapter. Assessment has been changed accordingly in both the theoretical and practical aspects of the curriculum. Previously assessment was more summative consisting of pen-and-paper tests and examinations and practical examinations. Other assessment methods such as portfolios, group assignments and formative clinical assessment now complement the more traditional methods.

Assessment of clinical procedures has always taken place, but was based on the assessor merely making a snap decision about a student's work, based on his/her opinion and experience of how a procedure should be performed. It was a mere 'signing off' of procedures that at the end of the programme counted as quotas. It was and still is expected of students to perform a certain number of procedures. No criteria existed from which a decision could be made. No informational feedback was given to students in the form of discussion. One could say that the students were merely judged on their performance and not assessed. Now, a consistent criteria-based method, as explained earlier, is in place. The school has also moved from assessment of learning to assessment for learning (Harlen, 2006). Whilst students are being assessed, they learn and develop by becoming aware of strengths and weaknesses.

One should understand the current implementation of CBA and measure it against other schools of thought, in order to address any shortcomings, and to implement interventions or changes. Although the literature on effective teaching and learning in dentistry and oral hygiene provides initial information for the classroom and clinic, much more research should be conducted on this issue. Taleghani, Solomon and Wathen (2006) have done a study to evaluate performance assessment and to improve the accuracy of grading by providing objective numeric grades. Prescott, Norcini, McKinlay and Rennie (2002) describe the challenges for assessment in health professions such as assessment of all areas of competence and keeping assessment in line with training objectives. Bookhan et al. (2005), describe the development of criteria and a checklist to assess competence, and they also compare student self-assessment and supervisor assessment. Scott, Evans, Drummond, Mossey and Stirrups (2001) determined how effective the use of a checklist was, and concluded that care is needed when compiling criteria. This is an indication that academic staff have a keen interest on evaluating their assessment methods to ensure the best possible teaching and learning strategies for their students. It also appears that clinical assessment is a concern for many authors because of the complexity thereof.

Literature on how students perceive and experience clinical assessment seems lacking, however. Victoroff and Hogan (2006) explored characteristics of effective learning experiences, and this study shows that students' views could be an important source of information for curriculum assessment, providing the same justification for my study. Schönwetter et al. (2006) attempted to define effective teaching in the classroom and clinic for dentistry and dental hygiene students by obtaining their perceptions on the issue. Fugill (2005) explored some of the characteristics of student/teacher interaction that students consider to have an impact on their clinical skills once again depicting the importance of students' views. Bowers and Wilson (2002) investigated dental hygienists' perceptions of the impact of self-assessment on clinical education, and found that students believed self-assessment to be worthwhile in learning. These studies indicate that students could be good informants regarding their own experiences, as they perceive it from their reality.

It is important to look at CPA as a phenomenon, and get a clear picture of how it works in practice and how students experience it. Therefore, the purpose of this study would be to obtain a student perspective on the assessment, as they are the persons assessed, who are given feedback and who are learning. The question is how students perceive this assessment

and what beliefs they bring with them into the learning environment? Do they experience the assessment as part of their learning experience, and what problems do they have with the assessment?

As learning and assessment goes hand in hand, it is necessary to ensure that assessment methods do what they are supposed to do namely, to enhance learning. Wakeford (1999) states that assessment is an integral part of the teaching and learning process and may be used explicitly to guide students in their studies. He emphasises that assessment should be accurate, otherwise it is pointless and unfair to students. We can only establish whether assessment is accurate by examining it, i.e. examining issues such as validity, reliability, practicability and fairness. According to SAQA (SAQA, 2001) the quality of assessment is important to provide credible certification and to be able to make decisions about students. Boursicot and Roberts (2006) state “the faculty should provide evidence that they have processes in place for setting standards and making decisions about student performance” (p. 80). The School of Dentistry therefore is concerned about whether the competency-based assessment actually measures the intended results, and there is concern about bias and prior perceptions of assessors influencing ratings. There is also concern about stability and consistency of the clinical assessment, and how clear both students and assessors interpret criteria. It also needs to be explored whether CPA assessment contributes to the deeper layer of understanding that should support practical skills. Continuous quality improvement should be pursued and shortcomings should be determined. The HEQC considers assessment practices to be an indicator of the ‘health’ of teaching and learning in higher education institutions, and therefore forms a valid focus of quality assurance activities (CHE, 2004).

1.8 RESEARCH QUESTIONS

It appears from the literature, that clinical assessment of dental and oral hygiene students seem to be a challenge for many dental schools (Mossey & Newton, 2001; Taleghani, Solomon & Wathen, 2004; Tennant & Scriva, 2000). As mentioned, a new way of clinical assessment was implemented focusing on assessment for learning instead of assessment of learning. Through CPA academic staff endeavours to ensure the best possible way of assessing clinical skills, knowledge and attitudes and sees it as a challenge to adhere to assessment principles and creating a real learning environment for students. It is important to investigate if students perceive the clinical assessment as intended by academic staff. It is

also important to provide evidence that processes are in place to ensure quality assessment. Students could provide information that could add to this body of evidence.

Therefore the following research question was posed in order to guide this study:

How do oral hygiene students' perceptions on clinical performance assessment (CPA) influence their learning experience?

In order to operationalize this question, it was divided into four critical questions namely:

(i) ***How do students understand performance assessment?***

This question is asked to determine what students know about assessment, why it is done, and what it entails. If students do not have a basic understanding of CPA, it is most likely that they also would not understand the purpose and worth of it.

(ii) ***How do students understand the criteria and competency ratings and how do they make sense of it?***

A rubric with performance criteria is used and each student is in possession of this document. It would be valuable to know how much they know about the specific criteria and standards that they should adhere to. Their views on the rating scales and mark allocation would also give an indication of how they experience the ratings they get and how it influences their learning.

(iii) ***How does the assessment contribute to learning and enhancement of competency?***

This is an important issue as the assessment method claims to assess for learning. It needs to be explored in what ways the assessment contributes to learning and becoming competent or even how it inhibits learning.

(iv) ***What recommendations do students have for improving the assessment?***

Students' ideas and recommendations should not be discarded just because they are students. They are the ones who experience the assessment daily and I am sure amongst themselves could offer valuable advice and ideas for improvement.

1.9 CONCLUSION

This chapter is an introductory chapter giving an overview on the context of the assessment and ultimately on this study. It also provides information on the two role-players in this research, namely the oral hygiene student and myself as the researcher. It elaborates on the purpose and rationale of this study and the research questions. It also gives a glimpse on some studies already done on clinical assessment.

The organization of this dissertation is as follows. Chapter 2 gives an overview of what OBA entails (see Section 2.2) and how performance assessment links to it (see Section 2.3). From there the discussion is continued on the assessment of clinical performance (see Section 2.3.1) and what other dental schools do about clinical assessment (see Section 2.3.2). Section 2.4 looks at the conceptualisation of aspects pertaining to assessment, such as principles of assessment, the rubric used, the context of assessment, the learner, the assessor and learning. This is of course linked to what the literature says. From the literature an own conceptual framework was devised that applies to CPA, and can be found in section 2.5.

Chapter 3 addresses research design and methods describing the research design, paradigm and strategy (see Section 3.2). Issues on sampling, research instruments and the handling of data are discussed in detail. Methodological norms (see Section 3.3) and ethical considerations (see Section 3.4) that are applicable to this study are described. In Section 3.5 the constraints of the study are discussed, and in section 3.6 the research procedures are addressed.

In Chapter 4 the results and findings are presented as two sets of data, namely the data from the narratives (see Section 4.2) and the data from the interviews (see Section 4.3). These findings are discussed in relation to what the literature states on the applicable issues.

In Chapter 5, conclusions and recommendations are made based on the findings as well on the literature. In section 5.2, a summary of the research design is provided. The research question and sub-questions are answered in a conclusive way in Section 5.3, including reflections on the literature. In section 5.4, I reflect on my conceptual framework of CPA, based on this research, and in Section 5.5, recommendations are made based on this study.

Lastly, I provide the scientific value (see Section 5.6) of this study, as well as the constraints of the study are presented (see Section 5.7).

CHAPTER 2

ASSESSMENT AND LEARNING: A LITERATURE REVIEW

This chapter provides an in-depth look at the literature with regards to different concepts pertaining to CPA. Outcomes-based assessment (see Section 2.2) and performance assessment (see Section 2.3) are discussed in detail. CPA, and how dental schools in particular perceive and implement this concept into their programmes is included in the discussion on performance assessment (see Section 2.3.1 and 2.3.2). In section 2.4, the guidelines for performance assessment are addressed. These guidelines concern the principles of assessment, the instrument used, the context of assessment, the learner, the assessor, and learning. This chapter concludes with a conceptual framework (see Section 2.5) to communicate to the reader the different concepts related to performance assessment. Through the conceptual framework of CPA, the relationship between the concepts from my reality and my experience is captured.

2.1 INTRODUCTION

We live in a world where quality, audit and accountability play major roles (SAQA, 2001). Because of the importance of these issues, SAQA and the National Qualifications Framework (NQF) were established to ensure the quality of education and training in South Africa. SAQA and the NQF were also established in light of the new OBE that was introduced. In other words, to ensure that a standard of excellence can be maintained, these bodies with their committees must ensure that institutional arrangements are effective for meeting specified quality standards for provision of education (SAQA, 2001). It is the sum of activities that assure the quality of education and training. In the instance of higher education, the HEQC through legislation by the Higher Education Act 101 of 1997, is responsible for ensuring quality teaching, learning and assessment, and this is maintained by a combination of institutional audit and accreditation. Institutions are inspected regularly basis and the outcome of this inspection or audit determines future accreditation and continuing offering of programmes. This is essential as interested stakeholders have legitimate interests in the competence of graduating professionals who are certified ready to go out into the workforce by the institutions. Therefore assessment systems should be developed to address issues such as best practice, standards and reliability, and validity of assessment methods (Boursicot,

2006). The principles, methods and procedures of assessment systems need to be transparent, and its assessors accountable. As already mentioned in Chapter 1, the HEQC “considers assessment practices to be a key indicator of the ‘health’ of teaching and learning in institutions of higher education and therefore a valid focus of quality assurance activities” (CHE, 2004, p. 59).

The HEQC makes it clear that assessment in higher education should play a more comprehensive role than has traditionally been the norm. Where in the past measuring, recording and reporting of end-point achievement were used, assessment should be used for developmental or formative purposes to strengthen learning (CHE, 2004). Assessment should form an integral part of teaching and learning. Furthermore, assessment should be integrated meaning that knowledge and skills should be assessed across subjects and practice using different assessment methods and tools (SAQA, 2005). Therefore the HEQC propagates OBE as a means to improve expertise in assessment.

2.2 OUTCOMES-BASED ASSESSMENT

The South African government made a choice for OBE based on what is happening in the rest of the world in education focusing on what students know and can do after teaching and learning (Du Toit & Du Toit, 2004). In higher education an outcomes-based approach means that teaching strategies and the provision of learning opportunities will enable students to attain a set of learning outcomes, and to demonstrate them in assessment (CHE, 2004). In OBA a link between the specified outcomes and their use to assess student performance is crucial. In other words, the outcomes are determined first, and indicate what should be attained at the end of learning. Then the assessment instruments are designed that will effectively ‘test’ the student’s attainment of the outcomes. Assessment criteria are formulated from the outcomes in order to assess performance.

The root of the word ‘assessment’ is derived from the Latin verb *assidere* that means, “to sit beside” (Reddy, 2004). This meaning implies that the assessor should move along with students as they pursue challenges in the achievement of the outcomes or competencies. Information and evidence must be gathered to facilitate decision-making regarding student achievement. Airasian (2001) defines assessment as “the process of collecting, synthesizing and interpreting information to aid in this decision-making” (p. 8). The HEQC defines

assessment as a combination of designing tasks for students to complete and making inferences from the tasks to estimate the worth of their performance (CHE, 2004).

Assessment is done by using different strategies and tools depending on what is assessed. One should first decide what will be assessed, when it will be assessed, and what the student will have to do to convince the assessor that the outcome has been achieved. In dental education, following the Miller pyramid as discussed in Chapter 1, (see Figure 1.1), the level of assessment will determine what tools to use (Miller, 1990). For example, on the ‘know level,’ factual tests with constructed response tests and selected response tests could be done as basically a pen and paper assessment. On the ‘knows-how and why level’ context-based tests could be used, on the ‘shows-how level’ objective structured clinical examination is often used, and on the ‘does-level’ students’ work on real patients and their performance is assessed. Performance assessment will be discussed in detail in the section to follow, as it is essential for the reader to obtain a clear understanding of what this assessment strategy entails.

2.3 PERFORMANCE ASSESSMENT

Performance assessment integrates important elements of OBE (Kotze, 2004). On the one hand it focuses on outcomes or competencies, or what students should be able to know, do, and value, and on the other hand it focuses on assessment standards or levels of demonstrating achievement. Kotze (2004) defines performance assessment as an assessment strategy whereby process and product are assessed, i.e. doing and knowing. Performance assessment is also described by Airasian (2001) as assessing an activity or producing a product in order to demonstrate student learning. According to Govaerts, Van der Vleuten, Schuwirth and Muijtjens (2007) “performance assessment is a judgment and decision making process, in which rating outcomes are influenced by interactions between individuals and the social context in which assessment occurs” (p. 239). Govaerts et al. (2007) associate ‘in-training assessment’ and authentic assessment with performance assessment meaning that the assessment occurs in the setting of day-to-day practice of the oral hygienist. Gulikers, Bastiaens and Kirschner (2004) calls this form of assessment “authentic assessment,” and Norcini and McKinley (2007) call it “work-based assessment.” Although there are different terms used for the same thing, all these authors recognize it as alternative assessment to declare students competent by multiple observations.

In the world of dental education, the focus is on competencies, hence the referral to CBE rather than OBE. Performance assessment is referred to as CBA (Yip & Smales, 2000). Du Toit and Du Toit (2004) state that there is a difference between OBE and CBE. CBE focuses on skills in isolation, while OBE focuses on outcomes that include knowledge, skills and attitudes as well as the application thereof in context. This differentiation between OBE and CBE could be confusing when reading literature on dental education, and one could very well assume that only skills are referred to when assessing competency. Yip and Smales (2000) explicitly state that “competency is most often used to describe the skills, understanding and professional values of an individual ready for beginning independent dental or allied oral health practice” (p. 324). Yip and Smales (2000) go on to mention three elements of competency in dentistry, namely intellectual competence, physical-technical competence, and interpersonal competence. In other words this type of assessment permits students to show what they can do in real situations but they must also be able to demonstrate understanding of what was learnt. This is in line with what SAQA defines as competence namely applied competence that is the union of practical (skills), foundational (knowledge) and reflexive (attitudes and values) competence (SAQA, 2001).

CBA, or as it is also referred to, work-based or authentic assessment, focuses on how students combine knowledge and skills in dealing with realistic problems of professional practice (Govaerts et al., 2007). Competencies such as professionalism, communication and organization of work could also be assessed. Assessing the performance of oral hygiene students in the context of day-to-day practice and professional life is important if they are to be declared competent or not competent. Furthermore, it would instil certain traits such as reflective practice and lifelong learning (Prescott et al., 2002). Once working independently, practitioners assess their own work, and also have to keep abreast of the latest development in dentistry.

For purposes of this research, performance assessment or CPA is associated with CBA, as it assesses the competencies that oral hygiene students should know, do and value, as well as assessment standards or levels and ways of demonstrating achievements (Kotze, 2004, p. 54). It entails those skills, understanding and professional values of an individual ready to begin practising independently (Gadbury-Amyot et al., 2005). According to Boursicot and Roberts (2006), competency equals passing suitable examinations that assess certain qualities and standards. In other words, by assessing the student’s performance, the assessor should be

able to determine whether or not the student could be declared competent. It is necessary to further explore the literature to become aware of what other authors and researchers state about performance and clinical assessment. I therefore will address this in the next section firstly, by discussing assessment of clinical performance, and secondly, by looking at what is happening at other dental schools regarding CPA.

2.3.1 ASSESSMENT OF CLINICAL PERFORMANCE

There has been “a gradual move towards the development of competency-based curricula for clinical dentistry training programmes over the last ten years” (Scott et al, 2001, p. 31). Mossey and Newton (2001) state that competence can be regarded as a core value for safe, effective clinical intervention. It also entails demonstrative behaviour and can be measured using criteria for performance standards (Tennant & Scriva, 2000). Oral hygiene training consists of clinical practice on patients under the supervision of qualified dentists and oral hygienists who act as assessors, making the teaching, learning and assessing unique and different. The clinic is a different setting than the classroom, because in the clinic the student, the assessor and also the patient are involved in the learning process (Schönwetter et al., 2006). In the clinical set-up, classroom learning is converted to professional practice. Not only are operative skills and manual dexterity important, but also cognitive skills applying knowledge. The student must be able to do planning, clinical reasoning and management of the patient and treatment plan (Mossey & Newton, 2001). Students could learn from different sources, for example the clinical procedures themselves, and from interactions with patients and student colleagues (Fugill, 2005). However, because of the complexity of the learning process, tension could exist between the learning needs of the student, the patient and the assessor (Fugill, 2005). The assessor, who is also a clinical supervisor, has an obligation to ensure that no harm be done to the patient. Therefore clinical learning and assessment should be developed to suit the unique aspects of teaching of dentistry (Fugill, 2005).

Among the many challenges that face modern dental and medical schools is the development of appropriate assessment systems for this unique clinical practice. Mossey and Newton (2001), Taleghani et al. (2004) and Tennant and Scriva (2000) are of the opinion that it is no longer sufficient for individuals to consider that they possess adequate knowledge and that they are clinically competent. Students must demonstrate that they are clinically able and

must have other important skills such as interpersonal skills, communication skills, and professionalism. The main aim of introducing an assessment system is to ensure a level of competence to be suitable for competent practice, and to drive learning throughout the training period towards a standard of competence in all skill domains, i.e. continuous formative assessment (Bookhan et al., 2001).

Assessment should have two aims, namely to record achievement of the competency as objective as possible, and to encourage self-assessment (Mossey & Newton, 2001). In competency-based education, the learning outcomes are explicit with regard to the required skills, and the level of proficiency required in these skills (Potgieter & Du Toit, 2004). According to Potgieter and Du Toit (2004), underlying the theory of CBE, is the assumption that students will learn when the conditions and environment are favourable. Learning will also take place when both the students and assessors know what the students must learn. Therefore it is of utmost importance to adequately and accurately assess students' performance. The challenge lies in designing continuous assessment methods that are formative, objective, transparent and reliable.

In contemporary medical and dental curricula, continuous assessment is an important component of the overall assessment. Outcomes-based assessment entails both summative and formative assessment. Kotze (2004) states that formative assessment is integral to learning and takes place throughout learning, i.e. continuously. Formative assessment is supportive of learning, and non-judgemental, and focuses on providing constructive criticism to learners. Formative assessment gives the assessor and learner feedback, and provides information on areas of weakness and strength (Kotze, 2004). Feedback plays an integral role, as this is a form of attention and encouragement that can motivate students. According to Prescott et al. (2002), formative assessment applied throughout the training period in clinical disciplines can be used to drive learning, and to provide feedback on performance. Formative assessment can identify problems at an early stage so that a remediation plan can be put in place. Evidence collected throughout the training period in this manner could contribute towards a summative decision on all-round competence. Summative assessment is focused upon the necessity to ensure students are competent for practice (Prescott et al., 2002).

Providing feedback to students and identifying problems about performance as part of formative assessment, as indicated in the previous paragraph, requires that assessment be objective. Tennant and Scriva (2000) state that the challenge faced in the continuous assessment of clinical disciplines includes the relatively subjective nature of the clinical process, and significant individual variation between assessors. The provision of criteria for assessment to both student and the assessor is an important factor in providing equitable and consistent assessment as well as training sessions for all assessors (Tennant & Scriva, 2000). This provides a validated checklist in which clinical tasks can be assessed, and it allows the opportunity for formative feedback (Scott et al., 2001). As the criteria are clearly defined, they should allow more reliable assessment. It is critical that different assessors work to agreed standards when assessing performance (Scott et al., 2001). Students must have a clear understanding of the criteria by which their work will be assessed. In fact, the features of excellent performance should be so transparent that students can learn to evaluate their own work in the same way their assessors would (Shepard, 2000).

2.3.2 CLINICAL ASSESSMENT AT OTHER DENTAL SCHOOLS

Having said all of the above about assessment of performance, it is necessary to give an overview of what is happening in clinical assessment at dental schools. Different dental schools implement different methods of clinical assessment. The University of Dundee (Mossey & Newton, 2001; Scott et al., 2001) makes use of the Structured Clinical Operative Test (SCOT) as formative assessment. This assessment makes use of pre-determined validated criteria listed on a checklist. The authors claim that this checklist makes the assessment more valid and reliable. The checklist makes the SCOT as structured and objective as it is possible to be. It also encourages deep reflective learning, because the students have to reflect on their clinical performance and with the help of their supervisors indicate how they plan to improve their competence. Scott et al. (2001) emphasize, however, that it is of utmost importance that different assessors assess performance to agreed standards. Assessors must have a high inter-subjective agreement. The advantage of many assessors is that it allows for cross-fertilization of ideas and concepts, from which students could only benefit (Scott et al., 2001). An advantage of the SCOT approach is that it assesses both process and product.

The University of Western Australia (Tennant & Scriva, 2000) uses criterion-based effective

data to enhance the learning process” (p. 125). The assessment consists of assessment sheets indicating steps to be checked during performance of the procedure. Students keep these assessment sheets in a file made accessible to assessors for perusal to identify weaknesses. The authors (Tennant & Scriva, 2000) state that this continuous assessment program has caused the assessment to be effective and efficient.

Through their assessment system, the Baylor College of Dentistry (Taleghani et al., 2006), have endeavoured to improve the accuracy of grading, while providing objective numeric grades. They use forms to assess critical procedural steps. Weaknesses in student performance are noted daily, and are discussed with students at the end of three semesters and then remediated. The aim is “to send students into the field who are diagnostically, managerially, and therapeutically competent” (Taleghani et al., 2006, p. 509).

Prescott et al. (2002) describes the Longitudinal Evaluation of Performance (LEP) used in Scotland, that uses direct observation of the student in the clinical practice, and where the assessor measures performance by means of a 9-point scale that ranges from unsatisfactory to superior. There are no pre-set criteria, however, and the judgement is made solely on the opinion of the assessor. It is claimed that this way of assessment provides an indication of all-round competence in relation to the procedure performed.

2.4 GUIDELINES FOR PERFORMANCE ASSESSMENT

In all its policy documents, SAQA sets out certain guidelines that should be followed when assessment is planned and executed. These guidelines are endorsed by the HEQC, who through quality checks and audit, ensures that these guidelines are followed by institutions of higher education. These guidelines are flexible and provide opportunities for innovation and creativity (SAQA, 2001). These guidelines are discussed in relation to CPA, and how it is substantiated by literature. The guidelines concern the principles of assessment, the instrument used, the context of assessment, the learner, the assessor and the learning methods, as discussed in the next section.

2.4.1 PRINCIPLES OF ASSESSMENT

According to SAQA policy (SAQA, 2001), the quality of assessment is important to provide

credible certification. Credibility can be ensured by adhering to certain principles such as fairness, validity, reliability, and practicability. **Fairness** is an indication that the assessment does not in any way hinder or advantage a student. There must be equal opportunity for success, regardless of the students' age, culture, language, gender, or disability. Students cannot be expected to do any unreasonable things. Vandeyar and Killen (2003) suggest a basic question to ask, namely: "Does the assessment task give every learner a reasonable opportunity to demonstrate his/her understanding or skill?" The assessment should measure what it is supposed to measure, i.e. **construct validity** and the tasks should reflect the competency that needs to be assessed (Gulikers et al., 2004). Furthermore, the effect of the assessment should be relevant and useful for the student's future life, i.e. **consequential validity**. The basic question to consider is: "based on the evidence provided by the assessment task, can I justify the conclusions I have reached about the achievements of the student?" (Vandeyar & Killen, 2003, p. 121). **Reliability** refers to issues such as consistency of assessors and the fair and consistent interpretation of criteria (Airasian, 2001). It also demands that assessment is free of errors of measurement, because errors cause inconsistency (Vandeyar & Killen, 2003). **Practicability** or **feasibility** refers to available financial resources, facilities, equipment, and time that will ensure success of the assessment system. Norcini and McKinley. (2007) adds principles such as educational effect and acceptability. **Educational effect** means to motivate students to do well, and to direct their study efforts in support of the curriculum. **Acceptability** indicates to what extent stakeholders, e.g. students and assessors endorse the measure and interpretation of performance criteria, levels, and scores.

Clinical competencies constitute an important and vital part of oral hygiene practice, and therefore it is essential that their assessment adhere to the principles of assessment. Certain basic tenets should also be included when deciding upon assessment methods, e.g. as the purpose should be clear, the assessment tasks should match the programme objectives, different assessment methods should be used, criteria should be simple and well understood, and feedback should be as comprehensive as possible (Manogue et al., 2002). However, complications can arise when performing competency-based assessment regarding authenticity and perceptions. Authenticity is subjective and is dependent on perceptions (Gulikers et al., 2004). Students' perceptions of the learning environment influence, for example, how they learn, and not so much the context and therefore their perceptions should be taken into consideration (Gulikers et al., 2004). Assessment of clinical skills are

challenging, as consistency of those who make the judgment might give a perception of unfairness. Scott et al. (2001) indicate that clear well-written criteria and standards, as well as training of assessors could make assessment more reliable. The instrument used is of utmost importance.

2.4.2 THE INSTRUMENT

Many strategies exist to do assessment, such as the 360-degree evaluation instrument, portfolios, patient surveys, and rubrics. 360-degree evaluations consist of measurement tools completed by multiple assessors in the student's sphere of influence (ACGME, 2000). A portfolio is a collection of products prepared by the student that provides evidence of learning (Du Toit & Vandeyar, 2004). Surveys of patients to assess satisfaction with the training hospital include questions about the student's care, e.g. competency, courtesy and empathy (ACGME, 2000). As a rubric is used in CPA, this one instrument as an assessment strategy will be focused upon. A rubric is a general scoring guide that gives an indication of the level at which a student performs a process or product (Airasian, 2001; Potgieter & Du Toit, 2004). Scoring rubrics have been accepted as a performance assessment tool. A rubric uses rating scales where different descriptions are used to represent the different levels of performance (Airasian, 2001; Potgieter & Du Toit, 2004). The rubric should contain clear and coherent expectations or criteria to indicate to students and assessors what is expected from them in order for students to be declared competent.

A rubric is associated with criterion-referenced assessment of the individual student and his/her achievement. The criteria used in the rubric in SAQA terms are referred to as assessment criteria, i.e. statements that describe the standard to which students must perform. These criteria should be clear and transparent and should be agreed on by the assessors and understood by students (Manogue et al., 2002; Potgieter & Du Toit, 2004). Criteria provide students with information on what is expected from them and what characteristics make the work good (Airasian, 2001). Criteria help students to monitor their own work and provide information on strengths and weaknesses, because they serve as guide and structure. Kerka (1993) describes a rubric as a framework that assists assessors to be consistent, that provides a benchmark for determining progress and that focuses on the outcomes.

2.4.3 THE CONTEXT OF ASSESSMENT

The context in which assessment is carried out plays a major role in how students experience the assessment and ultimately in how they learn. Gulikers et al. (2004) state that “the assessment task should resemble the complexity and ownership levels of the real-life situation, and the context of the assessment should reflect the way in which knowledge, skills, and attitudes will be used in professional practice” (p. 7). Students should perceive tasks as relevant and meaningful as possible. Tasks assessed in CPA are promulgated by the HPCSA (refer to Appendix A) and should therefore be seen as relevant and meaningful, because it entails the scope of the oral hygienist in South Africa. However, Gulikers et al. (2004) state that there should be a link between the assessment tasks and the students’ personal interests, and then only will students perceive the tasks as meaningful.

According to Govaerts et al. (2007) “real life performance cannot be defined independently of the event and its context” (p. 242). Critical aspects of performance will vary across contexts, time, and individuals. Student behaviour, as well as assessors’ behaviour, is affected by contextual factors. Judgements of performance in a social context will involve ‘subjective’ interpretation of ‘objective’ information, according to concepts of performance that are rooted in experience and training (Govaerts et al., 2007).

In the education and training of dental and oral hygiene students, learning takes place in context, which means orientation towards the clinical environment in which the student will eventually practice as a professional (Gulikers, et al., 2004; Mossey & Newton, 2001). Learning will result from interactions with the environment that entail multiple patient experiences and encounters with multiple assessors. However, careful attention should be paid to the knowledge, skills and perceptions that learners bring to the educational setting, as it could inevitably have an influence on future learning.

2.4.4 THE LEARNER

SAQA promotes ‘learner-centeredness,’ meaning that the student should become an active partner in the teaching and learning process. This means that the student also is one of the role-players in assessment. Students have certain expectations of particular assessments, and they experience the degree to which they meet these expectations and receive feedback as either positive or negative (Brookhart & Devoge, 1999). Students’ perceptions of a task

influence the amount of effort they are willing to invest, as well as their persistence and performance. How they perform is also based on previous experience with similar assessments (Brookhart & Devoge, 1999) and how they perceive the assessors involved in the assessment.

Adult learners want their learning to be relevant to their learning goals, adults need and want feedback, and adults want to experiment (Victoroff & Hogan, 2006). Furthermore, learning styles of these adult students play a role in how they learn, with some being experimenters, doing the hands-on thing, others being observers and reflecting on what is performed, and others wanting interaction (Victoroff & Hogan, 2006). Assessment methods should accommodate these different learning styles in order to enhance learning.

2.4.5 THE ASSESSOR

The other role-player in the assessment process is the assessor. According to SAQA, assessors are no longer gatekeepers, but supportive guides who assist students to be successful and to gain access to learning (SAQA, 2001). Govaerts et al. (2007) see assessors as “information processors who continuously make sense of performance data, and who use their personal judgements in performance rating” (p. 242). How assessors present and treat assessment events, affects the way in which students approach them (Brookhart & Devoge, 1999). Clinical supervisors have the dual role of mentor-coach and assessor, and may find this conflicting. They may want to avoid difficult feedback, and they may even distort ratings just to keep students motivated (Govaerts et al., 2007).

Assessors should be trained, able, and motivated to implement the assessment (SAQA, 2001). Trust in, and acceptance of, the assessment system is of utmost importance (Govaerts, et al., 2007). Furthermore, several faculty members should be involved in the assessment to alleviate the reality of unfairness (Norcini & McKinley, 2007). This will also guard against the “halo effect” as many opinions are sought (Prescott et al., 2002, p. 96).

2.4.6 LEARNING AND BECOMING COMPETENT

There are many theories on learning, such as behaviourism, constructivism, structural learning, problem-based learning, and information processing. Behaviourism and

constructivism relate to clinical learning as mentioned in Chapter 1 Section 1.2. In behaviourism, the environment for learning is the determining factor. James (2006) states that “learning is viewed as the conditioned response to external stimuli. Rewards and punishments, or at least the withholding of rewards, are powerful ways of forming or extinguishing habits” (p. 54). In other words, learning equals the accumulation of skills. Positive feedback and correction of mistakes play an important role and act as the connection between stimulus and response (James, 2006). Performance is either correct, or incorrect and if incorrect, more practice is the answer. New behaviours are reinforced until they become routine. Constructivists, on the other hand, say that knowledge is constructed by students as they make sense of new experiences (Jones & Brader-Araje, 2002). Students come to the clinical setting with already formulated knowledge, ideas, and understandings that are referred to as prior knowledge. Through active engagement with the patient and the learning environment, students construct their own understanding and knowledge through experiencing things and reflecting on those experiences. Learning therefore is a cognitive process.

Learning, whether through behaviourism or constructivism, is a social activity, and takes place in a social environment (Jarvis, Holford & Griffin, 1998). Learning involves active engagement between the ‘teacher’ and student but also between the student and what is being learnt. Learning also involves participation. It is known that student learning is influenced by methods of assessment (Manogue, et al., 2002), and therefore judging competency and performance, as an outcome, must include ‘careful’ assessments. The purpose behind assessment is learning, and here one can distinguish between assessment for learning, i.e. formative assessment, and assessment of learning, i.e. summative assessment. The former is supportive of learning, non-judgemental, and gives constructive criticism to students whereas the latter is a final summing up of a student’s work (Reddy, 2004).

Assessment can drive learning, but different students are driven by different things. Assessment can also inhibit learning when students feel anxious about assessment (McLachlan, 2006). Assessment should ultimately lead to qualities such as reflective practice and a commitment to lifelong learning. According to Bowers and Wilson (2002), a lifelong learner has the ability to reflect on, and learn from, experience. Practicing oral hygienists should reflect on, and learn from, practice. “Reflection is the capacity to think about and change what one is doing while doing it” (Bowers & Wilson, 2002, p. 1152). This is where

the role of self-assessment comes into play. Dentistry has a solitary nature to it, and therefore practitioners should be able to trust their own clinical judgment (Bowers & Wilson, 2002). This is developed by self-assessment that is a way of reflecting on what one has done. With CPA, the aim strived for is changing students from passive to active learners who can think critically and who can make the correct clinical decisions (Taleghani et al., 2004).

Formative assessment can be used to drive learning (Bookhan et al., 2005; Prescott et al., 2002), to provide feedback, to give support, and to identify problems at an early stage. According to Brookhart and Devoge (1999), feedback is informational when students can see what they know and how they can do better next time, and feedback is controlling if judgement is passed without information. Informational feedback is crucial to future learning. Knight (2006) is of the opinion that feedback does not magically improve learning, unless it is of the right kind. He distinguishes between feed-forward that gives information to help the student do better on a similar task in future, and feedback that only comments on the quality of the task done (Knight, 2006). Feed-forward will be more useful for learning, as the student will then know how to perform in future.

Another way to enhance learning is to make use of criterion-referenced testing of the competencies and certification after the learner has demonstrated the required learning (Du Toit & Du Toit, 2004). A competent individual will be able to accurately assess his/her own performance (Gadbury-Amyot, et al., 2005) in other words do self-assessment. This benefits learning because learning is no longer something that is 'done' to the learner but something that the learner is actively involved in (SAQA, 2001).

2.5 CONCEPTUAL FRAMEWORK OF CPA

A conceptual framework means a diagram that depicts the terms in the study and the relationship among them. It is also a set of coherent concepts organized in a way that makes them easy to communicate to the reader. Having read extensively on the topic of performance assessment, I have formulated a new concept of how the different elements connect and interact with each other. Figure 2.1 gives an indication of the relationship between the elements of CPA. This conceptual framework, as used for this study, aims to embrace the dimensions and elements that should be taken into account when CPA is performed.

CONCEPTUAL FRAMEWORK

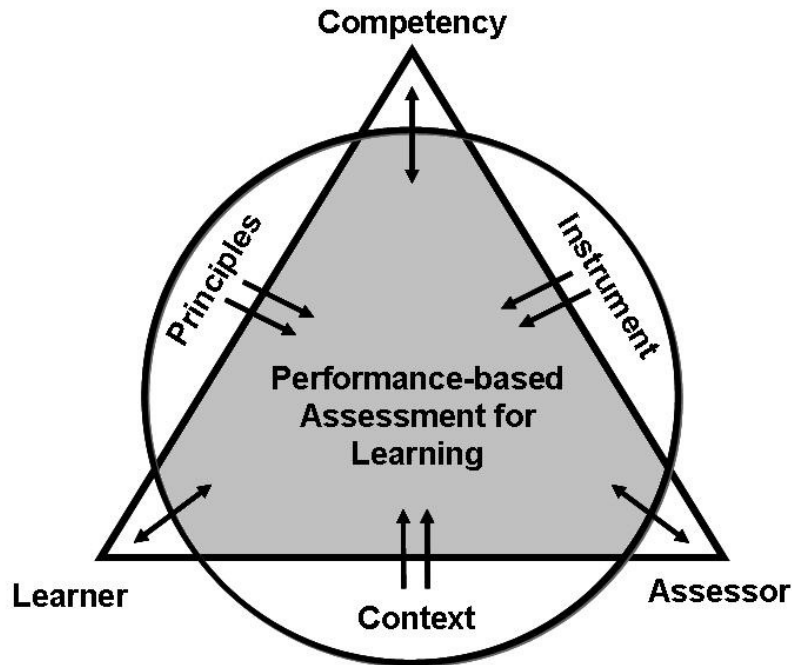


Figure 2.1. Conceptual Framework of Clinical Performance Assessment

The above dimensions and elements are described as follows:

Performance assessment (see Section 2.3), is authentic, clinical, and competency-based, continuous, and formative; it should adhere to certain **principles** (see Section 2.4.1) and a specific **instrument** (see Section 2.4.2) is used to perform the assessment. The assessment is performed in a specific **context** (see Section 2.4.3) that is unique and different, but that should still be relevant and meaningful.

The learner (see Section 2.4.4) has perceptions and expectations about assessment.

The assessors (see Section 2.4.5) bring different perceptions into the assessment, as well as different levels of understanding and training with regards to assessment.

Competency/Learning (see Section 2.4.6) is influenced by assessment. The type of assessment plays a role in the learning experience/the student's becoming competent; such learning is reflective and life-long.

The triangle represents the learner and the assessor, who are in a relationship with each other, at the base, and the learning or competency that should be attained at the apex. Just as the

three angles of a triangle are linked to form a unit, the learner, the assessor and learning forms a unit. These three elements have constant interaction. The circle represents the performance assessment for learning with its principles, instrument, and context. These three elements have an effect on the assessment and therefore one-way arrows were used in the illustration. The circle represents the continuity of assessment. Assessment affects the learner, the assessor and learning and on the other hand the learner, the assessor and learning affects assessment and that is the why double-ended arrows were used.

2.6 CONCLUSION

What is clear from the literature, is that clinical assessment, as a form of performance assessment, should adhere to certain principles such as objectivity, fairness, validity, and reliability, providing feedback, and reflection. The CPA method implemented by the Oral Hygiene Section of the School of Dentistry, University of Pretoria, is based on criterion-referenced assessment to certify students as competent or non-competent. Does it comply with the principles of assessment through the eyes of students, does it contribute to learning, and does it enhance their learning experience? How do they perceive the assessment in being declared competent or not? Students' responses to and views of their learning experiences are important to shape and modify the educational process (Victoroff & Hogan, 2006). This study aims to obtain the answers to these questions and to add to the body of knowledge regarding research in dental education.

In this chapter, I have endeavoured to give a broad outline of what performance assessment entails, and what ideas other authors have about it. I have also indicated in terms of the South African context what SAQA and the HEQC expects regarding assessment. It is clear from the literature, that the quality of any assessment method is an important determinant of undergraduate learning. It appears that, worldwide, there is concern about the integrity of assessment in dental education. Dental educators should ensure that assessment practices and especially assessment of performance and competence be reviewed and modified to be in line with the best current evidence of efficacy. Dental education has a unique and challenging learning environment where learning happens through interactions among patients, assessors and students. Student learning is enhanced through effective assessment.

The next chapter entails the research design, methods and procedures relevant to this study. The epistemology or theory of knowledge that informs the research is discussed, as well as the philosophical perspective that lies behind the methodology. Furthermore, the methodology strategy (methods of inquiry and sampling) and the procedures (data collection and analysis) are discussed. Other issues such as methodological norms, ethical issues and constraints of the study are also outlined.

CHAPTER 3

RESEARCH DESIGN AND METHODS

In this chapter, I address the research design, as well as, methods and procedures relevant to the study. In section 3.2, the reader is provided with information about the research design and what epistemology or theory of knowledge informs the research, what philosophical perspective lies behind the methodology, what methodology strategy (methods of inquiry and sampling) was used, and what procedures (data collection and analysis) were followed. Methodological norms (see Section 3.3), vital ethical issues (see Section 3.4) and constraints of the study (see Section 3.5) are also discussed.

3.1 INTRODUCTION

In order to answer the identified research question and sub-questions, data was needed to describe the perceptions of students regarding their understanding of the assessment, in other words, the ‘what’ and the ‘why’ of the assessment. Data was also needed to explain how the students ‘used’ the assessment in their learning, and recommendations from students for improvement of the assessment system would also be needed. This is directly related to the research questions (see Section 3.2.3.). These were also the guidelines used when reading the students’ narratives, and compiling the interview questions. Due to the focus of the research being on students’ perceptions and experiences, it was necessary to look at their realities in an in-depth way to really get into the ‘how’ of it all. A ‘how’ and ‘what’ question requires exploring and delving into their experience and understanding, while at the same time interpreting their perspectives on the assessment. Information needed to be obtained from the students that could lead to a ‘thick,’ rich description of the phenomenon indicating meanings, reasons, values and beliefs. It was endeavoured to produce a report on CPA through the eyes of the students.

Traditionally ‘how’ questions are associated with a qualitative approach attempting to get an insider perspective (Babbie & Mouton, 2001). Babbie and Mouton (2001) suggest that data could be obtained by methods such as observations, interviewing, and personal documents that bring the researcher ‘close’ to the research subject. According to Lincoln and Guba (1985) humans are involved as ‘instruments’. In other words, humans are used as sources, and information could be retrieved through talking, looking, listening and reading. In this

research a qualitative approach is followed, rooted in an interpretivist paradigm making use of a case study design. These are discussed in the sections to follow.

3.2 RESEARCH DESIGN

Research is concerned with understanding the world, but how we as researchers understand the world is informed by how we view truth and reality (Cohen, Manion & Morrison, 2000). According to Lincoln and Guba (1985), qualitative research assumes an ontology whereby the researcher constructs the ‘reality’ that she sees. This ontology leads to an epistemology based on values and value judgments (Lincoln & Guba, 1985). This epistemology inevitably lead to methodological considerations where the researcher has to think about how knowledge would be gained, in other words issues of instrumentation and data collection. By doing research, an inquiry is made with the purpose to answer the research questions, and the nature of these research questions will ultimately give an indication through what lens or paradigm the researcher will make the inquiry. In this study therefore, an interpretivist paradigm is followed to understand CPA through the meaning students assign to it (Smit, 2003).

3.2.1 RESEARCH PARADIGM

The underlying assumption of interpretivism is that the whole needs to be examined in order to enable one to understand a phenomenon. (Neill, 2006). According to Kelliher (2005) “interpretivism promotes the value of qualitative data in pursuit of knowledge and contextual depth” (p. 123). Interpretivists believe that reality is subjective, and that the phenomenon is interpreted in light of the participants lived experience. Perceptions that people have are bound to experiences they have had throughout their lives (Weber, 2004). So the ‘lived-world,’ or experience, is important. Interpretivist research furthermore, is a communal process with the participants as informers, and the researcher as the scrutinizer (Henning, Van Rensburg & Smit, 2004). Phenomena, experiences and events are understood through mental processes of interpretation by both the participants and the researcher (Henning et al., 2004; Miles & Huberman, 1994). According to Miles and Huberman (1994), “researchers cannot be detached from their objects of study, and undeniably affected by what they hear and observe” (p.8).

The intention of this research was to obtain data on the perceptions of students on the phenomenon of CPA as they experienced it in their day-to-day learning environment, from the standpoint of their unique contexts and backgrounds (Henning, et al., 2004). I therefore, had to engage with the students in collecting data. I needed to understand how the students experienced and perceived CPA, and how they made sense of it in their learning experience (Henning, et al., 2004). Interpretivists work with experience and understanding upon which they build theory (Cohen et al., 2000). The philosophy or school of thought behind this study was, that it was preferable to gain insight in, and to interpret, the perceptions of students, rather than to test a hypothesis or to generalize. According to Smit (2003), “interpretive studies usually attempt to understand phenomena through the meanings that people assign to them, and to focus on the complexity of human sense-making, as the situation emerges” (p. 69). The aim therefore was to investigate the phenomenon of CPA as it occurred in its real-life context through the multiple realities that the students had of it. A case study strategy therefore seemed appropriate for this study. This will be elaborated on in the section to follow.

3.2.2 RESEARCH METHOD

A qualitative research methodology was used for this study, as answers were sought on perceptions of oral hygiene students. Therefore, an in-depth understanding and interpretation of the perceptions of the students were possible. One of the strengths of the qualitative approach is the depth and richness of the descriptions. This qualitative problem required inductive reasoning, because I reformulated the experiences and perceptions of the students to gain understanding and illumination (McMillan & Schumacher, 1989).

‘How’ and ‘what’ questions lend themselves to a case study design (McDonnell, 2000). I looked at one group of students and their interaction and experience with one phenomenon namely CPA. According to Merriam (1998), case studies have proven useful for studying educational innovations, for evaluating programmes, and for informing policy. The case study is one of several ways of doing social science research, and involves an in-depth examination of a single instance or event namely a case. This case can further be defined as a bounded system, because I could fence in what I was studying, and there was a limit to the number of people involved (Merriam, 1998). By using a case study, the assessment could be

looked at within its real-life context describing findings in a framework within the natural environment. It is about real people in a real situation.

By presenting the findings in a narrative format, I could refer to this case study as a narrative case study (Moen, 2006; Wikipedia, 2007). The findings are presented as events in an unfolding plot with actors and their perceptions of events (Cohen et al, 2000). These events speak for themselves, because the description and analysis of events blend together. In this instance, the ‘stories’ reported by students, and how they experienced CPA, are retold by me focusing on specific events or activities, and analysing them for categories and themes (Creswell, 2002). Merriam (1998) defines a case study as being particularistic, descriptive and heuristic. This study focuses on one *particular* phenomenon namely assessment, and reveals perceptions and beliefs about it. Furthermore, it is *descriptive* providing ‘thick’ rich description of students’ perceptions under study. Lastly, this study is *heuristic* because it enlightens the reader about the phenomenon that could bring about new meaning, extend the readers’ experience, or confirm what is known (Merriam, 1998). This knowledge could inevitably help to improve educational practice.

3.2.3 RESEARCH QUESTIONS

The main research question identified for this study was “*How do oral hygiene students’ perceptions on clinical performance assessment (CPA) influence their learning experience?*” To answer the main research question and the four critical questions guiding this study, and to ensure a thick rich description, certain data had to be obtained.

(i) *How do students understand performance assessment?*

Data or information should give an indication of what the students know about CPA, why it is done and what it entails. I needed the data to give an indication of the students’ understanding of the purpose and worth of CPA.

(ii) *How do students understand the criteria and competency ratings and how do they make sense of it?*

Data on how the students interpreted the criteria and standards and performance ratings was needed. I needed information on how the students experienced the ratings they had been given during assessment, and how these ratings influenced their learning and their becoming competent.

(iii) *How does the assessment contribute to learning and enhancement of competency?*

The data needed to illustrate how and in what way CPA contributed to learning and becoming competent.

(iv) *What recommendations do students have for improving the assessment?*

The data needed to give advice in the form of recommendations on improving CPA for example regarding the implementation of CPA.

3.2.4 SAMPLING

The sampling method used for this study was non-probability sampling, specifically purposive sampling. The sample was chosen for a specific purpose and specific needs, and based on my judgment and what I knew of the population (Babbie & Mouton, 2001). It did not pretend to represent the wider population and it was selective and biased as it targeted a particular group, namely oral hygiene students (Cohen et al., 2000). This means that participants were selected on the basis of certain requirements, for example, they had to be second year oral hygiene students, as these were the students being assessed by CPA. I wanted to discover, understand and gain insight and therefore I selected the sample from which I could learn the most. All 19 second year oral hygiene students were included in the sample, as they were the only students that had been exposed to the clinical assessment for the last 18 months. The ages of these students ranged between 19 and 23 years. There were two males in this group. All 19 students were asked to write a narrative or story on how they experienced the clinical assessment.

Four students were selected from the sample to undertake additional interviews, as I wanted to clarify responses as well as obtain additional information. Purposive sampling was also employed when selecting students for the interviews. When considering which students to include for possible interviewing, the narratives or stories they had written on their personal experience with the assessment were looked at as a guideline. Students who seemed to be ‘real informants’ and indicated most distinctly their experiences with the clinical assessment (Cohen et al., 2000) were considered for the interviews. ‘Real or good informants’ were students who had written openly about the assessment and their experience. In other words, students who were able to give in-depth information were considered good informants. Such informants were selected by means of certain guidelines to lessen bias, namely:

- Students giving rich and in-depth information in the narratives that could be followed up, such as the issue of consistency;

- Students with perceptions and experiences that open the door to start the process of exploring, for example, a student wrote about subjective decision-making of the assessor;
- Students who raised issues that need further exploration, like making statements without justification. I followed this up by asking for specific examples.

3.2.5 METHODS OF INQUIRY

Two methods of inquiry were used to obtain information from the students, namely narratives and a semi-structured interview, thereby using a multi-modal approach for the case study. Case studies are likely to be more accurate and convincing if based on different sources of information, and can also be seen as triangulation (McDonnell, 2000). In this study, I searched for completeness, and the two methods of inquiry used, aided in this search. According to Yin (1993), these different sources could be either contradictory or corroboratory. If it proved to be contradictory, then it would have necessitated further and deeper exploration into the topic.

A narrative, according to Yin (1993), refers to documentation such as letters, memoranda and other communiqués. A narrative is also a story that is an interpretation of some aspect of the world and shaped by human personality (Wikipedia, 2007). Czarniawska (2004) states that narratives refer to a spoken word, or written text that gives an account of an event. Humans often tell narratives in order to make sense, or to better understand events and places (Wikipedia,2007). In this study a narrative should be seen as a method of inquiry where the unit of analysis is the narrative (Moen, 2006). By writing a ‘personal experience narrative, the students portrayed their views and perceptions towards the clinical performance assessment by describing their impressions of it, and what they make of it, linking it to their context (Moen, 2006; Yin, 1993). Through this they shared their experience, and I, as the researcher interpreted this shared information.

These narratives were of open-ended nature as students were requested to share their opinions and insights about the clinical performance assessment. This allowed me to use this as a basis for further inquiry and clarification of issues (Yin, 1993). The narratives were also used to determine what questions to ask in the interviews. Issues that needed deeper probing and exploring formed the basis of inquiry, and questions for the interviews were derived from the data obtained through the narratives.

One of the most important sources of case study information is the interview (Cohen et al., 2000; Yin, 1993). Semi-structured interviews, as the other method of inquiry, were undertaken to gain a deeper and more detailed picture of the students' perceptions and beliefs on clinical assessment. It enabled the students to verbally demonstrate their unique way of looking at and experiencing the assessment and learning environment. A set of questions (see Appendix B) was compiled for the interview, but these questions were used as a guideline only, and did not dictate the interview, thus making the interview semi-structured. This ensured flexibility, and enabled me to follow up particularly interesting avenues that emerged from the narratives, and the students were able to elaborate and give a fuller picture. Issues emerging from the interview itself could also be identified.

3.2.6 DATA COLLECTION

I collected the data for the study myself. A research assistant was not used, as there are no research assistants available in the School of Dentistry. Furthermore, if an assistant was available, which was not the case, the assistant would have had to be trained extensively, as the unique context of clinical assessment and the unique pedagogical issues around the clinical assessment would have been totally foreign to this person. There also would have been no guarantees that this training would be sufficient to elicit the data needed. Additionally, a structured interview would have to be used, as such a 'lay person' would not be able to probe and explore deeper on certain issues. A semi-structured interview needed to be used in order to make it possible to probe wider and deeper and to follow up on issues that were raised during the interview. I also needed the flexibility that a semi-structured interview provided.

Collection of data took place as follows. Firstly, I collected data through the narratives to obtain 'baseline' information on CPA. Students were requested to write down their experience of the clinical performance assessment in a story format, handwritten or typed, and in the language of preference i.e. Afrikaans or English. The length of the story was not indicated, as it needed to be as open-ended as possible. Students were allowed five days to think and write about the assessment, after which they handed in their 'stories'. All 19 students participated and handed in narratives that were on average one and a half pages long. Secondly, after analysis of the narratives, semi-structured interviews were held with four students. These were between 30 to 40 minutes long, and depended on how much the

students talked. Interviews were held in the language of preference of each interviewee. These interviews were tape recorded and transcribed into text by me. I worked on the principle of saturation, which means that I continued interviewing until no new issues or data emerged.

3.2.7 DATA PROCESS AND ANALYSIS

The analysis of the data was undertaken throughout the data collection process with both narratives and interviews. With the narratives, issues that had been vague or needed clarification were referred back to the students for further comments. The purpose was to obtain richer data. With the interviews, each interview was analyzed before the next one to see what had emerged. Data analysis was done by organising, reducing, and describing the data. What was important was to elicit meaning from the data (Smit, 2003) and this was done through content analysis. Content analysis involved reading and judgment (Cohen et al., 2000) and to make valid inferences from textual data. According to Berg (1998), “content analysis is any technique for making inferences by systematically and objectively identifying special characteristics of messages” (p. 223), i.e. listening to the words of a text and understanding the perspective(s) of the producer of the words.

Content analysis was undertaken through open coding, axial coding, and interpretation by means of a coding framework or grid. An example of this grid is depicted in Table 3.1. In the first column codes are indicated with the number of the narrative. Codes belonging to each other were clustered (second column) and clusters belonging to each other were grouped together into themes (third column).

CODING FRAMEWORK FOR THE NARRATIVES

CODES	CLUSTERS	THEMES
1 (narrative number) 2 (narrative number) 3 (narrative number)	1	1
4 5	2	
6 7 8	3	2

Table 3.1. Coding framework for the narratives

Firstly, I read and reread the narratives to gain a broad insight in what students had to say. Secondly, the narratives were broken down by means of coding (see Appendix F). This process is referred to by Berg (1998) and Smit (2003) as open coding and axial coding. It meant reading the content of the narratives line by line, and word for word to determine codes, that to me meant similar ideas that I grouped together as themes (see Appendix F). These ‘bits and pieces’ were in the end brought together again in a new way to make connections between the codes and the themes (Smit, 2003). According to Smit (2003), “classifying data forms the crux of the analysis, because it lays the conceptual foundations from which interpretations and explanations are made” (p. 83).

To sum up, classifying the data meant to sort together codes that belonged to a particular theme or unit of meaning. This helped me to interpret and understand what the students had to say (see Chapter 4). Furthermore it assisted me to refine the questions for the interview as I could probe further and deeper on issues that emerged from the narratives.

The interview transcriptions were also read and reread, trying to hear what the student was saying, rather than to expect what was said (Cohen et al., 2000). A coding framework or grid as depicted in Table 3.2 was used. The first column indicates the student with the codes, clusters and themes in the other columns. Data was broken down into codes as depicted in the second column, indicating page numbers where codes can be found. The codes were classified into clusters and the clusters into themes (see Appendix F).

CODING FRAMEWORK FOR THE INTERVIEWS

NAME	CODES	CLUSTERS	THEMES
A	1 (page number)		
B	2 (page number) 3 (page number)		
C	4 (page number)		

Table 3.2. Coding framework for the interviews

The codes and themes of the narratives and interviews were then compared and interpreted. These interpretations are presented as the findings of the study (see Chapter 4).

3.3 METHODOLOGICAL NORMS

For Lincoln and Guba (1985) good qualitative research lies in the trustworthiness of the research with the basic purpose being to persuade the reader that the findings of the research are worth looking at. Babbie and Mouton (2001) state that qualitative research can only be called transferable when it is credible, dependable, and confirmable. Each of these will be discussed in the section to follow.

3.3.1 CREDIBILITY

Credibility refers to the degree to which a method investigates what it is intended to investigate (Smit, 2003). Furthermore, it refers to the correspondence between the way the students perceived the clinical assessment and the way I portrayed their viewpoints. It therefore also concerns accuracy, i.e. to accurately describe their perceptions on CPA. The most practical way of achieving greater credibility was to minimize the amount of bias as much as possible (Cohen et al., 2000). Sources of bias could be in the selection of the students, the characteristics of the researcher, for example the expectations that I had, and a tendency to seek answers that supported my preconceived ideas. The content of the questions that were asked could also have led to bias. Questions were carefully formulated, and I tried to keep to the point. In this investigation bias could furthermore be enhanced, because I knew the students, and this is therefore mentioned as a possible constraint. It must be understood, however, that in qualitative research, the researcher is part of the world that is researched, and therefore I could never have been totally objective; so the students' perspectives would be of equal validity as my perspective (compare Cohen, et al., 2000).

By using two different methods of inquiry to collect data, namely by asking the students to write narratives, and by conducting interviews, information and evidence could be checked for consistency, thereby enhancing credibility (Babbie & Mouton, 2001). Another way of achieving credibility was through my supervisor going through all the data with me to test honesty namely peer debriefing. The supervisor had a general understanding of the nature of the study, and I could review my perceptions and ideas with her while she took a position of 'devil's advocate' to guide and assist me (Babbie & Mouton, 2001; Lincoln & Guba, 1985). A third way of achieving credibility, namely member checking, was to ask the students to check the transcriptions of the interviews to assess the data and the interpretation and to

correct factual errors (Lincoln & Guba, 1985). I therefore went back to the students with the report to verify that my findings were dependable.

3.3.2 DEPENDABILITY AND CONFIRMABILITY

A dependable study provides the reader with evidence that the same findings would be found in the same context with the same participants (Babbie & Mouton, 2001). Lincoln and Guba (1985) state that there could be no credibility without dependability and therefore introduced the idea of auditing. Audit trailing means making transcripts, notes, and other documentation available to an outside person acting as an auditor. My supervisor in this instance acted as my ‘auditor’ by examining the data, findings and interpretations. She ‘audited’ the decisions, analytical processes, and methodological procedures. However, all documentation (see Appendix F) regarding this study could also be provided on compact disc to ‘external parties’ for auditing purposes.

Confirmability refers to the degree to which the findings correspond to the focus of the study and not the biases of the researcher (Babbie & Mouton 2001). Therefore, an adequate audit trail should be provided to enable the auditor to match the findings, conclusions, interpretations, and recommendations to their sources (Lincoln & Guba, 1985). Things that should be available according to Lincoln and Guba (1985) were the research proposal, raw data such as transcriptions, and data reconstruction products such as themes and categories.

3.3.3 REFLEXIVITY

Reflexivity recognizes that researchers are part of the world that they are researching, and therefore researchers should acknowledge and disclose their own selves in the research (Cohen, et al., 2000). According to Uwe (1998), the researcher’s communication with the field, and the participants should be included in the interpretation of the data.

I had my own perspectives of CPA, being involved with it as an assessor, but also being the one who instigated change, and driving towards a continuous formative way of assessing clinical competence. I was also actively involved in developing the rubric. I was very familiar with the students who participated in the research. The ways in which I theorized CPA, affected the ways I explored and explained it (Parker, 1994). I started this research

from a specific standpoint being lecturer, assessor and researcher, and acknowledge it as such.

The challenging part of the research was to get an objective account of CPA through “an exploration of the ways in which subjectivity of the researcher has structured the way it was defined in the first place” (Parker, 1994, p. 13). I had to continually monitor my interactions with the students, their reaction, their biases and other matters that might bias the research (see Section 3.3.1). It furthermore entailed to ask good questions to obtain the information, to listen attentively, and to interpret the answers. Good listening meant good observation in order to sense, for example, the body language of the interviewee, the tone of voice and mood of the interviewee, and it also meant to be flexible and adaptable.

Deciding on which students to consider for the interviews was a difficult process, as I was familiar with them. Students who wrote openly on their experiences with CPA, seemed to be the obvious choice, also students who I knew were ‘good communicators’, and students who seemed eager to participate. I therefore was very careful in my selection of students, and used the criteria as discussed in section 3.2.3 to minimise bias.

In section 5.4, recommendations are made based on the students’ perceptions, and what the literature states. My own perceptions, however, also feature there. I am of the opinion that all assessors should strive towards making CPA effective, thereby creating learning opportunities for students.

3.4 ETHICAL CONSIDERATIONS

Ethics arise from interaction with other people and the environment, especially where there is potential for conflict of interests (Babbie & Mouton, 2001). The researcher needs to do the right things and do things right, and therefore ethical clearance had to be obtained (see Appendix E). The dual nature of my relationship with the students as both their lecturer and the researcher could perhaps be problematic (Ferguson, Yonge & Myrick, 2004). The need to do research on the issue of CPA caused an ethical dilemma for me, because of this dual relationship. I therefore really had to consider whether to collect data myself or to make use of a research assistant. Ethical considerations such as informed consent, opting out,

confidentiality, and access and acceptance had to be strictly adhered to in a study of this kind. The aforementioned ethical considerations are discussed in the section to follow.

3.4.1 ACCESS AND ACCEPTANCE

Access to the School of Dentistry was sought, and the dean, staff and students accepted me as the researcher. Official permission (see Appendix C) was granted by the dean to perform the research after the research proposal had been presented to the Research Committee of the School of Dentistry.

3.4.2 INFORMED CONSENT

Informed consent was obtained from the students explaining the procedures and purposes (see Appendix D). An offer to answer any inquiries about the procedures was given to the students. According to Cohen et al. (2000), “individuals will make correct decisions if they are given the relevant information” (p. 51). Students were able to freely choose to take part (or not) in the research. Students were made aware of the fact that, although I am their lecturer, they did not need to feel obliged to participate. I also informed them that this was a research project and not part of the normal evaluation that is expected from students annually. A description of the benefits of the research to be expected by the students was given, namely how the research might help the students, lecturers, and the School of Dentistry in particular, to improve CPA. As already mentioned, all 19 students were willing to participate, and all signed the consent forms. Students were not coerced into participating just because I am also their lecturer. These were students completing their final year of study and about to leave university. This allowed them some freedom to express their true perceptions without the possibility of their marks being jeopardized. I made it clear to them that this was a research project, and that they were not obliged to participate.

3.4.3 OPTING OUT

Assurance was given that any student was free to withdraw consent and to discontinue participation without any prejudice to the student. Fortunately, students were willing to participate for as long as was necessary and no one opted out. Student assessment was not affected by participation as explained in section 1.4.

3.4.4 CONFIDENTIALITY

To protect the students' right to privacy confidentiality was promised. Cohen et al. (2000) state that when assurance of confidentiality is weak, vague, or not understood, potential participants will refuse to cooperate. All 19 students gave me their full support. According to Cohen et al. (2000) interviews especially have an ethical dimension, because they involve interpersonal interaction and produce information about the human condition. A guarantee of confidentiality must be given, not mentioning names, and identifying characteristics. Interviews must be conducted carefully and sensitively, ensuring that no harm would be done to the students. This was endeavoured throughout the study.

3.5 CONSTRAINTS

3.5.1 TRANSFERABILITY

Transferability refers to the extent to which the findings of the study can be applied in other contexts or with other participants (Babbie & Mouton, 2001). I was not interested in generalizations, and I also did not want to claim that my findings are relevant for other contexts, or for the same contexts, but with different students. All I was interested in doing was to provide the reader with a thick description to make him/her interested in “making a transfer to come to a conclusion, whether transfer can be contemplated as a possibility” (Lincoln & Guba, 1985, p. 316). In other words, all I wanted to do was to provide data that other researchers could possibly use.

3.5.2 OBJECTIVITY

Objectivity here means that the researcher should be unbiased and open-minded, rather than subjective (McMillan & Schumacher, 1989). It also refers to the explicitness in the way evidence is collected, categorised, reconstructed, and interpreted. According to Cutcliffe and McKenna (2004), there is always bias in a qualitative study, and this bias includes deliberate selection of literature to read, and choice of participants. Bias exists in this study because of the subjective experience of both researcher and participants, and is acknowledged as such. Bias could also have existed in the selection of participants for the interviews. It needs to be understood that personal bias and subjectivity to a degree determined who these students would be. I tried to be objective by consistent coding of responses, recording of interviews, and by trying not to use leading questions (Cohen et al., 2000). Furthermore, I ‘tested’ my

interpretation of the data by comparing what was said in the narratives with what was said in the interviews. Through audit trailing, and my supervisor acting as auditor, bias was also limited.

3.5.3 THE LECTURER AS RESEARCHER

I had a dual role with the participants as educator and researcher, and this could have placed them in a vulnerable position by creating conflict for them. It is recommended by Ferguson et al. (2004) that a research assistant should be employed to collect data where students could be placed in a vulnerable position. It was not possible in this instance to make use of a research assistant, as explained in Section 3.2.5. I engaged in all possible ways, however, to protect the students as discussed under ethical considerations (see Section 3.4).

3.6 RESEARCH PROCEDURES

Research design refers to the plan and structure of the study to obtain information to answer the research questions (McMillan & Schumacher, 1989), and to give an indication of the set-up, i.e. the procedures, the what and the how (see Figure 3.1).

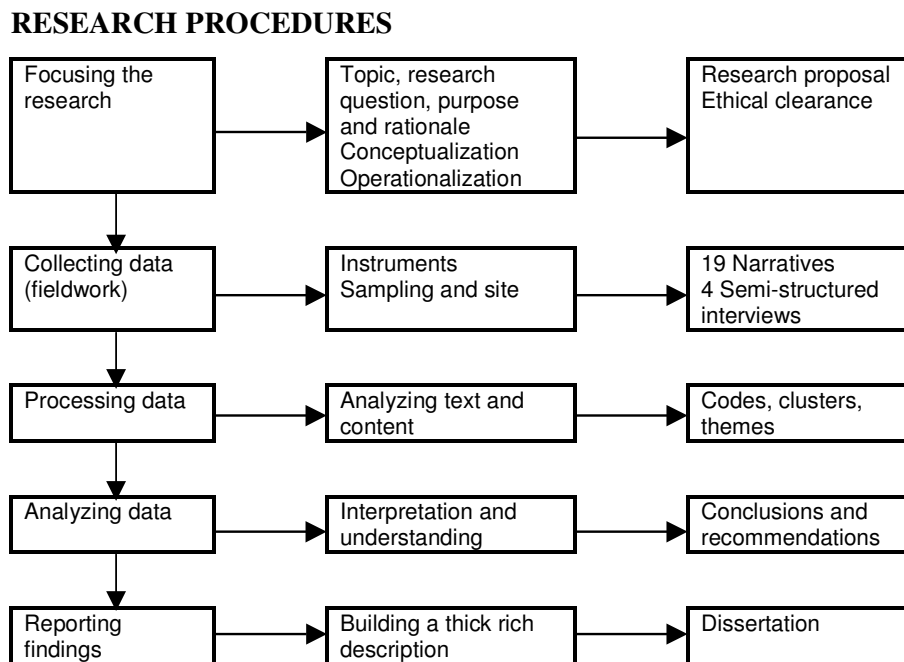


Figure 3.1. Research Procedures (adapted from Cohen et al., 2000; McMillan & Schumacher, 1989)

The purpose of the research design therefore is to provide accurate and valid answers to the research question(s).

3.6.1 FOCUSING THE RESEARCH

I started my research by deciding on the topic. This was driven by my intense interest in assessment and learning. Then followed the research questions, as well as the purpose and rationale of the study as already discussed in Chapter 1. This was followed by conceptualization, and by reading about the topic and really ‘getting into’ what had been written about assessment, performance, competency, and perceptions. Then followed the operationalization stage, i.e. deciding on the sample, the site, the methods of inquiry, and the way data would be collected and analyzed (Cohen et al., 2000). This process resulted in a research proposal that would serve as ‘roadmap’ to do the research. At this stage, I also sorted out access to the School of Dentistry and permission from the School of Dentistry and the Faculty of Education. This included gaining consent from the students who would participate in the study, and obtaining ethical clearance from the Faculty of Education.

3.6.2 COLLECTING DATA

Collecting data is usually referred to as fieldwork. Data was collected for analysis and interpretation by using two instruments, namely personal ‘stories’ or narratives on CPA, written by the oral hygiene students and semi-structured interviews. Firstly, all 19 students, who formed the sample, and who were purposively selected, wrote the narratives. This was then analyzed. Secondly, I interviewed four students, who were also purposively selected, to saturation. Interviews were tape-recorded and transcribed.

3.6.3 DATA PROCESSING

Data consisted of words and therefore content analysis (Berg, 1998; Smit, 2003) was done. Narratives were read, and codes, clusters and themes were derived from the data. The interviews were transcribed, read, and codes, clusters, and themes were derived. The two sets of codes, clusters and themes were compared to make sense from it.

3.6.4 ANALYZING DATA AND DRAWING CONCLUSIONS

The purpose was to interpret and understand the perceptions students had on CPA, and its influence in their learning. From this interpretation and understanding, I could portray ‘what it was like’ to be in the ‘assessment situation’ and the contribution it made to learning and becoming competent.

3.6.5 REPORTING FINDINGS

Thick rich description with detailed information is given on students’ perceptions regarding CPA. From this description, conclusions were drawn and recommendations made.

3.7 CONCLUSION

In this chapter, I aimed to lay the foundation for the research. I discussed the plan to get from a set of questions to a set of answers. The reader was informed about how the research was done, in what sequence it was done, what methods of inquiry and sample were used, how data was collected, and how data was analyzed. I also discussed methodological norms, such as credibility, confirmability, dependability, and reflexivity. Ethical issues were also touched on. The constraints to this study, such as objectivity and transferability, and not making use of a research assistant were also addressed.

The next chapter entails a discussion of the findings of the study depicted as the perspectives and perceptions of the students. This entails the why and what of CPA, the effect of assessment on becoming competent, and recommendations on how to improve CPA.

CHAPTER 4

RESULTS AND DISCUSSION

In this chapter the perspective and perceptions of the students are discussed. Students' views of their educational experience could be an important source for evaluating and modifying CPA and determining strengths and weaknesses of the assessment method (Victoroff & Hogan, 2006). Students' views could also offer a way forward for improving educational practice. All 19 oral hygiene students wrote a narrative on how they had experienced CPA, and four interviews were held to explore issues that emerged from the narratives in order to obtain richer data (see Chapter 3). The findings of the narratives are discussed in Section 4.2, including the main themes of the why and what of CPA, the effect of assessment on becoming competent, and recommendations on how to improve CPA. The findings of the interviews are discussed in Section 4.3, including the main themes of the implementation of CPA, the relationship between CPA and learning, expectations and recommendations regarding CPA and feelings around CPA.

4.1 INTRODUCTION

The purpose of this study, as mentioned in Chapter 1, was to explore the perceptions that oral hygiene students have on the clinical performance assessment. A secondary/complementary purpose was to explore how these perceptions contribute to or influence learning so that the students can become competent professionals. A perception refers to an opinion that has been formed as a result of noticing something usually by using one's senses (Collins, 1988). A perspective on the other hand refers to a particular way of thinking about something, influenced by beliefs and experiences (Collins, 1988).

As introduced in Chapter 1 and discussed in Chapter 3, the research question guiding this study is:

How did oral hygiene students' perceptions on clinical performance assessment (CPA) influence their learning experience? In order to answer this question four sub-questions were identified, namely:

- (i) *How did students understand performance assessment?*

This question was asked to determine what students knew about assessment, why it

was done and what it entailed. If students did not have a basic understanding of CPA, it was most likely that they also would not understand the purpose and worth of it.

- (ii) *How did students understand the criteria and competency ratings and how did they make sense of it?*

A rubric with performance criteria was used, and each student was in possession of this document. It would be valuable to know how much they knew about the specific criteria and standards that they were supposed to adhere to. Their views on the rating scales and mark allocation would also give an indication of how they experienced the ratings they received and how it influenced their learning.

- (iii) *How did the assessment contribute to learning and enhancement of competency?*

This is an important issue, as it was claimed that the assessment method assessed how much students had learned. What needed to be explored was the way in which ways the assessment had contributed to students' learning and to their becoming competent, or conversely, even how it inhibited learning.

- (iv) *What recommendations did students have for improving, the assessment?*

Students' ideas and recommendations should not be discarded just because they are students. The students were the ones who had experienced the assessment daily and amongst themselves, the students could offer valuable advice and ideas for improvement.

4.2 THE NARRATIVES

The narratives were numbered from 1 to 19 for referral purposes (see Appendix F). The 19 narratives or stories on the personal experience of the oral hygiene students with CPA were analyzed through content analysis (see Chapter 3 section 3.2.6). First of all, I started by reading and rereading the stories. As discussed in section 3.2.6, issues that were unclear, or cases where students were vague in their writing, were further pursued by asking students to write in more detail about these issues, and to, for example give reasons and examples verifying their perceptions. The data were then assigned codes. These codes formed the basic units of data which would be sorted in categories/clusters and eventually into themes. The codes belonging to each other were clustered together, and the clusters were then categorized into themes using the coding framework referred to in Table 3.1 (also see Appendix F). The themes emerged from the data through inductive and deductive reasoning

meaning that some of the themes were decided on before data analysis based on the research questions and literature, and others emerged as the data was analyzed.

Five themes were derived from the codes and clusters namely:

- (i) The why of clinical performance assessment
The students gave their perceptions on the reasons for CPA.
- (ii) The what of clinical performance assessment
The students indicated their understanding of CPA and what it entailed.
- (iii) Learning and becoming competent
The students commented on how CPA impacted on their learning and how they learnt or became competent through CPA. Issues such as reflection and self-assessment were touched on.
- (iv) Implementation of clinical performance assessment including the criteria and ratings in the rubric, consistency, fairness, opinions of assessors, observation, feedback and feelings and experiences about CPA
The students commented on how they experienced the implementation of CPA from day-to-day.
- (v) Recommendations to improve CPA
The students made suggestions from their perspective on how CPA could be improved.

Each of these themes are discussed, against the backdrop of literature, in sections 4.2.1 to 4.2.5.

4.2.1 THE WHY OF ASSESSMENT

From what the students wrote, it appeared that most of them had specific perceptions of the reasons for the assessment and why assessment was necessary. They indicated that the clinical performance assessment was done to prepare them for professional practice, their clinical knowledge was enhanced, and their actions became habit as they were also ‘forced’ to abide to rules, for instance the infection control protocol. This is corroborated in literature, where the essence of competency-based education is viewed as “orientating the learning environment towards the clinical environment in which the student will one day practice as a professional” (Mossey & Newton 2001, p. 387).

Other reasons indicated for the assessment were: to gain confidence, to become meticulous, and to learn to adapt. The assessment was also done to help them learn and ‘broaden their theoretical and practical knowledge,’ to make them competent to practice independently - *“It prepares us well for what will be expected in practice as an oral hygienist.”* (Personal communication: Narrative 19). Many publications have acknowledged the relationship between assessment and learning and that assessment is the driving force behind learning (Manogue et al., 2002; McLachlan, 2006; Mossey & Newton, 2001; Shaffer et al., 2004; Van der Vleuten & Schuwirth, 2005). Students experienced that their strengths and weaknesses were determined with the assessment, they were made aware of mistakes and areas which needed strengthening. Another reason for assessment that was indicated, was to do well, motivation to improve, to work hard and to give one’s best - *“Dit kan dien as aanmoediger om te verbeter.”* (Personal communication: Narrative 4). Trotter (2006) is in agreement with this as assessment can be used to provide motivation and encouragement to learn. The key to motivation and direct learning is that the assessment should be clear to both assessor and student (Manogue et al., 2002).

The students also focused on standards as a reason for assessment, because they experienced that they were made aware of standards not attained, because to be declared competent, they had to perform according to set standards - *“Dit gee jou minstens ‘n idee oor of jy op standaard is of nie.”* (Personal communication: Narrative 2); *“...weet of jy op ‘n aanvaarbare goeie standaard is en reg is om uit te gaan in jou professionele beroep”* (Personal communication: Narrative 9). Various authors (Batchelor & Albert, 1998; Boursicot & Roberts, 2006; Prescott et al., 2002) had written about the importance of standards in determining the level at which students are performing. There is a minimal acceptable level at which students should perform, but yet one student indicated that she *“saw no reason for a rating of 0 and 1”* (Personal communication: Narrative 17) (which indicates incompetence) and another that *“making a few mistakes on an examination form does not justify a 1”* (Personal communication: Narrative 12).

4.2.2 THE WHAT OF ASSESSMENT

“In my opinion, our knowledge gained during lectures or from text books is tested during the clinical assessment. It determines whether we can apply theoretic knowledge practically.” (Personal communication: Narrative 1). It seems that the students understood that not only

were their practical and judgement skills assessed, but also that what had been learnt in theory, was ‘tested’ in the clinical situation whilst performing procedures on real patients. They indicated that their knowledge and understanding of the work was assessed, and in the process mistakes were pointed out. As examples, they mentioned the identification of oral manifestations and instructions given to patients - *“Ek verstaan assessering as ‘n metode om te bepaal of ‘n student genoeg praktiese en akademiese ervaring ontvang het om pasiënte te kan behandel. Die korrekte mondmanifestasies kan identifiseer en behandel, asook die korrekte voorligting aan ‘n pasiënt te kan oordra, om hul basiese mondgesondheid te verbeter.”* (Personal communication: Narrative 15). One student wrote: *[I enjoy it when assessors ask questions about the theory that I should practically apply as they then test my knowledge and I also test my own knowledge]* (Personal communication translated: Narrative 5).

Students also indicated that their practical skills and experience were assessed. Four students wrote that progression was assessed while others mentioned that their improvement together with potential were assessed. Standards once again featured strongly as an aspect that was assessed, and were commented on by five students – *“Dit maak studente bewus van spesifieke areas waarin hulle nog nie die standaard wat verlang word bereik het nie”* (Personal communication: Narrative 3); *“weet of jy op ‘n aanvaarbare goeie standaard is”* (Personal communication: Narrative 9).

These perceptions are consistent with literature findings. According to Mossey and Newton (2001), for any given clinical procedure 25% is operative and 75% is knowing. Macluskey, Hanson, Kershaw, Wight and Ogden (2004) indicates that competence involves assessment of knowledge, practical skill and attitude. Assessment should furthermore be formative and continuous to determine student improvement and professional growth (Prescott et al., 2002; Taleghani et al., 2004).

4.2.3 LEARNING AND BECOMING COMPETENT

Not many students commented directly on the learning process and on how the assessment contributed to their learning and becoming competent oral hygienists. This issue therefore needed some more exploration to obtain richer data, and was further pursued in the interviews. Students indicated that they learned from the assessors - *“’n Mens leer uit jou*

foute en leer van mense wat meer en beter weet as jy! Daarom kan jy jou kennis verbreed” (Personal communication: Narrative 7), and that they learned through feedback, discussion, and questions asked - *“Vir my is terugvoer die belangrikste van leer, want dan weet mens waar staan mens ten opsigte van ‘n suksesvolle mondhigiënis.”* (Personal communication: Narrative 5); *“Dit is lekker as ‘n lektor jou kennis toets tot die uiterste en jy dan in die proses iets leer.”* (Personal communication: Narrative 5). Feedback as a way of learning elicited specific comments from the students. Students indicated that they learned when the assessors asked questions to the student, when they were allowed to ask questions to the assessor, and when positive criticism was offered. Students also needed to hear when they did things ‘right’ as this sensitized them for the correct way of performing clinical procedures.

Other students mentioned that they learned through their mistakes and in this way their clinical knowledge was enhanced. There was a perception that learning had been compromised by different opinions of assessors - *“Die een leer jou so en die ander so. Wat is reg? Op hierdie manier word leer en vaardigheid beïnvloed as gevolg van gekompromiseerde opinies van lektore.”* (Personal communication: Narrative 8).

Only one student mentioned self-assessment as a way of learning - *“Studente kan hulleself assesseer eh hulleself probeer verbeter”* (Personal communication: Narrative 4), and another commented on reflection as a way of thinking on what had been done - *“ek gaan nadink oor wat ek verkeerd gedoen het en ek kan leer uit my foute uit”* (Personal communication: Narrative 7). This is something that specifically needed exploration to determine how other students perceived self-assessment and reflection, and was therefore addressed in the interviews. Students perceived that theory and the integration thereof were assessed during clinical assessment and therefore it was perceived that knowledge was ‘tested’ and that knowledge was ‘broadened’.

According to Bowers and Wilson (2002), “learning is a process whereby prior experience is interpreted to construct a new meaning of this experience” (p. 1146). This would ultimately involve critical thinking, problem solving, and decision making, to provide optimum patient care. Learning in the clinical ward centres on patient care and in providing this care the ‘clinical teacher’ or assessor interacts with the student on a one-to-one basis (Fugill 2005). It is here that feedback and discussion features as an important and essential contributor to learning. CPA should have an impact on learning, i.e. assessment for learning, or in other

words have consequential validity (Van der Vleuten & Schuwirth, 2005). Trotter (2006), agrees with this as she states that “good assessment will be as useful to students as possible and will have a greater influence on how and what students learn than any other single factor” (p. 3).

4.2.4 IMPLEMENTATION OF CPA

Codes were categorized into eight clusters to form this specific theme. It seemed appropriate to group together all aspects regarding the day-to-day implementation of CPA. These clusters are the criteria in the rubric, the ratings used to assess students, consistency of assessors, fairness of assessors, opinions of assessors, observation of assessors, feedback by assessors, and lastly specific feelings and experiences of the students.

4.2.4.1 CRITERIA INCLUDED IN THE RUBRIC

The oral hygiene students had very specific perceptions of the criteria that formed part of the rubric (see Appendix A) used in CPA. They perceived the criteria as a guideline indicating the requirements they had to adhere to in order to get a rating or ‘mark’ as they referred to it. One student mentioned that the ratings represented “*a specific percentage on how effective the student has performed*” (Personal communication: Narrative 6). Six students indicated that they had experienced the criteria as fair but it was specifically mentioned that the various assessors did not use the criteria in the same manner - “*...the main problem is that different lecturers have different criteria that we are judged on.*” (Personal communication: Narrative 10); “*Wat wel verwarrend is dat alle dosente nie dieselfde volgens die kriteria werk nie en dat jy as student met elke ander dosent verskillend te werk moet gaan.*” (Personal communication: Narrative 9). It appears that consistent application of the criteria was important to the students, and are teased out in section 4.1.4.3.

Students also indicated that the criteria should be looked at more often when giving a rating and that it was unfair if assessment was based on things other than the criteria - [*I felt that I followed the criteria but the lecturer did not.*] (Personal communication translated: Narrative 13); “*I feel the criteria are fair and if we are suppose to look at the criteria when we are given a mark, then the lecturers should also refer to it more often as well.*” (Personal

communication: Narrative 12). They mentioned the mood of the assessor as well as bias towards certain students as examples.

Comments such as that some assessors never gave a rating of 3, even if a student deserved it, whereas others were more willing to give a rating of 3, and that some assessors (especially those with less clinical supervision sessions) did not know the criteria which they were to use. The question was raised [*how can they assess if they do not know the criteria?*] (Personal communication translated: Narrative 8). There were also perceptions of subjectivity, and that the criteria used were less strict for giving ratings of 2 or 3 than for 0 or 1. These comments correlate with the perception of inconsistency, as discussed in Section 4.1.4.3 that students experienced with the assessment.

Other remarks noticed were that the criteria were sometimes vague and unclear, criteria were contradictory, and criteria were opinionated and too broad. *Enthusiasm of the student* was mentioned as an example of assessors basing their assessment on an opinion. The students recommended that other criteria regarding patients and circumstances be included for assessment, for example patients that arrive late for appointments, difficult patients, and extra things that the student does for the patient. According to the literature (Davies, 2005), when students are assessed, the environment and context of the assessment should be taken into consideration, for example the patient and the clinical problem.

4.2.4.2 RATINGS/MARKS RECEIVED BASED ON THE ASSESSMENT

It appears from the narratives that the students perceived marks as very important. Although they indicated that assessment was done to determine competency and standards, to indicate progression, and to learn and gain experience, marks played a major role in their perception of the clinical performance assessment. Almost all of them indicated that they worked towards good marks, that they felt that they deserved ratings of 3 instead of 2, and that good marks motivated them and gave them confidence. Some expected ratings of 3 and felt very disappointed and even cheated when receiving a rating of 2, even though a 2 declared them competent. They experienced a rating of 2 as ‘only satisfactory,’ and a rating of 3 as ‘exceptional.’ This could possibly be ascribed to the fact that a rating of 3 equalled 75% (according to the rubric).

Some of the comments they had written were that 3's were nice, 3's were for good and hard work, 1's made them negative, some lecturers never gave 3's, they saw no reason for 1's, a bad mark was easier given than a good mark, some never got 3's, and when they really felt that they had deserved a 3, a 2 was given.

Brookhart and Devoge (1999) are of the opinion that students experience specific expectations each time they are assessed. Students also experience the degree to which they meet those expectations, in this instance by 'getting a mark.' Therefore, this seems to be in line with the findings of this study as well.

4.2.4.3 CONSISTENCY AND FAIRNESS OF ASSESSORS

Thirteen of the 19 students had perceptions of inconsistency and unfairness. They experienced some assessors to have been stricter than others following the criteria whereas others were more generous with the ratings. Assessors were perceived to have different perspectives on how to assess. Students felt that some assessors 'judged' them on how the assessor 'felt on the day,' and with prejudice towards certain students. The students experienced this as unfair, and unfairness demotivated them. The issue of motivation links to learning because "*why should a student then bother*" (Personal communication: Narrative 12). This sentiment of the student is described in literature where motivation is seen as "the engine that drives teaching and learning" (Harlen, 2006, p. 61).

Students also had a concern regarding the inconsistent application of the criteria. It is critical that criteria be clearly defined, and that different assessors work to agreed standards when assessing performance (Scott et al., 2001). This would ultimately make the assessment more reliable. The issue of reliability is addressed as one of the recommendations in Chapter 5 (see Section 5.5).

Some other remarks in the narratives concerning consistency were that assessors were often inconsistent, assessors did not always keep to the assessment criteria, different assessors wanted different things, and some assessors let their 'emotional mood' influence their assessment. The Baylor College of Dentistry (Taleghani et al., 2004) had previously used a similar assessment system as CPA, and it is commented by the authors that this system was highly subjective and susceptible to individual assessor personalities. According to Govaerts

et al. (2006), rating outcomes are influenced by interactions between individuals, and the context in which the assessment happens. Assessor behaviour could be affected by contextual factors such as assessor motivation and values of assessors.

4.2.4.4 OPINIONS OF ASSESSORS

Six students commented on the different opinions assessors had and this linked with the perceptions of inconsistency as discussed in section 4.1.4.3. One student was of the opinion that students could lose self-confidence because of a lecturer's opinion. Macluskey et al. (2004) state that some students may lack confidence in certain procedures, and this may be intensified by variation in the level of encouragement given by some assessors. One student recognized that each assessor had a professional opinion due to own experience, which was not necessarily a bad thing. However, it could have an influence on the setting of standards - *"Almal is mense en elkeen het 'n eie professionele opinie. Nie noodwendig sleg nie, maar hoe stel ons dan 'n standaard?"* (Personal communication: Narrative 8).

4.2.4.5 OBSERVATION OF ASSESSORS

Another issue students had with CPA was being observed by assessors. They had to be observed as part of the assessment process. Students experienced assessors as not paying attention in the clinical ward, and because of this they had perceptions that their efforts were not acknowledged, that their work was taken for granted, and only mistakes were noticed, and not the trouble taken with a patient. One student was of the opinion that it was impossible for assessors on duty to observe all students and to make decisions on students' competency. Comments were as follows:

"The lecturers aren't even listening to what I am saying." (Personal communication: Narrative 10); *"Efforts are not always acknowledged because lecturers don't always see the interaction between you and your patient."* (Personal communication: Narrative 10); *"Baie keer gebeur dit dat goeie werk op pasiënte soos goeie skaleer of goeie voorligting of selfs rookvoorligting waar die pasiënt gemotiveer word om op te hou of selfs minder rook net nie raak gesien word nie."* (Personal communication: Narrative 5); *"Lektore let ook soms meer as ander kere op. Wanneer mens baie moeite doen word dit soms nie gesien nie."* (Personal communication: Narrative 8).

4.2.4.6 FEEDBACK

Students perceived feedback as another problem area - “...word nooit met jou bespreek hoekom en wat het jy verkeerd gedoen nie. So dan leer mens eintlik niks en jy kry nie ‘n kans om jou saak te stel nie.” (Personal communication: Narrative 5). What the students had done wrong was not discussed, and if mistakes were mentioned, no recommendations, or correct methods were provided. They found it disturbing when they were not ‘helped right.’ Students experienced it ‘helpful’ when mistakes were not only pointed out, but also how to fix it. Students also needed their opinion to count in the assessment process, and indicated no opportunities to ‘present their side of the matter’ - “ sal lekker wees as mens na die tyd met dosent kan praat oor die pasiënt – hulle mening en ons mening.” (Personal communication: Narrative 18).

The perceptions about feedback are in line with a study done by Drew (2001), where it was indicated that students viewed effective feedback critical to build self-confidence. The respondents in Drew’s study (2001) linked feedback with support that linked to good communication channels, especially as assessment is an interactive, not a judgmental process, and opportunities exist to enter into dialogue with students. Trotter (2006) considers feedback as the lifeblood of learning, and a good assessor will be effective in promoting learning. In a study done by Victoroff and Hogan (2006), dental students indicated approachability, openness to questions, and willingness to give guidance and feedback, as very important.

4.2.4.7 FEELINGS AND EXPERIENCES REGARDING BEING ASSESSED

Students used words such as anxious, nervous, fear, scary, difficult, confusing, humiliated, and unhappy and disappointed, in their description of CPA. Some experienced fear and anxiousness with certain assessors, whilst others felt that the whole assessment process were difficult and confusing. Others felt humiliated in front of their patients through the way they were addressed by certain assessors - “Dit is ook vir my sleg om voor pasiënte uitgetrap te word as sekere feite nie geken is nie, voel dis onprofessioneel.” (Personal communication Narrative 15); “Soms is dit ‘n vernedering vir die student voor haar/sy pasiënt oor hoe die foute soms uitgewys word.” (Personal communication: Narrative 6).

The students indicated that, in the beginning, they did not know what to expect regarding CPA. They felt that they were still inexperienced with patients and that it was impossible to get everything right all the time. According to one student *“things are not always that black and white and making a few mistakes on an examination form does not justify a 1. Certain criteria had to be filled to pass (get a 2) made me feel more anxious especially being inexperienced with patients.”* (Personal communication: Narrative 12).

4.2.5 RECOMMENDATIONS TO IMPROVE ON CPA

In the narratives written, it appears that the students had specific impressions about the assessment, and that they felt the need to make specific recommendations for improvement. Four main recommendations regarding the assessment were commented on namely, feedback, the way the assessment was being implemented, consistency, and acknowledgement of good work (giving the student recognition). It appears that students were in need for discussion with the assessor to be informed of problems, to know about strengths and weaknesses, but also to hear positive things about their interaction with patients, and the procedures they performed. Through discussion and feedback, they could also be acknowledged by the assessor, by getting recognition and compliments. It seems that some students needed to be rewarded for performance, and perceived being rewarded as receiving acknowledgement for good work - *“...sal dit gaaf wees dat dosente dit raaksien, erken en studente beloon daarvoor”* (Personal communication: Narrative 11).

Two students commented about trust in the assessment system. They wrote that both students and assessors should have trust in CPA that would result in the serious implementation thereof. Furthermore, one student suggested that two assessors assess one student, another recommended that assessors should compensate, and two others wanted students to be treated equally. One student recommended the assessment should be even more practice-oriented by focusing on practical experience. This is what she wrote: *“Ek leer die beste deur praktiese ondervinding en ‘n lektor wat op my hammer om my eie kennis te toets en toe te pas as ‘n lektor wat kla oor kopsakkies, halimeter en poleerpasta. Praktykgerigte kritiek is die beste, want dan weet jy dit gaan jou net bevoordeel as jy dit toepas. Maar weereens positiewe aanmoedig werk net so goed.”* (Personal communication: Narrative 5).

Consistency was an issue that featured strongly in the students' experience with the assessment (see Section 4.1.4.3). Nearly all students perceived the assessors to be inconsistent and unfair, and some of them actually recommended that assessors should be consistent, fair, mutual, honest, and professional. One even recommended that assessors should be 'talked' to about fairness and what this means. They indicated that assessors should focus on the learning rather than on criticism that is not constructive - *"To achieve better success in the clinical wards I feel that there has to be consistency amongst the lecturers, there must be the same standards among all of the lecturers and the criteria must be used the same by all of the lecturers, just like we are told to leave our personal problems at the door the same should be said about the lecturers, if you are having a bad day don't take it out on us."* (Personal communication: Narrative 12).

Competency-based assessment methods should adhere to certain principles, such as being reliable, consistent and fair, providing feedback and encouragement, enhancing learning and motivation, and being meaningful to the student (Kerka, 1993). Schönwetter et al. (2006) identified certain desirable behaviours from assessors based on their research, namely professional competence, approachable personality, consistency, availability, and understanding of the limits of student knowledge. This is also what the oral hygiene students indicated they needed from the assessment and the assessors. Consistency and fairness were some of their major issues, as well as feedback and encouragement.

4.3 THE INTERVIEWS

Certain issues pertinently came out from the narratives, and these issues were followed up in the interviews for two reasons, namely firstly to corroborate the data, and secondly to explore the issues to obtain richer and more substantive data. The reader is referred to Appendix B for the interview schedule, and to Appendix F for the coding framework of the interviews, and for the transcriptions of the interviews.

The interviews were transcribed and then analyzed by means of coding, clustering and themes, making use of a coding framework (see Table 3.2). Four themes were derived from the data, namely:

(i) Implementation of clinical performance assessment

The students commented on how they experienced the implementation of CPA from

day-to-day. Issues such as consistency, fairness, the criteria in the rubric, and importance of marks, were investigated for richer data.

(ii) Learning and becoming competent through CPA

As the students did not write about learning in depth, this issue was followed up in the interviews. The students commented on how CPA impacted on their learning, and how they learnt or became competent through CPA. Self-assessment and reflection as a way of learning, as well as other ways of learning were discussed.

(iii) Expectations regarding CPA and recommendations for improving CPA

The students indicated in no uncertain terms what expectations they had about the assessment, and they made suggestions on how they felt CPA could be improved.

(iv) Feelings regarding being assessed

The students displayed certain feelings about the assessment that are more general in nature but important to mention. The way they coped with issues regarding CPA emerged from the interviews, and was not written about in the narratives.

4.3.1 IMPLEMENTATION OF CPA

4.3.1.1 CONSISTENCY

All four students that were interviewed had strong views regarding the consistency of the assessment, and these views were in line with what was commented on in the narratives - *“Met sekere dosente kom mens beter oor die weg as met ander. Partykeer voel dit half die wat jy nie mee goed oor die weg kom nie of hulle jou half benadeel by jou pasiënte.”* (Personal communication: Interviewee A3). They indicated that some assessors were stricter than others and that assessors did not keep to the criteria - *“Ek verstaan hare in die oë, maar dis hoekom ek sê dis relatief. Wat vir die een hare in die oë is is nie vir ‘n ander hare in die oë nie.”* (Personal communication: Interviewee B5). The students experienced viewpoints of assessors differently, and the assessment was experienced differently on different days, depending which assessor did the assessment. The mood of some assessors on the day influenced the assessment, and it was experienced that if the assessor did not like a student, poor marks were given - *“..maar as sy sê maar daardie dag in ‘n slegte bui is sal sy my sommer dadelik ‘n 1 gee of onredelik wees... jou punte word geaffekteer deur dit.”* (Personal communication: Interviewee A3); *“Definitief as die dosent nie van jou hou nie sal sy sommer vir jou ‘n 1 gee, maak nie saak of jy net so goed is soos die ander.”* (Personal communication: Interviewee D1).

It was also perceived that some assessors were adamant about having things their way, by means of focusing on different aspects regarding the assessment and the examination form, or enforcing their opinions, regardless of the criteria. One student commented, for example, that a diagnosis meant different things to different assessors, *“Die een sal sê hoekom het jy nie geskryf by diagnose onvoldoende mondhygiëne nie en die ander een sal sê dit is nie ‘n diagnose nie, dit is ‘n probleem.”* (Personal communication: Interviewee A5). There were even inconsistency about matters such as when to perform a certain procedure or not, leading to frustration and confusion. Scott et al. (2001) state “it is critical that different assessors are working to agreed standards when assessing performance” (p. 32). There should be high inter-subjective agreement between assessors when making professional judgments, an aspect that appear to be lacking, based on the comments made by the students.

One student said that she dealt with the inconsistency by trying to please each assessor in a different way. As she got to know the assessors, she came to realise what each assessor focused on, and then also focused on that when presenting or treating a patient. She indicated, however, that this was not the right thing to do - *“Met elke dosent wat in die saal kom hanteer jy jou pasiënt soos wat die dosent wat jou kom assessee wil, wat eintlik nie reg is nie.”* (Personal communication: Interviewee A5).

4.3.1.2 PERCEIVED FAIRNESS OR LACK THEREOF

Two students indicated that it was unfair if the mood of the assessors influenced their assessment. This correlates with the perception that emerged from the narratives, namely that assessors judged students on how the assessor ‘felt on the day.’ What pertinently emerged from the interviews was that certain assessors had a ‘buddy-buddy’ relationship with some students. This was unacceptable to the interviewees, as it led to perceived unfair assessment practices. Another element highlighted, for example, was to get a rating of 0 for untidy hair, especially if other students were not penalized in the same way. Some students received a rating of 3 for extra work, where others merely received a 2, even though they also did extra work. They felt that assessors should not be partial to certain students. Furthermore, it was unfair that assessors looked at the person, and not performance and effort - *“’n Mens kan nie die een ou voortrek omdat jy meer van hom hou, hy smile elke dag mooier as die ander ou doen en daarom gaan hy ‘n beter punt kry as wat die ander ou gaan. Ek dink nie dis altyd so regverdig nie. Dosente moet nie kyk wie die persoon is wat dit gedoen het nie, hulle moet kyk*

eerlikwaar wat se werk gedoen is en hoeveel moeite is ingesit met 'n pasiënt." (Personal communication: Interviewee C2).

One student strongly indicated that she felt that there was a lot of structure, and that students had to work in a 'box.' It was unfair to her if she was not allowed to use her own opinions and ideas, especially since she would be practising on her own soon, and would then be forced to work independently - *"Ek voel daar is baie struktuur en jy moet baie in 'n boksie doen. En ek dink dis waar ek gevoel het dis onregverdig, want ons moet die pasiënte self behandel soos ons dink en dan moet ons daarop geassesseer word. Maar ek voel nie 'n dosent was onregverdig omdat hulle nie van my gehou het nie."* (Personal communication: Interviewee D5).

It appears that these perceptions of unfairness are quite valid as Mossey and Newton (2001) state that assessment of clinical procedures tends to be assessed subjectively, and marks awarded often with little or no explanation, thus making the assessment unfair. These authors (Mossey & Newton, 2001) state that, as learning is assessment driven, students must experience assessment to be fair and objective, however.

What was important was that all students indicated that by means of discussing the assessment and result would allay the feeling of unfairness, and that the assessment would be fair and valid if done 'properly,' and perhaps would explain why assessors were allocating certain marks to some and other marks to others. One student said that she realized that she was learning, and that cancelled out the feelings of unfairness. Another student said that her positive attitude helped her to cope with issues such as unfairness, and a third felt that it was unfair if assessors differed, and that something should be done about it.

4.3.1.3 THE CRITERIA IN THE RUBRIC USED FOR ASSESSMENT

Three out of the four interviewees commented that the assessors did not keep to the criteria, that they did not use the criteria strictly, and that not all of them were acquainted with the criteria - *"Ek dink nie die dosente weet almal wat in daai kriteria staan nie. Dis nie hoe dit vir my lyk nie."* (Personal communication: Interviewee C2); *"Ag die kriteria is vir my heel volledig, maar ek dink nie al die dosente hou by die kriteria nie."* (Personal communication: Interviewee D8). Assessors should collaborate to make clearly-defined criteria, to improve

objectivity and to make the assessment more reliable (Scott et al., 2001). Furthermore, the provision of criteria for assessment to both assessors and students could ultimately lead to more equitable and consistent assessment (Tennant & Scriva, 2000).

Two of the interviewees said that the criteria were vague and not specific enough, one experienced it as ‘ok,’ and the fourth said that it was ‘quite specific.’ However, the students used the criteria to ‘measure’ themselves, to ‘check’ themselves, and a poor rating ‘made them go back to the criteria.’ One student said that the criteria helped her to learn. It was evident through the interviews, however, that the students did not keep the criteria at hand to refer to, as they were supposed to do - *“As iemand daarvoor vra sal ek dit uithaal, maar dit lê nie altyd daar nie”* (Personal communication: Interviewee B5) and neither did they know the criteria off by heart - *“Kyk ek kan nie sê dat ek die kriteria uit my kop uit ken nie”* (Personal communication: Interviewee C4).

4.3.1.4 IMPORTANCE OF MARKS

It appears from the interviews that marks were very important to students. The interviewees commented that students worked for marks, that marks and passing were important, that they compared their marks with each other’s, and that good marks were strived for. They wanted to distinguish between ‘good and better.’ On mentioning to them during the interview that a rating of 2 indicated competency, it was replied that they had been told that ratings of 3 were important, and that ratings of 1 indicated poor performance and failing - *“Mens wil tog jou beste doen, jy wil voel ek kry ‘n 3, want ek het my beste gedoen. Ek voel dit word verkeerd aan ons oorgedra en as daar nie so baie op ons gesit is om goed te doen nie sou ons nie so gevoel het oor die punte nie.”* (Personal communication: Interviewee B4).

The students wanted to be ‘more than competent.’ Therefore a rating of 2 was perceived as ‘good’ or ‘fine,’ a rating of 3 as ‘very good,’ and a rating of 1 as ‘a mistake or ‘failure.’ Ratings of 3 motivated them, it built their self-esteem, and it was seen as an accomplishment. They could ‘brag’ about ratings of 3, although one student said that the competitiveness was not ‘nice.’ They wondered why they received ratings of 2, even when their performance had been better - *“Ons as studente soek maar ons punte. Waar as jy vir twee ure hard gewerk het en jou alles gegee het en kry ‘n 0, weereens voel dit vir jou ek kon maar net sowel by die huis*

gesit het.” (Personal communication: Interviewee C3). One student perceived ‘bad marks’ and the assessor ‘not liking you’ as going hand in hand.

Students said that marks without feedback is ‘no good’ and they did not always know the reason for a specific rating. Although the criteria gave a qualitative description of what a rating means, it appears that students wanted specific feedback on what was good or bad, and how this could be improved on in practice. It appears that they felt that they were acknowledged and supported by feedback. One student said that assessors had always indicated to her the reasons for ratings of 1. The four students also indicated that the marks were there to ‘measure yourself and your improvement.’ They agreed that in the end it should be about ‘patient management and performance and not only about marks.’

4.3.2 LEARNING AND BECOMING COMPETENT THROUGH CPA

Four issues regarding learning and becoming competent emerged from the interviews, namely reflection, self-assessment, feedback, and ways of learning. One student said that she thought about what she had done after a rating of 1 or 3 was given. These thoughts included what was wrong, and how she could improve - *“In my kop dink ek oor wat ek gedoen het met my pasiënt. As ek iets gedoen het wat anders is as wat ek gedoen het in my eerstejaar. Op so ‘n manier kom ek dit agter en so kan ek myself assesser.”* (Personal communication: Interviewee C6). The other students thought that reflection and self-assessment were done more in a sub-conscious manner to ‘test’ progression and improvement. This seems to be substantiated in literature where self-assessment is seen as encouraging students to compare their knowledge and experiences with the opinion of the assessor (Bowers & Wilson, 2002). In addition, training in self-assessment changed students thinking processes, and became a thinking tool in clinical procedures (Bowers & Wilson, 2002).

Feedback as a way of learning featured strongly with all four students - *“Ja, ek wil net partykeer hê ‘n dosent moet sê weet jy jy het goed gewerk, maar ek dink in praktyk moet jy so en so met die pasiënt gepraat het. Ek dink dis lekker, want dan leer jy”.* (Personal communication: Interviewee D3). To one student, learning equalled feedback, while another two students indicated that positive feedback regarding the procedures that had been performed ‘aided’ learning. They said that they learnt more if feedback was given ‘in a nice way.’ They did not learn if ‘scolded’ in front of a patient, or when they felt embarrassed in

front of the patient. As a matter of fact, it was said that embarrassment inhibited learning, as [*all you thought about at that moment, was that the patient thought you to be incompetent*] (Personal communication translated: Interviewees B6 and C6). Fugill (2005) emphasized the power that feedback put into the hands of the assessor. In this regard the smallest word or sentence could make a difference.

The students learned from their mistakes if made aware of it in a constructive manner - “*..So leer mens maar uit jou foute uit.*” (Personal communication: Interviewees A5, B3 & D3). The tone of voice was indicated as important. The students learned through assessors when they were tutored by them. They learnt through discussion, through questioning, and with each assessor they learnt something different. Assessor-student interaction during assessment can be helpful, and can bring out deeper understanding, and after the assessment, both assessor and student can reflect on progress of the student (Kerka, 1993).

The students also said that they learned more practically by doing and seeing than theoretically as in a traditional ‘chalk and talk’ fashion. Each different patient and each different mouth were an opportunity for learning - “*Mens onthou dit en as jy dit eers gesien het en dis vir jou gewys onthou jy dit verskriklik maklik.*” (Personal communication: Interviewee A6). Repetition also made them learn, although one student indicated that she did procedures over and over, but did not always learn something new. As one student said [*I am here to learn and assessment helps me to learn but it depends on the assessors*] (Personal communication translated: Interviewee B3). She further commented that assessment should influence learning positively. Another student commented that [*learning continues after studying*] (Personal communication translated: Interviewee D9).

It was confirmed during the interviews that the students perceived the assessor as playing a vital role in their learning. The assessor was the one who gave feedback, who made them aware of their strengths and weaknesses, and who shared his/her experience with students. The professional conduct of some assessors was perceived to be lacking, and this influenced learning. Concerning the perception from the narratives that learning was compromised by different opinions, it was said in the interviews that the assessors had different foci and opinions on what was important, and that indicated inconsistency that led to frustration and demotivation that had a influence on student learning.

4.3.3 EXPECTATIONS OF CPA AND RECOMMENDATIONS TO IMPROVE CPA

4.3.3.1 ASSESSOR RELATIONSHIPS WITH STUDENTS

The students commented that assessors should at all times act professionally - *“Die dosent moet professioneel optree, hulle moenie baie vriendelik half buddy-buddy met die studente wees nie... nie soos ‘n vriende-tipe verhouding nie”* (Personal communication: Interviewee A4). According to them, this should entail equal treatment of students, to be neutral towards students, and not to judge them on the personal feelings they had towards the students. The students perceived some assessors to have had a ‘buddy-buddy’ relationship with certain students. Only two things should be important, namely ‘performance and human relations,’ and therefore a student should not be ‘judged on what the assessor ‘thinks’ about the student. Professional conduct further should entail assessing reasonably, and bearing in mind the way feedback is given, for instance the tone of voice. Two students indicated that they experienced some assessors ‘shouting’ instead of talking to them. They would also prefer to have discussions of problems after the patient has left, to prevent embarrassment, and to give them an opportunity to ask the assessor questions.

The students indicated that they wanted recognition, and they wanted improvement in their work. Assessors should respect students more through the way they address them, and talk in a ‘nice way,’ especially in front of patients. Students should also be allowed to ask questions and have an opinion, especially where they felt that they were assessed unfairly. They believed that self-confidence could be built through recognition, and that, when one felt self-confident, it enhanced learning and performance. The recognition and respect that these students expected from assessors, goes hand in hand with what students recommended in the narratives. There the word ‘acknowledgement’ was used. Students expected communication that entailed critique, but also compliments and positive encouragement.

4.3.3.2 CONSISTENCY

All four students repeatedly spoken of consistency (discussed in section 4.2.1.1). They needed assessors to be consistent, and to assess strictly according to the set criteria. This would alleviate being too strict, or focusing on trifle things, such as hair, or giving ratings of 0 for small mistakes. They expected assessors to agree on facts, because inconsistency led to frustration and demotivation. They recommended that assessors be trained, although one

student said that she had her doubts if this would benefit the students. One student said that it was good to be exposed to different assessors, as one learnt from each of them, but that they still should abide with the criteria.

The criteria, according to the students, played a major role in the consistent execution of the assessment. Both student and assessor should interpret the criteria the same way. They recommended that students only be assessed either being competent or incompetent, and that no marks be coupled to this. It should not be about being rewarded, but about competence.

4.3.3.3 FEEDBACK

Feedback once again featured in the expectations and recommendations the students, and this is in line with what the literature states. Fugill (2005), indicated that “they [students] appreciated feedback that was accurate, comprehensive and systematic, and was provided in a positive emotional environment” (p. 134). The oral hygiene students in my study placed a high premium on feedback as part of the learning process (see also Section 4.2.2), and wanted more feedback and communication in a ‘nice way.’ They learned through questions, and through the assessor sharing his/her experience with the student. This gave them clarity on their mistakes, and the ratings they were given. The students wanted verbal as well as written feedback containing detail, as this is how they learnt - *“Baie dosente sal vir jou ‘n 1 gee en dan sal hulle wegstap. Dan weet jy nie hoekom het jy ‘n 1 gekry nie en dan dink jy dis seker maar omdat.”* (Personal communication: Interviewee D3).

It appears from both sets of data that feedback from the assessor is the most important aspect of CPA. Students wanted to hear about their strengths and weaknesses, they wanted to hear about their improvement, and they needed to be informed why a specific rating was allocated. Trotter (2006) states that it is important for students to get feedback as a sense of their own progression, and not only grades/scores, but feedback discussion and written comments on assessed work. However, she also states that there is danger of students becoming too dependent on this support.

4.3.3.4 FEELINGS ABOUT CPA AND BEING ASSESSED

In the narratives, students indicated their ‘feelings’ about being assessed by using words such

as anxious, nervous, fear, confusing, and humiliated (see Section 4.1.4.7). These feelings were explored further in the interviews. The four interviewees expressed certain feelings they had about the assessment. These feelings varied among the four students. One student said that she had no feelings of stress, fear or anxiety, as she was able to handle criticism, and she had a positive attitude - *“As ‘n student se attitude nie reg is nie kan sy die assessering maklik verkeerd ervaar. Dis ‘n keuse wat elke student moet maak.”* (Personal communication: Interviewee B3). The three others experienced anxiousness in their first year, and where they felt an assessor did not like them. One student said that she sometimes felt too scared to ask questions, whilst another often felt incompetent, ashamed, and embarrassed by the assessment. Another feeling that strongly featured with two of the students was demotivation. Things such as unfairness and ratings of 1 demotivated them - *‘As mens jou bes doen en jy kry omtrent in een week vier 1’s, dan gaan jy gedemotiveerd raak en dan gaan jy voel ek doen my bes en ek kry net slegte punte.’* (Personal communication: Interviewee D5); *“Dit is nie vir jou regverdig nie, mens raak half omgekrap, dit is nie vir jou lekker nie dan voel jy sommer gedemotiveerd.”* (Personal communication: Interviewee A3). They all agreed that with any assessment, there is stress. Assessment is one of the key factors that has an affect on motivation (Harlen, 2006). It is also asserted that assessment drives learning, but assessment could also inhibit learning (McLachlan, 2006).

What emerged from the interviews were the coping mechanisms students had in place with regard to the CPA, and ‘testing’ environment. It appears that their perceptions of, and their experiences with, the assessment ‘forced’ them to adapt. One student said that she chose to be positive about the assessment, although there were things bothering her. She also tried not to ‘worry’ about the assessment, did what she had to do, and accepted what the assessors said, as she could not question an assessor’s integrity - *“Ek gaan aan en doen wat ek moet doen.”* (Personal communication: Interviewee B5). For another student, it was easier when she focused on the patient and the patient’s feedback and satisfaction, instead of the assessor and the assessment - *“Ek probeer vergeet van die dosente en konsentreer op my werk en ek geniet wat ek doen.”* (Personal communication: Interviewee D6). This student also focused on how she could improve, and worked towards that with every patient. She said that she liked the assessment as it made her ‘care.’

The students felt that assessment was necessary to use as a guideline for learning, but indicated that they did not think it was easy. One student commented that it sometimes felt as

if the purpose of assessment was missed. It was nice to look back and see improvement, however.

4.4 CONCLUSION

In this chapter the findings of the research were provided as two sets of data, one from the narratives (see Section 4.1), and one from the interviews (see Section 4.2). Quotations were used to illustrate student perceptions, and furthermore, I endeavoured to present the findings in a concise manner for easy reading. These findings should be understood in context, the context being clinical teaching and assessing, and that the comments come exclusively from oral hygiene students.

The overriding impression from the analysis of student narratives and interviews is that the oral hygiene students in general felt positive about CPA, apart from the problems they experienced with inconsistency, unfairness, lack of feedback, and lack of professional conduct on the part of assessors. These issues led to frustration, confusion, and demotivation, impacting on their learning and becoming competent. The students seem to have had a good understanding of why CPA was done and what was assessed with CPA. Perceptions of inconsistent application of the criteria in the rubric, by the assessors, seemed to emerge quite strongly, in that some assessors were either too strict or too lenient, involving their emotional status in the assessment. What appears from both the narratives and the interviews, is that inconsistency and unfairness went hand in hand, and it was a lived experience of 13 of the 19 students.

Relationships also seem to be highlighted, in that the students experienced problems in relation to certain assessors. There almost seemed to be a sense of indignation, and students stated that assessors should treat all students the same, be fair to all students, and act professionally by respecting students. Feedback by assessors on student performance was experienced by the students as lacking, and they needed both positive and negative feedback in the form of discussion, questioning, and reasoning. Through feedback, students felt encouraged, motivated, and supported.

The next chapter entails a summary of the findings, with a reflection on the literature based on these findings. I also reflect on the conceptual framework of CPA, based on the findings.

Further recommendations are made based on the outcome of this study, and I provide the scientific value of this study. Lastly, the constraints of this study are outlined.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

In Chapter 4, themes from the narratives and interviews were presented, and in this final chapter, a summary of the findings (see Section 5.3) is provided according to the research questions, while I reflect on the literature on which these findings are based. In section 5.4, I reflect on the conceptual framework based on the findings, in section 5.5, recommendations are made based on the outcome of this study, and in section 5.6, I provide the scientific value of this study. Lastly, the constraints (see Section 5.7) of this study are provided.

5.1 INTRODUCTION

When I initially thought about investigating CPA, I had no idea at that stage about the research questions, a rationale, and a purpose for the study. All I knew for sure was that I had an intense interest in assessment and student learning. The learning was important, as I wanted them to become the best possible oral hygienists. Only after a student one day burst out in tears about the assessment not being fair, and saying that she saw no point in being assessed, my thoughts were stimulated. The student was convinced that *“Ek kan sonder assessering nog steeds ‘n goeie mondhygiënis word.”* This triggered something about perceptions and beliefs that students might have, and I started thinking about the effect of this. The only way was to find out. The starting point was the students’ perceptions of CPA, and how these influenced learning. The research question was therefore formulated as *“How do oral hygiene students’ perceptions on CPA influence their learning experience?”*

5.2 SUMMARY OF THE RESEARCH DESIGN

In this research, a qualitative approach was followed, rooted in an interpretivist paradigm. Answers were sought on the perceptions of oral hygiene students on CPA as they had experienced it. Through this approach, an in-depth and rich description could be made on the perceptions of the students, by interpreting the data. The idea was to gain insights. A case study design was used, focusing on one group of students and their interaction with CPA. By making use of a narrative case study, I looked at the assessment within its real-life context, and answered the research questions through the eyes of the oral hygiene students.

Purposive sampling was used for both the narratives and interviews, as the participants were selected on the basis of certain requirements. All 19 students were second year oral hygiene students, and had been exposed to CPA for about 18 months.

The two methods of inquiry used to collect data were narratives and a semi-structured interview, using a multi-modal approach for the case study. A narrative in the context of this study refers to a story that is a unit of analysis. The narratives were of open-ended nature, allowing me to use the narratives as a basis for further inquiry, and clarification of issues. All 19 students wrote a narrative. The narratives were also used to determine the questions for the semi-structured interview. Four interviews were held, based on the principle of saturation. These questions were used as a guideline only, allowing for deeper probing into issues that emerged from the interviews.

Data were analyzed by means of content analysis. It was done throughout the data collection process, meaning analyzing as data was collected, and before new data was collected. For both the narratives and interviews, content analysis was done through open coding, axial coding, and interpretation, making use of a coding framework (see Chapter 3 for more details).

5.3 SUMMARY OF THE FINDINGS

The findings of this study are summarized by answering each sub-research question through the eyes of the oral hygiene students, and then concluded by answering the main research question. I simultaneously reflect on the literature.

5.3.1 HOW DID STUDENTS UNDERSTAND PERFORMANCE ASSESSMENT?

This question was asked to determine what students knew about assessment, why it was done, and what it entailed. From the data it appeared that the students understood that with CPA, their clinical skills, as well as their theoretical knowledge was ‘tested.’ The students also stated that it was about standards, and performing up to those standards. Assessment was also understood as a way of learning, especially if ‘proper’ feedback was given to them. The students experienced that through the assessment, their clinical knowledge was enhanced and

their actions became habit. It was a way for them and the assessors to see progression and improvement, and therefore was very necessary.

However, I am not so sure that the students clearly understood that CPA was assessing ‘for learning’ and not ‘of learning.’ I make this assumption as it appeared that they focused on marks and on obtaining ratings of 3, instead of performing up to the norm, which was a rating of 2. This focus most probably was the reason why they could not understand a rating of 1 for ‘a small mistake.’ The fact of the matter is a ‘small mistake’ was an indication of incompetence. They wanted ratings of 2 and 3 to obtain ‘good marks.’

The students had specific ideas regarding how they understood the implementation of CPA. It appears that ‘weaknesses’ were perceived regarding consistency, feedback, acknowledgement of students, and professional conduct of assessors. The overall impression from the analysis of the narratives and the interviews is that the oral hygiene students were not too positive about these aspects of the CPA, and this influenced their learning, self-confidence, and motivation. Norcini and McKinley (2007) regard educational effect as one of the principles of assessment that means to motivate students to do well. Some students have indicated fear, anxiety, and stress with the assessment. This could make assessment unproductive, and could inhibit learning (McLachlan, 2006). Some have indicated humiliation and embarrassment in front of their patients. Incidents such as these caused that no effort was put in any longer, and that students just did what was expected of them. Fugill (2005) states that personality-related or ability-related feedback could affect self-efficacy and motivation.

The experiences of embarrassment and humiliation could be linked to the perception that assessors did not act professionally, in that they based their assessment on how they felt on the day, in other words their mood and how they felt about the student. This led to perceptions of inconsistency. Leniency vs. strictness were perceived by students, and possibly contributed to inaccurate performance ratings and inconsistency between raters. The students experienced assessment different on different days, and with different assessors. This also led to perceptions of unfairness. Students also wondered how assessment could be done if the assessor did not continuously observe how the student performed. An assessment method could only be credible if it is also fair (SAQA, 2001). According to Govaerts et al. (2007), rating outcomes are influenced by interactions between the assessor, the student, and

the patient, as well as the social context where the assessment occurs. Fugill (2005) states that tension could exist between the learning needs of the student, the patient, and the assessor. Assessment should therefore record achievement of competency as objective as possible, and should be transparent and reliable (Mossey & Newton, 2001; Potgieter & Du Toit, 2004).

Students ‘coped’ with the assessment by adapting to what an assessor wanted, by focusing on patient feedback rather than assessor feedback, and by just accepting what came their way. They tried to be positive, and not to ‘worry’ about the assessment. Some of them took the easy route out and only tried to please the assessors.

5.3.2 HOW DID STUDENTS UNDERSTAND THE CRITERIA AND COMPETENCY RATINGS AND HOW DID THEY MAKE SENSE OF IT?

A rubric with performance criteria was used, and each student was in possession of this document. It was valuable to know how much they knew about the specific criteria and standards that they were supposed to adhere to. Their views on the rating scales and mark allocation give an indication of how they experienced the ratings they received, and how it influenced their learning. The students tended to focus on earning marks, and it was important to them to do well. A rating of 2 was an indication that the student was competent, yet they ‘complained’ about not receiving ratings of 3. The purpose of the assessment method was not about marks, but about competency and becoming aware of the usefulness of what was being learned. The fact that marks was coupled to each rating, for example that a rating of 2 equaled 70%, and that the pass rate was 70%, is probably to blame for this. Years of being told how important it is to pass and get good marks could also attribute to the ‘misperception’ of students. Students and assessors should make this paradigm shift that competency is the concern here, and not marks. It seems that there also is a conflict of interest, however, as the educational institution may focus on marks and ranking of students, whereas assessors may feel that the focus should be on giving feedback to students about the strengths and weaknesses of their performance (Govaerts et al., 2007).

The students perceived the criteria as a guideline indicating the requirements to adhere to. Comments on the criteria varied from fair, vague, opinionated, to contradictory, and easy to understand. However, they experienced that the assessors did not apply the criteria the same

way, that some were too lenient, and others too strict. The literature (Scott et al., 2002; Tennant & Scriva, 2000) state that the provision of criteria is an important factor in providing equitable, reliable, and consistent assessment. Some assessors did not even bother to indicate which criteria the student did not follow, as no discussion was held with the student. Manogue et al. (2002) state that feedback should be as comprehensive as possible. Furthermore, students should have a clear understanding of the criteria by which their work will be assessed (Airasian, 2001; Scott et al., 2001). Students admitted to not always having the criteria at hand as they were supposed to, and only referred to it when ratings of 0 and 1 were received. Yet, it was stated that the criteria were used to ‘measure and check’ themselves.

5.3.3 HOW DID THE ASSESSMENT CONTRIBUTE TO LEARNING AND ENHANCEMENT OF COMPETENCY?

Consequential validity, i.e. the impact of assessment on learning is of utmost importance (Gulikers et al., 2004). CPA claims to assess for learning. The findings give an indication in what ways the assessment contributed to learning and becoming competent, and how it inhibited learning. The students learned through feedback, discussion, questioning, repetition, doing, and seeing. However, they felt that the way feedback was given, and how the assessor related to the student, played a major role in the purpose of assessment, which is learning. They learned through their mistakes, and in this way, their clinical knowledge and skills were enhanced. According to James (2006) positive feedback and correction of mistakes act as the connection between stimulus and response. Students said that they were ‘tested’ on the integration of theory into practice, and this also broadened their knowledge. They learnt from assessors. Assessors should be supportive guides who assist students to be successful, and gain access to learning (SAQA, 2001). How assessors present and treat assessment affect the way students approach them (Brookhart & Devoge, 1999). Assessors should be trained, able, and motivated to implement assessment (SAQA, 2001). There was a perception that the different opinions of assessors compromised learning, as it confused students. Norcini and McKinley (2007) believe that multiple assessors alleviate the reality of unfairness.

Regarding reflection and self-assessment as part of learning, very few students assessed themselves against the criteria, in any case not deliberately. It was indicated as a more sub-

conscious way of assessment. If and when reflection occurred, it was mostly where students had received a rating of 1 or 3. CPA should instil traits such as reflective practice and lifelong learning (Prescott et al., 2002). Dentistry is of solitary nature, and a practitioner should be able to assess his/her own work (Bowers & Wilson, 2002).

The students saw themselves as still learning, and commented that it was impossible to 'perform 100%,’ yet they complained when receiving ratings accordingly. They indicated that 'small mistakes' should be 'overseen,' but according to the criteria, these were an indication of incompetence and not 'performing 100%.' Therefore it appears that there is some contradiction here.

5.3.4 WHAT RECOMMENDATIONS DID STUDENTS HAVE TO IMPROVE THE ASSESSMENT?

Recommendations on four issues were made, namely feedback, the way the assessment was being implemented, consistence, and the relationship with students. Students indicated that there should be more feedback and discussion with the assessor to be informed of problems, to become aware of strengths and weaknesses, but also to hear positive things. This was how they learnt and became competent. This is in line with what Kotze (2004) states, namely that feedback plays an integral role, as this is a form of attention and encouragement that can motivate students. Students also link feedback with support (Drew, 2001).

Students expected equal treatment of all students in a professional way respecting students as human beings. Students should be allowed to have an opinion and discuss issues with the assessor, as this also is a way of learning. Assessors should treat students the same in a neutral manner.

There should be stricter adherence to the criteria to avoid inconsistency. Assessors should agree on facts and criteria and be trained. Students indicated that there should be trust in the assessment method. Furthermore, both students and assessors should interpret the criteria the same and therefore discussion and communication are necessary. They needed assessors to be consistent, fair, mutual, honest, and professional.

Students' ideas and recommendations should not be discarded just because they are students.

They are the ones who experienced the assessment daily, and their views could offer a way forward for improving educational practice (Struyven et al., 2005).

In summary, it appeared that the oral hygiene students experienced negativity around consistency, feedback and the relationship that assessors had with them. It appears that should these issues be addressed, they would experience CPA in a more positive light. They indicated that assessment was necessary, that it assisted them in learning, and through it, they could see progression and improvement. However, the issues mentioned led to frustration, confusion, and demotivation impacting on their learning.

5.4 REFLECTION ON THE CONCEPTUAL FRAMEWORK OF CPA

In figure 5.1, the conceptual framework of CPA, as was discussed in section 2.5, is combined with the perceptions of the oral hygiene students to give an overall impression of the findings of the study, and how it relates to the conceptual framework. The assessor was perceived as playing a vital role in the assessment process, and students perceived that the result of the assessment process depended on the assessors. Therefore the students indicated that assessors should be honest and fair, and act professionally, as they are rolemodels to students. The students also perceived the relationship between themselves as the learners and the assessors as important. They needed this relationship to be professional, neutral, and respectful. The environment for learning therefore could either be beneficial to learning, or it could inhibit learning.

Concerning the learner, the students indicated that they needed to be acknowledged by being allowed an own opinion, and to ask questions. The clinical assessment as they perceived it led to frustration and confusion that demotivated them. Some of them also experienced fear and anxiety that also could inhibit learning. They applied ways and means to cope with issues regarding the assessment. The students perceived inconsistency and unfairness in the implementation of CPA that not always were favourable to learning. Therefore, in terms of reliability, CPA fails in the eyes of the students. Furthermore, the educational effect and the consequential validity, that are principles of assessment, could also be debated from the perspective of students. If assessment is not credible, it could defeat the purpose of the assessment, namely to learn and to become competent. With regard to the instrument that was used in CPA, the students valued the criteria in the rubric very important, and they

experienced that the criteria were not always applied consistently by all assessors. Ratings of 3 were very important to them, although a rating of 2 declared a student competent. The assumption could therefore be made that these students only experienced that they had 'learned' when a rating of 3 was received.

The purpose of CPA was to declare oral hygiene students competent, in other words to indicate that they had the necessary knowledge and skills to work independently as professionals. In order to reach this level, they needed feedback, which included discussion and questioning, from assessors on their strengths and weaknesses. The way feedback was given had also been important to them. It appears that their self-assessment and reflective skills as part of the learning process were not developed that much, although a few students commented on the issue.

PERCEPTIONS OF CPA

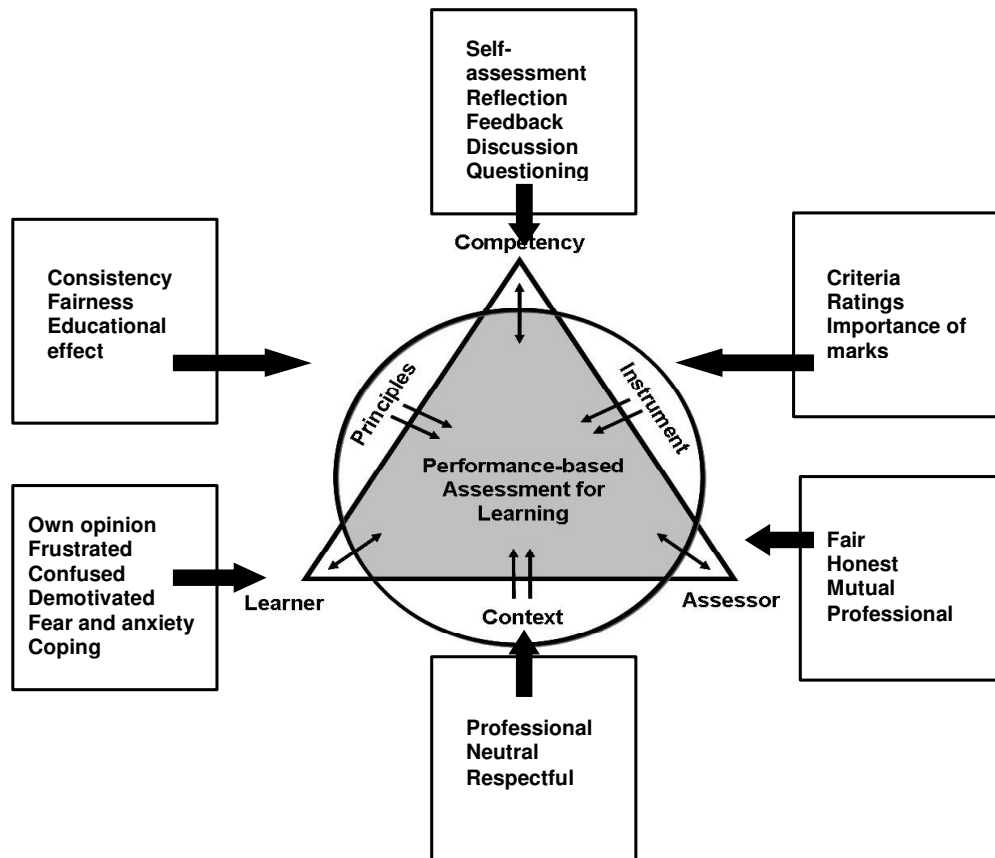


Figure 5.1. Perceptions of CPA

Overall the conceptual framework (see Section 2.5) gave a good description of what concepts or elements should be considered in CPA. The students commented on all the concepts, namely themselves as the learners, the assessor, the assessment instrument used, principles of assessment, the context of the assessment, and learning.

5.5 RECOMMENDATIONS

The recommendations of the students (see Section 5.2.4) were used as the point of departure for this section, but it is based on what the literature states about performance assessment per se, and clinical performance assessment specifically, as well as my standpoint as the researcher.

Recommendation 1: Strategies for ensuring consistency

To ensure consistency and fairness, opinions of assessors should be based on evidence-based science. Evidence-based dentistry, according to Sackett, Rosenberg, Gray, Haynes and Scott (1996) is “the conscientious, explicit and judicious use of best evidence in making decisions about care of individual patients” (n.p.). Students and assessors should take note of this, and assessment criteria should be developed in accordance with this evidence. This would elude confusion and frustration on the part of students. However, assessors should be committed to follow these criteria that would ultimately lessen variation between assessors. Interpretations of observed behaviour will involve assessors’ individual experiences, values and perceptions, as well as motivation. These all play a role in what assessors observe and how in the end they give a rating (Govaerts et al., 2007). Further studies could possibly include how the assessors experience the assessment, and how reliable and consistent their assessments are. One could possibly also investigate assessor motivation and assessor goals.

Students should also be made aware of the benefits of different assessors with different opinions. It allows for cross-fertilization of ideas and concepts (Scott et al., 2001). It will also guard against the ‘halo-effect’ as many opinions are sought (Prescott, et al., 2002). Reliability, as one of the tenets of assessment, is also enhanced by different opinions. Concerning the subjectivity that students experienced, it must be accepted that some subjectivity is inevitable where more than one assessor is used (Manogue, et al., 2002). Furthermore, assessment of practical ability and the clinical process is subjective. Different patients and the nature of the clinical problem bring variation between assessors (Fugill,

2005). If sufficient subjective judgments are combined, then the combined overall judgement can be reliable (Davies, 2005).

To further ensure consistency and fairness of the CPA, it is recommended that the use of a checklist be investigated. The Dundee University Dental School had implemented such a system (Macluskey et al., 2004; Mossey & Newton, 2001; Scott et al., 2001). It entails using pre-agreed criteria listed on a validated checklist. The performance of the student is only indicated as competent or not competent, instead of pass or fail. Because of the formative nature of the assessment, extensive written and verbal comments should be given to the student. Each student should hold an assessment file at his/her workstation, and each assessor could peruse it at any time to look for areas that needed attention (Tennant & Scriva, 2000). By making use of a checklist and an assessment file, self-awareness would be increased, self-assessment would be encouraged, and it would be more beneficial for learning (Macluskey et al., 2004; Mossey & Newton, 2001; Scott et al., 2001; Tennant & Scriva, 2000).

Training of assessors has proven helpful in increasing their stringency and discrimination (Norcini & McKinley, 2007; Scott et al., 2001). Training should not only involve ability, but also motivation. Assessors should decide on criteria together, and all of them should have trust in the system and be motivated. According to Govaerts et al. (2007), trust in the system refers to authenticity, fairness, honesty, transparency, well-defined roles, and quality feedback.

Recommendation 2: Enhancing feedback

Feedback and discussion is an important aspect of assessment. Such feedback should provide for ample discussion about mistakes, solutions, knowledge, and skills that still have to be mastered, and connection of prior knowledge and new knowledge (Drew, 2001). According to Black and William (2006), feedback could only have positive effects if it is used as a guide for improvement. These authors (Black & William, 2006) are of the opinion that feedback should be a central feature of formative assessment. Students link effective feedback with support, and therefore they also need to be informed about positive performance. Praise, for instance, can confirm to the student that s/he has achieved something worthwhile, or a reason for expending effort (Harlen, 2006). However, the tone of feedback is also important, and assessors should take note of how the feedback is given.

Recommendation 3: Adherence to minimal level of competence

The CPA system measures standards of performance, but students should absolutely understand that there is a minimal acceptable level to be regarded competent. Standards and criteria were compiled accordingly, and this should be adhered to at all times by students and assessors. Therefore ‘mistakes on a patient examination form,’ as referred to by a student in her narrative, would be an indication that a student is not yet competent. Students should always bear in mind that they are still learning and ‘in training,’ and that with time they would become competent (SAQA, 2005).

Recommendation 4: Development of self-assessment skills of students

Oral hygiene students’ skills in self-assessment and reflection should be developed. According to Bowers and Wilson (2002), self-assessment is a positive thinking tool that should be incorporated in the clinical routine. Reflective practice is to think about and change what one is doing while doing it. Educators have the responsibility to create life-long learners, and this could be achieved through self-assessment and reflection. Macluskey et al. (2004) state that formative assessment that emphasises self-awareness and self-assessment would be more beneficial to learning.

Recommendation 5: Critical evaluation of the rubric

Judgement of real performance involves subjective interpretation of objective information (Govaerts et al., 2006). Therefore, much attention should be given to a clearly articulated rubric to guide subjective assessments of performance (Shaffer et al., 2004). It is suggested that the rubric in use be critically evaluated to ensure that the assessment criteria are clear. The criteria could be made more objective. It is also recommended that the rating scales are critically evaluated. It is also suggested that grades are eliminated. The Baylor College of Dentistry (Taleghani et al., 2004) has found that assessing without grades lead to better relationships between assessors and students, a more relaxed atmosphere, and a better teaching environment.

5.6 SCIENTIFIC VALUE OF THE RESEARCH

Students are the ones exposed to and involved in CPA, and they come into this experience with certain expectations, perceptions, and prior experience. Assessors should take note of this and be aware of how this ultimately contributes to learning, or even becomes a barrier to

learning. Academic staff, through assessment, directly exerts power over their students (CHE, 2004). Learning and becoming competent should always be the ultimate goal towards which both students and teachers/assessors strive. It is of utmost importance to evaluate policies and implementation of the assessment from time to time in order to ensure continuous quality.

Students also come into the learning environment with their own orientations, emotional intelligences, expectations, and former experiences. When these research findings all come together, one should take into consideration that each student had his/her own individual perceptions, interpretations, and beliefs about assessment as a whole and CPA in particular. Struyven et al. (2005), state that, in this way “students’ perceptions of assessment become very arbitrary,” and their value could be called in question (p. 336). However, the findings provide useful insights and information for assessors. Through self-examination and reflection, assessors could measure themselves against this information. Through CPA, academic staff endeavours to ensure the best possible way of assessing clinical skills, knowledge, and attitudes, and should this as a challenge to adhere to assessment principles, and to create a real learning environment for students.

Assessors may say that some of the student perceptions are a repeat of what students often say (Drew, 2001). Some of the perceptions they revealed reflected what educational theory already claims. These students were studying oral hygiene, not at all related to education and yet they were able to use their common sense to reflect their views and needs, as well as recommendations regarding the clinical performance assessment (Drew, 2001). It is true that students had their own individual perceptions, which were influenced by what they experienced in the clinical ward, with different assessors and different patients, using the same assessment method. As already mentioned, listening to what students say, and taking their views into consideration, could improve any educational practice. This study aimed at obtaining the answers to these questions, and at adding to the body of knowledge about research in dental education.

5.7 CONSTRAINTS OF THE STUDY

5.7.1 THE LECTURER AS RESEARCHER

I had a dual role with the participants, acting as both educator and researcher, and this could

have placed them in a vulnerable position, creating conflict for them. Ferguson et al. (2004) recommend that a research assistant be employed to collect data where students could be placed in a vulnerable position. It was not possible in this instance to make use of a research assistant, however, as explained in section 3.2.5. I however engaged in all possible ways to protect the students as discussed under ethical considerations (see Section 3.4).

5.7.2 TRANSFERABILITY

Transferability refers to the extent to which the findings of my study can be applied in other contexts, or with other participants (Babbie & Mouton, 2001). I did not generalize, and also do not claim that my findings are relevant for other contexts, or for the same contexts, but with different students. The study was aimed at providing a thick description to “come to a conclusion whether transfer can be contemplated as a possibility” (Lincoln & Guba, 1985, p. 316). In other words, at providing data that other researchers could use.

5.7.3 OBJECTIVITY

I was involved in developing the assessment, and this could have had an influence on the objectivity of this study, and bringing bias into it. Bias furthermore existed in this study, because of the subjective experience of both researcher and participants, and bias is acknowledged as such. Bias could also have existed in the selection of participants for the interviews. It needs to be understood that personal bias, and subjectivity to some extent, determined who these students would be. I tried to be objective by consistently coding responses, by recording interviews, and by trying not to use leading questions (Cohen et al., 2000). According to Cutcliffe and McKenna (2004), there is always bias in a qualitative study, and this bias includes deliberate selection of literature to read, and choice of participants.

5.8 A LAST WORD

The reason for constructing a comprehensive performance assessment is to continuously certify students throughout their study years as being competent or not competent. “Without a standardized way to measure overall clinical proficiency both within and across individual students, there is no way to evaluate current or alternative educational interventions” (Schaffer, et al., 2004, p. 170). Evidence has to be provided that assessment methods are

valid and reliable, and that they have “processes for setting standards and making decisions about student performance” (Boursicot & Roberts, 2006, p. 80). Assessment is a time-consuming process for all concerned, and opportunity would be wasted if it were not used as a means of informing students how they are doing, and how they can improve (Trotter, 2006). The HEQC states that assessment practices give an indication of how ‘healthy’ teaching institutions of higher education are (CHE, 2004). Assessment should therefore be used for developmental and formative purposes to strengthen learning.

Students’ perceptions about assessment significantly influence their approaches to learning and studying. Conversely, students’ approaches to study influence the way in which they perceive evaluation and assessment – Katrien Struyven (2005).

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APPENDICES

APPENDIX A: CLINICAL PERFORMANCE ASSESSMENT

- 0 Procedure performed unacceptable (=less than 50%)
 1 Acceptable, but still mistakes/shortcomings (=50-69%)
 2 Good, with no mistakes (=70-74%)
 3 Excellent (=75%+)

CRITERIA:

	0	1	2	3
Examination and treatment-plan	<ul style="list-style-type: none"> more than one third of facts/information wrong nothing said about patient didn't recognize medically compromised patient 	<ul style="list-style-type: none"> some of the facts/information wrong; incompleteness 	<ul style="list-style-type: none"> form filled in completely facts/information correct patient's details complete 	<ul style="list-style-type: none"> show insight and integration with other modules mention facts out of own and don't have to ask
Education and motivation	<ul style="list-style-type: none"> no material/hand mirror used not according to patient's problem hasty with no enthusiasm incorrect information 	<ul style="list-style-type: none"> education material education not on patient's level/age 	<ul style="list-style-type: none"> education/motivation according to problem gives reasons on patient's level/age education material hand mirror 	<ul style="list-style-type: none"> pamphlet/information to take home student asks questions to patient enthusiasm
Scaling, Polishing	<ul style="list-style-type: none"> still plaque/calculus/stains on more than two areas mistakes such as abrasive paste but no stains no flossing 	<ul style="list-style-type: none"> still plaque/calculus/stain on two or less areas not flossed thoroughly didn't scrape tongue no anti-bacterial rinse before ultrasonic scaling wrong handling of instruments wrong sitting positions instruments blunt 	<ul style="list-style-type: none"> correct handling of instruments correct sitting positions instruments sharp all plaque calculus/stains removed according to degree of difficulty and allocated time flossed thoroughly scraped tongue antibacterial rinse before ultrasonic scaling 	<ul style="list-style-type: none"> more done than allocated degree of difficulty difficult patient/mouth well handled

APPENDICES

Rootplaning	<ul style="list-style-type: none"> wrong technique 	<ul style="list-style-type: none"> still deposits on root surface wrong instrumentation 	<ul style="list-style-type: none"> smooth root surface is obtained correct instrumentation local anaesthetic if necessary x-rays displayed (if available) 	<ul style="list-style-type: none"> do rootplaning out of own accord local anaesthetic if necessary x-rays displayed (if available)
Evaluation of homecare	<ul style="list-style-type: none"> no revision of medical history no evaluation/remotivation/adaptations criteria as for scaling and polishing no notes on examination form 	<ul style="list-style-type: none"> evaluation/remotivation/adaptations, but still plaque/calculus all plaque and calculus removed but no evaluation/adaptation/remotivation no re-evaluation of perio pockets criteria as for scaling and polishing 	<ul style="list-style-type: none"> revise medical history review homecare and make notes on examination form point out problems to patient and make adaptations remotivation re-evaluation of perio pockets show insight with previous record when remotivating scaling and polishing according to criteria 	<ul style="list-style-type: none"> give additional information let patient brush and floss in own mouth patient shows improvement in terms of oral hygiene
Fluoride application	<ul style="list-style-type: none"> wrong fluoride/technique teeth not dried no suction leave patient alone during treatment did not floss before application applied less than 4 minutes no insight regarding indications and product 		<ul style="list-style-type: none"> flossed before application teeth dried and isolated where necessary recommended time on teeth explain the reasons for application to patient show insight regarding indications and product 	
Desensitizing	<ul style="list-style-type: none"> not recommended time on teeth teeth not dried wrong technique used air syringe on sensitive areas 		<ul style="list-style-type: none"> teeth dried and isolated where necessary recommended time on teeth correct technique explain the reasons for 	

			<p>application to patient</p> <ul style="list-style-type: none"> • show insight regarding indications and product 	
Fissure sealing	<ul style="list-style-type: none"> • some of steps left out or incorrect • air bubble • occlusion not tested 	<ul style="list-style-type: none"> • occlusion tested but sealant to high 	<ul style="list-style-type: none"> • steps for application followed • occlusion tested and restored • explain the reasons for application to patient • show insight regarding indications 	
Polishing of restorations	<ul style="list-style-type: none"> • wrong technique and/or burs • inadequate lustre • problems with junction between tooth and restoration • finishing bur marks 	<ul style="list-style-type: none"> • lustre inadequate • problems with junction between tooth and restoration 	<ul style="list-style-type: none"> • no finishing bur marks • smooth junction between tooth and restoration • lustre adequate • explain the reasons for polishing to patient • show insight regarding which restorations to polish 	
Impressions (includes correct handling and mixing of material)	<ul style="list-style-type: none"> • impression must be redone • anatomy unacceptable • no wax bite (at third attempt) 		<ul style="list-style-type: none"> • no air bubbles • anatomy clear • wax bite correct • explain the reasons for impressions to patient 	
Tooth-bleaching	<ul style="list-style-type: none"> • wrong technique/procedure • inadequate protective measures for patient 	<ul style="list-style-type: none"> • problems with technique/procedure • wrong tooth/patient selection 	<ul style="list-style-type: none"> • show insight regarding patient/tooth selection • correct steps followed • protective measures applied • rubberdam correctly fitted • work fast and effective • explanation to patient before, during and 	

			<ul style="list-style-type: none"> • after procedure result acceptable 	
Periopacks and sutures	<ul style="list-style-type: none"> • wrong technique/procedure 	<ul style="list-style-type: none"> • problems with technique/procedure 	<ul style="list-style-type: none"> • correct procedure followed 	<ul style="list-style-type: none"> • work fast and effective • correct information regarding diet, bleeding, swelling and care
Local anaesthesia	<ul style="list-style-type: none"> • wrong choice of anaesthetic • incorrect handling of syringe and needle • inadequate anaesthesia 		<ul style="list-style-type: none"> • correct choice of anaesthetic • correct handling of syringe and needle • adequate anaesthesia 	
Cytological smears	<ul style="list-style-type: none"> • incorrect clinical procedure • incorrect handling of smear 		<ul style="list-style-type: none"> • correct clinical procedure • correct handling of smear 	
Soft lining in denture	<ul style="list-style-type: none"> • material mixed incorrectly • incorrect clinical procedure 		<ul style="list-style-type: none"> • material mixed correctly • correct clinical procedure 	
Placement of temporary restoration	<ul style="list-style-type: none"> • cement mixed incorrectly • incorrect clinical procedure • insufficient finishing 		<ul style="list-style-type: none"> • cement mixed correctly • correct clinical procedure • sufficient finishing 	
Placement of glass-ionomer	<ul style="list-style-type: none"> • cement mixed incorrectly • incorrect clinical procedure • insufficient finishing 		<ul style="list-style-type: none"> • cement mixed correctly • correct clinical procedure • sufficient finishing 	
Infection control	<ul style="list-style-type: none"> • regulations not adhered to 		<ul style="list-style-type: none"> • applied according to regulations • mask, gloves and protective glasses • wash hands regularly • paper over handles • plastic over headrest and air syringe • do not touch face or hair • do not touch 	

APPENDICES

			dustbin lid with hands <ul style="list-style-type: none"> instruments in pre-wash do not pick up instruments from floor suction 	
Professional conduct and appearance	<ul style="list-style-type: none"> uniform, hair, nails according to regulations unprofessionalism 	<ul style="list-style-type: none"> unprofessionalism (because student is still in training the assessor may decide on level of competency) 	<ul style="list-style-type: none"> uniform, hair, nails according to regulations no chewing gum professionalism which includes: <ul style="list-style-type: none"> *dresscode, *way of addressing the patient and lecturer, *courtesy towards patient, *respect for patient's time, *confidentiality, *is the student approachable, *does patient feel secure, *does patient discuss problems with student, *initiative, *insight, *empathy 	
Assistance in Oral Hygiene	<ul style="list-style-type: none"> directions for assisting not followed lack of protective measures unprofessional conduct 	<ul style="list-style-type: none"> assisting not according to directions (because student is still in training the assessor may decide on level of competency) 	<ul style="list-style-type: none"> assisting according to directions namely correct sitting position, concentration, initiative, enthusiasm, willingness correct protective measures professional conduct 	

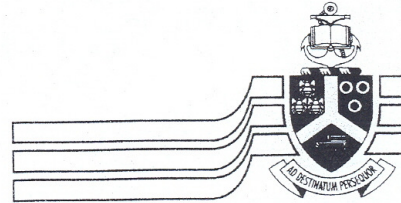
Revised: 10/01/2007

APPENDIX B: INTERVIEW SCHEDULE

1. Students have indicated in the narratives issues such as inconsistency, unfairness, different opinions of assessors, rewarding for good work, importance of good marks, as well as feelings of anxiety, fear and demotivation. Give me your opinion and feelings on these issues.
2. Tell me what you know about the rubric, i.e. the criteria and the ratings.
3. How does the clinical assessment help you to learn and become competent?
What drives your learning?
What helps you to develop and grow professionally?
4. Let us talk about self-assessment. Do you do it? When? How? How does it help you learn?
5. Describe your expectations and needs firstly regarding the clinical assessment and secondly regarding the assessors.
6. Please give recommendations regarding the clinical assessment. What would you change or want to be different?

APPENDIX C: PERMISSION LETTER TO PERFORM RESEARCH

2007/05/07



Universiteit van Pretoria

Posbus 1266 Pretoria 0001 Republiek van Suid-Afrika
Tel 012-319-2911 Faks 012-326-2508
<http://www.up.ac.za>

Prof AJ Ligthelm
Dekaan

Fakulteit Gesondheidswetenskappe
Skool vir Tandheelkunde

GOEDKEURING VIR DIE UITVOERING VAN 'N NAVORSINGSPROJEK

NAAM: Me RC du Bruyn
TITEL: A Student perspective on Clinical Performance Assessment

Hiermee voorsien NAVKOM u graag van bogenoemde kandidaat se protokol.

Aangesien die kwalifikasie (MEd) deur die Fakulteit Opvoedkunde toegeken gaan word, het NAVKOM slegs die uitvoering van die projek binne die Skool vir Tandheelkunde geëvalueer. Die evaluering van die protokol vir graaddoelindes moet nog deur die Fakulteit Opvoedkunde gedoen word. NAVKOM beveel die goedkeuring vir die uitvoering van die projek in die Skool vir Tandheelkunde deur u aan. NAVKOM was ook van oordeel dat goedkeuring van die Gauteng Gesondheidsdepartement nie nodig is nie, aangesien hierdie opvoedkundige navorsing is en slegs studente betrek word.

Vriendelike groete

PROF PJ VAN WYK
VOORSITTER: NAVORSINGSKOMITEE

Uitvoering van die projek in Skool vir Tandheelkunde goedgekeur/~~nie~~
goedgekeur nie

PROF AJ LIGTHELM
DEKAAN: SKOOL VIR TANDHEELKUNDE

APPENDIX D: CONSENT LETTER TO STUDENTS

30 April 2007

**TO: ORAL HYGIENE STUDENTS
SCHOOL OF DENTISTRY**

I am conducting a research project for my Masters in Education. The topic of the study is “A student perspective on clinical assessment”. It will involve you as student in that I need information from you. I will expect students to write a narrative on their experience with the assessment and then semi-structured interviews will be held with three students.

Participation is voluntary and you need to give informed consent to participate in the research. Although I am your lecturer, you need not feel obliged to participate. It is a research project I am doing and does not form part of the yearly evaluation of the oral hygiene programme. You are free to withdraw consent at any stage without any prejudice to you as student. All information will be treated as highly confidential with no prejudice to the student. No names will be mentioned and no characteristics will be disclosed.

You are hereby requested to become involved and have a voice about the assessment.

Thanking you in anticipation.

**RC DU BRUYN
LECTURER
DEPARTMENT OF COMMUNITY DENTISTRY**

.....

I,am willing to participate in the research project about clinical assessment.

.....

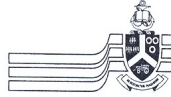
Signature

.....

Date

APPENDIX E: ETHICAL CLEARANCE

ANNEXURE D



UNIVERSITY OF PRETORIA
FACULTY OF EDUCATION
RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE

DEGREE AND PROJECT

INVESTIGATOR(S)

DEPARTMENT

DATE CONSIDERED

DECISION OF THE COMMITTEE

CLEARANCE NUMBER : CS07/08/03

M.Ed Assessment and Quality Assurance
Being declared competent: A student perspective on clinical performance assessment.

R C Du Bruyn - 76346928

Curriculum Studies

17 August 2007

APPROVED

This ethical clearance is valid for years from the date of consideration and may be renewed upon application

**CHAIRPERSON OF ETHICS
COMMITTEE**

Dr S Human-Vogel

DATE

11 October 2007

CC

Dr V Scherman
Dr L Jita
Mrs Jeannie Beukes

This ethical clearance certificate is issued subject to the following conditions:

1. A signed personal declaration of responsibility
2. If the research question changes significantly so as to alter the nature of the study, a new application for ethical clearance must be submitted
3. It remains the applicant's responsibility to ensure that all the necessary forms for informed consent are kept for future queries.

Please quote the clearance number in all enquiries.

APPENDIX F: AUDIT TRAIL DOCUMENTS

See attached CD.