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**AN ASSESSMENT MODEL IN OUTCOMES-
BASED EDUCATION AND TRAINING FOR
HEALTH SCIENCES AND TECHNOLOGY**

by

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Thesis submitted in fulfilment of the requirements for the degree

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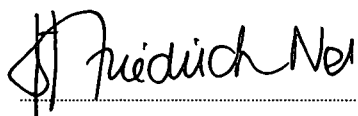
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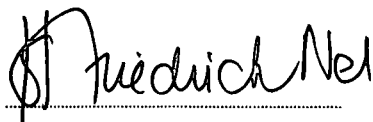
DECLARATION

I hereby declare that the work submitted here is the result of my own independent investigation. Where help was sought, it was acknowledged. I further declare that this work is submitted for the first time at this university/faculty towards a Ph.D. degree in Health Professions Education and that it has never been submitted to any other university/faculty for the purpose of obtaining a degree.



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DEDICATION

To educators, who are passionate
about assessment of learning

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LIST OF ACRONYMS

CHE	Council on Higher Education
HEQC	Higher Education Quality Committee
HPCSA	Health Professions Council of South Africa
MCQ	Multiple choice questions
NQF	National Qualifications Framework
NSB	National Standard Body
OBET/OBE	Outcomes-based Education and Training
OSCE	Objective Structured Clinical Examination
OSPE	Objective Structured Practical Examination
RUBRIC	A marking sheet containing assessment criteria and performance criteria
SAQA	South African Qualifications Authority
SOLO	Structure of the Observed Learning Outcomes Taxonomy
TFS	Technikon Free State
UGOO	<i>Uitkomsgebaseerde onderrig en opleiding</i>
UFS	University of the Free State

AN ASSESSMENT MODEL IN OUTCOMES-BASED EDUCATION AND TRAINING FOR HEALTH SCIENCES AND TECHNOLOGY

CHAPTER 1

AN OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Brown (2000a:3) maintains that assessment is a nightmare for many learners. The cause of the nightmare is evident from the following description:

I am going to be assessed tomorrow. I know where I have to go and what time. I know the format of the assessment. What I don't know is what they want. I've never had any kind of human response to anything I've done so far working on this course. I'm not sure to what extent I am required to remember things and how much I am supposed to put it into my own words (Brown 2000a:3).

The above-mentioned author emphasises that learners are not always aware of what is expected from them in assessment. Contributing to the nightmare, Brown (2000a:3) says that, in many instances, assessment of

learning is separated from the teaching and learning process instead of being an integral part of the curriculum.

Cunnington (2002:259) writes that assessment is threatening to the learner because it has the potential to alter the course of the life of the learner. Taras (2002:508), on the other hand, maintains that educators sometimes give learners the wrong message about the outcomes to be attained with assessment. Instead of the focus being on learning integrated with assessment, they are more concerned with the grades.

More recently assessment in teaching and learning in higher education has drawn attention, because assessment of transferable skills of learners such as communication and the ability to work in a group work has come to the fore (Brown & Knight 1995:7). The authors add that new and innovative assessment methods are required to assess these skills. The traditional three-hour once-off examination has become unsatisfactory, insufficient and is no longer applicable to assess skills. According to Brown and Knight (1995:7), this challenges educators to exhibit greater creativity and innovation in assessment while also assuring the quality of the assessment process.

In South Africa the term "assessment" has become synonymous with the outcomes-based education and training (OBET) approach (Van Der Horst & MacDonald 1999:5). Assessment of learning is an essential element of teaching and learning in the OBET approach (Van Der Horst & MacDonald 1999:167). According to Van Der Horst and MacDonald (1999:5), the OBET paradigm followed the new democracy in South Africa in 1994 and

is regarded as the impetus for the current educational changes and reform in South Africa. Educational change, the above-mentioned authors state, is needed because of its potential to facilitate equity in education and assist learners to develop generic skills such as critical thinking and problem-solving (Van Der Horst & MacDonald 1999:5).

An immediate consequence of the educational change in South Africa was the establishment of the National Qualifications Framework (NQF) (Van Der Horst & MacDonald 1999:5; Engelbrecht, Du Preez, Rheeder & Van Wyk 2001:106). It was passed into law as the South African Qualifications Authority (SAQA) Act No. 58 on 4 October 1995 (RSA 1995). Qualifications registered on the NQF are described in terms of learning outcomes that a qualifying learner is expected to accomplish. By way of the processes prescribed by the NQF, education in South Africa is aligned with global education trends (Van Der Horst & MacDonald 1999:5).

Kotzé (1999:32) says that with the OBET approach, the learner becomes an active participant in the learning and assessment processes. In addition, it entails a shift from a traditional content-based system to a system that is learner-driven. Barr and Tagg (1995:9 of 16) mention that in this approach the learner is actively involved in discovering and constructing their own learning. These authors (1995:3 of 16) continue that learners, as co-producers of their learning, should take the responsibility of their learning. Kotzé (1999:32) adds that in this educational approach the role of the teacher/trainer changes to that of a facilitator to stimulate critical thinking, creativity and self-learning. It also

requires a shift from content to process. This means that rigid syllabi are replaced by specific exit-level outcomes and learning outcomes (Kotzé 1999:32).

The main emphasis of the OBET approach is on outcomes (Kotzé 1999:32). Outcomes are used as the starting point for curriculum development, learning facilitation and assessment (Olivier 1999a:28). Kotzé (1999:32) adds that outcomes are classified either as generic or as outcomes specific to the learning area. Examples of generic outcomes are skills such as communication and to convey creative thinking skills. Outcomes related to the specific learning area are defined in the programme (Kotzé 1999:32).

In the traditional content-based educational paradigm, evaluation of students was mainly judgemental with the focus on passing or failing. However, in the OBET paradigm, the focus of assessment changes from being mainly judgemental to incorporate assessment of processes and other attributes of learners. These refer to assessing outcomes of knowledge, skills and the application of these in practice. Additionally, assessment is accompanied by assessment criteria to determine if the learner has attained the outcome (Olivier 1999a:45).

Assessment in the OBET approach should be an integral part of the learning process and in this way it contributes to the learning process (Coetzee-Van Rooy & Serfontein 2001:10). Assessment, therefore, is a continuous process and no longer only the end product of teaching and

learning. By means of assessment feedback is provided to the learner on the academic progress, while the facilitator obtains feedback about the teaching and learning processes. With assessment, learners themselves, peer groups and/or the facilitator could assess the quality of their performance and their knowledge, skills and the accomplishment of the outcome (Coetzee-Van Rooy & Serfontein 2001:10).

Not only Coetzee-Van Rooy and Serfontein (2001:4), but Kotzé (1999:36) as well state that the implementation of an outcomes-based system will require drastic changes to current practices in higher education. One such a change refers to a policy to ensure the efficient implementation of modularisation that is associated with the OBET approach. Furthermore, a policy on modularisation will potentially influence the design of programmes and assessment of learning. Additionally, the institution will have to align its administrative systems with the OBET approach.

The parties involved in these changes are the learners, the educators and other stakeholders such as support staff at the institution and potential employers. Olivier (1999b:ii) states that the success of an outcomes-based learning system depends on how these different role-players understand, develop and implement it. Furthermore, the essential role of each of these parties in the process of change to the OBET approach is pointed out.

Implementing the OBET approach would challenge the traditional roles of the academic in guiding learners to acquire vital competencies. Olivier (1999b:v) adds that being an outcomes-based learning facilitator is more difficult and complex than being a “talk-and-chalker”. Academic personnel therefore have a responsibility to become empowered with knowledge and skills in assessment of learners in the OBET approach. In addition, they also have to undergo mind changes about assessment in the OBET approach. Thus training is required in using a variety of appropriate assessment methods. In addition, academic personnel need to develop a different attitude towards assessment. This challenges academics to face the new approach to learning facilitation and assessment of learning as well as to embrace these changes victoriously (Olivier 1999b:v).

1.2 STATEMENT OF THE PROBLEM

The new trend in assessment in higher education in South Africa involves more than just a change on paper. New trends in assessment demand that generic and applied competence in addition to traditional knowledge is assessed (RSA DoE 2001:112). This has particular reference in programmes in Health Sciences and Technology, where the outcomes that need to be attained by learners, should be accountable in the clinical procedures in the practical situation. In response to this requirement, assessment methods need to reflect an appropriate variety as prescribed by the promoters of the OBET approach (Olivier 1999a:69).

A major concern therefore is that traditional assessment practices as applicable to content-based education and training are still in use at most higher education institutions in South Africa. This means that assessment is mostly judgemental and does not always complement the learning outcomes. Assessment methods currently in use do not always focus on the achievement of outcomes of knowledge and insight, competencies and skills, as well as values and attitudes as applicable in Health Sciences and Technology programmes.

In addition, all role-players in assessment of learners need to be empowered with the necessary knowledge, skills and attitudes of assessment in the OBET approach. It is essential that all involved in assessment of learners in Health Sciences and Technology deal with assessment practices from the same platform of knowledge and understanding and perform assessment of learning synonymous with the OBET approach.

1.3 THE AIM OF THE STUDY

The overall aim of this study is to develop an assessment model appropriate to the needs of and in the best interest of higher education in Health Sciences and Technology. Assessment principles, strategies and methods described by the OBET philosophy will be taken as the point of departure to set the stage for the design of a proposed assessment model. (See Appendix A for a definition of the terms “assessment” and the “OBET approach”.)

The design of the assessment model is based on several principles. These principles are that the institutional mission, vision and goals should be used as the point of departure. The assessment model should be based on the assessment policies and procedures of the institution and the requirements of the Health Professions Council of South Africa (HPCSA) and, in particular, the professional body of the respective professions. Finally, implementing the assessment model should be done with the applicable exit-level outcomes of the different programmes in Health Sciences and Technology as foundation.

1.3.1 The objectives of the study

The objectives of the study are the following:

- Conduct a review of the literature on assessment to provide an overview of the literature on assessment and the OBET approach.
- Based on the literature review, design a questionnaire as the research tool for the structured interviews to obtain information from selected participants on assessment practices and methods applicable in Health Sciences and Technology.
- Conduct the above-mentioned interviews with selected academics from Health Sciences and Technology and higher education studies.
- Analyse the findings of the structured interviews, then supplement and validate the findings with the literature on assessment to design a proposed assessment model in OBET for Health Sciences and Technology.

- Identify 10 members of the Delphi panel from five different areas in higher education from local, national and international higher education institutions.
- Use the modified Delphi process of three rounds to validate and benchmark the proposed assessment model.
- Present an assessment model in OBET for Health Sciences and Technology as the final outcome of the study for implementation in relevant programmes.

1.4 THE SIGNIFICANCE AND VALUE OF THE STUDY

With the proposed changes and reform in assessment in the higher education arena, the present study will provide valuable information and guidance to facilitate the paradigm shift towards assessment in the OBET approach in Health Sciences and Technology in South Africa. In addition, the information could contribute to the establishment of a positive assessment culture in the relevant programmes. The timing of the study is significant, as these educational changes are currently being implemented.

Additionally, the information from the present study can contribute to the empowerment of academics to set the stage for innovative assessment practices in Health Sciences and Technology at the higher education institutions involved in the study. The assessment model will assist academics to focus assessment practices on the holistic development of learners.

Furthermore, assessment practices based on the assessment model aims to add value to the educational experience of the learner. This has the potential to determine if the learner is equipped with the required knowledge, skills and attitudes to contribute successfully to the world outside the educational environment.

At the conclusion of the study the assessment model will be presented to specific role-players at the Technikon Free State (TFS) and the University of the Free State (UFS). The role-players at the TFS are the head of the School of Health Technology, the Executive Dean of the Faculty of Health and Environmental Sciences, and the Chief Director of Academic Planning and Development. Role-players at the UFS are the head of the School of Allied Health and the head of the Division Educational Development, Faculty of Health Sciences. Local, national and international role-players in higher education in Health Sciences and Technology promoting the OBET approach will also have access to the findings and outcome of the study.

1.5 THE SCOPE OF THE STUDY

The study is conducted with the philosophy of the OBET approach as guiding principle and the study focuses on assessment practices in Health Sciences and Technology at the TFS and the UFS specifically. Inputs from local, national and international academics in Health Sciences, Technology and higher education are included. Although optimistic and idealistic in nature, the assessment model as final outcome of the present

study could become a valuable educational tool. It has the potential to facilitate the empowerment of academics on assessment practices in the OBET approach with resulting changes in attitudes. By using the assessment model as an educational tool, it could assist to re-position assessment at the centre of learning activities in higher education.

Inputs from experts on the local, national and international arenas are obtained by means of the Delphi process. These experts in assessment are selected from both the Health Sciences, Technology and higher education arenas.

1.6 METHODOLOGY AND PROCEDURES

This is a descriptive and qualitative study with quantitative elements. An extensive literature review forms the basis of the study. A questionnaire based on the information from the literature was designed with the focus on assessment practices. The questionnaire was used as a research tool to obtain systematic and structured information from the identified role-players from the School of Health Technology, the TFS and the Faculty of Health Sciences, the UFS.

The above-mentioned questionnaire was tested by means of a pilot study. With the pilot study not only the clarity of the questions, but also the time to perform the structured interview was determined. Colleagues and an expert on the compilation of questionnaires for research were used to pre-test the questionnaire.

The next phase in the study was to identify academic personnel involved in assessment from the School of Health Technology, the TFS and the Faculty of Health Sciences, the UFS as the role-players for the structured questionnaire interviews. Judgemental sampling and headhunting techniques were used to identify the 16 individuals used in this phase of the study. They are experienced in higher education, knowledgeable about assessment in higher education and are familiar with the requirements and outcomes of assessment in Health Sciences and Technology.

Consent to participate in the study was obtained from role-players by means of telephonic and electronic communication. Appointments were made with identified role-players for the structured interviews. The research tool for the structured interviews was the questionnaire.

The structured interview was the preferred methodology in the present study, because it entails several advantages to promote the aim of the study. It allows for flexibility in the responses from the various role-players on the questionnaire. By means of the personal contact associated with the interview method, additional information on assessment practices from the selected role-players could be obtained.

The information obtained by means of the questionnaires was verified and supplemented by literature and used to develop a proposed assessment model in OBET for Health Sciences and Technology. The proposed assessment model would be benchmarked and tested among local,

national and international experts in assessment and higher education by means of the modified Delphi process (see Appendix A). These role-players were identified by headhunting techniques and requested in writing to be involved to validate, benchmark and edit the statements of the proposed assessment model. It was expected that three rounds of the Delphi process would be required to attain consensus and/or stability in the ratings of the statements of the assessment model. The Delphi panel had the opportunity to rate the statements of the assessment model as essential, useful or unnecessary elements of an assessment model. The inputs of the experts could add value to the assessment model as a final outcome of the present study.

1.7 ETHICAL ASPECTS

An evaluation committee, appointed by the Faculty Board of the Faculty of Health Sciences, the UFS, approved the protocol of the study on 23 October 2001. The Ethics Committee of the Faculty of Health Sciences, the UFS, approved the present study on 22 February 2002 (ETOVS 13/22).

1.8 THE ARRANGEMENT OF THE REPORT (THESIS)

Each chapter deals with a specific phase of the study. Most of the chapters contain a literature review as well as reflecting on each phase's limitations and recommendations.

1.8.1 Chapter 1

An introduction to the study is presented with a literature review on assessment and the principles of the OBET approach. It also describes the goal, aim, objectives, the value, significance and scope, the methods of investigation and the definition of terms (enclosed as Appendix A).

1.8.2 Chapter 2

A background to the research problem is provided by means of a literature search of the present study focusing on assessment in the OBET approach. A discussion of the literature review to converge and clarify the research problem will be provided.

1.8.3 Chapter 3

A questionnaire, designed for the study as research tool for the structured interviews, will be presented. A concise background from the literature supports the categories of the questionnaire. The findings of the structured interviews will be presented and discussed. The questionnaire as a tool for the structured interviews is enclosed as Appendix B.

1.8.4 Chapter 4

The proposed assessment model in OBET for Health Sciences and Technology will be presented as statements. This assessment model is based on the findings of the structured interviews and verified and supplemented by literature. The categories and statements of the proposed assessment model will be discussed.

1.8.5 Chapter 5

The modified Delphi process, used as a tool to obtain consensus on the proposed assessment model in OBET for Health Sciences and Technology, will be described. A literature review as background to the Delphi process will be provided. The findings of the three rounds of the modified Delphi process are presented and discussed. The questionnaires for each round of the modified Delphi process and the respective findings are enclosed as Appendices N, O and P.

1.8.6 Chapter 6

The assessment model in OBET for Health Sciences and Technology is presented as an outcome of the study. A discussion on the background of the assessment model, the different categories of the assessment model, and the assumed impact of the assessment model on assessment *per se* will be provided.

1.8.7 Chapter 7

A synopsis of the study will be provided, starting with a summative perspective of each chapter of the report and followed by the significance, value and implications of the study. The limitations of the study will be identified and recommendations made. The recommendations will deal with the implementation of the assessment model in OBET for Health Sciences and Technology. Areas of further research will be identified. This chapter will end with a final conclusion.

In the next chapter a review on the literature on assessment and the OBET approach is described to provide a background and the support for the clarification of the research problem.

CHAPTER 2

A LITERATURE REVIEW ON ASSESSMENT AND OUTCOMES-BASED EDUCATION AND TRAINING

2.1 INTRODUCTION

Assessment arrived in South Africa in the nineties as a newcomer to the higher education environment together with the outcomes-based education and training (OBET) approach. Not only Van Der Horst and MacDonald (1999:5) but also Janse Van Rensburg (1998:82) confirm this. These authors mention that assessment is linked to the outcomes-based approach of curriculum design. Before being introduced to the OBET approach, the higher education environment in South Africa "evaluated students". Davis (1989:8) mentions that, prior to the growth of the assessment movement, those in the evaluation field at times used "assessment" as a synonym for "evaluation". Additionally, Eisner (1993:219) is of the opinion that the term "assessment" has given the older term "evaluation" "a gentle but firm nudge".

To adopt and use the OBET approach in assessment in higher education with success would require that both academics and learners be empowered with the principles of this approach. The change to assessment of learners in the OBET approach holds challenges for academics and learners. One of the challenges facing academics in this new approach is the transparency in assessment and learning facilitation.

The roles of learners in assessment will change from being passive receivers of knowledge to being actively involved in learning and assessment. Through this process, learners will become responsible participants in their learning in the OBET approach.

The motivation for the present study was based on the changes and resulting challenges in the assessment environment of Health Sciences and Technology that originate from the implementation of the OBET approach. Thus the aim of the study is to develop an assessment model in OBET for Health Sciences and Technology. It is anticipated that the assessment model, based on the principles of the OBET approach, should facilitate assessment of learners in Health Sciences and Technology in the OBET approach. By adopting this approach, quality assessment of learning should emerge.

The outcome for Chapter two is to provide a review of the literature on assessment and the principles of the OBET approach to provide the background and support needed for the present study.

2.2 A LITERATURE REVIEW ON ASSESSMENT AND OUTCOMES-BASED EDUCATION AND TRAINING

In the literature review the search criteria, the background information on assessment; suggestions for changes in assessment; assessment issues in higher education; assessment in the OBET approach; and guiding

principles for implementing assessment in the OBET approach are described.

2.2.1 Search criteria

The databases Academic Search Premier, Ebscohost, the Educational Resource Information Centre (ERIC), Nexus and Medline were used to conduct the literature search that covered the period 2000 to 2003. The search criteria were the following, namely "OBE/OBET; assessment model; assessment in OBET; assessment in Health Sciences, Technology, medical education; Delphi technique and competency based assessment". On the basis of their tendency to address the relevant topics, the following journals were examined: *Assessment and Evaluation in Higher Education*, *Assessment in Education*, *Assessment Update*, *Australian Science Teachers Journal*, *British Medical Journal*, *Change*, *Community College Review*, *Education for Health*, *Educational Psychology*, *International Journal of Lifelong Education*, *Journal of Curriculum Studies*, *Journal of Curriculum and Supervision*, *Medical Education*, *Medical Teacher*, *New Education*, *Nursing Standard*, *Perspectives: Policy and Practice in Higher Education*, *Physical Educator*, *Radiography*, *South African Journal of Education*, *South African Journal of Higher Education*, *Studies in Educational Evaluation* and *The Review of Higher Education*. The reference sections of appropriate articles were searched for further relevant publications.

The electronic availability of educational evidence simplifies the process of capturing information and thus has a positive impact on conducting the

literature search. To explain the course and foundation of the study, various perspectives from the literature on assessment and OBET will subsequently follow.

2.2.2 Background information on assessment

Davis (1989:7) points out that, despite the increasing and nationwide attention that assessment receives, there is not yet consensus among authorities in assessment on the topics and processes comprising assessment. Additionally, the above-mentioned author explains that these authorities do not have consensus on the definition of the terms "assessment" and "evaluation". Davis (1989:7) continues by saying that there is a lack of agreement on the relationship between the above-mentioned terms and explains that there are three perspectives on this issue. These perspectives are that evaluation is a subset of assessment, that assessment is a subset of evaluation, and that evaluation and assessment are converging. The author (Davis 1989:7) is of the opinion that both the first and the second perspectives are inaccurate. However, when a broad definition of assessment is assumed, assessment and evaluation could begin to merge in an effort to understand and judge the merit and worth of teaching and learning within a course, a curriculum and/or an educational programme (Davis 1989:8).

Heywood (1989:16) points out that "evaluation" describes activities at a variety of levels of institutional behaviour. Heywood (1989:350) continues that evaluation can be used to determine if specified goals with reference to courses, departments or institutions have been met. Evaluation,

Heywood (1989:16) therefore argues, has broad objectives. According to Heywood (1989:350), the term "evaluation" is similar to validation. Hopkins and Antes (1985:105) point out that factors such as judgement and introspection are required when evaluations are done. Evaluation of learners, Hopkins and Antes (1985:106) say, is done when the information about a particular learner is used to appraise the individual growth of the learner.

As early as 1938, Dewey, quoted by Eisner (1993:222), indicated that learners only learned what was being taught. As a result, the curriculum reform movement identifies the inadequacy of the standardised test to measure learner achievement. It was at this point when assessment and, in particular, authentic assessment had been introduced (Eisner 1993:223).

According to Heywood (1989:347), "assessment" refers to people and the competencies they may or may not possess. These competencies can usually be specified in relatively precise terms. Thus assessment may be formative, summative or both (Heywood 1989:347). The definition of assessment of learning as provided by SAQA was used in the context of the present study and is enclosed in Appendix A.

Dochy and Moerkerke (2000:15 of 33) describe the two cultures in education, namely that of testing and assessment. According to the above-mentioned authors, the testing culture corresponds to the traditional approach where the learner receives the content, memorises it, and then

reproduces it. The changing learning society, Dochy and Moerkerke (2000:15 of 33) maintain, generates the assessment culture in which the integration of instruction and assessment is emphasised.

Barr and Tagg (1995:1 of 16) refer to the "Instruction" and "Learning Paradigms". These authors explain that in the traditional or "Instruction Paradigm" teaching primarily aims at delivering lectures. The "Learning Paradigm" differs from the "Instruction Paradigm" because it has the mission to produce learning rather than to provide instruction. Additionally, the "Learning Paradigm" incorporates the perspectives of the assessment movement (Barr & Tagg 1995:1 of 16).

Dochy and Moerkerke (2000:15 of 33) continue that, in the assessment culture or movement, learners are active participants in the assessment of achievement. These authors encourage the development of "in context" and "authentic" approaches to assessment. Authentic assessment, the authors add, includes the development of assessment methods and methods to report on the achievements and competencies of the individual learner. In addition, the use of a wide range of appropriate assessment methods is introduced to capture the performance of learners in a combination of knowledge, skills and abilities outcomes (Dochy & Moerkerke 2000:15 of 33). Barr and Tagg (1995:5 of 16) reiterate this by saying that new forms of assessment are necessary to establish what graduates have learned.

2.2.3 Traditional assessment

Spady (1994:66) holds the opinion that the traditional system of measurement of learning focuses on pencil and paper testing, the scoring and grading of knowledge, and the manipulation thereof. The author adds that tests usually reveal a small portion of what learners know and their ability to mentally manipulate information (Spady 1994:66). Pencil and paper testing, therefore, is usually not adequate to measure generic skills such as organising, planning, designing and producing skills (Spady 1994:66).

Race (2000b:61) is concerned that traditional assessment is not fulfilling its purposes, while the authors Atkins, Beattie and Dockrell (1993:6) agree with this statement. Consequently, these authors (Atkins *et al.* 1993:6; Race 2000b:61) criticise the current assessment practices because they do not adequately reflect the stated purposes of a course or a programme. The reasons for their argument are that the above-mentioned assessment practices are unreliable and hamper effective learning.

In addition, Brown, Race and Rust (1995:83) remark on the ineffectiveness of traditional assessment. According to these authors, traditional examinations depend on a limited set of abilities and do not capture the knowledge, skills and attributes intended to be assessed. Race (2000b:61) points out that the traditional unseen examination usually measures the skills of the learner removed from the working environment. Besides, Race (2000b:61) mentions that the examination tends to assess written answers, reports and dissertations which may not reflect that real

learning has occurred. Race (2000b:62) adds that the learning experiences that go with the traditional examination could have an effect on the quality and depth of learners' learning experience.

Feedback to learners after assessment plays a vital role in learning and the learning experiences of learners (Race 2000b:62). The same author (Race 2000b:62) argues that feedback to learners after the traditional examination is not optimal. The author continues by saying that, in most institutions, examination scripts are regarded as secret documents and are therefore not available to learners. In this situation, it could be concluded that the opportunity for a learning experience associated with the assessment, is lost (Race 2000b:62).

Concerns about the validity and reliability of the traditional unseen examination originate from the fact that scripts need to be marked fairly quickly and in a hurry (Race 2000b:63). Examiners are often tired and bored when marking or grading needs to be done. Due to the speed required to do the task and the pressure to do the task well, academics - while performing these tasks - are not functioning at their best. This, the above-mentioned author adds, causes increased inadequacy of the reliability of the assessment (Race 2000b:63).

Betts and Smith (1998:51) are of the opinion that the use of learning outcomes as key descriptors of the achievement for which credits to learners are awarded, means that many traditional approaches in assessment are no longer relevant or effective. The authors argue that

the traditional unseen examination does not adequately assess learning outcomes as the intended purposes of learning in the programme (Betts & Smith 1998:51). In addition, Race (2000b:63) says the traditional examination limits assessment of important qualities of learners, for example leadership, teamwork and creativity. The author argues that, for this reason, the traditional examination favours candidates who are skilled at taking examinations. This, the author maintains, is a serious threat to the validity of the traditional examination.

2.2.4 Assessment as a versatile educational tool

Heywood (1989:12) writes that assessment has many meanings and uses. Heywood (1989:15) says that, among others, assessment “describes the measurement of student attitudes and values”. It provides a powerful tool to promote the aims of learning in higher education, such as to prepare learners for qualifications to practise as professionals (Atkins *et al.* 1993:28; Janse Van Rensburg (1998:82).

Palomba and Banta (1999:1) say that “[a]ssessment is a process that focuses on student learning, a process that involves reviewing and reflecting on practice as academics have always done, but in a more planned and careful way”. Salvia and Ysseldyke (1996:5) add that assessment in an educational setting is a multifaceted process involving much more than the administration of a test. The above-mentioned authors state that when we assess learners, we consider the way they perform a variety of tasks in a variety of settings or contexts. This

corresponds with the definition of assessment as provided by SAQA and is enclosed in Appendix A.

Heywood (1989:22) says that assessment is an integral part of the curriculum and instructional design. He makes this statement on the grounds that curriculum design, assessment and evaluation should all begin at the same point (Heywood 1989:23). Sutherland and Peckham (1998:98), on the other hand, argue that assessment tasks define the curriculum. These authors add that assessment impacts on the learning process, because learners focus on topics to be assessed to obtain good marks. Educators, they add, can therefore use assessment as a tool to promote good teaching and learning (Sutherland & Peckham 1998:98).

2.2.5 Assessment issues in higher education

The literature on assessment reveals a number of emerging issues in assessment. In the next section a number of authors are quoted who express concern about various aspects of assessment of learning. These arguments provide impetus in the present study for investigating assessment as a tool to enhance learning and encourage meaningful assessment.

Ewell (1987:23) mentions that assessment has become a popular topic of discussion within higher education. Additionally, Eisner (1993:221) points out that educational measurement has become a refined and sophisticated field with its own distinctive history, journals and training programmes. Schwarz and Webb (2002:1) add to this that educational research in the

past 30 years and more has pointed toward assessment as the main driver of learning. These authors add that, because of its importance in moulding and assuring the nature of learning, it is therefore not surprising that assessment has been lately receiving extensive reporting in literature.

The authors Boud (1995:35), Freeman and Lewis (1998:7) and Race (2000a:1 of 15) focus on the role of assessment as a duty of academics. These authors are of the opinion that the involvement of academics in assessment is probably the most important part of their academic duties. Race (2000a:1 of 15) adds that, whether we regard ourselves as lecturers, facilitators or academics, the most important thing we could do for learners is assessing their work. The reason is that assessment determines the grades and consequently the future careers of learners (Race 2000a:1of 15).

Brown, Race and Smith (1996:vii), on the other hand, believe that assessment of the work of learners causes academics in higher education more difficulties than any other aspect of their professional duties. Race (2000a:1 of 15) continues that it is assumed that anyone appointed in a teaching position could automatically teach and assess the work of their learners. Race (2000a:1 of 15) adds that academics are therefore embarrassed to ask for assistance and guidance in assessment. Consequently they are intimidated by the responsibility attached to assessment (Race 2000a:1 of 15).

According to Schwarz and Webb (2002:184), this explains the reason why assessment has become “a ‘closed’, individual and autonomous activity”. Brown *et al.* (1995:75) agree that for academics, assessment has become a private affair. Academics have little opportunity available to know how well they are doing in assessment. In many instances, the authors maintain, that only by obtaining feedback from external examiners, could academics find out whether the assessment that they conduct is subjective and unfair. Schwarz and Webb (2002:184) argue that the problem is that the higher education teacher has had little training in the important aspects of how to teach and assess learners. The authors continue that this aspect adds to the difficulty of their tasks in assessment.

Betts and Smith (1998:51) make the statement that assessment in higher education “has been the darkest corner of the secret garden of learning”. These authors reason that learners are not made aware of what is expected of them in assessment activities. On the other hand, academics maintain that assessment is a matter of professional judgement; the “I know it when I see it” approach. The authors argue that this is another demonstration of the power relationship between academics and learners that has developed in assessment over many years.

This power relationship in assessment was described as early as 1910 when Abraham Flexner reported the following in the United States and Canada: “The power to examine is the power to destroy” (Cunnington 2002:259). Assessment, Cunnington (2002:259) continues, is inherently

threatening. The main reason for the threat, the author adds, is the potential of assessment to alter the course of the life of the learner.

Cretchley and Castle (2001:493) mention assessment as the area of greatest controversy and weakest technology of all in higher education. A reason for these assumptions is that only the academic/facilitator does the grading (Cretchley & Castle 2001:493). These authors reason that using external examiners add to the controversy of assessment because it is regarded as a sign of disrespect towards learners (Cretchley & Castle 2001:493).

2.2.6 Suggestions for change in assessment

Taras (2002:501) says innovations in assessment in higher education are no longer an option. Assessment practices in higher education are forced to respond to demands such as to produce confident, independent and autonomous learners by looking freshly at assessment practices (Taras 2002:502). Additionally, Luckett and Sutherland (2000:99) claim that changes in the global economy, workplace and knowledge production have affected the way in which employers see their future employees. The employers are now more concerned about the abilities of learners to learn and to reflect generic skills such as critical thinking and decision-making than their appropriate subject knowledge (Luckett & Sutherland 2000:99).

In addition, Brown (2000a:4) mentions factors such as modularisation, increasing numbers of learners and a greater diversity in learner population as reasons to change assessment of learning. The author states that modularisation causes the fear of over-assessment. It places unequal demands on the time of learners and causes reduced time for teaching. The increasing numbers of learners and a greater diversity in learner population further enhance the inappropriateness of traditional assessment. The diversity in the learner population brings with it challenges such as variations in learner backgrounds, their prior knowledge, experience and different learning styles (Brown 2000a:4).

With the focus on “generic” skills and “graduateness” of a graduate and the resulting inappropriateness in assessment, it urges academics to look for different types of assessment (Brown 2000a:4). According to Brown (2000a:4), academics have become aware of the availability of a wide range of possible assessment methods that are underutilised. The author expresses concern that academics are not using the assessment methods because of ignorance or simply as a result of fear to use them.

Otter (1995:61) mentions that assessing competence or performance of learners is a challenge to the traditional approach when compared to written graded assessment. It requires from academics to use a different approach in assessment, such as to ask questions about which assessment methods are used. Betts and Smith (1998:68) point out that academics who have changed to more innovative assessment practices, argue that the frequency, immediacy and variation of assessment enable a

more realistic assessment of the range of graduate skills of the learner when compared to traditional examinations. Traditional examinations are simply a test of memory and are one-dimensional and cannot be effective in assessing many of the skills of the learner that are now identified as significant. The authors mention that the use of innovative assessment practices, approaches and methods such as written assignments, mini-projects, multiple choice questionnaires, and peer assessment are therefore required. They argue in favour of assessment practices assessing the significant skills of the learner such as problem-solving, leadership, networking and work-based activities (Betts & Smith 1998:68).

Sutherland and Peckham (1998:100) recommend changing the perception of learners about assessment. The authors say that very few learners see assessment as an opportunity to enhance their own skills and knowledge. Learners are therefore resistant to new assessment approaches and methods. Taras (2002:508) as well as Weimer (2003:52) mention that learners in higher education receive the wrong message from educators, because - according to them - educators often appear to be more concerned with the grades than with learning.

Shephard (2000:10) recommends that improving the content of assessment is important, but not sufficient to enhance learning. The author adds that, to accomplish transformation in assessment, assessment should be made more attractive and linked to specific learning steps. Changes in assessment should be done in such a way that learners and academics view assessment as a source of insight and help

instead of an occasion for dishing out rewards and punishments (Shephard 2000:10). Weimer (2003:53) advises using educational activities to promote learning and to develop the assessment skills of learners.

Higher education has responded to the inadequacies of assessment by introducing "capability" as a goal for learning in higher education (Lockett & Sutherland 2000:99). Capabilities, Stephenson and Yorke (1998:2) state, integrate knowledge, skills, understanding and personal qualities. These authors continue by saying that, the learner should use the above-mentioned appropriately and effectively in familiar and unfamiliar contexts.

In South Africa, this has led to the introduction of new policies relating to education and the accreditation of qualifications through the NQF. Consequently the implementation of the SAQA Act of 1995 (RSA 1995), necessitated a shift in the assessment paradigm (Sutherland & Peckham 1998:98; Engelbrecht *et al.* 2001:105). The principles of the OBET approach are described in Sections 2.2.6 and 2.2.7.

Leinster (2002:15) provides the necessary motivation for changing the assessment practices of the health care professional. The author adds that the performance of health care professionals no longer depends on the memorisation of facts, but on their ability to use new information. This changes the focus in assessment away from a system where recall of knowledge is encouraged. In the new approach in assessment of health care professionals, the focus is on clinical and communication skills and

the development of attitudes appropriate to the clinical environment (Leinster 2002:15).

In addition, several authors have expressed the need to reform health professions education. Stephenson, Peloquin, Richmond, Hinman, and Christiansen (2002:38) found during their research that, although health professionals are confident in the clinical and technical skills, they feel insecure to deal with the challenges in the workplace. Friedman Ben-David, Davis, Harden, Howie, Ker and Pippard (2001:535) argue that educational reform and new assessment strategies are required to meet the needs of innovation in health professions. Appropriate assessment tools are necessary to enhance and support learning and measure performance. Therefore the use of authentic, performance-based assessment is recommended (Friedman Ben-David *et al.* 2001:535).

2.2.7 Outcomes-based education and training (OBET)

Brady (1994:70) states that outcomes-based education emerged from the objectives movement in the 1950s and the works of Tyler (1950), who advocated beginning the process of curriculum design with objectives. Brady (1994:70) is of opinion that the main disciple of outcomes-based education is W.G. Spady. According to Spady (1994:1), the OBET approach is a way of designing, delivering and documenting instruction in terms of intended goals and outcomes. This means starting with a clear picture of what is important for learners to be able to do, then organising the curriculum, instruction, and assessment to make sure that learning ultimately happens (Spady 1994:1). The assumption made by this

educational paradigm is that all learners can learn and succeed, but each one in their own individual way and time (Spady 1994:9). The author adds that - with the OBET approach - what learners learn and whether they learn are more important than when and how they learn (Spady 1994:25).

An outcomes-based system relies on a clear set of learning outcomes on which the curriculum, learning facilitation and assessment are focused. The outcome provides the facilitator with a starting point and focus on the curriculum, instruction, assessment planning and implementation (Betts & Smith 1998:52). The outcome is shared with and explained to the learner on a continuous basis to ensure that the "transparency" philosophy of OBET is fully realised (Schwarz & Cavener 1994:328; Spady 1994:9). A teamwork approach with learners and facilitators as partners is thus established to achieve visible and clear goals in learning (Spady 1994:9).

Outcomes-based education focuses on the philosophy of success for all learners and staff with learners exiting successfully from the educational system (Spady 1994:9). According to Barr and Tagg (1995:11 of 16) a learning environment is created that is challenging, co-operative, collaborative and supportive. This creates a win-win situation where success in learning is attainable. Additionally it becomes a top priority in the planning of learning facilitation and assessment (Barr & Tagg 1995:11 of 16). The learner experiences success in learning by attaining outcomes that promote more success and lead to expanded opportunities in learning (Schwarz & Cavener 1994:329; Spady 1994:9). The expanded opportunities for learners to attain outcomes in the OBET approach

consequently encourage the high expectations of learners (Schwarz & Cavener 1994:328).

To be successful in practising a profession, Spady (1994:55) argues that the learner requires specific knowledge and then integrates and applies the knowledge within a specific content. In addition to the knowledge, applied competence, confidence and judgement are required. The above-mentioned author continues that this is a demonstration of the focus of the OBET approach, namely that key life skills should link to experiences in the real world. This feature of the OBET approach makes it very relevant to learners, their families and future employers (Spady 1994:55). It therefore encourages learners to demonstrate more complex and long-lasting learning compared to traditional assignments and pencil and paper tests. In the OBET approach, active participation in learning by the learner and a more challenging learning environment replace passive listening and traditional seat-work (Spady 1994:97).

According to Betts and Smith (1998:52), the OBET approach leads to a more holistic approach of the teaching and learning process. Conditions and opportunities within the education system that will encourage and enable learners to attain the outcomes are created (Spady 1994:2). Schwarz and Cavener (1994:337) mention that the OBET approach offers commitment for learning, an integrated curriculum and possibilities of authentic assessment.

2.2.8 Outcomes-based education and training in South Africa

Cretchley and Castle (2001:489) mention that the OBET approach was introduced to South African educators in the 1990s. Policy-makers in South Africa expressed the need to transform education and training in South Africa aiming to develop more skilled and flexible workforces. As a result, the policy-makers turned to models of integrated education and training systems abroad that focus on the competency of learners (Cretchley & Castle 2001:487).

Restructuring of the education system has been an important priority of the new government in South Africa after 1994 (Van Wyk & Mothata 1998:2). SAQA was consequently established through the SAQA Act No. 58 of 1995 (RSA 1995) to oversee the implementation of the NQF. Through the NQF a single national education and training framework (the NQF) was created to transform education and training in South Africa with the aim to make it easier for learners to enter an educational system and make progress (RSA DoE 2001:19). This was regarded as a significant event for education in South Africa in the mid-nineties (Genis 2001:1).

SAQA based the conceptualisation of the NQF on an outcomes-based philosophy of education, i.e. the OBET approach (RSA DoE 2001:42). This system focuses on outputs as opposed to inputs and attainment of learning outcomes as demonstrated in assessment (RSA DoE 2001:42). OBET as a learner-centred approach was introduced to improve the quality and coherence of education and training in South Africa (Cretchley & Castle 2001:487).

SAQA issued *The Regulations for National Standard Bodies* (NSBs) in March 1998 and simultaneously established the main parameters of the NQF (RSA DoE 2001:20). These “regulations” specify the requirements of a programme to be accepted as a qualification. They prescribe among others, the format in which programmes for SAQA approval and accreditation have to be submitted. The format of a programme should consist of learning outcomes with defined purposes intended to provide learners with applied competence. It should add value to the qualifying learner in terms of enrichment of the person, enhancement of employability and open up routes of additional education and training (RSA DoE 2001:20).

In addition, the programme should consist of both specific exit-level outcomes with assessment criteria and critical cross-field outcomes (generic skills) such as problem-solving, critical thinking, teamwork, communication and the use of information (RSA DoE 2001:21). The OBET approach therefore requires philosophical changes and different approaches and strategies for the provision of education and training. These changes and developments have implications on both learning facilitation and assessment (Kotzé 1999:36; Coetzee-Van Rooy & Serfontein 2001:4; Genis 2001:3).

With the OBET approach in higher education a reality, new challenges and limitations in the education system emerged (Betts & Smith 1998:50; Engelbrecht *et al.* 2001:105; Lockett 2001:49). These authors maintain that one of the challenges of the OBET approach is to bridge the gap

between the traditional learning and measures of achievement. Another challenge of the OBET approach is the more complex demonstration of competence that learners have to reveal in the real world. In addition, using learning outcomes challenges the traditional power relationship that used to exist among educators and learners because it moves the focus away from the "I teach, you learn" model (Betts & Smith 1998:50).

Betts and Smith (1998:50) say that the limitations of the OBET approach are situated in the change from the traditional to the non-traditional. The OBET approach challenges the traditional role of the teacher and the academic authority of the subject specialist. Consequently, using the OBET approach places a heavy burden and increased pressure on academic staff, as well as on learners. Betts and Smith (1998:50) add that the OBET approach is open to criticism because it is new and has not yet proven itself. Killen (2000:6 of 24) agrees that not all educators are in favour of OBE. Some educators disagree with the basic idea of pre-specifying the outcomes of education while others question the roots of OBE. Criticism is also pointed at the abilities of learners to take responsibility and the accommodation of different learning styles of learners (Killen 2000:6 of 24).

Chisholm (2003:10 of 14) states that the most influential reviewer of the OBET approach is Professor Jonathan D. Jansen. However, Professor Jansen's critique points to OBE at school level, such as the design of Curriculum 2005, teacher training, learning support materials, provincial

support, and time-frames (Garson 1997:6; Bissetty 1998:5; Bradley 1998:7; Jansen 2001:53; Chisholm 2003:11 of 14).

The findings of a recent study conducted at the Technikon Witwatersrand, indicated that OBET is a novel methodology that educators and learners can easily adapt to (Nair 2003:77). Killen (2000:21 of 24) therefore requests educators to have a balanced view about the positive and negative aspects of OBET. The author (2000:27 of 32) argues that the success of an educational system depends on the commitment of educators, because no system of education is perfect. Educators are thus requested to learn from the successes and mistakes of others and base their opinions on personal experience, rather than on prejudice.

2.2.9 Assessment in the OBET approach

According to Spady (1994:103), assessment of learning needs to develop around the specified exit-level outcomes. These outcomes describe the key aspects that will be assessed (Betts & Smith 1998:53). Schwarz and Webb (2002:1) reiterate that assessment needs to provide a transparent and significant link between learning activities and desired learning outcomes. The above-mentioned authors continue by saying that learners could therefore direct their educationally engaging activities and behaviour to satisfy the requirements of assessment.

The assessment process must be conducted to contribute to the learning experience of the learner (Spady 1994:103). To contribute to the learning experience and to provide the learner with a greater chance to succeed,

Cunnington (2002:258) adds that attention should be paid to providing better feedback on assessment and on providing remediation activities to learners. Bligh (2001:74) mentions that assessment should discover what the learner has learned, rather than what has been taught. Assessment therefore should reflect as closely as possible the actual tasks performed, termed "authentic or performance assessment" (Brown *et al.* 1996:74; Bligh 2001:312).

Friedman Ben-David (1999:23) argues that performance assessment and outcomes-based education are closely related paradigms. The above-mentioned approaches are bound by simple educational principles, namely that assessment methods should match the learning modality. Programmes are therefore faced with the challenge to develop non-traditional teaching and assessment techniques (Friedman Ben-David 1999:23).

Sound assessment in the OBET approach is based on a holistic approach of assessment (Gravett 1996:77). The holistic approach indicates that assessment strategies are in line with curriculum and learning facilitation. Assessment should have an integrated view to discourage fragmentation of assessment tasks. A variety of assessment methods to call for the assessment of different qualities of learners are therefore recommended (Gravett 1996:77). Using appropriate assessment criteria communicated to learners helps to direct their energy to important issues in assessment (Gravett 1996:79).

Gravett (1996:80) adds that assessment should provide constructive feedback to the learner consistent with the assessment criteria that were communicated to learners (Gravett 1996:80). Opportunities for self-assessment should be provided as a valuable tool for effective learning. It teaches learners to take responsibility for their own learning and gives them greater ownership of their learning. Assessment then becomes a participative process where skills such as reflection, self-criticism and life-long learning are established in the learner (Gravett 1996:81).

2.2.10 Guiding principles for implementing assessment in the OBET approach

Friedman Ben-David (1999:24) describes the appropriateness of an assessment plan as a guideline for the implementation of sound assessment in the OBET approach. According to the author argues the systematic assessment plan could be used to ensure uniformity of assessment across a programme. The author recommends using the educational philosophy of the institution as a guideline to define the relationship between the faculty and learners and the responsibilities of learners in monitoring their own learning progress. Additionally it can also make provision for learners to meet their own educational needs (Friedman Ben-David 1999:24).

Additionally the author adds that, with the assessment plan, appropriate assessment methods are selected to assess outcomes with assessment criteria developed for each of the defined abilities. The assessment plan also includes a description of the instructional method employed and the

standard according to which specific abilities should be assessed. Assessment information, lines of communication, promotions and possibilities for remediation should be transparent to both the academics and the learners (Friedman Ben-David 1999:24). Such a plan has the potential to assist academic staff members to assess learners within tight time schedules, while learners are subject to a continuous system of assessment (Betts & Smith 1998:68). Learners should therefore not feel lost in the assessment process or feel overtested or underinformed (Friedman Ben-David 1999:24).

Friedman Ben-David (1999:24) recommends developing assessment expertise among faculty and learners with the major objective to enhance the quality of assessment. The assessment task force thus established would have the function to co-ordinate the development of assessment materials with the help of an assessment expert as part of the team. The task force could also co-ordinate the integration and co-ordination of members of different disciplines in assessment. Cretchley and Castle (2001:499) confirm that the necessities for the success of the OBET approach include trained assessors and adequate support to academics. The above-mentioned authors name requirements for the success of assessment in the OBET approach such as an institutional culture prepared to change its traditional assessment practices and focus on the educational needs of the learners.

In the same view, Heywood (1989:147) requests academics to reflect on the value added to the knowledge of the learner as a result of learning. In

addition, Brown *et al.* (1996:142,143) list the values underpinning assessment which they believe academics should reflect on. The values focus on the quality, transparency and fairness in assessment (Brown *et al.* 1996:142,143). Adding to this, Palomba and Banta (1999:83) mention the ethical conduct of academics with respect to assessment activities. They indicate that assessment should not harm learners and that learners, as partners in assessment, should be treated with respect (Palomba & Banta 1999:84).

Betts and Smith (1998:52) recommend that, by facing the important assessment issue, the challenges of the OBET approach could be addressed and the limitations overcome. The above-mentioned authors add that it is therefore vital that all those involved should come to terms not only with the principles of assessment in the OBET approach, but also with the broad implications it has for assessment.

2.3 A DISCUSSION OF THE LITERATURE REVIEW TO CONVERGE TO THE RESEARCH PROBLEM

Harden, Crosby and Davis (1999:9) describe the global move towards outcomes-based education in medical education and point out that health professionals' education could benefit by adopting the principles of the OBET approach as a valuable education tool. In particular, the advantages of this approach to guide assessment of learning are highlighted. Harden (2000:437) states that by using the OBET approach, the trend to learner-centred learning continues. Advances in medicine and

biomedical sciences demands changes in patterns of delivery of health care. The author therefore sees the future in medical education as integrated learning with interprofessional and multiprofessional education, therefore combined with the education of the health professional (Harden 2000:437).

The promulgation of the SAQA Act in 1995 (RSA 1995) leaves higher education institutions with no option but to implement the OBET approach (Nair 2003:77). Consequently the implementation of the OBET approach in the programmes in Health Sciences and Technology is a reality at the TFS and the UFS. At the TFS, the implementation of the OBET approach is managed as a pilot project (TFS 2002-2005:6,51).

Spady (1994:104) says not all OBET approaches are created equal. This author (1994:25) adds that OBET approaches may take many forms and can vary considerably. The kind of approach could be influenced by the defined outcomes of the programme. Programmes, therefore, will have to find an OBET approach unique to their educational needs. Additionally, Spady (1994:106) argues that partial implementation of the OBET approach is far better than no implementation. The author mentions that institutional support on all levels is required to guarantee success with the implementation of the OBET approach. Spady (1994:106) further mentions that one of the major hindrances of complete implementation of the OBET approach is "traditional institutional inertia".

Changing to assessment in the OBET approach to assure the success of and reach the goals underpinned by the OBET approach will require time, energy and dedication from all the role-players involved. As a result academics will need to abandon the customs of the traditional methods and focus on the principles of assessment in the OBET approach. Gravett (1996:76) mentions that assessment of learning is often not considered when reform in higher education is addressed. In such a case, assessment of learning is approached in a routine manner with lecturers clinging to outdated assessment habits. Brown (2000a:4) argues that conventional assessment methods are no longer good enough to achieve the desired outcomes in assessment. This author (2000:4) therefore requests a review of assessment strategies to cope with changing conditions in higher education which we are faced with internationally.

By taking on the challenges of assessment in the OBET approach, Cunnington (2002:259) requests optimising assessment processes in response to new developments in the science of assessment. Burchell, Higgs and Murray (1999:324) point out that, where a single clinical examination used to be adequate to assess the health professional in practice, a shift away from traditional philosophy has become crucial. The shift must be to an approach where patients and examinations in assessment may be diverse and resemble more closely the reality of practice of the health professional.

Additionally, Rowntree (1987:1) reminds academics that assessment and grading or marking are not the same. Rowntree (1987:1) continues to say

that the nature and quality of the work of the learner need to be determined before labelling it with a suitable symbol. The author (Rowntree 1987:1) therefore concludes that grading cannot take place without prior assessment. Brown *et al.* (1995:82) argue that the most appropriate outcome of assessment is a descriptive profile of achievement of the learner. By doing so the learner is provided with encouraging feedback and a breakdown of learner capabilities and not only a mark or a grade is given (Brown *et al.* 1995:82). Biggs and Collis (1982:181) recommend using the Structure of the Observed Learning Outcome (SOLO) Taxonomy as a tool in providing a consistent conceptual framework to express the quality of learning.

The arguments of a number of authors provide impetus for investigating current assessment practices and designing an assessment model as the final outcome of the present study. Rowntree (1987:1) says that looking into the assessment procedures of an educational institution could reveal the truth about the assessment system. It reveals the purposes and intentions of assessment of learning and discloses the qualities and achievements of learners that are actively valued and rewarded by the assessment system (Rowntree 1987:1).

In addition, Boud (1995:35) argues that there is probably more bad practice and ignorance of significant issues in assessment than in any other area of higher education. According to Boud (1995:35), learners can, although with difficulty, escape from the bad practice and effects of poor teaching. It is, however, much harder for them to escape the effects

of poor assessment. The reason, Boud (1995:35) argues, is because learners want to graduate. Consequently, the request of Atkins (1995:25) to review current assessment practices and develop an assessment model in the present study as an educational tool that could add to the quality of learning seems more than appropriate.

2.4 CLARIFICATION OF THE RESEARCH PROBLEM

Assessment in the OBET approach should be integral and fundamental to teaching and learning. The literature on assessment and OBET reveals current dynamics, demands, issues and challenges that both educators and learners in higher education are faced with. In addition, the introduction and implementation of the OBET approach in Health Sciences and Technology programmes have offered new challenges and changes in assessment of learning.

These challenges and changes placed new demands on academics and learners in Health Sciences and Technology. In reply to these demands, a study was designed to provide a means whereby current assessment practices could receive more thoughtful attention. By using information from selected academics and supplementing and verifying this information with the literature on assessment, the aim of the study, namely to design an assessment model in OBET for Health Sciences and Technology, could be accomplished as the final outcome of the study.

The assessment model as a valuable educational tool should assist and empower academics and learners to facilitate the change to assessment in the new educational paradigm. It should also be seen as a guide to practise quality assessment and contribute to the establishment of a positive assessment culture where the learner is respected and learning matters most.

2.5 CONCLUSION

A literature review on assessment and OBET was done to provide the necessary support for conducting the present study. Findings in literature point to the adequacy of the OBET approach in the education of health professionals. The literature also indicates that the implementation of assessment in the OBET approach has to be accompanied by an empowerment process for academics, institutional support and an "assessment plan".

It is anticipated that the assessment model, provided as final outcome of the present study, will assist academics and learners to become empowered with the principles of assessment in the OBET approach and to practise quality assessment in an environment where learning matters most.

In the next chapter, the questionnaire that was used as the interview schedule for the structured interviews in the present study will be described. Additionally the results and findings of the structured interviews

will be provided and discussed. The chapter starts with a review of the literature that was used as the background and the support of the categories of the questionnaire, which had been designed for the study. The literature review focuses on the changes to the OBET approach in higher education and assessment. In this context, the literature review supports the questionnaire that was designed as research tool for the study with which the structured interviews in the study were conducted. The limitations of the questionnaire, the recommendations identified by the researcher through conducting this phase of the study, and a reflection on the chapter will be provided.

CHAPTER 3

THE QUESTIONNAIRE AND STRUCTURED INTERVIEWS

3.1 INTRODUCTION

Erwin and Knight (1995:181) emphasise the importance of assessment as the drive for learning. The following statement proves this:

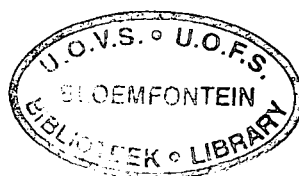
If all other elements of the course point in one direction and the assessment arrangements in another, then the assessment arrangements are likely to have the greatest influence on the understood curriculum.

Freeman and Lewis (1998:7) are of the opinion that one of the most important tasks of the work of teachers, trainers, or lecturers, is their involvement in assessment. It is therefore surprising that the higher education teacher has had little training in how to teach or assess (Cox & Ewan 1982:195; Brown *et al.* 1995:75; Schwarz & Webb 2002:184). In addition, the above-mentioned authors state that a formal professional qualification is not always required in joining and participation in the higher education society. The authors Schwarz and Webb (2002:1) therefore argue that it is understandable that assessment has become a threatening word on campus. The threat, these authors add, originates from the understanding that assessment is linked to credits instead of the formative action to promote learning.

Atkins *et al.* (1993:16) mention that higher education has to face demands such as greater diversity in the backgrounds of learners. Sutherland and Peckham (1998:98) add to these demands the staff:learner ratios and limited administrative assistance as factors influencing the changing profile of the higher education arena. In addition, Otter (1995:61) says that factors like the increase in the number of learners and changes in the staff:learner ratio are forcing role-players to rethink current assessment strategies in terms of validity, reliability, fairness and practicality.

Atkins *et al.* (1993:16) argue that meeting the demands in the changing higher education society will require an adjustment in current assessment policies and methods. The above-mentioned authors add that these demands could contribute to a new educational environment where traditional assessment policies and methods need to be reviewed for appropriateness. Broadfoot's (2002:285) motivation is for more transparency, higher quality and greater accountability in assessment practices. Erwin (1995:50) reiterates that developing better assessment practices in higher education has become a major priority. These demands and the changes mentioned in the higher education and assessment environments pose a challenge to educators in higher education (Erwin 1995:50).

The above-mentioned changes and demands in assessment in higher education offered the support and were used as the backdrop for the present study. The outcomes to be attained in this section were to conduct a literature review and construct a questionnaire to be used as an



interview schedule. The final outcome of the present study was to compile an assessment model in OBET for Health Sciences and Technology. The proposed assessment model will be presented in Chapter four.

In the next section, assessment matters with the focus on the changes in assessment associated with the OBET approach, the purposes, quality assurance, planning and construction, feedback and assessment methods and their appropriateness are described. These were identified and selected from literature as essential elements of assessment. The essential elements were used as the framework and support for the development of a questionnaire as the research tool for the structured interviews in the present study.

3.2 A LITERATURE REVIEW FOR THE QUESTIONNAIRE AS A RESEARCH TOOL

The purpose of higher education and training in Health Sciences and Technology is to prepare learners for qualifications to practise as professionals in the health care environment (Atkins *et al.* 1993:28). The preparation of learners for specific vocational or professional employment has to focus on various outcomes. Some of these outcomes are to integrate relevant theoretical knowledge and attain expertise related to the real professional context (Atkins *et al.* 1993:28). These authors add that learners in Health Sciences and Technology have to develop skills and competencies that include interaction with patients. In addition, Atkins *et al.* (1993:28) say that the attainment of norms, attitudes, values,

responsibilities and personal qualities - as expected of members of the target profession in Health Sciences and Technology - is essential.

To attain these outcomes, relevant issues regarding assessment are raised. Atkins *et al.* (1993:35) maintain that many of the existing assessment practices do not adequately reflect the required purposes in assessment. According to the authors the traditional assessment policies and methods need to be revisited to determine if they are still valid (Atkins *et al.* 1993:16). These authors request changes and innovations to current assessment practices with new assessment policies and practices emerging (Atkins *et al.* 1993:35).

Several policy documents and acts support the emergence of the new educational environment internationally and locally. The Edinburgh Declaration at the World Federation for Medical Education World Conference (WFME & WHO 1988) gave momentum to global reform in medical education and ultimately in health care education. The Edinburgh declaration proposed new directions in medical and health care education, among others, to advance health and well-being and reassure quality education by means of competency-based learning. In South Africa, the new democracy in 1994 and the Cape Town Declaration in 1995 (WFME & WHO 1995), both impacted on the educational environment of the health professional. Consequently in 1995 the South African Qualifications Authority (SAQA) Act (RSA 1995) was promulgated. It included the National Qualifications Framework (NQF). Training institutions are challenged in the New Academic Policy (RSA DoE 2001:40,41) to

establish programmes that equip learners for professional vocational employment. To meet this challenge, the use of an educational approach with a difference is required with the focus on the competency of learners (Leinster 2002:13.14).

3.2.1 Changes to outcomes-based education and training (OBET) and assessment

OBET is considered as the latest phase on the continuum of educational development and the current label to developments in education (Du Toit 1999:1). The introduction of the OBET approach requires a change from the traditional where the curriculum indicates what is learned and tested (Kotzé 1999:32; Coetzee-Van Rooy & Serfontein 2001:4). The above-mentioned authors continue that in the new approach in education, the design and development of the curriculum is an integrated and interrelated process. These authors add that the focus is on outcomes, assessment criteria and learning guides (Kotzé 1999:32; Coetzee-Van Rooy & Serfontein 2001:4). In addition, the new approach in education is characterised by active learners, ongoing assessment, learner-centredness and connecting educational experiences to real-life situations (Claassen 1998:36; Du Toit 1999:4; Kotzé 1999:32).

With the OBET approach based on learning outcomes, assessment in the traditional form requires expansion to provide for the aspirations of this approach (Friedman Ben-David 1999:23; Kotzé 1999:36). The design and planning of assessment as part of the curriculum mean that assessment, learning outcomes and teaching and learning methods are all congruent

(Atkins *et al.* 1993:47). Assessment in the OBET approach is a continuous process with a range of appropriate assessment methods used to determine if outcomes are attained (Lubisi, Wedekind, Parker & Gultig 1997:14; Coetzee-Van Rooy & Serfontein 2001:10,12; Harden 2002:117).

In the OBET approach, the assessment process is transparent with a shift from summative to formative assessment (Lubisi *et al.* 1997:14; Kotzé 1999:36). Farmer (1997:4) adds that assessment in the OBET approach is criterion-referenced, meaning that the work of learners is assessed against set criteria. The use of a rubric to describe criteria of performance at different levels of competence is recommended (Farmer 1997:4). Genis (2001:22) mentions that the rubric containing the performance criteria replaces pass or fail as categories of progress or achievement. To give learners an opportunity to experience achievement, assessment should be developmental rather than judgemental (Lubisi *et al.* 1997:18). Harden (2002:117) mentions the possibility of remediation and enrichment opportunities for learners in assessment. Lubisi *et al.* (1997:14) add that learners who do not meet the assessment criteria, should be able to apply for reassessment opportunities.

The use of a new approach in health care education is supported by Leinster (2002:15) who holds the opinion that the memorisation of facts has become less important. Leinster (2002:15) adds that other domains of learning have come to the fore, namely that of competencies with clinical and practical skills. With the traditional testing techniques proving to be inadequate to test competencies and skills, assessment emerges in the

new learning society to determine the achievements of learners (Broadfoot 1995:9). This necessitates the implementation of authentic ways of assessment of learners and the use of appropriate assessment methods to demonstrate the achievement of outcomes of knowledge, skills and attitudes as described by Torrance (1995:ix) and Dochy and McDowell (1997:283).

3.2.2 The purposes of assessment

The purposes of assessment are widely described in literature (Rowntree 1987:15; Atkins *et al.* 1993:6; Brown & Knight 1995:33; Brown *et al.* 1996:16,17; Brown, Bull & Pendlebury 1997:11; Freeman & Lewis 1998:13; Messick 1999:9). Palomba and Banta (1999:8) say that multiple purposes could be accomplished through assessment. Brown *et al.* (1997:10) and Freeman and Lewis (1998:13) describe an overlap or confusion of the different purposes of assessment. Freeman and Lewis (1998:13) therefore recommend that academics and institutions should balance the purposes and expectations from the different stakeholders when assessment is done.

According to Freeman and Lewis (1998:10,11), the purposes of assessment of learning are to certify that a specific level of performance has been achieved and to describe in the form of an outcome what a learner could do. The above-mentioned authors add that assessment could complement learning by motivating learners with proper feedback on assessment. The feedback on assessment could help learners to indicate areas that require improvement in learning and correct faults and mistakes

(Rowntree 1987:24). Freeman and Lewis (1998:10,11) continue by saying that the feedback on assessment could assist learners to identify their strengths and record and track their progress in learning. Learners expect to be assessed and if they understand the value of formative assessment, they could be motivated by the feedback on the assessment that they receive (Brown & Knight 1995:33). Alternatively, Rowntree (1987:27) and Brown *et al.* (1996:16,17) mention that feedback provided to the educator could add direction to learning facilitation and assessment.

3.2.3 Quality assurance in assessment

Biggs and Collis (1982:xi) argue that the quality of learning concerns all educators. These authors continue by saying that most educators think that they know quality when they see it, but find it difficult to define, particularly in terms reasonable to learners.

McMillan (1997:70) mentions that high quality assessment provides reliable, valid and useful measures of learner performances. In addition, the author adds qualities like consistency, fairness, transparency and the professional judgement of the assessor. Reliability in assessment refers to the consistency, stability and dependability of the results (Brown *et al.* 1997:234; McMillan 1997:60; Read 1999:64). When results are reliable, it shows similar performances at different times or under different conditions (McMillan 1997:60). Advice from McMillan (1997:66) to the assessor to improve the quality of assessment, is never to rely on using one assessment method only. To enhance the reliability in assessment, the number of assessment events should be increased and a variety of

appropriate assessment methods used. The assessment procedures and scoring should be as objective as possible and assessment events repeated until the results are consistent (McMillan 1997:60).

Assessment is valid when it measures what is intended (Read 1999:64). McMillan (1997:55) adds that the inferences, uses, and consequences that result from assessment should be appropriate. Palomba and Banta (1999:90) say the validity in assessment is enhanced when the interpretation made from the results is reasonable. In addition, these authors add that the information from assessment should gather the right kind of evidence for the decision that needs to be made. According to McMillan (1997:55), validity is therefore concerned with the inferences and not the test, instrument or procedure used to gather the information. McMillan (1997:55) adds that the same test or instrument could be valid for one purpose of assessment and not valid for another.

McMillan (1997:59) suggests a number of strategies to enhance the validity in assessment. Sound advice from McMillan (1997:59) is to start the assessment with the easy questions and use different assessment methods to assess the same outcome. In addition, the assessor should determine if different assessment methods and approaches of assessing would provide the same results (McMillan 1997:59). The author's advice is to ask colleagues to judge the clarity of what is assessed. McMillan (1997:59) continues by saying that colleagues should also be asked to judge the match between the assessment items and the purpose of the assessment. Validity is therefore determined by and dependent on the

professional judgement of the assessor (McMillan 1997:55). Salvia and Ysseldyke (1996:32) reiterate the value of professional judgement and add that for fairness, the attitude or opinion of the examiner should not affect the scoring.

McMillan (1997:57) mentions that the sources of information for validity are separated into content-related, criterion-referenced and construct-related evidence. McMillan (1997:57) writes that content-related evidence refers to the adequate sampling of content. Criterion-referenced evidence, McMillan (1997:57) says, provides evidence that a particular assessment presents the same result as another assessment of the same outcome, using criteria to relate the assessment. Construct-related evidence refers to the relationship between what is taught and what is assessed (McMillan 1997:57). The use of a test grid, blueprint or table of specifications to systemise the professional judgement of the assessor and improve the validity in assessment, is therefore recommended (McMillan 1997:57).

McMillan (1997:63) believes that assessment is fair when all learners are provided with an equal opportunity to demonstrate achievement. The above-mentioned author adds that fair assessment is unbiased, non-discriminatory and uninfluenced by irrelevant or subjective factors, referring to both the assessment tasks and the scoring. Learners should be familiar with the content of the learning targets or outcomes covered by assessment (McMillan 1997:63). In addition, the author adds that the scoring criteria and the content of assessment should be communicated with the learners prior to instruction and assessment. Learners are

motivated when they know what will be assessed; how the assessment will be scored; and when they believe that the assessment will be fair (McMillan 1997:68). Fairness also refers to the time and opportunity for learners to prepare and learn for assessment (McMillan 1997:66). Fairness in assessment is enhanced when a variety of appropriate assessment methods are used. In addition, McMillan (1997:66) mentions that the selection of appropriate assessment methods should provide the fairest indication of achievement for all learners.

According to McMillan (1997:68), there is often a trade-off between high-quality assessment, the time required to construct and perform the assessment and the practicality and efficiency of assessment. The author (McMillan 1997:68) mentions that academics sometimes require time in performing other professional or academic activities. McMillan (1997:68) argues that academics' time is a precious commodity and therefore advises academics to use more familiar or less time-consuming methods of assessment.

3.2.4 Factors considered in the planning and construction of assessment

Brown *et al.* (1997:49) describe the questions that assessors should ask when designing and constructing assessment. Not only Brown and Knight (1995:25) but also Lockett and Sutherland (2000:106) refer to these as the "fitness for purpose" factors. The above-mentioned authors say that these factors could be used to identify the outcomes to be assessed and the capabilities or skills defined by the outcomes. The assessment method

should agree with the skills defined by the outcome to be assessed (Brown *et al.* 1997:49). Brown and Knight (1995:25) add that the assessment method should support the purpose of assessment and verify the validity of what learners were asked to do. Assessment should be structured for learners to show their best performance (McMillan 1997:68).

Other considerations are the knowledge and familiarity of the assessor with the assessment methods with reference to the strengths and limitations of the assessment methods (McMillan 1997:70). In addition, the efficiency of the assessment method in terms of staff time required for constructing assessment; time for learners to provide the answers; and how long it will take to grade the assessment, should be considered (Brown *et al.* 1997:49; McMillan 1997:69). Brown and Knight (1995:26) mention that assessment should at all times produce usable data.

Palomba and Banta (1999:105) advise academics to use a test blueprint to plan and construct assessment. These authors (Palomba & Banta 1999:105) say in the test blueprint, the content areas (learning outcomes) make up the row headings (horizontal). The column headings (vertical), they add, represent skills levels to be addressed by the items in the assessment. These skills levels are for example recall, comprehension and application. The assessment criteria included in the test blueprint makes it a useful tool to determine the performance in assessment (Palomba & Banta 1999:105).

McMillan (1997:70) says possible resources or materials required in assessment and the cost to perform the assessment method should be taken into account in the planning and construction of assessment. When assessment requires long and complicated directions to set up, it is sometimes less efficient and might, due to misunderstandings from learners, affect the reliability and validity of assessment (McMillan 1997:69).

Different modes or trends in assessment have emerged that may influence the planning and construction of assessment (Brown *et al.* 1997). Some of these trends are formal and informal, formative and summative, final and continuous assessment as well as assessment of the product or process (Freeman & Lewis 1998:33). "Formal assessment" refers to structured events, for example examinations, practical tests under controlled conditions, presentations and *vivas*. "Informal assessment" takes place without prior notice and does not always count for a credit (Freeman & Lewis 1998:33).

Freeman and Lewis (1998:33) continue by saying that formative assessment is diagnostic to provide information or feedback to the learner to identify difficulties they experienced, the reason for the difficulties and strategies to overcome them. Summative assessment, these authors add, leads to a final decision or judgement. A relevant example is to confirm that the learner has achieved a particular competence or passed a particular part of the programme (Freeman & Lewis 1998:33).

Continuous assessment is assessment occurring throughout a course and allows a wide sample of learner performance (Freeman & Lewis 1998:35). Final assessment is assessment at the end of a course which often receives criticism, because it creates artificial conditions in which the learner has to perform (Freeman & Lewis 1998:35). Assessment usually focuses on the end product such as a project, an essay or a case study. In some cases, there is no product to assess, or the process may be the object of assessment, for example the way in which a diagnosis is made of a patient (Freeman & Lewis 1998:35). When the process is assessed, it enables both the learner and the academic to monitor the quality of the learning and to take action where required, thereby helping the learner to develop more effective approaches to learning (Freeman & Lewis 1998:35).

Cox and Ewan (1982:195) mention that, in addition to teachers or facilitators, the sources of assessment are expanded to include other health professionals, peers and the learners themselves. Reference is also made to the patient as a source of assessment (Cox & Ewan 1982:195). Criterion-referenced assessment is preferred where the achievement of a learner is compared to predetermined criteria, moving the emphasis away from competition in achieving competence (Cox & Ewan 1982:195).

3.2.5 Assessment criteria and feedback

Race (1995:67) argues that one of the 10 basic principles of assessment is to provide feedback. Brown *et al.* (1995:75) also mention feedback to learners as one of the purposes of assessment. The above-mentioned authors add that feedback is valuable for learners to learn from mistakes and encourage achievements in learning. Falchikov (1995:157) argues that it is widely acknowledged that learning depends on feedback to the learner.

Good feedback, according to Freeman and Lewis (1998:49), is relevant and informative. The above-mentioned authors add that it should also encourage self-assessment and dialogue. Additionally, Cross (1999:39) adds that feedback should be accurate. Brown *et al.* (1996:30) mention that feedback should enhance learning and be positive, realistic, motivating and honest. Freeman and Lewis (1998:49) maintain that feedback focuses on the outcome and should therefore be linked to the assessment criteria. The authors (Freeman & Lewis 1998:49) add that the feedback should be provided as soon as possible after the assessment event. The greater the delay, the less likely the learner will be able to find it helpful in the learning, motivation and development process (Freeman & Lewis 1998:49).

McKeachie's (1999:59) advice is that feedback on assessment should transfer information that is understood by the recipient in a language that is easily comprehended. The above-mentioned author adds that, for the feedback to be helpful, the learner should know what to improve.

Additionally, these authors mention that it should help the learner to develop skills or strategies that will facilitate further learning and therefore should motivate the learner to improve. The feedback becomes useful to the learner if it includes verbal comments where the assessor provides individualised verbal comments on the performance, including suggestions to improve (Rowntree 1987:26).

However, Falchikov (1995:159) acknowledges that it is time-consuming to encourage deep learning through useful feedback, especially with large numbers of learners in classes. These authors therefore suggest the use of peer feedback marking to attend to the time problem. Brown *et al.* (1996:30) suggest using faster methods of feedback, such as the use of audiotapes containing the feedback, e-mail or a video. Rowntree (1987:26) also mentions using pictures to provide feedback.

Farmer and Eastcott (1995:87) report that examinations are seen by a group of delegates attending an "Assessment for Learning Conference" as a poor method of feedback. Rowntree (1987:24) confirms that the least useful and non-specific form of feedback is a grade or a mark. Brown *et al.* (1996:30) suggest discontinuing the use of red ink and crosses as a method of feedback.

Freeman and Lewis (1998:42) mention that assessment criteria are used to link the assessment with the learning outcomes. They continue that this guide learners to focus time, effort and resources on what is required in assessment. The use of a learner feedback sheet (also referred to as a

rubric) contains the assessment criteria and provides information on the extent to which the learner has achieved the criteria (Freeman & Lewis 1998:42). Learners could be involved in the process to compile the criteria, making peer and self-assessment possible. These authors add that learners generating the assessment criteria develop a sense of ownership in assessment (Freeman & Lewis 1998:40).

Alternatively, feedback from the learners is useful to identify strengths and weaknesses in the curriculum and methods of learning facilitation (Rowntree 1987:27). By determining the impact of learning facilitation, the effectiveness of learning arrangements could be reviewed so that the required adjustments, e.g. remedial work and extension of learning, could be made (Atkins *et al.* 1993:6). Freeman and Lewis (1998:33) add that feedback to the facilitator could be useful to identify possible changes in the programme.

3.2.6 Assessment methods and appropriateness

Guidelines in literature to select the most appropriate assessment method focus on a number of concepts and have common characteristics with some of the elements of assessment discussed under the headings 3.2.2 to 3.2.5. McMillan (1997:66) states that the selection of assessment methods should be based on "what will provide the fairest indication of student achievement of *all* your students". The opinion of Boud (1995:37) is that good assessment is more than finding the most appropriate assessment method and implementing it sensibly.

Brown *et al.* (1997:44,45) argue that, with the broad uses of assessment methods available, every method could be used to suit any purpose of assessment. They add that the assessor should aim for a fine balance among the purposes of assessment, assessment tasks and the outcomes to be assessed. Not only Brown and Knight (1995:25), but also Read (1999:67) reiterate this. Brown *et al.* (1996:14) mention that the range of assessment methods to choose from is wider than many assessors realise. Their advice is to apply the "fit for purpose" principle and use the best assessment method appropriate to the outcomes, level and methods of learning facilitation used. In addition, they add that factors such as time constraints and knowledge, as well as skills or attitudes to be assessed should be considered. Freeman and Lewis (1998:98) add to this that the assessment method and the source of assessment (e.g. peer assessment), as well as where, and under what conditions assessment will take place (e.g. the workplace), should also be considered. Advice from Palomba and Banta (1999:93) is to select assessment methods that will provide learners with active learning opportunities. Sutherland and Peckham (1998:103) recommend using assessment methods and techniques that will encourage deep learning. In contrast, Brown (2000a:9) argues that the range of assessment methods provided is often too narrow, with the result that it does not enable learners to appropriately demonstrate the range of their abilities.

Torrance (1995:1) supports authentic assessment to describe assessment tasks as more practical, realistic and challenging than "traditional" paper and pencil tests. Hager and Butler (1996:370) argue that "performance is

a higher level of integration of knowledge and skills” where the learner performs procedures in simulated or practice areas. The authors (Hager & Butler 1996:371) continue that personal competence can only be learned, displayed and assessed in a practice setting and demonstrates the highest level of integration of knowledge, skills, personal qualities and accumulated reflective experiences. Assessment procedures, these authors add, therefore need to focus on this form of reflective and integrative thinking that authentically relates to the validity of practice.

Edwards and Knight (1995:13) argue that the traditional assessment methods do not fit into the expanding higher education system. These authors continue that it is a challenge to equip learners in Health Sciences and Technology for professional vocational employment and focus on the competency of learners. Leinster (2002:13,14) supports this when requesting the implementation of competence assessment of health professionals. Assessment of competence, according to Edwards and Knight (1995:13), represents a set of alternative approaches in assessment of learning in higher education. Otter (1995:61) mentions that assessing competence challenges the traditional approach of written assessment. The author (Otter 1995:61) therefore recommends a review of current assessment methods.

The elements of OBET and assessment, as described in sections 3.2.1 to 3.2.6, provided the background and support in designing and compiling the questionnaire for the structured interviews in the present study. These are described in the next section.

3.3 METHODOLOGY AND PROCEDURES

From the literature review it became evident that educational reform also manifested in the use of innovative assessment methods, with the outcomes-based approach as the point of departure. From this platform, it was therefore thought to be appropriate to revisit and re-think current assessment practices, methods and strategies used in Health Sciences and Technology.

The literature review (see Section 2) was used as support for the design of a questionnaire as the research tool in the study. In order to obtain the information required on assessment practices, structured interviews were conducted with selected participants in Health Sciences and Technology and higher education studies. Thus the information obtained from participants, will be supplemented by information from the literature and it will be used to design an appropriate assessment model in OBET for Health Sciences and Technology. The proposed assessment model will be presented in Chapter four.

In this section, the methodology and procedures in designing the questionnaire, the pilot study, the structured interviews and the analysis and presentation of the findings will be described.

3.3.1 The questionnaire

The questionnaire designed as research tool for the study was based on the information regarding assessment that was obtained from the literature review. The questionnaire was used to obtain information in a structured and consistent manner on current assessment practices from the selected participants. The participants selected for the study were academics involved in assessment of learners in Health Sciences, Technology and Higher Education Studies. These academics were targeted for a structured interview to obtain the information required to conduct the present study.

Aspects such as the purposes of assessment; the use of assessment methods; quality assurance in assessment; factors considered in planning and constructing assessment; feedback on assessment; and the usefulness of assessment methods, were identified in the literature as key elements for effective assessment. Questions pertaining to these aspects were therefore included in the questionnaire. In the design of the questionnaire, the above-mentioned elements were complemented by the demographic information of the participants; information on their attitudes towards assessment; and on the changes currently being experienced by them in higher education.

A variety of tick-off, closed and open-ended questions were used in the questionnaire. Additionally, a five-point Likert-style rating scale was used to rate required information in the questionnaire. A large number of open-ended questions included in the questionnaire allowed for additional

responses from the participants where answers necessitated an explanation or a qualification. It also provided a platform where participants could share additional information or experiences to maximise the input from the participant. Familiar terminology was used throughout the questionnaire to avoid participants having to ask for the explanation of terms. The familiar terminology was useful to encourage the participants in providing the required information during the structured interview.

Eighteen assessment methods were included in the questionnaire. These assessment methods were selected as a sample of available assessment methods, representing both "traditional" and "performance" ("authentic") assessment methods. The assessment methods were not labelled or grouped as such in the interview schedule, which provided an open playground for participants to provide information on the use of the assessment methods.

The format and structure of the questionnaire was similar to those usually utilised for independent completion by participants. This structured format acted as a strict guidance during the interview to avoid drifting from the primary focus during the interview. Where preferred, the participant had the freedom to answer the rating questions prior to the interview. This allowed more flexibility with the time limits set for the structured interview. The questionnaire designed for the study and which was used as the interview schedule is enclosed as Appendix B.

3.3.2 The pilot study

Once the interview schedule was completed, a pilot study (n = 3) was carried out. This was necessary to determine the clarity and distinctness of the questions. The duration of the structured interview also had to be confirmed. Colleagues (n = 3) in Health Sciences and Technology with experience in research and in the use of questionnaires were selected for the pilot testing. These qualities equipped them to assess the questions and to recommend changes and additions to the interview schedule and the rating criteria used. Additionally, an experienced researcher in higher education studies was requested to read the questionnaire as a quality control measure.

3.3.3 The participants and structured interviews

The 16 participants were selected by means of judgemental sampling by the researcher. These participants were academics from the School of Health Technology, the TFS and the Faculty of Health Sciences, the UFS. Additionally, academics in higher education studies were used as participants in the study.

The academics were headhunted to participate in the study according to the following criteria, namely their experience in higher education; their knowledge about assessment in higher education; and their familiarity with the requirements and outcomes of assessment in Health Sciences. The academics were selected because, as subject experts, they had the potential to provide information with a broad base on assessment practices in different sections in the Faculty of Health Sciences, the School

of Health Technology and other specialist sections of the relevant institutions. Additionally, they were assumed to be knowledgeable on assessment of learners in Health Sciences and Technology. The information collected by means of the structured interviews will ultimately be used as the basis to design an appropriate assessment model in OBET for Health Sciences and Technology.

Consent to participate in the study was obtained through personal and electronic communication. Interviews with the participants were scheduled on an appointment basis. After the appointment had been made and prior to the interview, an interview schedule was delivered to the participant, allowing the opportunity for preparation. During the interview, the interviewer completed an additional questionnaire to capture the responses of participants while the interviewee used the other interview schedule as a reference to read the questions and follow the progress of the interview. Answers were recorded in writing and confirmed with participants to assure that responses were captured while excluding bias from the interviewer.

3.3.4 Analysis and presentation of the findings

On completion of the interviews, the variables in the completed interview schedules were coded and similar concepts in the open responses were grouped. The department of Biostatistics, Faculty of Health Sciences, the UFS, calculated the responses using the S.A.S. system for descriptive data analysis. After the coding process the data was verified for correctness. In the open-ended questions, similar concepts were grouped

again, reducing the variety of responses and to simplify the reporting process. The simplification was done with caution to avoid changing the meaning of the responses. Phrases were linguistically adjusted and/or abbreviated to simplify the reporting of the results.

Results are displayed and illustrated in tables and frequency distribution charts to assist in the interpretation. Additionally, results are enclosed as tables in appendices. Percentages were rounded to zero decimal (n = 16), explaining the reason for percentages of 99 or 101. In the open responses, it was possible to have more than one response per participant, explaining the reason why percentages could add to more than 100% in those categories.

3.4 RESULTS AND FINDINGS OF THE STRUCTURED INTERVIEWS

The results and findings of the pilot study (n = 3) and 16 interviews conducted (n = 16) with the interview schedule as research tool are presented in this section. The results and findings are described and reported on according to the format of the questionnaire (see Appendix B).

The following headings in presenting the results and findings are used, namely the pilot study; demographic data; changes in higher education to OBET; the purposes of assessment; quality assurance in assessment; content-related and practical factors considered in the construction of assessment; feedback on assessment; and the use of assessment

methods. Under certain conditions, the results and findings from different categories in the questionnaire (interview schedule) are presented under the same heading in the section to follow. This was done to combine findings where questions were duplicated in the questionnaire. Additionally, it provided a logical flow and structure to the next section. For this reason, the number of the question in the questionnaire is not mentioned when results are displayed as tables or charts in the sections to follow.

3.4.1 The pilot study

Following the pilot study ($n = 3$), recommendations were made to adjust information in the cover letter to clearly state the purpose of the interview schedule. Also included were an explanation and a qualification of the Likert rating scales used in the questionnaire. The Likert-style rating scales were extended to five points. "Describe" open-ended questions were altered to "list" to obtain concise answers. Additional open-ended questions were added in some sections where the pilot testing indicated the need for an extra explanation required to qualify specific responses. The duration of a structured interview based on the questionnaire was determined to last 90 to 120 minutes.

3.4.2 The structured interviews

The structured interviews were conducted during the second semester of 2002. Participants responded to the questions in the questionnaire reflecting on personal experiences in higher education as frame of reference. Answers were not judged or compared for correctness.

Questions pertaining to the duration of tasks were answered with each participant reflecting on their own context of physical time, therefore the conversion of tasks to physical time was not requested.

Fourteen structured interviews (n = 14) were held and two participants (n = 2) completed the questionnaire before the scheduled interview. The interview with these participants was shorter than the scheduled period. In these cases responses were clarified and discussed and additional ideas and information on assessment practices was shared.

3.4.3 The demographic details of the participants

Sixteen interview schedules were completed with 38 percent male and 63 percent female participants. Six percent were in the age group 25 – 35 years; 44% in the group 36 – 50 years; and 50% were between 51 – 65 years. Sixty three percent of the participants were in management positions in their academic schools, departments or programmes holding positions as senior lecturers (13%), lecturers (19%) and facilitators (6%). The details of the positions of participants in faculty are illustrated in Table 3.1.

TABLE 3.1 POSITIONS OF PARTICIPANTS IN FACULTY (n = 16)

POSITIONS OF PARTICIPANTS IN FACULTY	%
Director/Head of School/Programme Manager/Head of Department	63
Senior lecturer	13
Lecturer	19
Facilitator	6

Participants indicated that they were involved in research (100%), administration (94%), lecturing (88%), management (88%) and community service (69%). Other functions were listed as programme development (33%), consultation (17%), educational reform (17%) and "diverse" functions (33%). The diverse functions referred to a variety of functions in faculty. A breakdown of the priorities of the functions of the participants revealed that for 44 percent management was a high priority task, community service for 31 percent, and lecturing for 25 percent, while administration (19%) and research (19%) functions had a lower priority. The details of the functions of participants and the priority of the functions are enclosed as Appendix C.

Participants in the present study represented a variety of study fields, namely Plant Biochemistry (6%), Food Sciences (6%), Physiotherapy (6%), Radiography (6%), Occupational Therapy (6%), Human Nutrition (6%), Nursing (6%), Anatomy (6%), Medical Technology (6%) and higher education studies (6%). Fifty percent of the participants had a Ph.D. qualification, 31 percent had Master's degrees and 19 percent Honours degrees.

The majority of the participants in the present study had many years of experience in assessment of learners. Thirteen percent had three to five years', six to 10 years' and 10 to 15 years' experience respectively. Nineteen percent had 16 to 20 years and 44 percent had experience of 20 years and more in assessment of learners.

Ninety four percent of the participants were involved in the regular assessment of learners, while 44 percent were responsible for internal and or external moderation. Thirteen percent were engaged in assessment of institutional activities and in the design of policy on assessment for undergraduates in faculty. Thirteen percent of the participants mentioned the fact that assessment of your own capabilities in education and training should become a custom of academic personnel.

Ninety four percent of the participants indicated that they were knowledgeable about the variety of assessment methods. Eighty eight percent of the participants had received training in the use of assessment methods. The training included personal enrichment (81%) from inside the institution and 31 percent from outside the institution, compulsory institutional training (38%), while 44 percent received training in their departments or schools. Thirteen percent obtained training on an informal basis in the use of assessment methods. These methods were to consult relevant books, asking peers, exposure to international conferences, presenting courses and being involved in the training of colleagues in assessment.

3.4.4 Changes to OBET in higher education

All the participants (100%) expressed the opinion that they were familiar with the changes experienced in higher education. The responses of the participants revealed that they associated the changes with learner-centred approaches (100%), with rationalisation and transformation (44%), and the establishment of frameworks (19%). The responses of the participants are summarised in Table 3.2.

TABLE 3.2 OPINIONS OF PARTICIPANTS ON CURRENT CHANGES IN HIGHER EDUCATION (n = 16)

OPINIONS OF PARTICIPANTS REFLECTING THE CURRENT CHANGES IN HIGHER EDUCATION	%
Learner-centred approach with outcomes-based, problem-based or community based learning	100
Rationalisation, transformation, restructuring and resulting equity in higher education	44
NQF and the registration of qualifications with SAQA	19
A paradigm change	13
Flexibility in learning programmes with different entrance and exit-levels	13
Market-orientated, competitive and practice-directed learning programmes	13
Introduction of lifelong learning	13
Changes in finance and governance patterns	13
Use of alternative authentic assessment	6
Quality assurance and accreditation of higher education institutions by the Higher Education Quality Committee (HEQC)	6
Alternative authentic assessment	6
Policy changes in admission and selection of learners	6

Sixty-three percent of the participants were positive about the changes and 38 percent were positive about some aspects of the changes. At the same time they also expressed negative opinions. The positive and the negative responses of the participants regarding the changes in higher education are summarised and enclosed in Appendix D.

All the participants were of the opinion that they had adequate knowledge about the changes in higher education. Forty-four percent rated their knowledge as very good, 31 percent said they had good knowledge while 25 percent had average knowledge. The reasons provided for the rating of the knowledge on these changes were their personal involvement in the changes, for example it was part of their job description or their engagement in studies in higher education or Health Professions Education. All the participants (100%) indicated that they were willing to learn more about OBET principles.

The descriptions on assessment provided by the participants and compared to a definition and descriptions in literature illustrated that 88 percent of the participants fully comprehended the term "assessment". Sixty-three percent mentioned that they understood the difference between "assessment" and "evaluation", while 13 percent did not understand the difference. Six percent answered both "yes" and "no" to this question, while 19 percent of the participants were uncertain.

None of the participants rated themselves as traditional in assessment attitude and style, 75 percent were hybrid and 25 percent rated

themselves as assessors in the OBET paradigm. The hybrid classification specified that they used and applied a combination of the principles of OBET as well as the principles of the traditional approach in assessment.

Thirteen percent of the participants rated the final written examination as the most important assessment event of the year, while 81 percent did not agree and six percent were uncertain. Forty-four percent of the participants were of the opinion that the emphasis should be on continuous assessment where academic growth and development of the learner, facilitated by feedback to the learner, has a high priority. Twenty-five percent of the participants were of the opinion that the traditional examination was a formality and did not necessarily represent a realistic picture of the knowledge and competency level of the learner or contributed to the academic development of the learner.

3.4.5 The purposes of assessment

Eighty eight percent of the participants were of the opinion that assessment could determine if the learner would be capable to function in a prospective work environment by assessing the knowledge, competencies and concepts associated with the vocational profile of the profession. Forty-four percent indicated that feedback to the learner assisted in the academic growth and development of the learner. Thirty-eight percent said that assessment could determine if the learning facilitation methods were effective. The responses of the participants indicating the purposes of assessment are summarised in Table 3.3.

TABLE 3.3 RESPONSES ON THE PURPOSES OF ASSESSMENT**(n = 16)**

THE PURPOSES OF ASSESSMENT	%
To determine if outcomes of knowledge, competencies and concepts associated with the professional profile were attained	88
Learners receive feedback on their academic growth and progress	44
To determine if the method of learning facilitation is efficient and if modification is required	38
To assess the present level of competence of learners related to knowledge, skills and attitudes	25
It is compulsory	6
To obtain marks (credits)	6
Identify underachievers and learners with problems	6
To determine clinical competence	6

In Table 3.4, statements from the literature describing the purpose of assessment are listed. In addition, the support that each participant provided to each of the statements on the purposes of assessment, is provided. All the participants (100%) agreed that learners could discover their academic strengths and weaknesses through assessment with proper feedback and they could record and track their progress in learning. Sixty-three percent of the participants agreed that the effectiveness of learning arrangements could be reviewed through assessment. The details are provided in Table 3.4.

**TABLE 3.4 SUPPORT FOR STATEMENTS FROM LITERATURE ON
THE PURPOSES OF ASSESSMENT (n = 16)**

STATEMENTS ON THE PURPOSES OF ASSESSMENT FROM LITERATURE	% YES	% NO	% NOT ALWAYS	% UN- CERTAIN
It certifies that a specific level of performance has been achieved	81	0	13	6
It describes what the learner can do in the form of an outcome	81	6	6	6
It motivates the learner	69	6	25	0
It is a learning experience	88	13	0	0
With proper feedback learners can discover their strengths and weaknesses	100	0	0	0
Learners can record and track their progress in learning	100	0	0	0
It reviews the effectiveness of learning arrangements	63	6	25	6
It identifies the impact of learning	81	6	13	0
It identifies areas where adjustments in teaching and learning can be made	94	0	6	0

Ninety-four percent of the participants indicated that there was a relationship between learning and assessment and that assessment based on the outcomes and the assessment criteria was a unit. Six percent did not agree that assessment had to be a learning opportunity and be part of the process of learning and development. Comments and reasons for

their opinions about the relationship between learning and assessment are provided and enclosed as Appendix E.

3.4.6 Quality assurance in assessment

All the participants (100%) indicated that they communicated assessment events with learners. Fifty percent used oral communication during class contact, while all the participants used written communication in the learner guide, course or assessment manual, and memorandum on the notice board or e-mail messages to learners.

All the participants (100%) mentioned that they communicated the content covered in the assessment event with the learners and 94 percent also communicated the duration of the assessment. Sixty-seven percent of the participants communicated the type of questions used in the assessment event. Other factors communicated with learners regarding assessment events were the assessment method used; skills to answer the questions; assessment or performance criteria; the quality of work required in the assessment; and additional requirements to improve performance. Methods of communication with learners that the participants employed were written communication (81%), oral communication (50%), and messages on the notice board (13%). A summary of the factors communicated with learners regarding the assessment event is available in Table 3.5.

**TABLE 3.5 COMMUNICATION OF FACTORS REGARDING
ASSESSMENT EVENTS (n = 16)**

COMMUNICATION OF FACTORS	% YES	% NO	% NOT ALWAYS	% UN-CERTAIN
Content/exit level outcomes	100	0	0	0
Duration of assessment	94	6	0	10
Type of questions	67	33	0	0
ANSWERS PROVIDED IN THE OPEN RESPONSE SECTION				
COMMUNICATION OF FACTORS	%			
Skills to answer questions	19			
Assessment criteria	19			
Method of assessment	6			
Quality of work required	6			

Seventy-five percent of the participants communicated the criteria for scoring the performance in assessment with learners. Communication occurred before the assessment event (36%), after the assessment event (21%), and both before and after the assessment event (43%). Eighty-seven percent of the participants indicated that they communicated the memorandum with learners. This was usually done after the assessment event (86%), while 14 percent of the participants communicated this before the assessment event as well.

Ninety-four percent of the participants indicated that they consulted colleagues (peers) for judgement on the exit level outcomes (content) to be included in the assessment event. Eighty-one percent indicated that they consulted colleagues on the assessment process. Details on the requested input from colleagues on the assessment of outcomes/content and the process of assessment are illustrated in Table 3.6.

**TABLE 3.6 DETAILS ON THE JUDGEMENT OF COLLEAGUES ON
VARIOUS ASPECTS OF THE ASSESSMENT PROCESS
(n = 16)**

ASPECTS OF THE ASSESSMENT PROCESS	% YES	% NO	% NOT ALWAYS	% UN- CERTAIN
Length of questions	93	7	0	0
Clarity of questions	93	7	0	0
Type of questions	80	20	0	0
Memorandum	79	21	0	0
Marking schedule	71	21	7	0
Marking method	57	29	14	0

Ninety-four percent of the participants indicated that they consulted colleagues from the same programme (peers) for judgement on the outcome of the assessment. According to the participants, they consulted colleagues in the following manners: moderation (44%); consultation with facilitators involved in the same year group (25%); consultation within the programme (31%); consultation when different assessment methods were used (6%); and benchmarking with other assessment events (13%).

Consistency in assessment was reassured by using a scientific approach with taxonomies to construct assessment (13%). Other methods to assure consistency in assessment were using a moderator or a subject specialist (19%); grading the performance of the assessment question by question; no identification attached to the assessment (25%); and using a memorandum, criteria or other benchmark material (63%) for grading the performance of the assessment. Factors indicated by the participants assuring the consistency and objectivity in grading the performance of assessment are summarised in Table 3.7.

TABLE 3.7 FACTORS ASSURING CONSISTENCY AND OBJECTIVITY IN ASSESSMENT (n = 16)

FACTORS	% CONSISTENCY	% OBJECTIVITY
Use memo/mark sheet/assessment criteria as reference for performance	81	75
Personal philosophy to be objective and consistent	31	50
Mark question for question	25	13
Moderator feedback	19	31
Benchmark and categorise the poor, average and good learners	13	-
Use of descriptive statistics	6	-

The participants indicated that they assessed learners more than once, some based on year models (19%), others on semester models (25%), on term models (13%) or using a modular approach (44%). The majority of the participants (94%) specified that they used both continuous and end of

the learning period assessment, while 6 percent used continuous assessment only. For 81 percent of participants it was important that learners had adequate time to prepare for assessment, while 19 percent did not always consider this aspect. Seventy-five percent of the participants considered the fact that learners had an opportunity to prepare when the assessment schedule was compiled. In Table 3.8 a summary is provided of the factors that were considered when the assessment schedule was compiled.

TABLE 3.8 FACTORS CONSIDERED WHEN THE ASSESSMENT SCHEDULE WAS COMPILED (n = 16)

FACTORS CONSIDERED WHEN COMPILING THE ASSESSMENT SCHEDULE	%
Learners have enough time to prepare for the assessment	81
Learners have the opportunity to prepare for the assessment	75
Total assessment in the programme, including other assessment events	25
Level of maturity of learners	13
Revision opportunities available	6

The contribution in weight of each assessment event was determined by the assessment of the exit-level outcomes linked to the professional vocational profile (56%) and if formative or summative assessment events had been scheduled (31%). All the factors provided by the participants in determining the weight of different assessment events are represented in Table 3.9.

TABLE 3.9 THE WEIGHT OF DIFFERENT ASSESSMENT EVENTS
(n = 16)

DETERMINING THE WEIGHT OF ASSESSMENT EVENTS	%
Exit-level outcomes linked to the professional vocational profile	56
Theory or practice; formative or summative assessment events	31
Contact period and engagement of learners with learning matter	19
Assessment method to be used	6

Eighty-one percent of the participants pointed out that they used more than one assessment event to assess the same exit-level outcomes or content. The reasons that the participants provided for more than one assessment on the same exit-level outcome or content, were that different assessment methods were implemented to assess similar outcomes or content (56%) and the same exit-level outcome were assessed at different stages in the programme (31%). The reasons that the participants provided for allowing more than one assessment event on the same exit-level outcome or content are summarised in Table 3.10.

TABLE 3.10 REASONS FOR MORE THAN ONE ASSESSMENT EVENT ON THE SAME EXIT-LEVEL OUTCOME (n=16)

REASONS FOR MORE THAN ONE ASSESSMENT EVENT	%
Use different assessment methods to assess the same exit-level outcome/content	56
Summative and formative assessment events for the same exit-level outcome/content	31
Similar outcomes assessed at different stages in the programme	31
Increase validity of assessment with more assessment events	13

TABLE 3.10 CONTINUED

REASONS FOR MORE THAN ONE ASSESSMENT EVENT	%
The level (graduate or post-graduate) of the exit-level outcomes	6
Repetition of work for development and growth of the learner	6
The same outcome is repeated only in reassessment events	6

Participants decided to provide the opportunity for reassessment based on a policy in the school (70%), personal policy (64%), departmental policy (63%), and institutional policy (69%). The details on providing the opportunity for reassessment are summarised in Table 3.11.

TABLE 3.11 POLICY ON REASSESSMENT (n = 16)

POLICY ON REASSESSMENT	% YES	% NO	% NOT ALWAYS	% UN-CERTAIN
Policy in school on reassessment	70	20	0	10
Institutional policy on reassessment	69	0	0	31
Personal policy on reassessment	64	29	7	0
Policy in department on reassessment	63	25	13	0

Seventy-five percent of the participants indicated that they used the guidelines published in the institutional policy when an opportunity for reassessment was scheduled. Nineteen percent employed different methods of assessment until the exit-level outcomes were attained.

Thirteen percent used reassessment when the validity of the results of the original assessment was in question. Six percent of the participants used reassessment for humane reasons, when sickness or death occurred during the original scheduled assessment and it was impossible for the learner to be present at the assessment event because of these reasons. The details of the policy on opportunities for reassessment events are summarised in Table 3.12.

TABLE 3.12 DETAILS OF THE POLICY ON REASSESSMENT
(n = 16)

DETAILS OF THE POLICY ON REASSESSMENT	%
Guidelines of the institutional policy	75
Use different methods of assessment until learner attains the outcome	19
When discrimination of assessment results was identified	13
Sickness and death during original scheduled assessment event	6

3.4.7 Factors considered in the planning and construction of assessment

The participants (63%) responded by saying that they preferred to use the content and/or the exit-level outcomes as an indication to determine the optimal number of assessment events. Other methods to indicate the optimal number of assessment events were the assessment methods used (13%), credits attached to the module to be assessed (13%), and the opportunity for growth and development of the learner provided by the assessment event (25%). The factors considered to determine the

required number of assessment events for learners are summarised in Table 3.13.

TABLE 3.13 FACTORS DETERMINING THE NUMBER OF ASSESSMENT EVENTS (n = 16)

FACTORS DETERMINING THE NUMBER OF ASSESSMENTS EVENTS	%
Work content and/or exit-level outcomes	63
Opportunity for academic development, growth and achievement of the learner	25
Credits attached to module to be assessed	13
Assessment methods used	13
Time schedule	6
Informal manner to control class attendance	6
Departmental policy	6

All the participants (100%) pointed out that they employed a variety of assessment methods when assessing learners. They indicated that assessment methods should correspond with the purposes of assessment. Sixty-nine percent of the participants believed that knowledge, skills or attitudes and practical and logistic arrangements were considered, 75 percent of participants considered the type of exit-level outcome to be assessed, while the level of the learners (6%) was also taken into consideration. Six percent of the participants used practice as reference for the selection of the most appropriate assessment method. Six percent of the participants said that they were of the opinion that experience in assessment could assist in the selection of the most appropriate

assessment method, that is the assessment method best suited for the circumstances.

Ninety-four percent of the participants mentioned that the exit-level outcomes determined the content of assessment. Other factors that the participants considered were interesting topics that were discussed during contact time (13%) or learners might have decided on the content of assessment after a discussion (6%). The availability of appropriate patients determined what would be assessed with a clinical assessment (6%). Six percent of the participants indicated that the size of the learning unit determined what assessment would entail.

Sixty-three percent of the participants indicated that they had sampled the content of an assessment event. Fifty-six percent of the participants used a framework to represent the important exit-level outcomes with equal weight in assessment. Thirteen percent of the participants used a method to pre-sample themes and thus avoid repetition with other assessment events. This information was documented in the learner guide/assessment manual. The variety of methods used for the sampling of the content of the assessment is summarised in Table 3.14.

TABLE 3.14 METHODS TO SAMPLE THE CONTENT OF ASSESSMENT (n = 16)

METHODS TO SAMPLE THE CONTENT OF ASSESSMENT	%
Framework to represent the important exit-level outcomes with equal weight in assessment	56
Pre-sample specific themes to avoid repetition with other assessment events; document in the learner guide/assessment manual	13
Previous assessment methods determine the sample	6
Consider the needs of adult learners	6
Use gut feeling to sample the content	6

All the participants mentioned that they considered the exit-level outcomes when assessment was constructed. Other factors considered by the participants when constructing assessment were the capabilities and skills defined by the exit-level outcome (94%) and the knowledge, skills and attitudes defined by the exit-level outcome (94%). The responses provided by the participants on questions related to the content of assessment are available in Table 3.15.

TABLE 3.15 RESPONSES TO QUESTIONS ON THE CONSTRUCTION OF ASSESSMENT (n = 16)

QUESTIONS ON THE CONSTRUCTION OF ASSESSMENT	RESPONSES			
	% YES	% NO	% NOT ALWAYS	% UN-CERTAIN
Do you consider the exit-level outcomes to be assessed?	100	0	0	0
Do you consider the capabilities and skills defined by the exit-level outcome?	94	0	0	6
Do you determine the assessment method in agreement with the knowledge, skills and attitudes defined by the exit-level outcome?	94	0	0	6
Do you accommodate the taxonomies in the assessment?	88	6	0	6
Do you use grid or scheme to plan and construct the assessment?	69	19	13	0

Ninety-three percent of the participants indicated that they differentiated between first-, second-, and third-year level work in assessment. Thirty-eight percent of the participants indicated that a differentiation between cognitive levels and application of knowledge and demonstration of skills applied were used to determine the percentage of knowledge, insight and application covered in the assessment. Thirty-eight percent of the

participants mentioned that they used the taxonomy of Bloom to accommodate the assessment of cognitive levels. Other factors considered to differentiate between academic levels of learners were the growth and development of the learner (13%); the purpose statement of the qualification (6%); the type of exit-level outcome to be attained (6%) and a holistic approach when larger volumes of work are assessed (6%). Six percent of the participants discussed the degree of difficulty and the level of questions in the assessment with colleagues. Forty percent of the participants were of the opinion that they taught to the test.

Eighty-one percent of the participants mentioned that they considered the assessment method that they planned to use in terms of available time for learners to do the assessment and 56 percent considered time available for staff when selecting the appropriate assessment method.

Sixty-three percent of the participants indicated that they had a favourite method of assessment. Participants listed a number of assessment methods as their favourite methods of assessment and each participant had a particular reason why the assessment method was labelled as a favourite. The majority of the participants selected as favourite assessment method, the written test and examination (31%); projects and assignments (31%); the short answer method and multiple choice question (MCQ) (25%); and individual presentations (19%). Six percent of the participants indicated that they did not have a favourite assessment method. These participants were of the opinion that experience in the subject or learning area and the knowledge, skills and attitudes to be

assessed, would determine the most appropriate assessment method to use. Table 3.16 provides a summary of the responses of participants with regard to practical factors in assessment construction.

TABLE 3.16 PRACTICAL CONSIDERATIONS IN THE CONSTRUCTION OF ASSESSMENT (n = 16)

PRACTICAL CONSIDERATIONS IN CONSTRUCTION OF ASSESSMENT	% YES	% NO	% NOT ALWAYS	% UNCERTAIN
Do you differentiate between academic levels to be assessed?	93	0	7	0
Do you "teach to the test"?	40	47	13	0
Do you consider the efficiency of the assessment method in terms of learner time?	81	13	6	0
Do you consider the assessment method in terms of staff time available?	56	31	13	0
Do you have favourite methods of assessment?	63	31	6	0

All the participants (100%) used criteria (e.g. a memorandum, checklist or rubric) to grade the performance in assessment. Seventy-five percent of the participants indicated that they compiled the memorandum before assessment; 6 percent after assessment; and 19 percent compiled it before assessment and made adjustments after assessment. Thirteen percent of the participants involved in assessment of post-graduate

learners indicated that they summarised the assessment criteria of projects and assignments as a statement containing the required guidelines such as the selection and presentation of facts, technical aspects, and evidence of creative thinking and originality. Six percent of the participants indicated that defining assessment criteria and standards for clinical assessment could be complex. Participants used the effectiveness of the treatment of the patient as an example of assessment criteria and standards in clinical assessment.

Participants indicated that they used summative (94%), formative (88%), and peer assessment (81%) more frequently. The use of these and other approaches in assessment is presented in Table 3.17.

TABLE 3.17 SUMMARY OF DIFFERENT APPROACHES IN ASSESSMENT (n = 16)

APPROACHES IN ASSESSMENT	% YES	% NO	% NOT ALWAYS	% UN-CERTAIN
Formative assessment	88	6	6	0
Summative assessment	94	6	0	0
Peer assessment	81	6	13	0
Self-assessment	50	25	25	0
Tutor assessment	38	56	6	0
Patient assessment	6	94	0	0

According to the participants in the present study, they used formative assessment for the learning opportunity, provided that the feedback accompanying the assessment was timely and appropriate. With summative assessment, a holistic picture of the abilities of the learner was obtained and a decision could be made about progress of the learner to the next academic level. Participants believed that learners were comfortable to compete with peers and to obtain feedback from them. Peer assessment also allowed the opportunity for learners to develop the skills to listen and learn from one another. A summary was made of the reasons for the different approaches in assessment used by the participants. It is enclosed as Appendix F.

Thirteen percent of the participants indicated that they assessed the product of learning; 19 percent assessed the process of learning; and 69 percent assessed the product and the process of learning. All the participants used criterion-referenced and 44 percent used norm-referenced as well as criterion-referenced assessment. The details are enclosed as Appendix G.

3.4.8 Feedback on assessment

Ninety-four percent of the participants indicated that they provided feedback to learners with assessment. Sixty percent of the participants provided the feedback after assessment and 40 percent with and after assessment. The methods of feedback to the learners were class discussions of the memorandum or criteria (81%) and written comments with reasons for performance were used by 50 percent of the participants.

The methods of feedback used by the participants in the present study are presented in Table 3.18.

TABLE 3.18 METHODS OF FEEDBACK (n = 16)

METHODS OF FEEDBACK	%
Orally – class discussion of memorandum or criteria	88
Written comments to individual students	50
Rubrics with comments	13
Marks/credits	6
Memorandum is placed on the notice board	6
Criteria checklist available before the assessment	6

Fifty-six percent of the participants indicated that the purpose of the feedback to the learner was for the learner to discover and identify misinterpretations of work after assessment and learn for future reference; to learn from mistakes and prepare for the next assessment event (44%); for the academic progress and development and the learning experience (38%); to explain the reasons why credits were given (25%); motivation to master competencies and exit-level outcomes (6%) and the development of decision-making skills (6%). Six percent of the participants were of the opinion that no assessment was complete without appropriate feedback to the learner on the assessment.

Eighty-one percent of the participants analysed and interpreted the collective performance of learners in the assessment. The methods used for the analysis of the performance in assessment were standard distribution curves and profile of marks (75% respectively). Seventy-five

percent of the participants mentioned that the reasons for the performance of learners were diagnosed and followed by remediation and corrective actions. Forty-four percent of the participants indicated that they analysed the examination questions to determine the performance of learners in the assessment.

The participants in the study used the performance in assessment to obtain credits (81%); to give feedback on the learning progress of the learner (81%); to determine the quality of education and training (19%); and to plan future learning (13%). Seventy-five percent of the participants used the performance of learners in assessment to accumulate a year mark. The details of the performance in assessment are presented in Table 3.19.

TABLE 3.19 THE UTILISATION OF ASSESSMENT RESULTS (n = 16)

THE UTILISATION OF ASSESSMENT RESULTS	%
To obtain credits and to determine if exit-level outcomes were attained	81
To accumulate a year mark	75
A diagnostic tool to support learning through the feedback (formative assessment) and diagnose problems and shortcomings in facilitation of learning	75
Quality of education and training is determined	19
The lecturer learns about the level of competence of the learner	13
Plan future learning	13

Participants provided feedback on a variety of difficulties that they experienced with assessment. Thirty-one percent of the participants had difficulty in remaining objective. The use of a variety of assessment methods and the standardisation of credits (25% respectively) were also experienced as difficulties. The difficulties experienced by the participants with assessment were summarised and are enclosed as Appendix H.

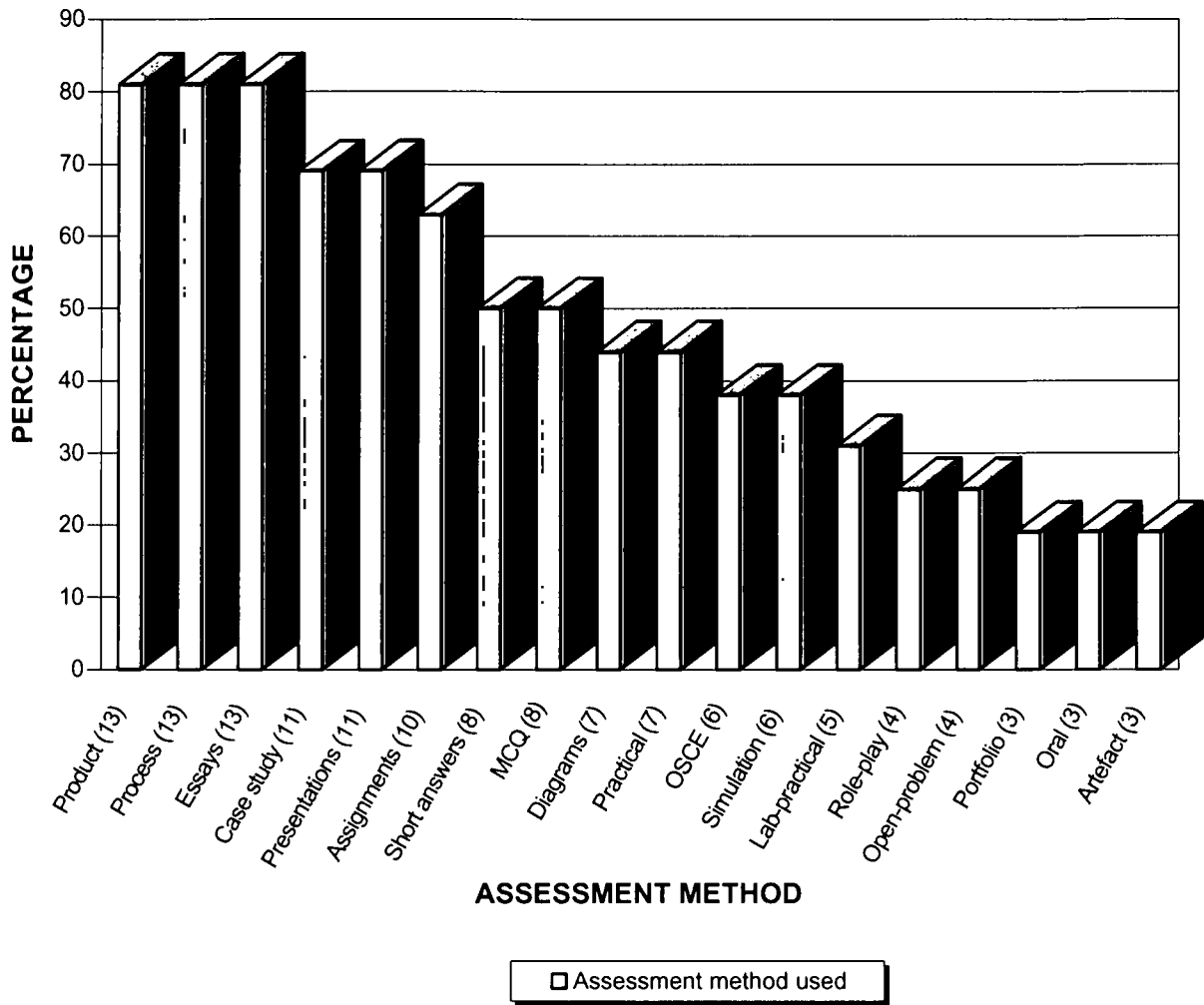
3.4.9 The use and appropriateness of assessment methods

During the interview, the participants indicated which of the 18 assessment methods listed in the interview schedule were used. The responses with regards to the use of assessment methods in the present study were reported on collectively. The use of assessment methods with a retrospective classification as traditional and performance assessment methods; the advantages and reasons for using the assessment methods; information on the construction and feedback of the assessment methods; the usefulness of the assessment methods in terms of assessment of knowledge, skills and attitudes; and the experience of the learners when the assessment methods were used, are presented in the following section. This is followed by the assessment methods that were not used by the participants in the present study and the reasons why the participants could not implement the assessment methods.

Participants in the present study indicated which assessment methods in the questionnaire they used. The results in the present study indicate that the product and process of the dissertation and the essay were used by 81 percent of the participants respectively, with 69 percent using the case

study and posters, plans and presentations. Projects and reflective practice assignments were used by 63 percent of the participants. Fifty percent of participants used the short answer and MCQ methods. The following assessment methods were used by fewer than 50 percent of the participants, namely lists, diagrams and tables (44%), mini-practical/clinical (44%), Objective Structured Clinical Examination (OSCE)/Objective Structured Practical Examination (OSPE) and simulations (38%), laboratory practical (31%), role-play and open problems (25% respectively) and portfolios, oral and artefacts/producing something (19% respectively). The assessment methods used by participants in the present study are illustrated in Figure 3.1. Assessment methods were abbreviated with the explanation of abbreviations enclosed as Appendix I. The number following the name of the assessment method in the figure shows the number of participants who used the assessment method.

FIGURE 3.1 THE USE OF ASSESSMENT METHODS



The experiences of the participants in the present study on the advantages and reasons why they used the assessment methods, as well the limitations of the assessment methods were summarised and are enclosed as Appendix J. The participants in the study motivated with sound reasons why they used the assessment methods on their list. The limitations of the assessment methods focused on limited skills of learners, i.e. writing skills or the ability to express themselves and to work independently. Available time was a factor. This had specific reference to the time required to construct and grade the performance in the assessment. Other limiting factors that the participants mentioned were

the objectivity of the assessor, as well as the availability of physical resources and suitable patients or cases to assure the authenticity of the assessment.

The assessment methods in the questionnaire were retrospectively classified as "traditional" and "performance" or "authentic" assessment methods. Figures 3.2 and 3.3 show the assessment methods in these categories. Additionally, they illustrate how many of the participants used each assessment method and how many were familiar with each assessment method respectively.

In Figure 3.2 the traditional assessment methods are illustrated. It shows that all the participants in the present study were familiar with the assessment methods product and process of the dissertation, essays, short answers, MCQ and oral, while 78 percent and 75 percent of the participants were familiar with the assessment methods lists, diagrams and tables and open-problems respectively. The results show that the product and the process of the dissertation and essay were used by 81 percent of the participants; short answers and MCQ by 50 percent; lists, diagrams and tables by 44 percent; open-problems by 25 percent; and oral by 19 percent of the participants respectively.

FIGURE 3.2 TRADITIONAL ASSESSMENT METHODS

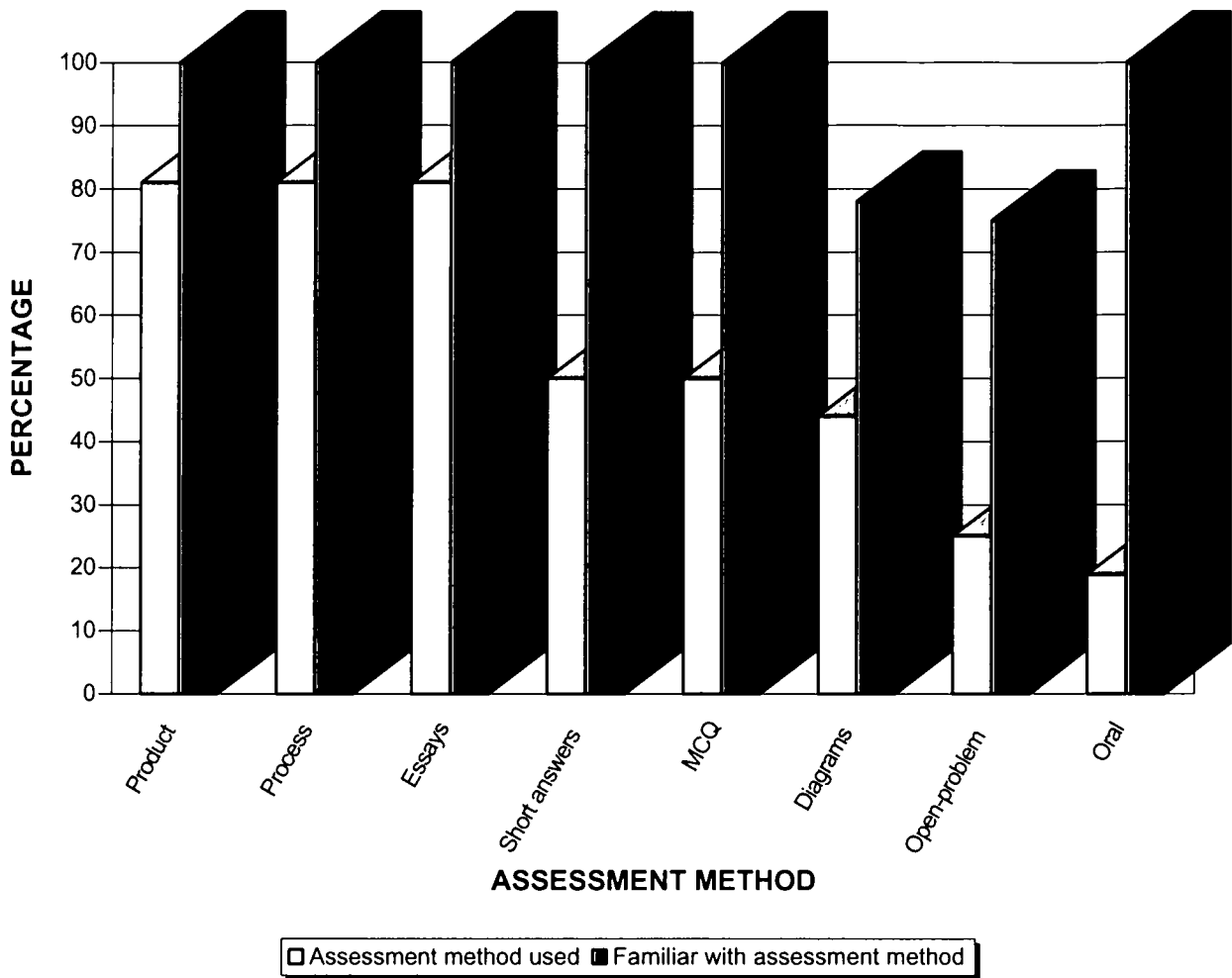
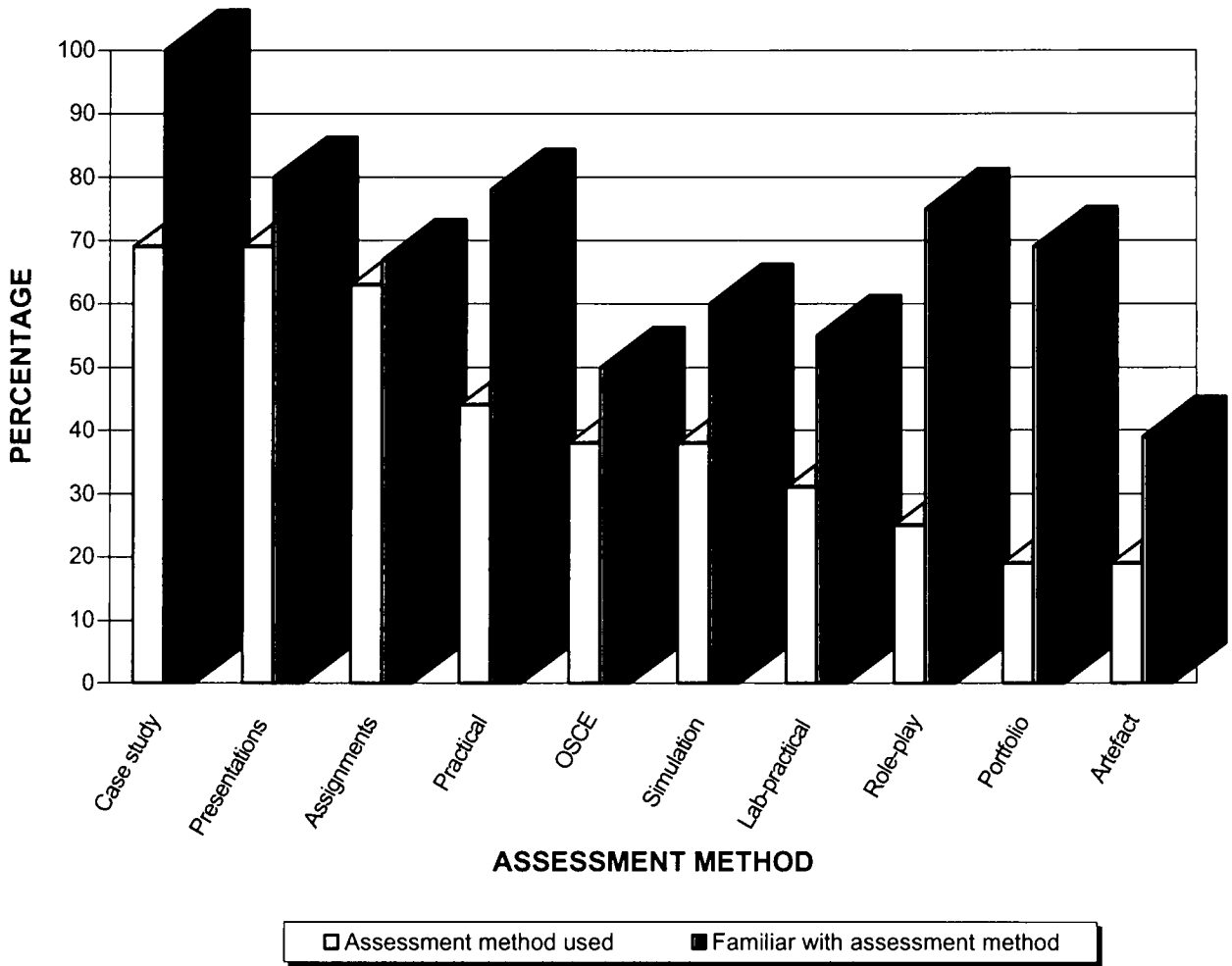


Figure 3.3 indicates the use of the performance assessment methods and the familiarity of the participants with these assessment methods. The results show that all the participants were familiar with the case study as assessment method; 80 percent were familiar with posters, plans and presentations; 78 percent with practical/clinical; 75 percent with role-play; 69 percent with portfolios; 67 percent with projects and reflective practice assignments; 55 percent with the laboratory practical; 50 percent with the OSCE/OSPE; and 39 percent with the assessment method artefact/producing something. Sixty nine percent of the participants in the present study used the case study and posters, plans and presentations respectively and 63 percent used projects and reflective practice

assignments as assessment methods. The rest of the assessment methods in this category were used by fewer than 50 percent (ranging between 19% and 44%) of the participants.

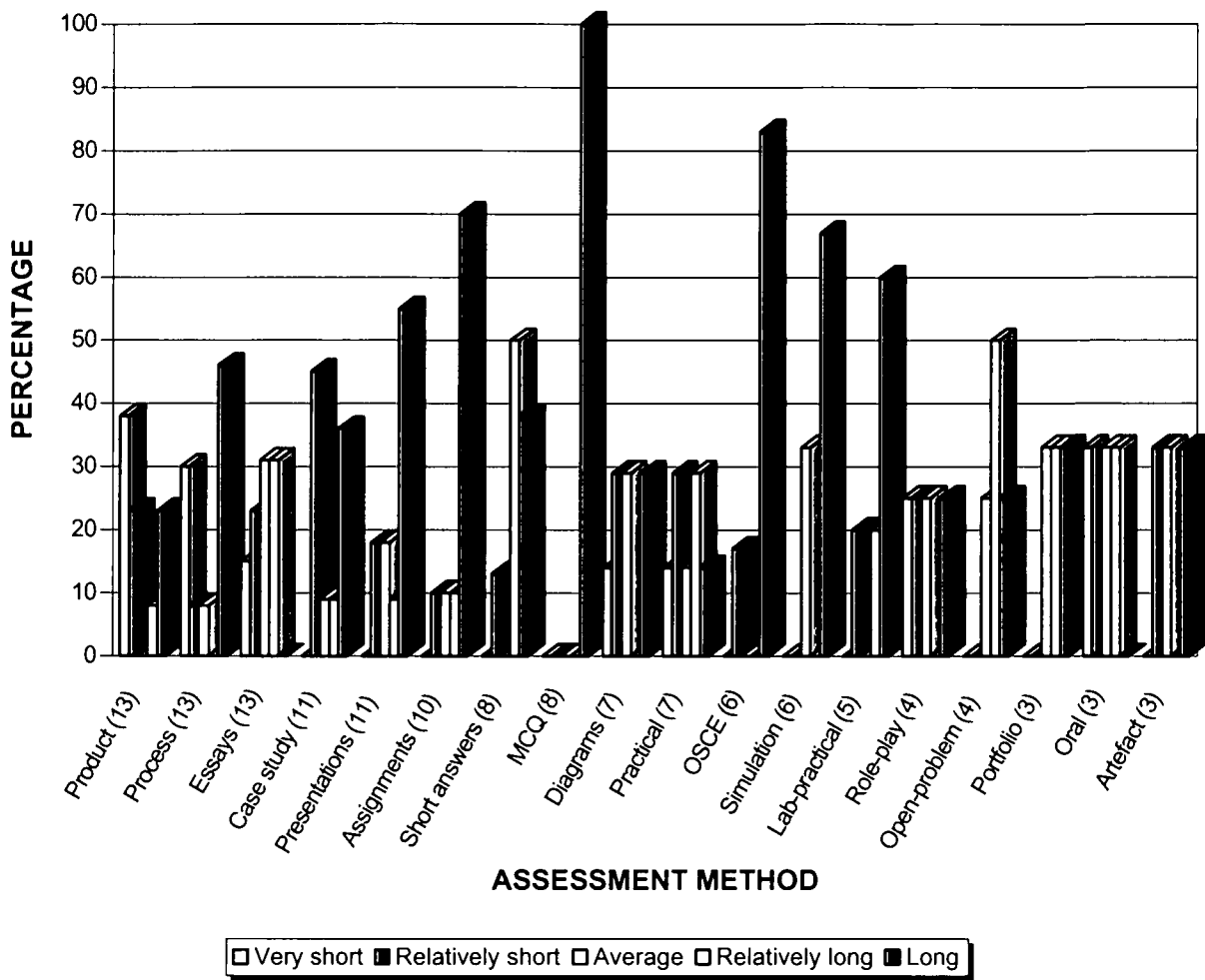
FIGURE 3.3 PERFORMANCE ASSESSMENT METHODS



Participants in the study rated each assessment method in terms of the time required for the construction of the assessment method. Participants used the criteria for the rating, namely zero (not applicable or no time), one (short), three (average), and five (long). All participants who used the MCQ were of the opinion that it was very time-consuming to construct an assessment.

Other assessment methods that the participants indicated as time-consuming to construct were OSCE/OSPE (83%), projects and reflective practice assignments (70%), simulations (67%), laboratory practical (60%), and posters/plans and presentations (55%). The case study was rated by 45 percent of the users as not too time-consuming to construct. Eight percent of the participants using the product and the process of the dissertation were of the opinion that the construction of the assessment method did not involve any time from the assessor. The time required for the construction of each assessment method is illustrated in Figure 3.4.

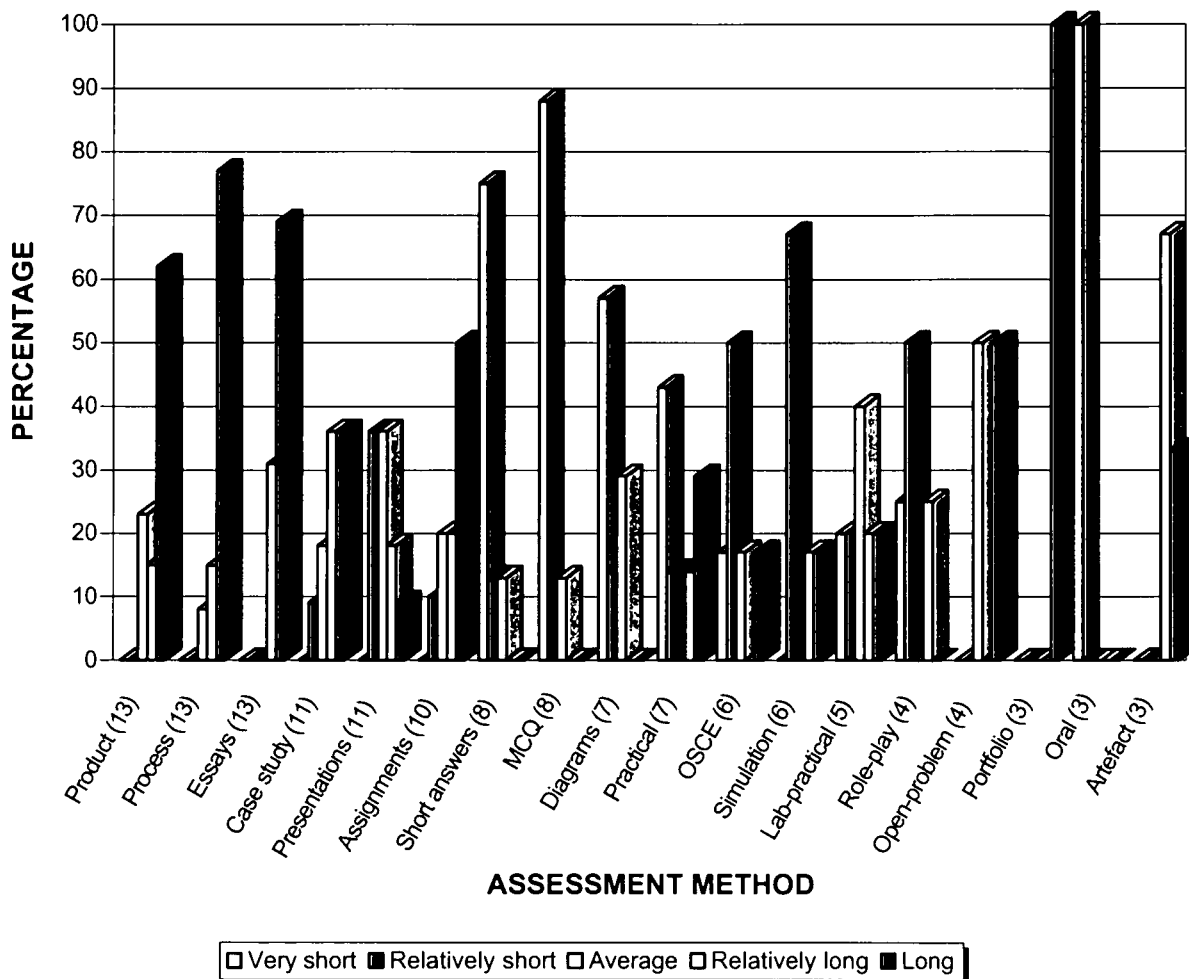
FIGURE 3.4 TIME REQUIRED FOR CONSTRUCTION OF ASSESSMENT METHOD



All the participants (100%) using the portfolio as assessment method rated it as very time-consuming to grade the performance of the assessment. The grading of the process of dissertation (77%), essays (69%), dissertation product (62%), projects/reflective practice assignments and open-problems (50% respectively) were also rated as very time-consuming by the majority of the participants using the assessment method. Participants indicated that the oral (100%), MCQ (88%), short answers (75%) and lists diagrams and tables (57%) were methods which ensured that the grading of the performance of the assessment was very

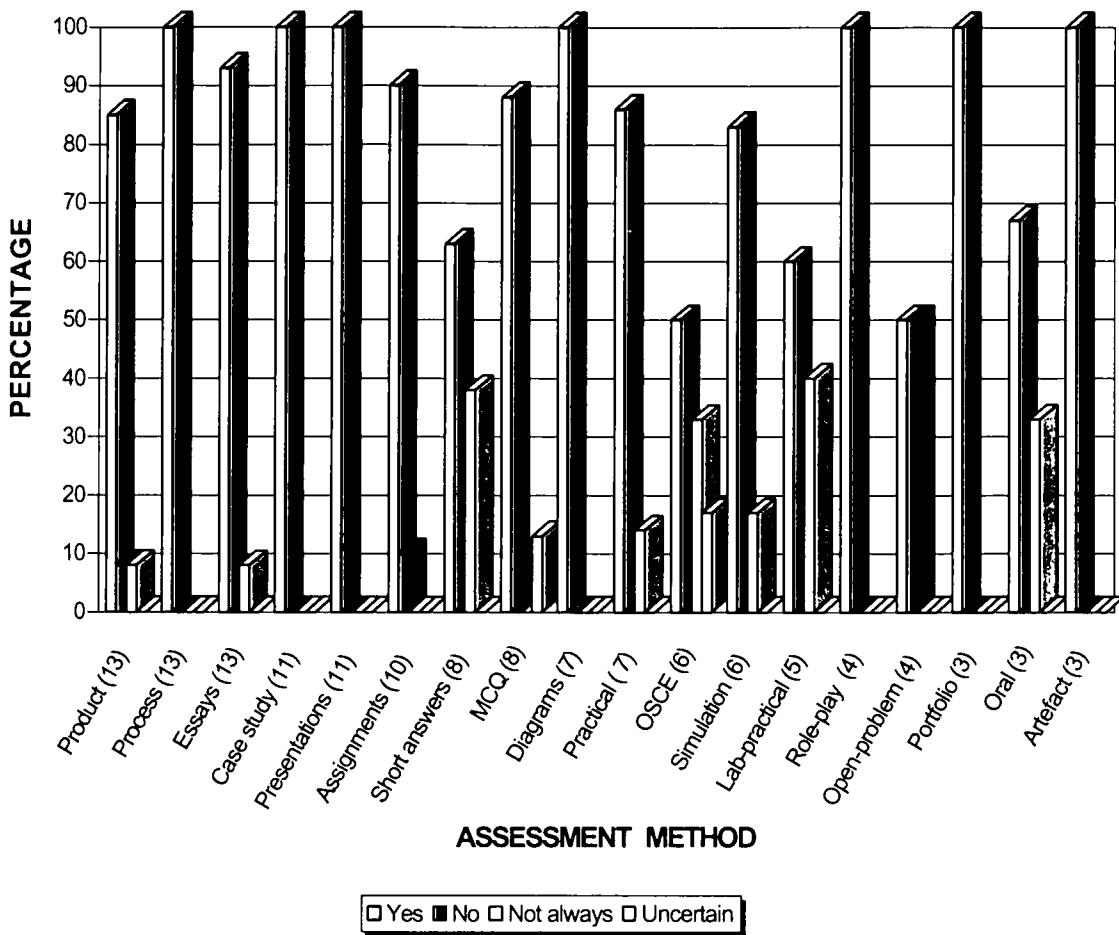
short. The time required for grading the performance of the different assessment methods is illustrated in Figure 3.5.

FIGURE 3.5 TIME REQUIRED FOR GRADING OF ASSESSMENT



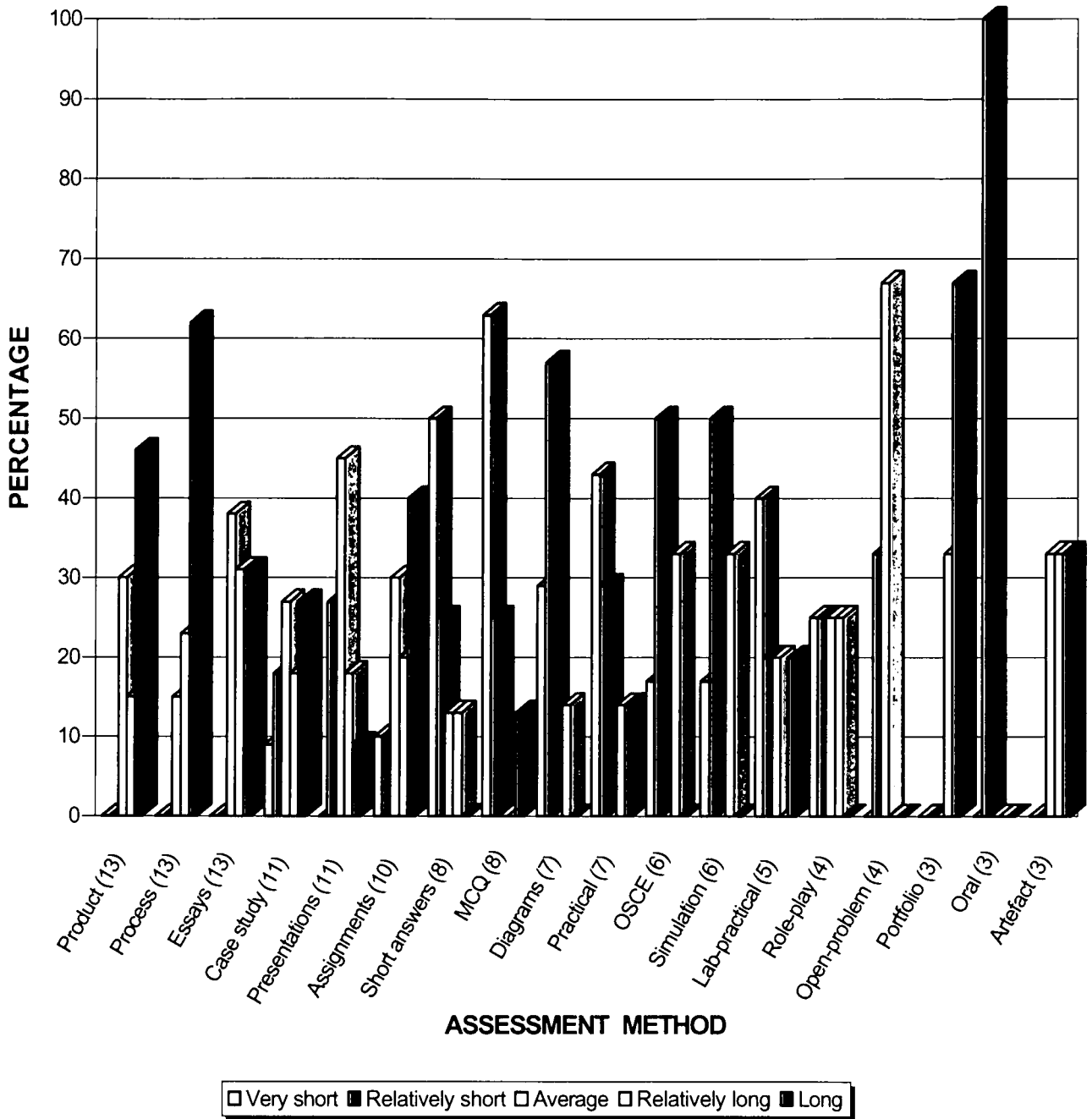
The participants using the process of dissertation, case study, posters, plans and presentations, lists, diagrams and tables, role-play, portfolios and artefacts/producing something, pointed out that feedback was possible with these assessment methods. Fifty percent of the participants using the open-problem as assessment method were of the opinion that feedback was not possible with the assessment method. The participants reported that feedback was not always possible with the assessment methods laboratory practical (40%), the short answers method (38%), OSCE/OSPE and oral (33%), simulations (17%), and mini-practical/clinical (14%). Thirteen percent and 17 percent respectively of the participants were uncertain if feedback could be provided with MCQ and OSCE/OSPE. The information on assessment methods and feedback is available in Figure 3.6.

FIGURE 3.6 ASSESSMENT METHODS AND FEEDBACK



Participants in the present study had a variety of opinions on the time required to provide feedback. Sixty three percent of the participants using the assessment method MCQ and 50 percent using the short answers method were of the opinion that it was very quick to give feedback. Sixty-two percent of participants using the process of the dissertation said that it was very time-consuming to provide feedback. The results of the study did not indicate a specific trend in the time required to provide feedback using the other assessment methods. Eight percent of the participants using the product of dissertation were of the opinion that no feedback could be provided with the assessment method. The period required to provide feedback is illustrated in Figure 3.7.

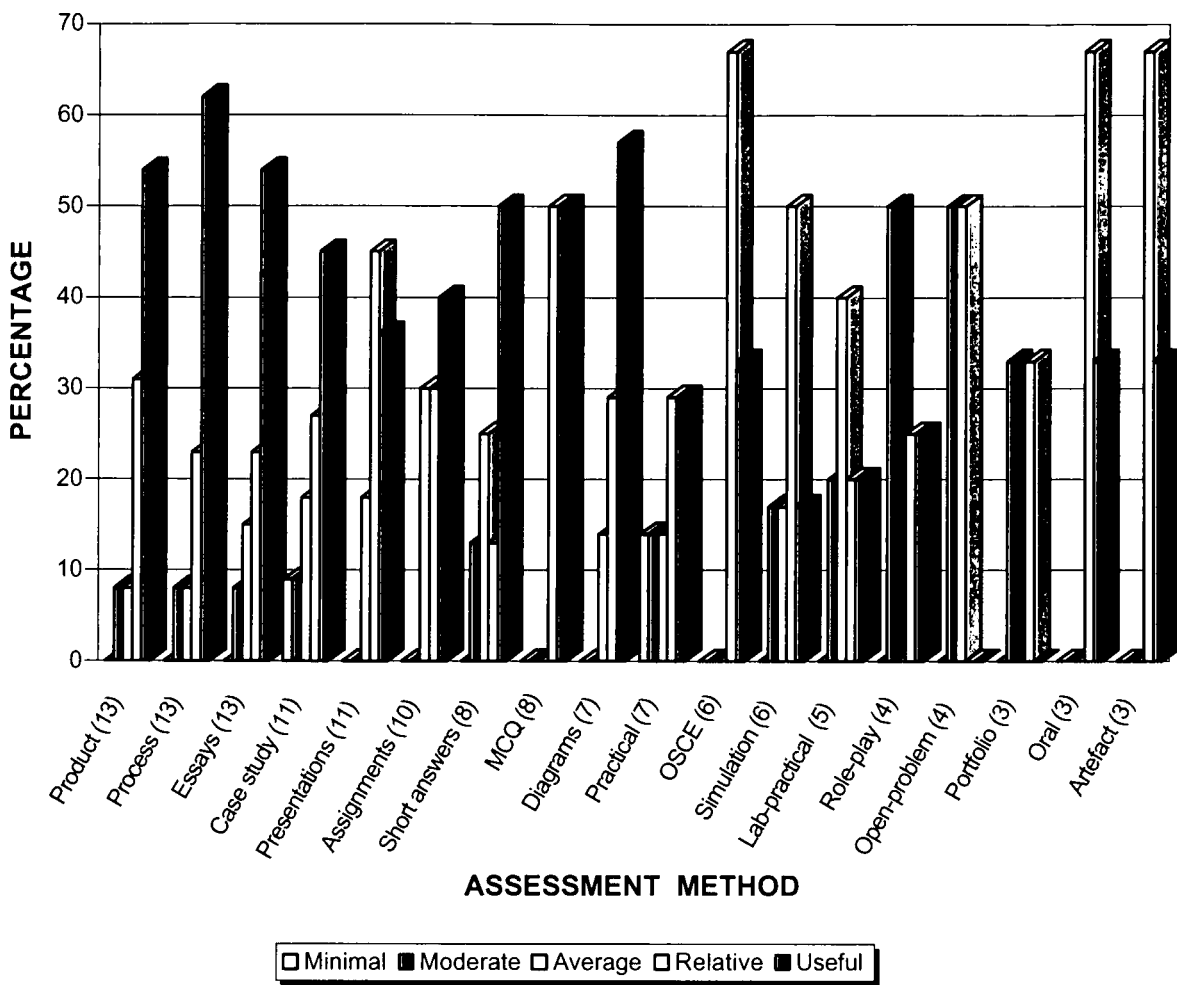
FIGURE 3.7 TIME REQUIRED FOR FEEDBACK



The opinions of the participants on the usefulness of the assessment methods with reference to the assessment of knowledge, skills and attitudes are presented in Figures 3.8, 3.9 and 3.10 respectively. Participants used the following criteria to rate the usefulness of the assessment methods to assess knowledge, skills and attitudes respectively, namely zero (not applicable, no testing), one (minimal testing), three (average) and five (excellent).

Participants in the present study rated the process of the dissertation (62%), lists, diagrams and tables (57%), product of dissertation and essay (54% respectively) and the short answers and MCQ method (50% respectively) as excellent for assessment of knowledge. The OSCE/OSPE, oral and artefact/producing something were rated as relative high in the assessment of knowledge by 67 percent respectively and simulations by 50 percent of the participants using the assessment methods. The usefulness of assessment methods with reference to knowledge is illustrated in Figure 3.8.

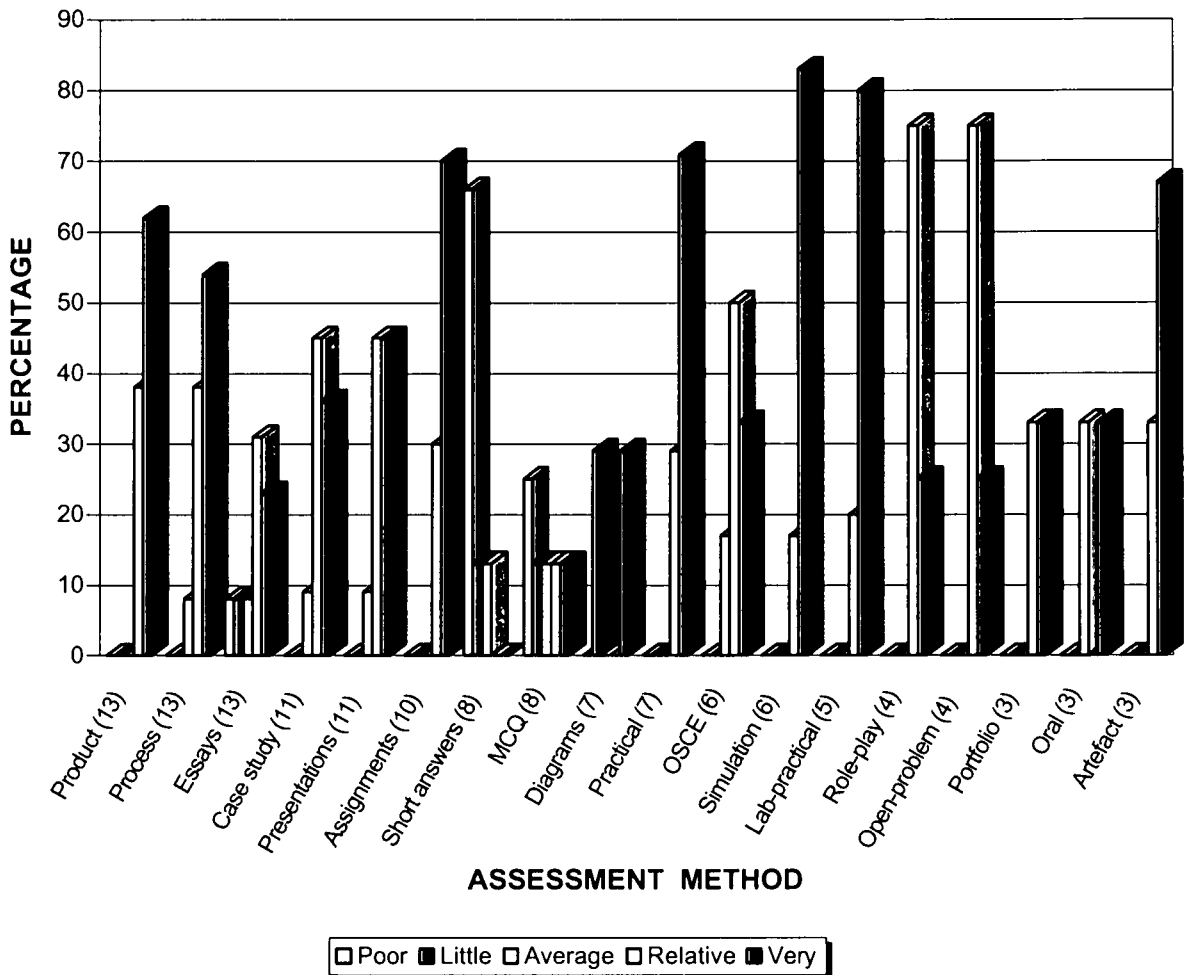
FIGURE 3.8 USEFULNESS OF ASSESSMENT METHODS TO ASSESS KNOWLEDGE



The questionnaire did not specify the context of skills assessed by the respective assessment methods. These skills could include writing, reasoning, clinical skills or a combination of skills relevant for the health profession. Forty-three percent of the participants in the present study indicated that the assessment methods lists, diagrams and tables were not suitable for use for the assessment of skills. Sixty-six percent mentioned that very few skills were assessed by using the MCQ method. Assessment methods rated by the participants as excellent for the assessment of skills were simulations (83%), laboratory practical (80%), mini-practical/clinical (71%), projects and reflective practice assignments

(70%), artefacts/producing something (67%), product of dissertation (62%), and the process of dissertation (54%). The usefulness of assessment methods with reference to skills is illustrated in Figure 3.9.

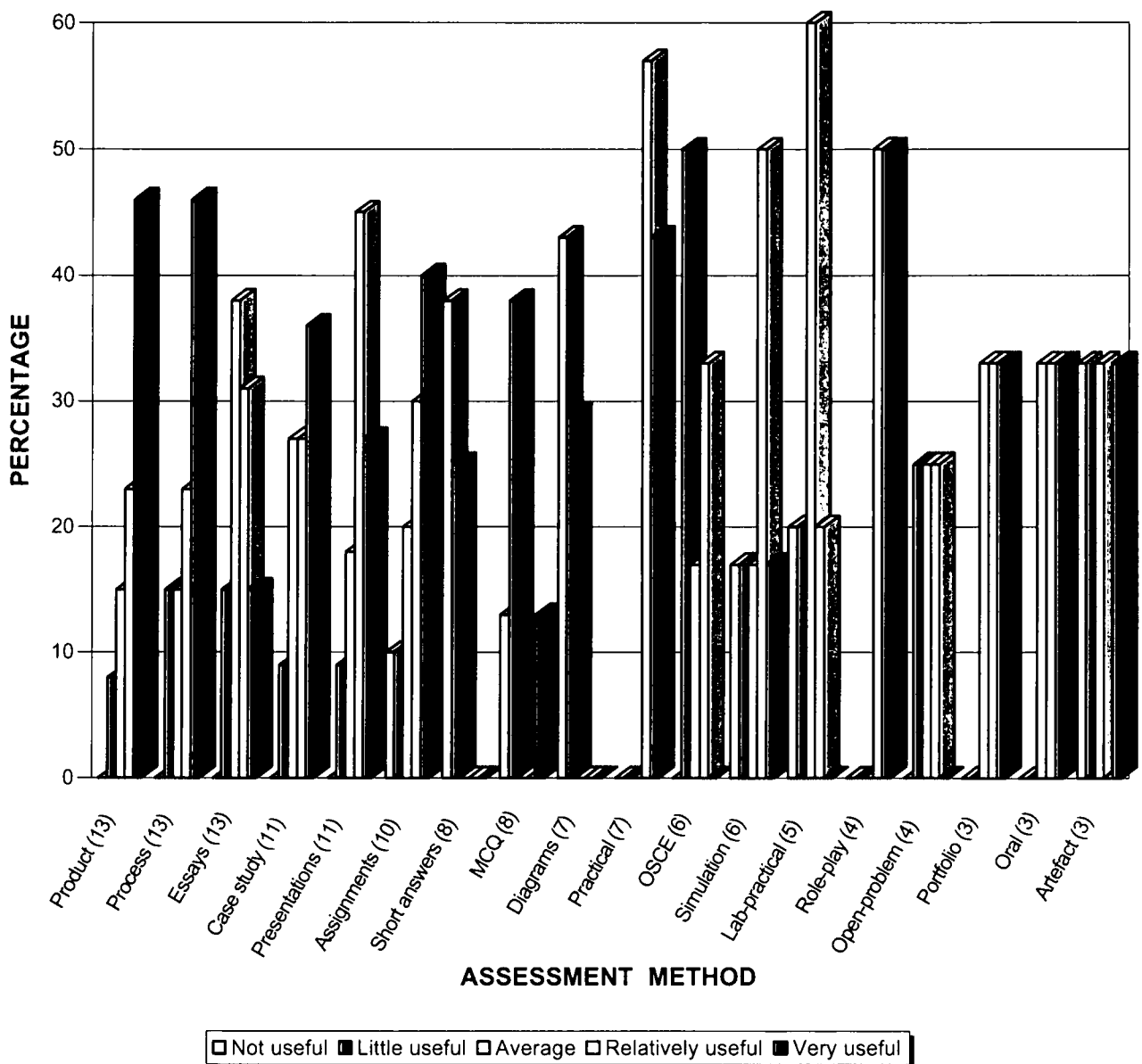
FIGURE 3.9 USEFULNESS OF ASSESSMENT METHODS TO ASSESS SKILLS



The participants in the present study pointed out that the assessment methods short answers and MCQ (38% respectively) and open-problems (25%) were not useful for the assessment of attitudes. Twenty-nine percent of the participants using lists, diagrams and tables rated these assessment methods as poor for the assessment of attitudes and 43% mentioned that very little assessment of attitudes was possible with these

assessment methods. Assessment methods indicated by participants as very useful for assessment of attitudes were role-play (50%), dissertation (46%), mini-practical/clinical (43%) and projects/reflective practice assignments (40%). The usefulness of assessment methods with reference to the assessment of attitudes is illustrated in Figure 3.10.

FIGURE 3.10 USEFULNESS OF ASSESSMENT METHODS TO ASSESS ATTITUDE

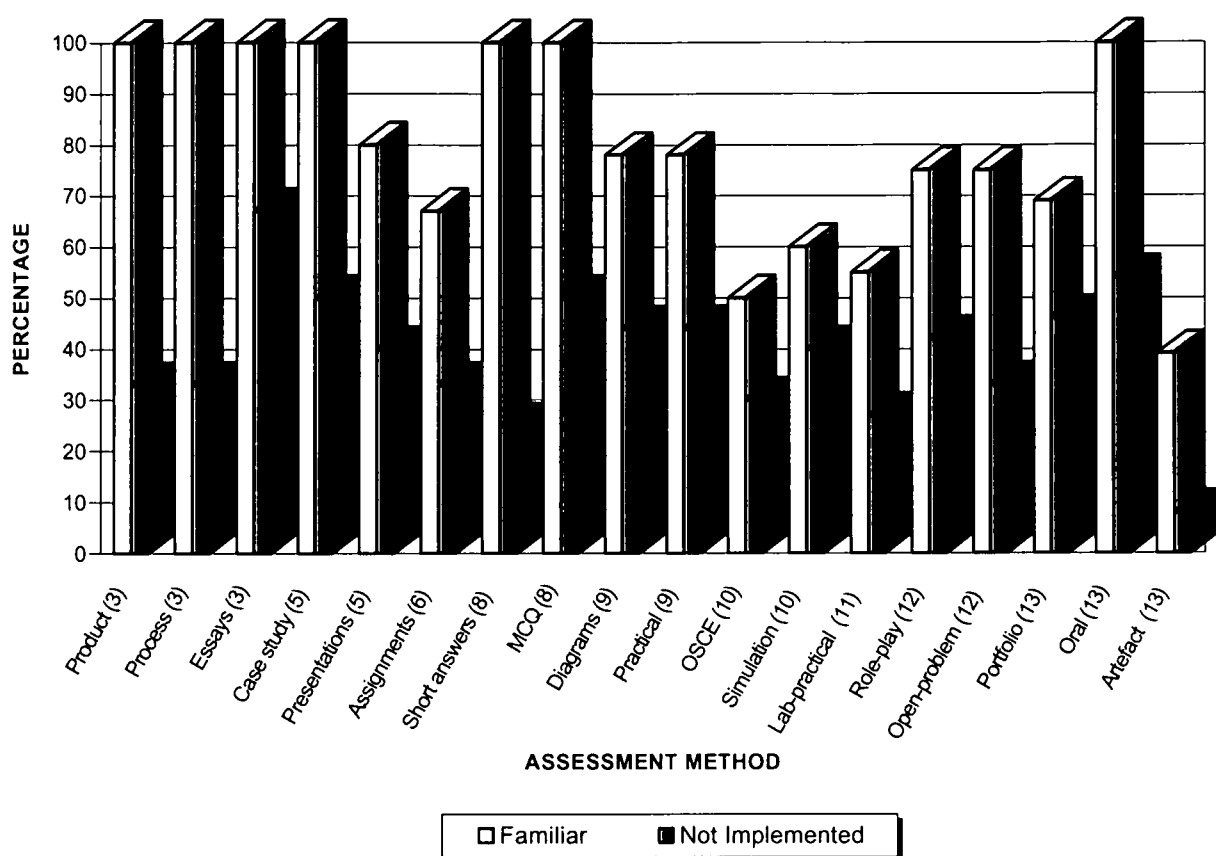


Participants provided their opinions on how learners experienced the assessment methods. A summary was made and is enclosed as Appendix K. The results of the present study reveal that, according to participants, learners were never really positive about assessment and experienced the majority of assessment methods as anxiety provoking and stressful.

When the participants did not use a specific assessment method, they could indicate if they were familiar with the assessment method and if the assessment method could be implemented in their respective programmes. The responses of participants in the present study are illustrated in Figure 3.11.

Figure 3.11 shows that all the participants were familiar with the following assessment methods, namely product and process of the dissertation, essay, case study, short-answers, MCQ and oral. Eighty percent were familiar with presentations, 78 percent with lists/diagrams and practical/clinical, 75 percent with role-play, open-problems, and 69 percent with portfolios. Sixty percent were familiar with simulations, 55 percent with laboratory practical, 50 percent with OSCE/OSPE, and 39 percent with artefact/producing something. The participants indicated that they could not implement as assessment methods the essay (69%), MCQs and case study (50% respectively). Fewer than 50 percent of the participants indicated that they could not implement the other assessment methods.

FIGURE 3.11 ASSESSMENT METHODS NOT USED



The participants who did not use the assessment methods provided reasons for not implementing these assessment methods. The reasons for not using the assessment methods were mostly that assessment methods did not correspond with the purpose of assessment or with the exit-level outcomes to be assessed. The use of the dissertation was restricted to assessors involved in the assessment of post-graduate learners and it was not suitable to assess generic and clinical skills applicable to undergraduates. The participants indicated that the essay could encourage parrot work (memorisation without understanding) if questions were not constructed correctly. Another reason for not using assessment methods was insufficient knowledge and skills to implement

the assessment method and the time factor, i.e. the time required for constructing, performing and grading the performance of assessment.

The reasons why participants who were familiar with assessment methods did not implement the methods are summarised and enclosed as Appendix L.

3.5 DISCUSSION OF THE FINDINGS OF THE STRUCTURED INTERVIEWS

In the present study, structured interviews were conducted with 16 academics selected from Health Sciences, Technology and higher education studies. The results were presented in the previous section. In this section the findings are discussed according to the following headings, namely the structured interviews, the demographic details of participants, the change in higher education to OBET and assessment, the purposes of assessment, factors considered when planning and constructing assessment, quality assurance in assessment, and the use of assessment methods. In presenting the results of the structured interviews, a degree of repetition and overlap in the findings came to the fore. Where possible, this will be minimised in the holistic discussion to follow.

3.5.1 The structured interviews

In the present study structured interviews were conducted from July to September 2002 with academics headhunted according to criteria (see Section 3.3.3). By means of the interviews, participants in Health

Sciences, Technology and higher education studies shared real experiences on assessment practices and the assessment of learners. The interaction between the participants in the present study and the interviewer served as a source of motivation to challenge current assessment practices and determine areas where assessment of learners in Health Sciences and Technology could be revised. In this manner, expert information was obtained to complement the purpose of the study, namely to use this information to develop a proposed assessment model in OBET for Health Sciences and Technology.

The interviews were kept informal, with participants encouraged to ask for explanations if they were not familiar with the terminology. The cover letter therefore clearly stated that the purpose of the structured interview was to draw on the experiences of participants on assessment practices. For this reason, comparing the knowledge of participants in different institutions or schools on assessment or to expose or identify shortcomings in current assessment practices was not part of the study.

The structured interviews were the preferred methodology in the present study because it assured a 100% response rate from participants and reduced the possibility of participants losing interest in completing the bulky interview schedule. The structured interview schedule was a method to reassure consistency in the interviews because exactly the same questions were posed to all the participants. Additionally, the structured interview allowed for flexibility in the capturing of responses to open questions, because the participants could qualify and/or add

responses. It also provided for learning, personal enrichment and networking opportunities for both the interviewee and the interviewer. These advantages were invaluable for the present study, because personal experiences with reference to assessment practices close to home were shared and captured. This kind of information was not available on the Internet or available in other resources.

This valuable information will be combined with evidence from literature and used as an orientation to and the basis for the development of an ideal assessment model in OBET for Health Sciences and Technology. This is an acceptable approach in Delphi studies such as the present, where the experiences of selected participants on assessment matters are used as the initial phase of the process to obtain a broad base of information. Both Williams and Berry (1999:223) and Broomfield and Humphris (2001:929) used a similar research methodology in their Delphi studies.

3.5.2 The demographic details of the participants

More than half of the participants in the present study were in management positions in their various faculties, departments or schools. They indicated that their functions involved research, administration, management and lecturing. In addition, the results showed that participants had many years of experience in assessment of learners and were, according to them, knowledgeable in a variety of assessment methods. These characteristics, such as the expertise and the representation of a broad variety of study fields, motivated why the

participants were selected (headhunted) to participate in the present study. The subject-related input from two-thirds of the participants from Health Sciences and Technology was balanced by the input from a third of the participants from higher education related programmes. The diversity of the input from the participants offered a wide perspective on issues related to assessment of learners in higher education with particular focus on assessing the exit-level outcomes coinciding with their prospective role as professionals in Health Sciences and Technology. In their study, Broomfield and Humphris (2001:928) use a similar approach.

3.5.3 Changes in higher education to OBET and assessment

Participants in the present study mentioned the learner-centred approach as the essence of change in higher education. Spady (1994:1,2) describes the essence of the OBET approach as the development of learning outcomes. In addition, Spady (1994:1,2) mentions that opportunities are established for learners that enable and encourage them to achieve these outcomes. This is in agreement with the viewpoint of the participants in the current study.

The description of assessment of learning presented by participants in the present study compared appropriately with the definitions of assessment in the OBET approach available in literature, namely "taking a sample of what students do, making inferences and estimating the worth of their actions" (Brown *et al.* 1997:8). Some of the participants experienced difficulty in explaining the difference between assessment and evaluation. Literature confirms that there is not always clarity on these terms. Davis

(1989:8) mentions the differences in explanations and interpretations between “assessment” and “evaluation”. In contrast to “assessment”, “evaluation” refers to the effectiveness of a system to achieve goals (Heywood 1989:16) or to value judgements based on criteria (McMillan 1997:10; Coetzee-Van Rooy & Serfontein 2001:5).

The OBET approach had not been formally implemented in the relevant programmes at the institutions at the time of the interviews. The participants in the present study mentioned that they were in a period of transition between the traditional and the OBET approaches, explaining the responses of some participants not reflecting OBET terminology. The results showed that they classified themselves as hybrid in their approach to assessment, meaning that they used assessment methods from both the traditional and the OBET approaches. The information that they provided on the changes in higher education assisted in their placement on the continuum of change towards the OBET approach. Hadrill (1995:169) explains that academics are usually placed somewhere along this continuum, neither complete traditionalists, nor complete converts as outcomes.

Participants identified that the unseen once-off handwritten three-hour examination at the end of the year was no longer appropriate and recommended the continuous assessment of learners. Schwarz and Webb (2002:3) mention that the unseen once-off handwritten three-hour examination at the end of the year is not adequate for assessment of generic skills such as critical thinking and communication. Race

(2000b:61) is concerned that the traditional unseen examination measures the skills of the learner far removed from the working environment. Cox and Ewan (1982:195) add that traditional artificial pen and paper assessment does not reflect the conditions of the real world. The authors (Cox & Ewan 1982:195) add that assessors need to understand that the importance and the emphasis of the final examinations have been altered. As long as academics practise the old attitude, learners will carry on studying to pass the final examination as the most important assessment event (Cox & Ewan 1982:195).

3.5.4 The purposes of assessment

Palomba and Banta (1999:8) refer to the diversity in the purposes of assessment described in literature. In the present study the purposes of assessment focus on the enhancement and facilitation of learning. The individual and initial free responses of the participants on the purposes of assessment corresponded appropriately with the purposes of assessment based on the literature (Freeman & Lewis 1998:10,11). The participants in the present study confirmed that assessment should be a learning experience for learners on condition that feedback was provided in the appropriate manner and acted as a motivator for learners (Brown & Knight 1995:33; Freeman & Lewis 1998:10,11). Moreover, the participants in the study agreed that assessment should foster the development of learners and improve teaching and learning practices. Messick (1999:9,10) reiterates these statements.

The participants in the present study were of the opinion that a vital relationship existed between learning and assessment as long as the exit-level outcomes, assessment criteria, and feedback were integrated in the assessment. Brown (2000a:3,4) agrees with this statement. Angelo (1999:2 of 6) adds that the attitude of assessors should support the relationship between learning and assessment on condition that they must want assessment to be a learning experience for learners.

3.5.5 Quality assurance in assessment

Brown *et al.* (1996:38) state the importance of assessing the work of learners. These authors mention this as a good reason for educators to prove to learners that they practise adequate quality assurance mechanisms in assessment. The above-mentioned authors maintain that the quality process in assessment starts when every educator focuses on fairness to learners in the assessment process. By assuring the quality of all the processes associated with the assessment of learning, the frequency of situations in assessment, such as when grounds for learners to appeal against assessment decisions, could be minimised (Brown *at al.* 1996:38).

Van Der Horst and McDonald (1999:175) state that assessment should be viewed as a process and a planned activity integrated across the programme and not just as an add-on activity. Atkins *et al.* (1993:69) are of the opinion that the transparency of the overall assessment process is a significant factor associated with quality in assessment. These authors add that learners need to have information about the content of

assessment and scoring criteria (McMillan 1997:63). The author mentions that learners should know what would be assessed prior to the assessment so that they know what to study and focus on (McMillan 1997:63). The required information about the assessment planned for the learner, for example outcomes to be assessed, assessment methods used, assessment criteria and the use of the results can be documented in the learner/assessment guide (Coetzee-Van Rooy 2001:9). Atkins *et al.* (1993:69) are of the opinion that the transparency and communication of assessment events and opportunities to learners facilitate in transferring the responsibility of learning to learners for their own empowerment. Participants in the present study communicated the assessment method used, the length of assessment and the type of questions to learners.

According to literature, the external examiner or moderator can play a vital role in improving the quality of assessment (Brown *et al.* 1996:38). Brown *et al.* (1997:246) state that the use of an external examiner is a measure of reliability and validity to protect learners. In addition, these authors add that the use of an external examiner enhances fairness and consistency through sampling and moderation. It also safeguards standards in the design of assessment by monitoring the performance of learners (Brown *et al.* 1997:246). Participants in the present study consulted colleagues involved in the same programme (peers) in a formal or informal manner through moderation on the content of an assessment event, the process of assessment, and on the outcome of the assessment.

Assessor bias could be reduced when assessment criteria are transparent and assessment methods are accompanied by well-defined assessment criteria (Friedman Ben-David 1999:24). The use of a scoring rubric or score sheet containing the assessment criteria could assist in objective scoring of assessment while simultaneously enhancing the transparency and the reliability of performance assessment methods (Brown *et al.* 1997:42).

Atkins *et al.* (1993:26) have a different opinion about external examiners. These authors argue that external examiners are not always part of the team to design the curriculum. The above-mentioned authors subsequently continue by saying that such a system is consequently not foolproof. In addition, the authors add that neither external nor internal examiners are usually trained in assessment, adding to the unreliability of the system. Race (2002:162) is of the opinion that disagreements between assessors and internal assessors bringing their own "baggage" when making judgements in assessment are more cause for concern. Cox and Ewan (1982:195) say that examiners do not always agree on assessment criteria. They have different expectations of learners and of the purposes and understanding of assessment (Cox & Ewan 1982:195).

Assessment in the OBET approach advocates reliability, validity and fairness (Lubisi *et al.* 1997:91). Familiar terminology in the questionnaire covered these aspects in assessment. Participants in the present study believed that the assessment criteria, benchmark material, and a memorandum or mark sheet were required as tools in enhancing

consistency and objectivity in assessment. McMillan (1997:57) verifies this by referring to the use of a blueprint containing the assessment criteria for construction and grading of assessment. The participants in the present study also considered factors like available time and the opportunity for learners to prepare for the assessment. McMillan (1997:64) supports this practice in assessment.

McMillan (1997:138) provides guidelines to improve fairness and consistency in assessment. The author's advice to enhance fairness is to avoid scheduling assessment on days when it is difficult for learners to perform to their capability. To enhance consistency, McMillan (1997:138) advises scoring one item at a time, changing the order of papers, and scoring all items in one sitting if possible.

Guidelines in literature to enhance the validity and reliability in assessment are to use as many as possible appropriate assessment events and assessment methods without over-assessing learners (McMillan 1997:60). Brown and Knight (1995:26) recommend using multiple assessment methods and assess the same exit-level outcomes on different occasions. Brown *et al.* (1997:44,45) suggest that assessment tasks should be designed to overlap outcomes at programme and module level. Participants in the present study assessed learners more than once on the same exit-level outcomes under specified conditions, i.e. when different aspects of the outcomes were assessed with different assessment methods, some with more focus on e.g. knowledge, while others focused more on assessment of skills. The participants in the study used

summative and formative assessment events to assess the same exit-level outcomes. Brown and Knight (1995:26) mention that assessing the same exit-level outcomes on several occasions is considered as sound assessment principles.

Harden (2002:117) states that remediation or enrichment of learners is a characteristic of assessment in the OBET approach. Brown (2000a:7) emphasises that part of good assessment is remediation where learners are allowed to make improvements in performances and identify their academic errors and deficiencies. Sambell, Miller and Hodgson (2002:140) report that various formative assessment exercises are introduced to scaffold learner approaches in attaining specific and predetermined skills. The participants in the present study used the term "reassessment" in this context. The results of the present study indicated that the majority of the participants allowed reassessment opportunities consistent with the policies of the school and/or the institution.

3.5.6 Factors considered when planning and constructing assessment

Race (2000b:68) provides indications about the optimal number of assessment events that is required. The author (Race 2000b:68) proposes a sufficient diversity in the mixture of assessment methods for learners to demonstrate their full potential. In the present study participants used the exit-level outcomes to determine the optimal number of assessment events.

Advice from Brown (2000a:9) in selecting the most appropriate assessment method is to determine what learners have to demonstrate. Rowntree (1987:241) requests academics to be adventurous in choosing assessment methods because different methods will bring out different qualities in learners and concentrate on the various processes and products in assessment. Palomba and Banta (1999:87) propose that criteria should be developed to assist academics to select the appropriate assessment method. McMillan (1997:66) advocates the use of different types of assessment to balance advantages and disadvantages to different learners. The author (McMillan 1997:66) claims that assessment methods should not be selected arbitrarily, but to provide the fairest indication of performance of all learners.

Palomba and Banta (1999:93) suggest that assessment methods should be used where learners are active and according to which they could learn to demonstrate their accomplishments in different ways. These authors (Palomba & Banta 1999:93) add that the assessment method should meet the required purposes of assessment. The results of the present study indicate that a variety of assessment methods was used. Additionally, the participants selected the assessment method to complement the purpose of the exit-level outcome.

Race (2000b:67) recommends an agenda as instrument to list the content of assessment. The results of the present study show that sampling of the content for assessment was done by means of a framework to represent the important exit-level outcomes. McMillan (1997:135) proposes

representative sampling to construct and select the appropriate number of items for assessment.

The participants in the present study indicated that they differentiated in the levels of assessment between first-, second-, third-year and post-graduate learners. Burchell, Higgs and Murray (1999:324) recommend a variation in the depth and complexity of assessment from first- to third-year. In the present study, taxonomies were used to accommodate the different cognitive levels in assessment, as well as to differentiate between different academic levels of learners. Taxonomies or criteria provided classifications of skills or capabilities useful to match assessment tasks in the taxonomy, for example the taxonomy developed by Bloom in 1965 (Brown *et al.* 1997:36). Van Der Horst and McDonald (1999:32) describe a number of additional taxonomies for the classification of outcomes such as the taxonomies of Gagne, Krathwohl, Kohlberg and Harrow.

The results of the present study indicate that participants considered time available for learners to prepare and for academics to construct and grade the performance in assessment as essential factors in assessment. Lockett and Sutherland (2000:126) mention that quality assessment is labour-intensive and time-consuming. Race (2000b:68) adds that the time spent by the learner on the learning matter should reflect the importance of what was measured in the assessment. Palomba and Banta (1999:92) mention that the cost of assessment is related to time and is therefore a consideration. Willingham (1999:226) adds the practicality factors of assessment. The practicality of assessment, the above-mentioned author

states, refers to the acceptability and feasibility of assessment in terms of time, complexity and cost (Willingham 1999:227).

Assessment criteria set the standard and determine the level at which learners must master the outcomes of knowledge, skills and attitudes (Freeman & Lewis 1998:42). In the present study, participants reported that these were documented in the memorandum, model answers and the rubric or checklist, usually compiled before assessment. Participants in the present study mentioned that they had difficulty in assessing post-graduate work. Brown and Knight (1995:72) report that assessment of dissertations and theses intensifies problems in assessment because in a mass higher education system there is a greater risk of plagiarism or unfair practice. These authors suggest that a self-assessment sheet should accompany the dissertation to guide the assessor when assessing a thesis.

Read (1999:68) states that assessment should be both diagnostic and developmental to assist with the success of the learner in higher education. Coetzee-Van Rooy and Serfontein (2001:13) mention that summative assessment should not be the most important assessment event of the year, but that it should be just one of several assessment strategies used. Participants in the present study used both formative (for feedback) and summative (for final grade or qualification) approaches in assessment. This was supported by evidence that participants used more than one assessment event in a learning unit and preferred both continuous (formative) and summative assessment.

Over and above assessment by the facilitator, the participants also used peer assessment, indicating the move in the source of assessment from the facilitator to the learner. Taras (2002:503) reports that learner-centred learning promotes greater participation and involvement of learners. The author (Taras 2002:508) reiterates that learners should be active participants in the assessment process. Luckett and Sutherland (2000:112) report that self-assessment is a method to guide learners to take responsibility for their own learning.

The OBET approach, in support of competency-based assessment, advocates the use of criterion-referenced assessment, determining whether learners have attained the exit-level outcomes compared to preset criteria or standards (Brown *et al.* 1997:246; Freeman & Lewis 1998:18). Using descriptive statistics by analysing and interpreting assessment results is associated with norm-referenced assessment (Freeman & Lewis 1998:16). The results of the present study showed that participants used both criterion-referenced and norm-referenced assessment. Freeman and Lewis (1998:21) describe this approach as well. Taras (2002:508) argues that assessors often give learners the wrong message when they appear to be more concerned with grades than with learning. Davies (2002:159) argues that learners and the educational environment are still oriented towards a system where they want to be compared to their peers (in terms of their marks) to confirm that they have been treated fairly.

Participants in the present study assessed both the product and the process (formative) of learning. Both Brown *et al.* (1997:16) and Freeman and Lewis (1998:34) support this practice in assessment. In the present study, assessment of the product of learning determined if the exit-level outcomes were attained and if learners could progress to the next academic level. The process of learning was used because it involved the learning experience of the learner and determined the tempo of learning facilitation. The results of the present study indicated that both the process and the product in assessment were regarded as important aspects in assessment of learners. The participants reasoned that the use of both the product and the process of learning focused on the achievement of the outcome and the experience of the learner gained in reaching the outcome. Palomba and Banta (1999:256) indicate that assessment of the process is useful to find out if the learners employed creative thinking and problem-solving skills to answer questions. Lockett and Sutherland (2000:112) recommend group-based assessment to assess both the learning process and the product.

3.5.7 Feedback on assessment

With assessment in the OBET approach, feedback is an inevitable element of formative assessment (Brown & Knight 1995:40). Race (2000b:62,63) mentions that traditional examinations are a cause for concern regarding deep learning, because the amount of feedback is not optimal. Race (2000b:62) also mentions the important role of feedback in assessment of learning. The author adds that scripts are regarded as secret documents and not to be shown to learners. The above-mentioned

author continues that, in this context, learning experiences for the learner associated with traditional examinations are therefore considered lost.

The qualification for feedback in assessment is that it should be appropriate and provided timely and adequately after assessment to affirm the learning experience in assessment (Freeman & Lewis 1998:49). McKeachie (1999:58,59) argues that it cannot always be assumed that feedback is good and leads to improved academic performance of the learner. The results of the present study show that feedback to the learner was possible with all the assessment methods in the questionnaire and that the participants were willing to provide feedback.

In the present study the majority of the participants used the plenary session to discuss the memorandum or assessment criteria as feedback where general mistakes were indicated to learners. Freeman and Lewis (1998:48) state that feedback in writing is time-consuming. Therefore Brown *et al.* (1997:53) mention that there are several methods available to relieve the administrative load on the assessor in giving feedback. As an example of feedback in assessment, the above-mentioned authors' advice is to use criteria or checklists with personal comments added. In addition, a global or collaborative report on all the assignments could be the basis of a large group discussion session or tutorial (Brown *et al.* 1997:53). Peer assessment could be done to save time, while allowing learners to generate the criteria for assessment (Brown *et al.* 1997:53). These authors continue that feedback could then increase the learners' sense of responsibility in learning (Brown *et al.* 1997:53).

Participants in the present study used the performance of learners in assessment to accumulate credits for the learners; to give feedback to the learner for academic progress; and to determine if the exit-level outcome had been attained. The participants mentioned that they had analysed and interpreted the results obtained from the performance of learners in assessment. Assessment in the OBET approach could be formative to provide feedback for academic growth and development to the learner without the purpose to accumulate credits for a year mark (Freeman & Lewis 1998:32). Brown *et al.* (1997:54) mention the use of grades as an incentive in formative assessment because learners are reluctant to put effort into assessment not counting as grades. Otter (1995:60) confirms that learners tend to ignore activities not contributing directly to grades or a degree classification.

3.5.8 The use and appropriateness of assessment methods

The assessment methods included in the questionnaire were identified from the literature to represent a sample of the more familiar assessment methods used to assess learners in Health Sciences. Newble and Cannon (1987:91) refer to these assessment methods. This was deemed necessary because the list of available assessment methods is extensive (Brown 2000a:8). OBET was not implemented in the relevant programmes at the time of the interviews, therefore the assessment methods included in the questionnaire focused on “traditional” and “performance” assessment. The assessment methods included in the questionnaire, served to refresh participants’ memories on the variety of assessment methods available and to inform them on the range of

assessment methods with the potential to be used in their respective programmes. Palomba and Banta (1999:97) emphasise the value of shared information in assessment. They say that “[o]ne of the remarkable things about assessment is the degree to which educators can learn from each other”.

The structure of the next part of the discussion is based on the assessment methods used; traditional and performance assessment methods; time to construct, grade and provide feedback on assessment methods; assessment methods for knowledge, skills and attitudes; and assessment methods not used

3.5.8.1 *The assessment methods used*

All the participants in the present study mentioned that they used a variety of assessment methods, although the size of the variety of the assessment methods was not specified. In the literature, the authors Pretorius (1998:97) and Cunnington (2002:255) promote the use of a variety of assessment methods to reliably assess learners. McMillan (1997:176) claims that each assessment method could be used to assess any learning outcome; some methods were only better than others to assess certain learning outcomes. McDowell and Sambell (2000:78) mention that all methods of assessment might be biased in favour of learners with certain kinds of abilities. They say that learners believe that written examinations favour learners with good memories, while oral presentations may favour the confident learners. Angelo (1999:3 of 6)

mentions that almost all assessment methods could be employed in a new approach in assessment, depending on the attitude of the assessor.

The results of the present study indicated that the majority of the participants used the assessment methods the product and process of the dissertation and essays. Brown and Knight (1995:72) argue that the dissertation and theses were classic assessment methods used for Master's and Ph.D. degrees in ancient universities. These authors mention that these assessment methods are demanding and require the ability from the learner to handle large quantities of information, to analyse, criticise and evaluate it and then present it in a well-structured manner. They refer to the words of Professor Sir Geoffrey Elton, i.e. that the only people who read Ph.D. theses are the examiners who are paid to do it.

The authors Brown and Knight (1995:65) mention that essays are commonly used as assessment method and very often tiresome to mark. They argue that marks are largely allocated for what the learner makes of the knowledge. Lockett and Sutherland (2000:115) claim that the marking of essays for summative purpose are very unreliable, because clear criteria are absent. McDowell and Sambell (2000:78) emphasise that the assessment criteria, marking and feedback should fit the nature of the learning achievements expected from the assessment method.

3.5.8.2 *Traditional and performance assessment methods*

The reference to the assessment methods as "traditional" and "performance" (authentic) was made to distinguish between methods

focusing on knowledge assessment, therefore traditional methods, and performance (authentic) assessment methods, with the focus on the integration of assessment of outcomes of knowledge, skills and attitudes (Hager, Gonczi & Athanasou 1997:50). "Traditional" methods were included in the questionnaire because they are still in use. The results of the present study confirm this statement. "Traditional" assessment methods mostly reflect work in written form, e.g. examination scripts, essays, dissertations and occasionally oral work (Brown & Knight 1995:63). The assessment methods dissertation and essays were used by a large number of participants in the present study. Lockett and Sutherland (2000:115) claim that essays as assessment method are easy to set, difficult to mark reliably and time-consuming if feedback has to be provided. These authors continue that the focus of the traditional essay could be expanded for use in the OBET approach when it is used as a report or in combination with a poster presentation.

Hager, Gonczi and Athanasou (1994:12 of 18) criticise traditional testing in Health Sciences because the focus is on recall and understanding with too little emphasis on assessment of synthesis comprehension, application, analysis and evaluation. These authors (Hager *et al.* 1994:11 of 18) are of the opinion that it is not possible to predict with traditional assessment methods, consisting mostly of written and oral examinations, whether a graduate will be able to perform competently in clinical practice situations. Brown (2000b:103) claims that many traditional assessment methods provide a snapshot of the ability of the learner at a certain point in time and are therefore not sufficient to offer the required evidence that the learner is

competent to practise. Race (2000b:65) believes that not all traditional assessment approaches should be abandoned. The above-mentioned author argues that these assessment approaches have been effective for many years. Additionally, the experience of academics in making these assessment approaches work, provides valuable foundations for further development of assessment processes and practices (Race 2000b:65). Moreover, this author adds that the experience gained from practising traditional assessment provides a foundation that could be used for innovations in assessment (Race 2000b:65).

McMillan (1997:199,200) mentions the differences between “authentic” or “performance” assessment methods and traditional paper and pencil tests. The terms “performance”, “authentic”, “portfolio” and “project” and “product” assessment are also used to define alternative or innovative assessment methods (Dochy & McDowell 1997:282). Torrance (1995:1) states that authentic assessment tasks are “more practical, realistic and challenging than what one might call ‘traditional’ paper-and-pencil tests”. Performance-based assessment measures knowledge, skills, reasoning abilities and the product (McMillan 1997:226). In addition, learners are placed in situations where they are required to comprehend, apply, analyse, synthesise, and evaluate data and information (Hager *et al.* 1994:13 of 18). Palomba and Banta (1999:95) argue that performance assessment methods provide learners with the opportunity to function within the professional role and could consequently gain competence and experience. This corresponds with the outcomes required from assessment of learners in Health Sciences and Technology.

Participants in the present study were familiar with "performance" (authentic) assessment methods addressing the need to assess the integration of knowledge, skills and attitudes. More than half of the participants used the case study, presentations and reflective practice assignments as assessment methods. The performance assessment methods reflected a low percentage of use by participants in the present study, although the participants said that they were familiar with these assessment methods. A substantial explanation for this phenomenon is that the OBET approach had not been implemented in the relevant programmes at the time of the study. A number of participants specifically indicated that they could not implement these assessment methods in their programmes.

3.5.8.3 *Time to construct, grade and provide feedback on assessment methods*

Participants in the present study reported that the construction of certain of the assessment methods was a time-consuming task. The examples that they mentioned were OSCE/OSPE, projects, simulations, laboratory practical, posters and portfolios. McMillan (1997:53) states that performance-based assessment is time intensive to construct for the academic as well as being performed by the learners. The author (McMillan 1997:53) continues by saying that it is also time-consuming to develop scoring criteria for performance assessment tasks and to judge how long it will take for learners to complete the tasks (McMillan 1997:202).

The participants in the present study had mixed opinions about the time required to construct, grade and provide feedback in assessment. Although these participants belonged to a homogeneous group in the faculties or schools involved in education and training of health professionals, the groups of learners that they assessed were inhomogeneous. Variations from undergraduates for life skills assessment to assessment of post-graduate dissertations were reported. Grading the performance and providing feedback on projects, reflective practice assignments and portfolios were considered as time-consuming by the participants. Brown *et al.* (1997:48) claim that there appear to be no reliable figures regarding how long it takes to mark assignments. In addition, the above-mentioned authors mention that variations exist among staff regarding this matter. Young and Marks-Maran (2002:112) say that it takes time for academics to gain the required confidence and the necessary experience that is required to use a new approach in assessment with competence.

3.5.8.4 *Assessment methods for knowledge, skills and attitudes*

In the study, participants rated the product and process of the dissertation as excellent in terms of usefulness for assessment of outcomes of knowledge, skills and attitude. With these assessment methods, the integration of reasoning, critical and creative thinking skills were assessed, applicable to assess academically advanced learners on a post-graduate level (Brown *et al.* 1997:72). Assessment methods used for knowledge assessment in the present study were essays, the short answers method and the MCQ.

Hager *et al.* (1997:50) mention that competence include a series of desirable attributes, e.g. appropriate knowledge, skills and abilities such as problem-solving, communication, pattern recognition and appropriate attitudes. In addition, the above-mentioned authors add that competence is expressed in terms of knowledge, skills and attitudes displayed in the context of professional tasks. Participants in the present study used performance (authentic) assessment methods such as simulations, practical, projects and artefacts/producing something for the assessment of skills. The assessment methods dissertation, laboratory practical, practical/clinical assessment, project/reflective practice assignment and role-play were mentioned as methods to assess attitudes. However, Cunnington (2002:257) mentions that attitudes could be complex to measure.

3.5.8.5 *Assessment methods not used*

Several limitations to employ performance assessment methods such as the knowledge of assessors of assessment methods and the practical implementation of assessment methods were indicated by the results of the present study. Additional limitations reported by participants were focused on the assessment method, the assessor, problems experienced by learners, and the period required to construct and perform assessment. Participants were aware of the variety of assessment methods available, but were of the opinion that they lacked the necessary skills to implement some of the assessment methods.

The responses of participants reflected that employing performance or authentic assessment methods could be time-consuming for both the assessor and the learner. Edwards and Knight (1995:15) mention that assessment of competence is very expensive. McMillan (1997:201) mentions that reliability, sampling, and time are the limitations of performance-based assessment. The same author continues that it is time-consuming to construct good assessment tasks (McMillan 1997:201). The results of the present study show that the positions of participants in faculty with dominant responsibilities of management, research and administration left participants with minimal available time to explore and investigate the use of new assessment methods. In such circumstances it was not surprising that staff fell back on methods of assessment that allowed them to cope with their daily schedules. Mutch (2002:172) also describes this practice.

Cox and Ewan (1982:195) state that facilitators receive little or no training in using different assessment methods. Training as assessors would equip them to take cognisance of the use, advantages and limitations of each assessment method (Coetzee-Van Rooy & Serfontein 2001:19). Brown (2002:36) suggests appropriate staff development for the implementation of innovation in assessment, while Brown and Glasner (2000:202) suggest that academic staff should attend conferences to become empowered and develop their own thinking about assessment. The latter authors (Brown & Glasner 2000:203) add to this the use of research, literature and network resources for advice and guidance in assessment. Edwards and Knight (1995:15) question whether it is

possible to change the attitudes and practices of academics with actions like sufficient staff development. Brown and Glasner (2000:202) indicate that, although a considerable body of international research on assessment exists, assessors continue to experiment in ignorance. They add that, although positive changes in assessment have been achieved, limited opportunities exist to learn from the lessons of others.

Heywood (1989:154) focuses attention on the fact that educators in higher education are critical of new developments. These academics are resistant to explore new methods of assessments because of the threat of the unknown (Brown 2000a:13). Schwarz and Webb (2002:3) argue that this makes change in higher education slow. Additionally, Otter (1995:60) argues that changing the attitudes of staff and learners is a time-consuming process, not avoiding the resistance and apathy present in some areas. Barr and Tagg (1995:12 of 16) reiterate that changing paradigms is hard. They recommend speaking in the new paradigm to facilitate the change but remind readers that the change is not instantaneous (Barr & Tagg 1995:7 of 16).

3.5.8.6 *Experiences of learners*

The participants in the present study provided responses on learners' experiences of assessment on their behalf. The results indicated that learners experienced most of the assessment methods as threatening. This correlated with the opinion of Schwarz and Webb (2002:1) that assessment has become a threatening word on campus. Ebel (1997:39) confirms that almost all learners approach a test with apprehension. Cox

and Ewan (1982:195) advocate the fact that learners should be trained and educated in the qualities of the new educational paradigm.

3.5.9 A synopsis of the discussion

Brown and Knight (1995:30) claim that assessment is a complex business. While some academics view assessment as an additional task and responsibility or an activity that warrants minimal attention, there are others who regard assessment as a valuable process of learning (Palomba & Banta 1999:343). They continue by saying that "...assessment is best viewed as a reflection of the value placed on student learning and development".

Palomba and Banta (1999:71) remind academics that assessment is an activity done with and for learners and not to them. Gibbs (2000:41) claims that assessment is a powerful lever for assessors to influence the behaviour of learners. Assessment is regarded as a crucial part of the learning process to shape the future careers and lives of our learners (Race 2000b:57). Educators should therefore avoid assessment becoming a meaningless and bureaucratic task (Brown 2000a:12).

The challenges of innovative assessment should encourage educators to set high expectations for learners and for themselves (Palomba & Banta 1999:345). These challenges are to increase learning and assessment experiences by responding to the diversity of learning and assessment tasks (Gordon 1999:209). Additionally, innovative assessment methods for educational decision-making should be created (Erwin 1995:50). Not

only Palomba and Banta (1999:211), but also Miller and McDowell (2002:173) mention that, to prepare learners for the workplace, larger volumes in assessment could follow. According to a number of authors, the above-mentioned factors could contribute and assist in the establishment of a positive culture of assessment on campus (Atkins *et al.* 1993:6; Knight 1995:11; Palomba & Banta 1999:343; Glasner 2000:14). The culture of assessment could focus the challenges in assessment on three areas as suggested by McDowell and Sambell (2000:71). These challenges are to integrate assessment, teaching and learning; to transfer the responsibility of learning to the learner; and to use authentic assessment tasks.

3.6 CONCLUSION

The results of the present study have shown that academics were willing to share information and experiences on the successes and failures that they had experienced in assessment practices. The present study reveals that many of the current assessment practices are aligned with the requirements of the OBET approach. It should be noted that the evidence provided in the present study on OBET principles were isolated and not substantial to provide information on the general orientation of participants to the OBET approach.

The results show that participants were knowledgeable and willing to learn about the OBET approach, although the principles of the OBET approach was not always evident in the assessment of learners. This is explained

by the fact that the OBET approach was not formally implemented in the relevant programmes at the higher education institutions at the time of the study. Although the OBET approach had not yet been implemented and the participants in the present study did not always use the appropriate OBET terminology during the structured interviews, the terminology used in the research report is based on the OBET approach.

To adopt the principles of the new approach in assessment will require educators to invest energy, time, effort and dedication to become empowered with these principles. The use of new approaches in assessment therefore holds challenges for both the assessor and the learner. Additional knowledge, skills and competencies will be required in practising assessment in the new approach. In addition, the competencies will have to be complemented by the appropriate attitudes associated with assessment in the new approach.

The personal experiences shared by the participants in the present study during the structured interviews proved to be an invaluable resource for the present study. This information will be supplemented and supported by the literature and used to develop an assessment model in OBET for Health Sciences and Technology.

3.7 LIMITATIONS OF THE QUESTIONNAIRE

The structured interviews based on the questionnaire were time-consuming to conduct and left little or no time to discuss detailed information on assessment with the participants. It may be for this reason that the large number of open questions in the questionnaire allowing the opportunity for free responses from the participants, was not used to the extent expected. Although the large number of open responses included in the questionnaire was necessary, the calculation of these responses was complex.

Even though the questionnaire was subject to pilot testing, the construction of some of the questions was clumsy. The participants found these questions difficult to answer.

Contradictions in some of the answers were identified. This was evident in questions on the specific use of assessment methods and their appropriateness. In this case some of the responses of participants did not agree with initial responses. No evidence was required to prove that participants answered the questions with integrity, because the aim of the questionnaire was learning from their experiences and not inspection.

Each participant applied the assessment methods listed in the questionnaire in his/her own field of experience and used their frame of reference in the responses. While conducting the interviews, it became evident that participants involved in different programmes would use the

same assessment method to attain different purposes and assess a different combination of knowledge, skills and attitudes of learners.

The questionnaire contained a number of variables that were not defined. No space was provided on the questionnaire to differentiate and qualify these variables and responses provided by the participants. An example in this regard is the use of assessment methods to assess the knowledge, skills and attitudes of learners.

A glossary explaining assessment terminology was not attached to the questionnaire. In addition, questions to determine the basic qualities of and values in assessment practices were not included in the questionnaire.

Although several limitations were identified after using the questionnaire, it provided the required vehicle in conducting the present study and proved to be useful to accomplish the purpose that it had been designed for.

3.8 RECOMMENDATIONS

Following the limitations mentioned in the research tool, the researcher recommends the inclusion of a terminology list to accompany questionnaires in conducting future research. This will assist to provide a common ground when responses are provided. A question to qualify if participants were involved in assessment of undergraduate or post-

graduate learners would have been helpful to categorise the level of assessment that participants were involved in.

Academics could learn from one another, even though they represented diverse backgrounds. To facilitate this, an “assessment chat-room or platform” should be established where experiences in assessment across institutions could be shared. Positive consequences such as empowerment of academics in using an appropriate range of assessment methods with confidence could follow, providing the necessary motivation and encouragement of meaningful learning by conducting high quality assessment of learning.

3.9 REFLECTION ON CHAPTER THREE

In the present study the details on assessment practices were obtained from selected participants in Health Sciences and Technology. The information obtained by means of the interviews provided a platform for networking and co-operation between colleagues and across institutions. The researcher commended the courage of participants to share experiences for others to learn from. It was evident that academics were eager to share their experiences on assessment, but that opportunities for doing so were not always available.

The information obtained from participants in the present study on assessment practices revealed that assessment was no longer a separate add-on academic duty, but rather a complex and integrated task aligned

with the learning facilitation activities and exit-level outcomes, focused to add value to learning. In the promotion of quality and added value in higher education, training and assessment, it has become a necessity for academics as facilitators or assessors to strive for the establishment of a positive culture of assessment on campus.

Over and above training and guidance of assessors and learners in the OBET approach, strategies to embrace the challenges; attitudes to be open to change; and knowledge and skills to employ innovative assessment methods to rise above the limitations are essential. To provide the support and guidance to academics in Health Sciences and Technology in conducting quality and innovative assessment, an appropriate assessment model in OBET will be developed.

In the next chapter, the proposed assessment model in OBET for Health Sciences and Technology is presented. The proposed assessment model was compiled by using the information and findings from the structured interviews conducted with 16 academics from the TFS and the UFS. This information was subsequently validated and supplemented by the literature on assessment and the OBET approach and used in the design of the proposed assessment model. Additionally, the limitations of the assessment model, some recommendations and a reflection on the chapter are described. The chapter starts with a literature review as background for the proposed assessment model in OBET for Health Sciences and Technology.

CHAPTER 4

THE PROPOSED ASSESSMENT MODEL IN OBET FOR HEALTH SCIENCES AND TECHNOLOGY

4.1 INTRODUCTION

Academics involved in assessment of learners identified the need for opportunities to learn about assessment and to receive guidance to practise quality, innovative and meaningful assessment. This was described in Chapter three. It was advised that a positive assessment culture should be established on campus to facilitate this. In an attempt to provide the necessary support to attain these requirements, the present study was conducted with the aim to compile an assessment model in OBET for Health Sciences and Technology.

The outcome of Chapter four would be to compile a proposed assessment model in OBET for Health Sciences and Technology that would be submitted to a panel of experts on assessment. The model is presented as categories, for example the basic qualities of and values underpinning the assessment model. Each category then consists of a number of statements. The final assessment model will be presented and discussed as the outcome of Chapter six.

4.2 A LITERATURE REVIEW AS BACKGROUND TO THE PROPOSED ASSESSMENT MODEL

In this section a literature review to support the use of an assessment model and to address the identified shortcomings in assessment, is described. An applicable assessment model in OBET for Health Sciences and Technology could provide the necessary background and support for academics to establish a positive culture of assessment and to promote the ethics of meaningful assessment on campus (Brown & Knight 1995:127).

Palomba and Banta (1999:xii) argue that currently assessment is not the same as it was 15 years ago. Assessment has the potential to shape, innovate and improve academic programmes. More recently, assessment has also become a key process to facilitate changes in higher education. It also has the potential to position learning at the centre of higher education activities (Palomba & Banta 1999:18). With the implementation of OBET at higher education institutions in South Africa, supported by the New Academic Policy Discussion Document (RSA DoE 2001:29), the learner-centred approach and assessment of learning came to the fore as essential role-players of this new approach in education.

Brown and Glasner (2000:12) request that academics should avoid assessment from becoming a meaningless and mechanical task. Academics should be motivated and supported to practise meaningful assessment by addressing the bad practice, ignorance and neglect in

assessment that the above-mentioned authors identified as areas that need improvement. Handfield-Jones, Mann and Challis (2002:957) describe meaningful assessment as being well planned and supported by the best available evidence to develop expertise and the right attitudes. An assessment model or plan is a valuable educational tool with which meaningful assessment could be organised and promoted (Palomba & Banta 1999:19). With an assessment model, the big picture in assessment could be captured (Palomba & Banta 1999:8). Additionally, an assessment model could combine “Who?”, “What?”; “When?” and “Why?” issues in assessment. Furthermore it can be used to reflect on the current trends in assessment (Palomba & Banta 1999:8).

Cunnington (2002:259) sees an assessment model as a process in response to new developments in the science of assessment; accommodating both the needs of society and facilitating feedback to the learner. Handfield-Jones *et al.* (2002:950) suggest an assessment model to re-position assessment at the centre of the learning cycle. Radnor and Shaw (1995:140) mention that an assessment plan provides a framework to make sense of assessment activities. It provides an ideal assessment format for assessment procedures with clear criteria and a blueprint for alternative assessment (Dochy & McDowell 1997:297). As maintained by these authors, an assessment model addresses the need to provide easy-to-use criteria for quality control in assessment.

Mutch (2002:171) calls for an overall assessment framework within which assessment takes place. This author (2002:171) continues by saying that the assessment framework would assist academics and learners to successfully cope with assessment. The above-mentioned author also argues that the use of an assessment model could provide assistance so that learners do not suffer from fragmented assessment experiences. This, the author mentions, is especially applicable when assessment of the learner is holistic. Holistic assessment links the learning experiences with innovations and diversity in assessment, such as assessment practices that are currently emerging (Mutch 2002:171). Brown and Knight (1995:129) emphasise that a valid assessment programme should be customised to the circumstances of an institution, faculty or department. This, as indicated by the authors (Brown & Knight 1995:129), involves academic staff in the development of assessment and therefore it increases the efficiency of the programme.

A literature search yielded the following references to assessment models, plans or schemes for the assessment of learning. These models will be discussed in the section to follow. Hager *et al.* (1994:1 of 13) describe the process and outcomes in competency-based assessment. Hager and Butler (1996:367) depict the traditional scientific measurement model that has dominated assessment practices and compare that to a new emerging model of educational development, which they refer to as the judgemental model. Hays and Wellard (1998:509) refer to a conceptual model for in-training assessment.

Burchell, Higgs and Murray (1999:316) report on a scheme developed for assessment of competence for radiographers. The scheme developed by the above-mentioned authors, provides a flexible assessment tool as a sound basis for assessment of competence in practice (Burchell *et al.* 1999:324). It can be applied to different situations and assess different aspects of competence to acknowledge learner progression and development (Burchell *et al.* 1999:324).

Fowell, Southgate and Bligh (1999:276) describe an appropriate assessment strategy and assessment cycle relevant to the assessment of learners in medical and health care education. These authors argue that "effective assessment is a continuous cycle of development, implementation, presentation and evaluation" (Fowell *et al.* 1999:281). According to the above-mentioned authors, evaluation of the assessment process is required to determine if the assessment process, the curriculum, and the learning experiences of the learner in medical or health care education are congruent.

Friedman Ben-David (1999:24) reports that a systemic assessment programme guarantees uniformity of assessment across different programmes. Cunnington (2002:254) mentions using an assessment system based on group work within the tutorial, while Lockhart and Lacey (2002:98) describe an assessment model for distance education programmes.

Dochy and Moerkerke (2000:13) maintain that higher education will have to use the outcomes of assessment procedures to prove that their graduates are ready and equipped for the labour market. Friedman Ben-David (1999:23) claims that there is growing concern about the adequacy of professional and career preparation in higher education. The above-mentioned author adds that it is therefore critical to specify the exit-level outcomes of the profession or programme and use performance assessment methods. Additionally, the above-mentioned author refers to the close relationship in medical and health care education between the OBET approach and performance assessment. Both the OBET approach and performance assessment are based on similar educational principles (Friedman Ben-David 1999:23). Examples of these educational principles are assessment methods matching the method of learning facilitation and assessment activities that are integrated with learning requiring the use of non-traditional and innovative learning facilitation and assessment methods. Additionally, feedback with innovative assessment enhances learning (Friedman Ben-David 1999:23).

Hager and Butler (1996:367) introduce a model of educational assessment to impact on programmes focusing on professional preparation of learners, such as in Health Sciences and Technology. The authors maintain that the uniqueness of the model is to encompass the requirements of the profession by integrating learning and assessment and by paying attention to the assessment of knowledge, skills and attitudes. Furthermore, it assists in the assessment of performance in simulated practice and assessment of competence (Hager & Butler 1996:369).

Cunnington (2002:257) suggests that a sound assessment model should include assessment of skills and the observation of learner performance. The assessment model should promote learning and align learning and assessment (Cunnington 2002:255). Crossley, Humphris and Jolly (2002:802) recommend the use of a blueprint in assessment to co-ordinate the potentially complex assessment process. Leinster (2002:15) proposes the use of one assessment model in health care education, because - according to the above-mentioned author - an overlap in boundaries of health care results in comparable outcomes to be assessed. The authors Harden, Crosby, Davis and Friedman (1999:551), report on preliminary studies suggesting a framework of outcomes similar to that for medical education to be applied to the health care professions. These authors add that such a framework could facilitate the development of a multiprofessional educational programme.

Handfield-Jones *et al.* (2002:957) ask for targeted education, assessment and reassessment within a framework that values quality of patient care and therefore meets the expectations of patients. The authors maintain this is the best educational route that a health profession could take. To meet this ultimate goal in the education and training of health professionals, academics need to be part of the team advocating and working towards the establishment of a culture of meaningful and ethical assessment.

Harden, Crosby and Davis (1999:12) argue that "[a] major challenge in outcome-based education is the design and implementation of an

appropriate system for student assessment". In response to this challenge, an assessment model in OBET for Health Sciences and Technology is proposed in the present study.

4.3 METHODOLOGY AND PROCEDURES

The proposed assessment model in OBET for Health Sciences and Technology was designed by combining the results and findings of the structured interviews based on the questionnaire with a theoretical background obtained from appropriate literature on assessment. The theoretical background was used to verify and supplement the results and findings of the structured interviews.

The proposed assessment model was designed to accommodate specific categories associated with assessment and statements relating to these categories. The selection of categories of the proposed assessment model was based on the elements of the assessment process. Four categories from the questionnaire for the structured interviews were repeated in the proposed assessment model. These categories are the purposes of assessment; recommended assessment methods; quality assurance in assessment; and factors considered in planning and constructing assessment. Based on the information obtained from the literature on the assessment process, three additional categories were added, namely the overall assessment strategy; practical considerations in assessment; and basic qualities of and values underpinning the assessment model. In the present study, the seven above-mentioned

categories were used as the foundation and framework for a proposed assessment model in OBET for Health Sciences and Technology.

The assessment model was compiled with a holistic approach on assessment in Health Science and Technology programmes. The proposed assessment model, considered as the basis for innovative and quality assessment, allows flexibility and resilience in assessment by accommodating the input and requirements of academic members and learners of programmes in Health Sciences and Technology. With the assessment model as a guide, it suggests a basis for responses to specific assessment needs in a programme in Health Sciences and Technology.

The principles of assessment in the OBET approach, such as the learner-centred approach; preparation of the learner for the workplace; that the individual differences of learners are accommodated; and that success for learners to attain outcomes are possible; were integrated in the proposed assessment model. It is assumed that assessors become knowledgeable about the range of performance- and competency-based assessment methods and that they use an appropriate range of these assessment methods to assess learners. This is required to validate if learners are equipped with the required outcomes of knowledge, skills and professional attitudes and would therefore be capable to practise as health professionals in their relevant professions.

There are a number of variables that should be considered with the implementation of the proposed assessment model. These variables are

related to institutional policies, the outcomes/curriculum of the programme, and the HPCSA. Institutional policies and procedures on assessment dictate a number of requirements in assessment. These refer to the role of assessment in the institution, school and/or department, requirements for reporting of assessment results, appointments and responsibilities of assessors and/or moderators, and policy requirements for individual learners such as records of achievements. The assessment model should fit in with the framework of these policies and procedures.

Programme members indicate the capabilities of learners delivered by the programme by describing the exit-level outcomes. The relevant profession in Health Sciences and Technology approves the exit-level outcomes. The Professional Boards of the HPCSA associated with the programmes in Health Sciences and Technology, benchmark the programmes, using as some of the criteria the exit-level outcomes of competency to accredit the programme. Specific requirements of the programme, profession and/or the HPCSA will have to be reflected on in implementing the proposed assessment model in Health Sciences and Technology.

The assessment model, proposed in this phase of the study, will be subject to the opinions of experts by using the Delphi process, described in Chapter five. The proposed assessment model in OBET for Health Sciences and Technology is presented in the next section (see Section 4.4).

4.4 RESULTS AND FINDINGS

The proposed assessment model is presented as 63 statements arranged into seven categories. The headings of these categories are the following, namely the purposes of assessment; the overall assessment strategy; recommended assessment methods; planning and construction of assessment; practical considerations in assessment; quality assurance in assessment; and basic qualities of and values underpinning the assessment model. The statements in each of the seven categories are based on the responses of the participants in the structured interviews. This was verified and supplemented, following a literature review on assessment.

The distribution of statements in each category is presented in Table 4.1. In addition, Table 4.1 shows the number of statements added to each category of the proposed assessment model following the literature study. Nineteen statements (30%) are added and an asterisk (*) is used to identify these statements. In category five and in category seven, 50 percent and 80 percent respectively of the statements are added.

TABLE 4.1 THE CATEGORIES, NUMBER OF STATEMENTS AND STATEMENTS ADDED IN THE ASSESSMENT MODEL

NAME OF THE CATEGORY	NO. OF STATEMENTS	NO. ADDED	% ADDED
The purposes of assessment	4	0	0
The overall assessment strategy	12	3	25
Recommended assessment methods	13	1	8
Planning and construction of assessment	8	2	25
Practical considerations in assessment	8	4	50
Quality assurance in assessment	8	1	13
Basic qualities of and values underpinning the assessment model	10	8	80

4.4.1 The proposed assessment model in OBET for Health Sciences and Technology

4.4.1.1 *The purposes of assessment*

They state the reasons why assessment is done.

4.4.1.1.1 Assessment diagnoses the shortcomings in learner progress and enables learners to grow academically.

4.4.1.1.2 Assessment verifies that the learner has achieved a specific level of performance.

4.4.1.1.3 Assessment verifies that the exit-level outcomes linked to the job description of the profession have been attained.

4.4.1.1.4 Assessment identifies areas where adjustments in learning facilitation can be made.

4.4.1.2 *The overall assessment strategy*

It provides a roadmap or guidelines for assessment in a programme.

4.4.1.2.1 Assessment is produced by a group of facilitators or tutors and integrated across the programme(*).

4.4.1.2.2 The learning outcomes are linked to the job description and assessed with an appropriate range of assessment methods to demonstrate competence.

4.4.1.2.3 Assessment is planned by a team of facilitators in the programme to assure the holistic assessment of a learner(*).

4.4.1.2.4 Facilitators in the programme must collaborate and discuss the assessment process.

4.4.1.2.5 The assessment strategy includes self-, peer and group assessment.

4.4.1.2.6 The assessment process ensures growth and development of the learner.

4.4.1.2.7 Transparent assessment methods are used, and all persons involved (facilitators, learners and employers) must understand what is measured by means of the assessment.

4.4.1.2.8 Realistic and relevant assessment criteria are identified and used by all facilitators or tutors in the programme.

4.4.1.2.9 The assessment workload is realistic for the staff.

- 4.4.1.2.10 Demands on learners undergoing the assessment are realistic and the learners are able to cope with the process.
- 4.4.1.2.11 Methods are in place to ensure that assessment is free of bias and does not discriminate against learners.
- 4.4.1.2.12 The assessment strategy must have the capacity to call more evidence from the learner where doubt exists about the level of competency or where outcomes have not been attained(*).

4.4.1.3 *Recommended assessment methods*

Selecting the optimal and appropriate assessment method.

- 4.4.1.3.1 The following factors are relevant when selecting the assessment method:
 - 4.4.1.3.1.1 The time required for the facilitator to construct the assessment.
 - 4.4.1.3.1.2 The time allowed for the assessment to be completed.
 - 4.4.1.3.1.3 The time required to mark the assessment.
 - 4.4.1.3.1.4 Do learners have adequate time to prepare for the assessment?(*).
- 4.4.1.3.2 The assessment method must correspond with the learning and facilitation activities.
- 4.4.1.3.3 The assessment method is based on the learning outcomes.
- 4.4.1.3.4 An integrated approach to assessment focuses on the outcomes of knowledge, skills and attitudes.

- 4.4.1.3.5 Assessment methods assess the integration of knowledge (cognitive skills) and problem-solving skills relevant to the job description and exit-level outcome.
- 4.4.1.3.6 Utilise performance assessment methods in simulation or in practice where knowledge and skills are integrated with performed procedures.
- 4.4.1.3.7 Use assessment methods that demonstrate accumulated reflective performance and competence in practice.
- 4.4.1.3.8 Use assessment methods to assess the process of learning.
- 4.4.1.3.9 Use assessment methods to assess the product of learning.
- 4.4.1.3.10 The same outcomes are assessed, using different approaches and/or assessment methods.

4.4.1.4 *Planning and construction of assessment*

Measures to plan and construct assessment.

- 4.4.1.4.1 Use a planning grid to select the assessment criteria or standards to be included in the assessment.
- 4.4.1.4.2 Use a planning grid to assess different cognitive levels in the assessment.
- 4.4.1.4.3 Taxonomies (e.g. Bloom) are used to assess a variety of cognitive levels.
- 4.4.1.4.4 Use the appropriate assessment method to assess the learning outcomes.
- 4.4.1.4.5 A memorandum, rubric or marking scheme with appropriate and relevant assessment criteria accompanies the assessment for the allocation of credits.

- 4.4.1.4.6 Learners are empowered to take responsibility, accountability and ownership in assessment by openly participating in the construction of the assessment process(*).
- 4.4.1.4.7 Feedback to the learner is an integral part of the assessment.
- 4.4.1.4.8 The feedback is timely, appropriate, positive, encouraging and motivating(*).

4.4.1.5 *Practical considerations in assessment*

Assisting in the day-to-day assessment schedule.

- 4.4.1.5.1 The assessment schedule contains the following:
 - 4.4.1.5.1.1 The proposed assessment method(s) used to attain each outcome(*).
 - 4.4.1.5.1.2 An indication of the integration of different outcomes in one assessment opportunity(*).
 - 4.4.1.5.1.3 An indication of how every assessment opportunity contributes in weight to the assessment process.
 - 4.4.1.5.1.4 The credits linked to every assessment opportunity(*).
- 4.4.1.5.2 The assessment schedule is documented in the assessment manual and/or learner guide.
- 4.4.1.5.3 Assessment opportunities are spaced to give the learner the opportunity to prepare for each assessment.
- 4.4.1.5.4 All assessment opportunities include feedback for the learning and academic development of the learner.

4.4.1.5.5 Arrangements for reassessment are possible if outcomes are not attained(*).

4.4.1.6 *Quality assurance in assessment*

To maintain quality in assessment and confirm the quality of professionals produced by the institution.

4.4.1.6.1 The assessment schedule is documented in the learner guide or assessment manual and is the basis for quality assurance in assessment.

4.4.1.6.2 Colleagues discuss the assessment methods as a team.

4.4.1.6.3 A team approach is used to allow colleagues to judge and discuss the outcome of the assessment.

4.4.1.6.4 Procedures are in place to monitor the quality of the assessment process.

4.4.1.6.5 Procedures are in place to ensure that assessment results are reliable and valid.

4.4.1.6.6 A system of feedback from peers and learners in the profession is used to maintain the standard of assessment and to benchmark assessment standards.

4.4.1.6.7 The judgement of colleagues (inside and/or outside the institution) is used to moderate and benchmark the assessment.

4.4.1.6.8 The relevant professional body benchmarks the assessment process(*).

4.4.1.7 *Basic qualities of and values underpinning the assessment model*

- 4.4.1.7.1 The requirements of competency in the programme are clearly defined and documented(*).
- 4.4.1.7.2 Assessment activities are based on the facilitation of learning(*).
- 4.4.1.7.3 The assessment process makes provision for individual differences of learners(*).
- 4.4.1.7.4 All possibilities of discrimination in assessment are excluded(*).
- 4.4.1.7.5 Assessment encourages meaningful and strategic learning(*).
- 4.4.1.7.6 The assessment process excludes bias by way of processes that ensure reliability, validity and fairness.
- 4.4.1.7.7 Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification.
- 4.4.1.7.8 An integrated and holistic approach to assessment is used(*).
- 4.4.1.7.9 The assessment strategy is in coherence with institutional requirements(*).
- 4.4.1.7.10 The assessment strategy is in coherence with the requirements of the relevant professional body(*).

4.5 DISCUSSION OF THE PROPOSED ASSESSMENT MODEL

In the present study, an assessment model in OBET for Health Sciences and Technology was compiled and presented. The design of the assessment model was based on information obtained from headhunted participants in the present study. This information was verified by literature, and where required, additions were made.

The proposed assessment model was presented as seven categories with 63 statements. The seven categories of the proposed assessment model in OBET for Health Sciences and Technology, in the current study, are the following, namely the purposes of assessment; the overall assessment strategy; recommended assessment methods; planning and construction of assessment; practical considerations in assessment; quality assurance in assessment; and basic qualities of and values underpinning assessment. A holistic discussion will follow in this section (4.5). Each category of the proposed assessment model with the statements that it contains is motivated with specific reference to the statements added to address the shortcomings in the proposed assessment model. In the last section of the discussion, the sufficiency of the proposed assessment model will be determined by comparing it to three models described in literature.

The first category of the proposed assessment model is the purposes of assessment. The purposes of assessment have the potential to drive the

design of the assessment model and it is therefore necessary for the purposes of assessment to be clarified and discussed (Brown & Knight 1995:32; Palomba & Banta 1999:7; Crossley *et al.* 2002:803). Brown and Knight (1995:33,34) mention a large selection of purposes of assessment, including that learners are motivated by assessment; they receive feedback to correct mistakes; and they are assisted in their academic progress; shortcomings in learning facilitation are diagnosed to indicate to academics where adjustments in learning facilitation could be made; there is learning through assessment; and grading is done.

The statements in the first category of the proposed assessment model refer to the summative and formative purposes of assessment. Both these approaches in assessment play an important role in assessment in the OBET approach (Coetzee-Van Rooy & Serfontein 2001:6). Both Hays and Wellard (1998:509) as well as Brookhart (2001:153) support the summative purpose of assessment that is linked to decision-making about the competence and progress of the learner. The formative purpose of assessment correlates with development or improvement of the educational process and to inform learners on their learning and teachers about their teaching (Brookhart 2001:153,154). Brown and Knight (1995:38,39) describe formative assessment and refer to the motivational and developmental roles of this mode of assessment. Shepard (2000:12) refers to the use of assessment to adjust and improve learning facilitation. The participants in the study supported the concepts used on the purpose of assessment included as statements in the assessment model and no

additional statements describing the purposes of assessment were required.

The second category of the assessment model is the overall assessment strategy in the programme. Assessment in the OBET approach is a continuous process (Coetzee-Van Rooy & Serfontein 2001:10). Therefore the overall assessment strategy should be appropriate, sensible and support the outcomes of the programme (Schwarz & Webb 2002:3). The overall assessment strategy dictates the elements and guidelines for assessment in the programme, helping academics and learners to see the bigger picture of assessment (Palomba & Banta 1999:8). These elements and guidelines include, among others, that academic members or facilitators in the programme should discuss the assessment process (Fowell *et al.* 1999:279). This assists to manage a holistic approach in assessment (Knight 2000:249; Coetzee Van-Rooy & Serfontein 2001:10). At the same time it also helps to facilitate a programme approach to assessment (Palomba & Banta 1999:5). An appropriate range of assessment methods and approaches are used (Fowell *et al.* 1999:277; Crossley *et al.* 2002:801,802). These assessment methods and approaches include self-, peer and group assessment (Hager & Butler 1996:374; Knight 2000:246). Race (2000b:68) supported by Cunnington (2002:255), mentions that the diversity in assessment methods to assess learners should be sufficient.

The overall assessment strategy in the programme assists with the transparency of the assessment process and assessment methods used (Crossley *et al.* 2002:802). Assessment criteria or standards are realistic and relevant, which minimise bias and prevent discrimination in assessment (Fowell *et al.* 1999:278). With continuous assessment the volume of the assessment workload could increase (Miller & McDowell 2002:173). Factors like a realistic and manageable workload for academic staff and demands on the time of learners are considered (Brown 2000a:12). Assessment in the OBET approach promotes success for all learners; therefore opportunities for re-learning and reassessment should be made available and be accommodated in the overall assessment strategy (Hager & Butler 1996:374; Harden, Crosby & Davis 1999:8,13).

In the questionnaire of the structured interviews, information on the assessment strategy was not included under a separate heading. Responses of the participants were reviewed, which then contributed in compiling the statements of the proposed assessment model in this category. In addition to the responses of the participants, three statements were added to this section. These statements refer to the integrated and holistic approach of assessment in the programme and an increased number of assessment opportunities for a learner to attain competency.

The third category of the assessment model assists with the selection of the appropriate assessment methods to be used. Assessment in the OBET approach requires that an appropriate variety of assessment

methods should be used to increase fairness and provide more than one opportunity for learners with different skills to attain exit-level outcomes (Coetzee-Van Rooy & Serfontein 2001:15). Hager and Butler (1996:374) recommend using the most appropriate assessment method to integrate assessment and learning. Additionally, assessment methods that correspond with the learning facilitation activities are recommended (Friedman Ben-David 2000:474). It implies that the assessment method should correlate with the learning outcome (Fowell *et al.* 1999:272; Crossley *et al.* 2002:802). It furthermore entails that the appropriate assessment method should combine outcomes of knowledge, skills and attitudes (Harden, Crosby & Davis 1999:13). Knight (2000:249) mentions that learning and assessment should be planned systematically, offering the learner the benefit of repeated learning experiences arranged around predetermined assessment criteria to encourage progress. Core exit-level outcomes must be assessed repeatedly over time to determine the development of the learner (Friedman Ben-David 1999:24).

Hager and Butler (1996:371), Hayes and Wellard (1998:512) and Crossley *et al.* (2002:801) recommend the use of assessment methods integrating knowledge and performance or competence. These authors mention assessment of problem-solving and reflection in simulation or clinical practice of learners in Health Sciences and Technology. Radnor and Shaw (1995:131) say learning should extend beyond retained information to the ability to use information and solve problems related to the real world context. Knight (2000:245) recommends the use of assessment

methods to assess the process of learning, while Palomba and Banta (1999:120) encourage assessing the product of learning as well.

Managing high quality assessment is usually labour-intensive and time-consuming (Lockett & Sutherland 2000:120). For these reasons, time is a relevant factor to consider. Schwarz and Cavener (1994:330) and Fowell *et al.* (1999:277) refer to the time required to mark assessment, while Knight (2000:244,245) refers to the nature and timing of assessment. Torrance (1995:49) says there is an additional workload involved in continuous and innovative assessment. This author refers to the additional marking, record-keeping, and an increased number of assessment; all causes for assessment resentment. Wolf (1995:93,95) argues that the increased volume of assessment and increased time spent on assessment result from absence of hierarchy in assessment targets, because in the performance assessment approach, all outcomes are equally important. McDowell and Sambell (2000:80) say because learners may spend more time in innovative assessment than what academics may think, the workload of learners should also be considered. The above-mentioned authors maintain that feedback from learners can be used to provide answers to academics on the time involvement in assessment.

The participants in the present study did not always consider allowing their learners adequate time to prepare for assessment. By doing so, it could increase the fairness in assessment, as proposed by McMillan (1997:63). The cost involved in conducting assessment, also mentioned by McMillan (1997:70), was not considered in the proposed assessment model.

Category four of the assessment model includes guidelines to plan and construct assessment. This has reference to practical factors such as the use of a planning grid to select criteria for the assessment (Friedman Ben-David (2000:472). According to Imrie (1995:177), as well as Palomba and Banta (1999:35), using a planning grid and/or taxonomies to accommodate different cognitive levels in assessment are relevant in the planning and constructing of assessment. Crossley *et al.* (2002:800) say transparent assessment criteria for structured feedback should be provided, while McDowell and Sambell (2000:80,81) recommend the use of clear guidelines for learners to understand what is expected from them in assessment. The above-mentioned authors add that transparency of assessment criteria helps learners to know how judgements in assessment are made and what marks/credits are awarded for. By these actions, McDowell and Sambell (2000:79) maintain, a shift in the role of learners as active participants in learning and assessment could be facilitated. Palomba and Banta (1999:71,72) claim that learners have to take responsibility as active partners in assessment because assessment is done for learners.

Not only Friedman Ben-David (2000:476) but also Fowell *et al.* (1999:278) emphasise the importance of providing feedback on assessment as an integral part of formative assessment. The above-mentioned authors add that the feedback should be meaningful to help learners identifying strengths and weaknesses and improve academic performances. The qualities of feedback provided are mentioned as motivating, positive and appropriately timed (Brown & Knight 1995:39; Fowell *et al.* 1999:279).

The two statements added in this category without the support of the participants in the structured interviews refer to the responsibility of learners to participate and take responsibility in the assessment process and the qualities of feedback on assessment provided to the learner, namely to be timely, appropriate, positive and motivating.

Category five of the proposed assessment model covers the practical considerations in assessment such as the documentation of information on assessment opportunities for learners and facilitators in the assessment guide/schedule. Coetzee-Van Rooy and Serfontein (2001:9) say the purpose of the information in the learning/study guide is to inform the learners about the planned assessment for the learning process. The above-mentioned authors recommend documenting in the learning guide the assessment criteria; dates/deadlines of assessment; outcomes to be assessed; and what the results of the assessment will be used for. Additionally, the authors also recommend that the details of the assessment plan be documented in the assessment guide, containing additional information such as the number and types of assessment methods used and a recording grid (rubric) for marking/grading/credit allocation. Advice from McMillan (1997:63) is to space assessment opportunities, thereby allowing time for learners to prepare for assessment.

Assessment criteria and marking need to coincide with the nature of assessment tasks and the resulting learning achievements expected from particular assessment methods (McDowell & Sambell 2000:78). These

authors mention that it gives the learners a sense of ownership in assessment tasks if they are able to compare their marks with the effort and learning achievement they think they have made. Brown *et al.* (1997:54) report on the reluctance of learners to put their best efforts into work that will not contribute to credits. Otter's (1995:60) opinion is that learners tend to ignore activities not directly contributing to obtaining grades or qualifications. While assigning grades to assessment is an incentive to learners, feedback as provided to the learner with formative assessment opportunities ensures their academic growth and development (Fowell *et al.* 1999:278). Opportunities for re-learning and reassessment should also be available (Harden, Crosby & Davis 1999:8,13).

The statements added in this category refer to the use and the content of the assessment schedule/guide in the overall planning of assessment. Documentation of assessment details improves the transparency of information to the learner. Learners could obtain information on the assessment method used to assess the outcomes; on how outcomes will be integrated in assessment opportunities; how the credits are linked to assessment opportunities; and on possibilities for reassessment.

In category six of the proposed assessment model, the quality issues of assessment are stated. Coetzee-Van Rooy and Serfontein (2001:12) state that assessment in the OBET approach is underpinned by an attempt for quality assurance with continuous assessment as a key element in the quality assurance system. Imrie (1995:187) claims that the quality of

assessment should be monitored. With this in mind, the documented assessment schedule is a basic measure for quality assurance in assessment. Not only Fowell *et al.* (1999:280), but also and Palomba and Banta (1999:54) support the idea of collaboration of colleagues to plan the assessment in the programme and discuss the outcome of the assessment. Banta (2000:3 of 4) encourages academics in programmes to “take a second look” at assessment results and use the findings to improve learning facilitation and support services to learners.

As indicated by Crossley *et al.* (2002:803), procedures should be in place to ascertain the validity and reliability of assessment results. The authors Radnor and Shaw (1995:140) emphasise the change in the role of moderation. While moderation used to consist of checking or remarking of a sample of work submitted, it now changes to a process of discussion and negotiation to ratify the values assigned to the learners’ work during the learning process. These authors (Radnor & Shaw 1995:131) also mention the ratification of assessment by outside bodies, expressing the need for external benchmarking and certification by boards. Wolf (1995:100) reiterates that close contact between assessors is required for reliable assessment and effective teaching with the education and training of professionals. The benchmark process is becoming more important with feedback from peers, learners, alumni and the HPCSA to be used in the quality process and the maintenance of standard of assessments (Palomba & Banta 1999:213,217,301).

The statement added to the information of the structured interviews in this category refers to the role of the professional body [and indirectly the Higher Education Quality Committee (HEQC)] to benchmark the assessment process of programmes in Health Sciences and Technology (RSA DoE 2001:118). This issue was discussed with the participants during the structured interviews, but not recorded as results in the questionnaire.

The last category of the proposed assessment model in Health Sciences and Technology, is the basic qualities of and values underpinning the assessment model. Assessors need to be sensitive to the values of peers and learners and practise the ethics of assessment (Brown & Knight 1995:127). Assessors should reflect qualities like discipline, leadership and professionalism when performing assessment (Palomba & Banta 1999:29). Coetzee-Van Rooy and Serfontein (2001:10,11,12) mention the following factors underpinning the philosophy in assessment, namely to create a learning society; practise continuous assessment to integrate assessment, teaching and learning; provide many opportunities of assessment; encourage openness and transparency in assessment; promote the accountability and responsibility of learners in assessment; address equity and quality; and to maintain flexibility.

Values and beliefs underpinning the proposed assessment model are based on the appropriately named "*An assessment manifesto*" described by Brown *et al.* (1996:142,143). These authors promote the acknowledgement of individual differences of learners in assessment.

They also recommend enhancing fairness; that no bias or discrimination must be associated with assessment; and that assessment should be integral to the design of the programme and not an add-on activity.

The basic qualities of the assessment model refer to the following concepts, namely that the requirements of competence in the profession that should be clear (Atkins *et al.* 1993:28; Hager & Butler 1996:369); that assessment activities are based on the facilitation of learning (Friedman Ben-David 1999:24); and that assessment should be practised in such a manner as to encourage meaningful and strategic learning (Ewell as quoted by Hager & Butler 1996:373). Summative assessment opportunities must be available to determine if the learner could progress or obtain a qualification (Imrie 1995:187). The requirements of the professional bodies (Palomba & Banta 1999:301) as well as of the institution should be considered in assessment (Atkins *et al.* 1993:67; RSA DoE 2001:115) and innovative assessment approaches need to fit into the institutional and/or departmental assessment policy framework (Lockett & Sutherland 2000:120).

Basic qualities of and values underpinning the proposed assessment model were not addressed in the structured interviews, explaining the addition of eight statements to this category. The statements added refer to the requirements of competency in the programme defined and documented for transparency. They refer to assessment activities based on learning facilitation and an integrated and holistic approach to assessment encouraging meaningful and strategic learning through

assessment. The assessment process should acknowledge the individual differences of learners and that no discrimination is practiced in assessment. The assessment strategy should fit in with the requirements of institutional policy framework on assessment and the requirements of the professional bodies.

In the next section of this discussion, the background of the proposed assessment model will be discussed. The proposed assessment model will subsequently be compared to assessment models in the literature, namely with those described by Fowell *et al.* (1999:276); Crossley *et al.* (2002:800); and Hager and Butler (1996:367). The sufficiency of the proposed assessment model in terms of the requirements of assessment in the OBET approach and the assessment of professionals in Health Sciences and Technology will also be discussed.

Palomba and Banta (1999:6) quote Banta, Lund, Black and Oblander by saying that the recommended starting point for an assessment plan or model is the goals, core values, and vision and mission statement of the institution. The authors (Palomba & Banta 1999:6) state that the mission statement has to capture the special qualities that the graduates produced by the institution should maintain. These authors recommend the development of a profile of the "ideal graduate" to be linked to the mission statements of the institution and outcomes of the programme.

In Health Sciences the programme is responsible to determine the learning outcomes of knowledge, skills and attitudes required of graduates produced by the specific programme, which is verified by the HPCSA in South Africa. The HPSCA and the HEQC control and accredit the process of the attainment of outcomes in a programme (RSA DoE 2001:118). In compiling the proposed assessment model in the present study, the assumption was made that the assessment model should be linked to the outcomes of the programme as prescribed by the profession. However, the mission statement and core values of the institution or programmes in Health Sciences and Technology were not considered. These essential aspects will have to be taken into account by programme members when implementing the proposed assessment model.

In compiling the assessment model in the present study, a programme approach to assessment was used. Referred to as a holistic and an integrated approach, this is in line with the principles of the OBET approach (Coetzee-Van Rooy & Serfontein 2001:10). Additionally, the New Academic Policy Discussion Document supports this statement (RSA DoE 2001:40).

Academics are challenged by the changes of new educational approach, in this case the OBET paradigm. As stated by Handfield-Jones *et al.* (2002:950), a model is useful to provide guidance in exploring a new educational paradigm for medical practitioners as well as health care professionals. The principles of the OBET approach were used as point of departure in the proposed assessment model promoting integration of

learning facilitation and assessment based on the outcomes of the programme, including performance and competence assessment. By using the proposed assessment model, directions and assistance to facilitate the change to the new paradigm to both newcomers to assessment and the more experienced academics are provided.

A literature search for an assessment model comparable to the one proposed in the study, integrating the principles of assessment in OBET and assessment of health professionals, did not yield positive results. Such an assessment model could have been an accurate blueprint in comparing the proposed assessment model for sufficiency. The literature search for an assessment model reveals the use of a variety of terminology. Some of the examples are "assessment process" (Hager *et al.* 1994:1 of 13), while Radnor and Shaw (1995:140) and Palomba and Banta (1999:37) use "assessment plan". Levins (1997:1 of 7) refers to a "theoretical framework in assessment", while Hager and Butler (1996:368) as well as Dochy and McDowell (1997:297) make mention of "assessment model". Fowell *et al.* (1999:276) mention the "assessment cycle" and Cunnington (2002:254) speaks of an "assessment system".

The essential steps of the assessment cycle described by Fowell *et al.* (1999:276) are the following: Plan and prepare assessment; develop and execute it; present the results; and evaluate the assessment. Under planning and preparing the assessment, these authors include the explicit purpose of assessment and the development of an assessment strategy. In the developing and implementing stage the above-mentioned authors

refer to practical factors such as the selection of appropriate assessment methods. While presenting the results, these authors recommend that assessors should avoid bias, ensure reliability in assessment, and should provide feedback to the learners. These factors compare to the quality assurance factors mentioned in the proposed assessment model. An essential step driving the assessment cycle is to evaluate assessment and to "take the second look" at assessment results, as indicated by Banta (2000:3 of 4). By doing so, the strengths and weaknesses in the curriculum are identified and followed up by the development of more effective assessment. The authors (Fowell *et al.* 1999:276) include an assessment manifesto reflecting the core educational principles underpinning assessment.

The assessment model compiled in the present study compares favourably with the assessment cycle presented by the above-mentioned authors. In the proposed assessment model not enough emphasis was, however, given to presenting and evaluating the results of assessment to drive changes in the curriculum and to improve assessment.

The proposed assessment model compares satisfactorily with the fundamental principles of good assessment design as mentioned by Crossley *et al.* (2002:800). These fundamental principles relate to the purpose of assessment driving the design of assessment and an assessment process for health care professionals that should focus on the use of performance assessment methods (Crossley *et al.* 2002:801). Elements of validity, reliability, and practicality of assessment should be

evaluated and, to confirm this, these authors recommend pilot testing the assessment (Crossley *et al.* 2002:803)

Hager and Butler (1996:369) recommend a model of education, training and assessment for professions to prepare entrants for a profession and guide both the curriculum development and assessment. The assessment model that the above-mentioned authors describe is based on the integration of theory and practice and the integration of learning and assessment (Hager & Butler 1996:374). Moreover, the use of self-assessment – in addition to using combinations of outcomes of knowledge, skills and abilities - is also mentioned (Hager & Butler 1996:375). The authors specify that assessment tasks should not reflect context only, but should focus on problem-solving, be holistic with group and individual work, assess performance, and encourage the involvement of the learner. The principles as recommended and described by Hager and Butler (1996:369) were taken into account in compiling the proposed assessment model for Health Sciences and Technology.

Developing and implementing an assessment model is only the start of the continuous cycle of effective assessment (Fowell *et al.* 1999:281). The authors (Palomba & Banta 1999:37) maintain that the existence of a useful assessment plan is necessary to support the assessment process, although they remind their readers that using an assessment plan or a model is not necessarily the golden solution to guarantee successful assessment. To always ensure that assessment is fair, accurate and comprehensive, yet still manageable, remains a major challenge for

academics (Brown & Glasner 2000:202). Mentioned by Palomba and Banta (1999:18), assessment is a powerful tool to position learning at the centre of higher education activities.

Biggs and Collis (1982:xi) as well as Imrie (1995:188) maintain that the quality of assessment is the professional responsibility of academics. To provide the necessary support for educators in Health Sciences and Technology, the proposed assessment model presented in the present study should provide a basis to face the above-mentioned challenges and practise quality assessment in the OBET approach, thereby fulfilling their professional responsibility in assessment of learning.

4.6 CONCLUSION

In the present study, a proposed assessment model was compiled using information obtained from headhunted academics, verified and/or supplemented by literature.

In compiling the proposed assessment model, the requirements of education and training of health professionals were accommodated with the focus on assessment of knowledge, skills and attitudes and assessment of competence and performance. The proposed assessment model was based on continuous assessment with a holistic and integrated approach to assessment in the programme assisting learners to combine the outcomes of knowledge, skills and attitudes of the profession. With assessment as a continuous activity integrated with learning, the use of an

appropriate range of assessment methods to assess and also develop an appropriate range of skills of learners is promoted. This includes assessment of generic skills and approaches such as self-, peer and group assessment activities.

An assessment model should be seen as an educational tool to assist academics to develop a creative approach to assessment and establish a positive assessment culture and learning society to practise meaningful assessment. As an educational tool, the proposed assessment model should give guidance in assessment to academics new to assessment as well as those who are more experienced to enhance learning and combine learning and assessment, as promoted by the OBET approach. In this manner it should provide guidelines to academics and learners not familiar with the requirements of the OBET approach. The proposed assessment model allows flexibility and guidance in the overall assessment strategy; in the selection of appropriate assessment methods; the planning and construction of assessment; practical points; and quality assurance in assessment.

The proposed assessment model should be seen as one of the methods for quality assurance in assessment, a factor in higher education that currently receives new attention. The backdrop of the values, qualities, and the philosophy in assessment to contribute to ethical practices and professional attitudes of academics in assessment was used as the foundation of the proposed assessment model. This should remind

academics of their essential responsibility to promote quality assessment of learners.

The results of the study showed that the information provided by the participants on assessment activities by means of the structured interviews contributed positively to the present study. The contributions from these participants supplied a broad base of information from real experiences in assessment. The type of information shared by the participants in the current study is a combination of personal experiences in assessment and what they have learned from attending workshops, congresses and seminars on assessment. This information was used to feed into the statements of the assessment model and was verified by the literature on assessment.

Contributions of participants to the assessment model were sufficient to compile the proposed assessment model. Participants are commended for their efforts to develop and implement a variety of creative approaches to assessment, despite shortcomings mentioned in knowledge and skills to practise assessment in the OBET approach. The shortcomings identified refer to the transfer of responsibility and accountability of learners in assessment; academics not considering the time that learners require for preparation for assessment; not using an assessment schedule/guide to enhance the transparency in assessment; and not considering the quality of the feedback accompanying assessment. The shortcomings mentioned are all pointers to the requirements of assessment in the OBET approach.

Three models were identified in literature and used to compare the proposed assessment model for sufficiency and comprehensiveness. The model described by Hager and Butler (1996) is used because it focuses on performance assessment for professional qualifications and therefore provides a suitable framework for comparison. Crossley *et al.* (2002) describe the fundamental principles in good assessment design for health professionals, motivating the reasons for their use in the present study. Fowell *et al.* (1999) describe an assessment cycle with relevant steps in assessment of medical education. This is used to verify the comprehensiveness of the processes of the proposed assessment model in OBET for Health Sciences and Technology.

Implementing the proposed assessment model was found to be comprehensive and will suffice in terms of overall requirements to practise integrated, continuous and quality assessment in a professional manner and to add value to assessment *per se*. As academics, we should constantly be reminded of the importance of assessment to encourage meaningful learning and that implementing an assessment model is part of a continuous and ongoing process of the assessment cycle.

4.7 LIMITATIONS

At the time of the structured interviews, OBET was not formally implemented as an educational approach in the relevant programmes at the participating institutions, explaining why the participants did not mention or support all the concepts in the assessment model, especially

those relating to the OBET approach. This is also the reason why outcomes as point of departure in assessment were not used in all the programmes.

Reasons why the respondents did not mention or support statements may also be linked to shortcomings in the questionnaire. Although space was allowed to add to the responses, the length of the questionnaire and consequently limited time may have discouraged participants in providing additional responses. For instance, a factor like the cost involved in assessment was not mentioned in choosing an appropriate assessment method. The qualities of and values underpinning assessment and the role of the professional bodies to benchmark the assessment process were likewise not addressed in the questionnaire for the structured interview, explaining why these statements were added.

Repetitions of statements in different categories of the proposed assessment were identified. Statements were repeated because there could be an overlap in the assessment process, motivating the relevancy of the statements in more than one category of the proposed assessment model.

The limitations and the recommendations proposed by the Delphi panel of experts in assessment and higher education (see Chapter five) will be moderated when the final assessment model is presented in Chapter six.

4.8 RECOMMENDATIONS

The implementation of the proposed assessment model should fit in with the assessment policy framework of the faculty, the overall institutional policies and procedures in assessment, and outcomes of the programme. The mission statement of the institution/programme and exit-level outcomes of the programme should be used as important anchors for the assessment model.

The responsibility of both academics and learners in assessment is evident. Academics have a responsibility to continually update knowledge and skills and be empowered regarding assessment. These include the use of an appropriate range of assessment methods, as well as innovative and creative approaches in assessment. Additionally, learners should be guided by the academics to be accountable and to take responsibility in assessment. Involvement of both academics and learners in assessment is important to establish a sense of ownership, responsibility and transparency in assessment.

It follows that all involved in assessment should consider variables particularly relevant in the planning and the practise of meaningful and purposeful assessment. This refers to the budget, physical facilities and time and human resources available for assessment. Another recommendation that could contribute to meaningful assessment is that programmes should make it a habit to use the results produced by assessment as an indicator for change in assessment and in learning

facilitation. This is the essential step to close the so-called “assessment loop” in assessment and with this action, shortcomings in the curriculum could be addressed. Likewise assessment could be adjusted and improved to facilitate the ongoing cycle of assessment. This method could become an aid to verify the “graduateness” of the qualifications offered in health care and to confirm that adequately equipped graduates are produced to face the demands of the world outside the educational institution.

4.9 REFLECTION ON CHAPTER FOUR

The input of participants who were willing to share their experiences on assessment for others to benefit is reflected in the proposed assessment model. The beneficiaries are newcomers to assessment who can learn from the model as well as the experienced in assessment who can profit from the new perspectives in assessment.

The audiences for this proposed assessment model are firstly the members of the Delphi panel. Secondly, the assessment model is aimed at academics in Health Sciences and Technology practising assessment, as well as learners doing assessment. Providing an assessment model as an educational tool could facilitate introducing new approaches in education and assessment to those involved, namely academics, learners, and the larger audience in assessment such as the HPCSA, the HEQC, and present and future employers.

The use of a flexible and generic assessment model in Health Sciences and Technology could increase co-operation between academics from different programmes and institutions and contribute to further research in the field of assessment. The principles of the generic assessment model allow flexibility for academics and learners to customise the assessment model to accommodate their specific assessment needs in the programme, thereby providing the power of ownership in assessment to all involved in the assessment process.

The researcher has become aware of the powerful role of assessment in learning and the powerful tool that academics possess to shape future health professionals, provided that this is what they want assessment to be. Therefore, using the proposed assessment model could benefit academics and learners in more than one way. With the ability to encourage meaningful learning it could impact positively on assessment and add value to the assessment process to create a desired assessment culture. It could become an essential link in the chain of the ongoing process of assessment and a challenge to improve the quality of learners produced as health professionals.

In the next chapter, a three-round Delphi process was used to edit, "rephrase" and rate the statements of the proposed assessment model, compiled in the study, as essential, useful or unnecessary statements of an assessment model. A background from the literature on the Delphi process is described. Additionally, the results and findings of the Delphi process used in the study are provided and discussed.

CHAPTER 5

THE DELPHI PROCESS

5.1 INTRODUCTION

An assessment model in OBET for Health Sciences and Technology was compiled in the present study with the proposed assessment model presented in Chapter four. This assessment model is the product of practical research using a questionnaire to obtain information from headhunted academics in Health Sciences, Technology and higher education, as well as a literature review conducted to support and supplement the information obtained from the academics.

The outcomes for Chapter five were to assess the different statements in the proposed assessment model. This was done by using a modified version of the Delphi process. A panel of experts, known as the Delphi panel, was identified and the panel would rate and edit the statements of the proposed assessment model in Health Sciences and Technology. The assessment model, validated and benchmarked by the Delphi panel, will be presented in Chapter six.

5.2 LITERATURE REVIEW AS BACKGROUND FOR THE DELPHI PROCESS

The literature review focuses on a brief explanation of the Delphi process; the selection of the Delphi panel; advantages and disadvantages of the Delphi process; and the significance of using the Delphi process in the present study.

The Delphi process is a method to refine opinions of a group of people, usually “experts” or knowledgeable individuals (referred to as the Delphi panel) in an area of interest (Williams & Berry 1999:223). The above-mentioned authors add that it aims to arrive at consensus through a process of participation and consultation, and is suitable to be employed in health care research (Williams & Berry 1999:223). It follows rounds of data collection, analysis and is concerned with opinions, words and ideas (Stewart 2001:922). Fazio (1985:149) points to the appropriateness of the research tool when opinions of anonymous individuals are required to reach agreement. In literature it is labeled as a “technique”, “process”, “method”, “exercise” and “survey” with variations to the original referred to as “modified” Delphi (Stewart 2001:922).

Murry and Hammons (1995:423) prefer the definition of the Delphi process by Delbecq, Van de Ven and Gustafson, namely that it is “a method for the systematic solicitation and collection of judgements on a particular topic through a set of carefully designed sequential questionnaires interspersed with summarized information and feedback of opinions derived from earlier

responses". The authors (Murry & Hammons 1995:424) mention that the Delphi process was originally designed for technological forecasting of future events. Today it is considered as a reliable qualitative research methodology with the potential for use in problem-solving, decision-making and group consensus, applicable to a variety of research fields.

Dalkey and Helmer, a physicist and a futurist respectively, developed the Delphi process in the way we know it today (Fazio 1985:148). The author argues that, although the Delphi survey method is still less than precise, it is believed to be distant from the original beginnings where it was used as a tool in forecasting the future (Fazio 1985:148). Stewart (2001:922) reports that the Delphi process has been used since the 1950s to gather the opinions of experts and develop consensus among them. The Rand Corporation used it to enhance communication among groups of experts from different geographical areas (Cricher & Gladstone 1998:432). Additionally, it could be used to solve urgent defence problems without face-to-face communication (Linstone & Turoff 1979:1).

The Delphi procedure commences by identifying and selecting the individuals of the Delphi panel once the research problem has been defined (Murry & Hammons 1995:424). Subsequently, when the predetermined number of participants agrees to participate in the Delphi procedure, the researcher uses several rounds of questionnaires to collect data. The typical first-round questionnaire is in open-ended format comprising an anonymous brainstorming session about the particular issue. The "modified" version of the Delphi omits the open-ended

questions and starts the process immediately with a structured questionnaire (Murry & Hammons 1995:430).

The round two questionnaires are based on the responses of the round one questionnaire and participants have to consider, rank, rate, edit or comment upon responses during this round. The researcher tabulates the findings for each item in the questionnaire. The panel receives feedback during round three and during the consecutive rounds of the questionnaire. The feedback consists of the comments, rankings and ratings from the panel members for each questionnaire item (Murry & Hammons 1995:424). Individuals of the panel should have an opportunity to revise their views and individual responses should be kept anonymous (Linstone & Turoff 1979:3). The goal of the process or procedure is to obtain consensus or stability in the responses from panel members. Consensus should be defined and determined in advance and could be expressed as agreement of 80 percent of the panel. Once consensus/stability has been achieved, then the Delphi process ends (Murry & Hammons 1995:425). Fazio (1985:149) emphasises that in practice the Delphi technique could consist of a diversity of formats to attain different objectives and goals. The format is usually determined by the nature of the research problem and the availability of resources.

The authors Murry and Hammons (1995:428), Williams and Berry (1999:223) and Dils and Ziatz (2000:4 of 12) report that there is no golden standard on the size of the panel and no recommendations on the sampling technique to select the panel. Murry and Hammons (1995:428)

add that recommendations in literature on the maximum number of participants in the panel are not clear. The minimum number, however, is recommended to be at least 10 members, although studies with six members on the panel are reported (Des Marchais 1999:505; Bezuidenhout 2001:111). Critcher and Gladstone (1998:435) recommend a diversified group from a range of agencies and geographical areas to avoid uniformity in responses. Fazio (1985:149) argues that, even if the employment positions of the group are diverse, their opinions converge and synthesise when using the Delphi process.

The panel members for the Delphi process should be selected as representatives of a specific profession (Murry & Hammons 1995:428). These authors continue by saying that, if possible, the members of the Delphi panel should have the power to implement acceptable findings produced by the process. Once the panel of experts has been identified, each member receives a letter or phone call with a personal invitation to become a member of a Delphi panel for a specific study (Murry & Hammons 1995:428). The above-mentioned authors add that an explanation of the topic; the objective of the survey; the specific Delphi process used; and the time required and allowed to complete the questionnaire, should be included in the invitation letter.

The strength of the Delphi method is the ability to provide a systematic and structured approach to data collection relative to the questions to be investigated (Broomfield & Humphris 2001:930). A range of experts from different backgrounds is utilised and it therefore enables equal

participation of participants and constructive disagreement (Cricher & Gladstone 1998:432). Stewart (2001:922) mentions the capacity of the Delphi process to capture collective knowledge within a profession that is not often verbalised; something that is useful in specifically professional education. The author Fazio (1985:150) adds to the benefits of the Delphi technique its use as "educational device". The above-mentioned author continues that it is an excellent tool to focus the attention of faculties on areas of importance in planning and development or to modify the awareness or assumptions of participants.

According to Critcher and Gladstone (1998:437), the advantages of the Delphi process are that the method is fast and cost-effective when compared with alternative methods used to reach consensus. Murry and Hammons (1995:426) assume that group decisions are more valid than decisions made by a single person. When it is a group of experts, the decisions they make are even more valid (Murry & Hammons 1995:426). Other advantages include the anonymity of respondents; the written compared to oral responses; and the possibility to change responses between rounds without public exposure (Cricher & Gladstone 1998:437).

The anonymity of respondents in the Delphi process helps to obtain true opinions from the panel (Broomfield & Humphris 2001:930). When a group does not meet in person, it rules out the potential conflict that could have been encountered with face-to-face meetings (Murry & Hammons 1995:426; Critcher & Gladstone 1998:423). Fazio (1985:149) says it minimises the bias effects of dominant individuals and the amount of

irrelevant communication when compared to face-to-face communication. The Delphi members are forced to logically consider the research problem and then provide a written response (Murry & Hammons 1995:426).

Linstone and Turoff (1979:6) point out the potential limitations of the process. They say the Delphi process looks very simple on the surface, but without careful planning and consideration of all aspects, it can easily lead to disappointing experiences and results. Some reasons for failure of the Delphi process mentioned by these authors include the questionnaire, the compilation of the Delphi panel, and the time it takes to complete the process (Linstone & Turoff 1979:6).

Fazio (1985:150) mentions weaknesses in questionnaire construction as a possible reason for failure. Murry and Hammons (1995:426) add that the way in which the researcher formulates the questions could influence the responses of the panel. These authors regard the design of a balanced questionnaire as an art, even if considerable experience on asking and summarising various types of questions is evident. The preconceptions of the researcher about the question could be imposed upon the Delphi panel and members' true opinions may be influenced (Linstone & Turoff 1979:6). Critcher and Gladstone (1998:437) say that a more refined initial questionnaire has the potential to produce definite results fairly rapidly. The authors (Linstone & Turoff 1979:6) add that, for the success of the process, it is essential to employ optimal techniques of summarising when the group responses are presented. Stewart (2001:922) emphasises that interpretation takes place through and is influenced by the researcher.

Additionally, Bowles (1999:32) argues that there is a potential for researcher bias at all stages of the Delphi process.

Linstone and Turoff (1979:7) mention the problem of choosing a "good" respondent group. These authors argue that this problem is not exclusive to the Delphi process and does not affect the value of the technique. The authors continue by adding that misunderstandings could arise from differences in language, as well as from different approaches of participants who are from diverse cultural backgrounds. A further criticism mentioned by Fazio (1985:150) is the so-called "halo effect". The halo effect comes to the fore when the true opinions of the panel are influenced by what they "think" are expert opinions and this perception could inhibit their own creativity and innovation. The possibility of too hasty judgements or responses by the panel also exists (Fazio 1985:150). Murry and Hammons (1995:426) furthermore mention difficulties to fully assess the expertise of the group of experts. These authors also mention unexpected events that could not be taken into account and which could influence the Delphi process. Examples of these difficulties are when participants do not fully understand the purpose of the study; a lack of participation by the panel; or their motivation to participate in the whole process. In addition, Bowles (1999:32) mentions that it is not simple to identify who possesses the appropriate expertise.

The Delphi process is demanding in nature and respondents should take note of the demands on their time and be properly compensated for time where it is not part of their job description (Linstone & Turoff 1979:6).

Likewise, according to the above-mentioned authors, the Delphi process or method is not a quick solution for other human means of communication in a given situation. Murry and Hammons (1995:426) point out that the process to achieve consensus can take four to five months. They add that the Delphi method is therefore not suitable to be used in a crisis.

Despite the potential disadvantages, Murry and Hammons (1995:427) argue that the Delphi process is an extremely versatile and powerful qualitative research methodology. Essential requirements for a successful Delphi process are the availability of sufficient time for at least three rounds of the process, skills in written communication, and motivation among the respondents to participate (Fazio 1985:150).

Linstone and Turoff (1979:4) provide the required motivation for the relevance and use of the Delphi process in the present study. They say the Delphi is useful for, among other procedures, to put together the structure of a model. These authors mention that the Delphi process is appropriate when the research problem does not lend itself to exact analytical techniques but can benefit from subjective judgements on a collective basis. In addition, those who seek to utilise the Delphi process or method usually recognise the need to structure a group communication process in order to obtain a useful result for their objective (Linstone & Turoff 1979:5).

Considering the background provided and criteria mentioned, it is evident that the Delphi process is the ideal methodology to make use of to benchmark and validate the proposed assessment model in the present study.

5.3 METHODOLOGY AND PROCEDURES

A modified Delphi process was used in the present study to rate, edit and comment on the statements of the proposed assessment model in Health Sciences and Technology. The methodology employed is described in this section (5.3) and focuses on the design of the Delphi process, the selection of the panel, questionnaires for rounds I, II and III and the analysis and presentation of the findings of the process.

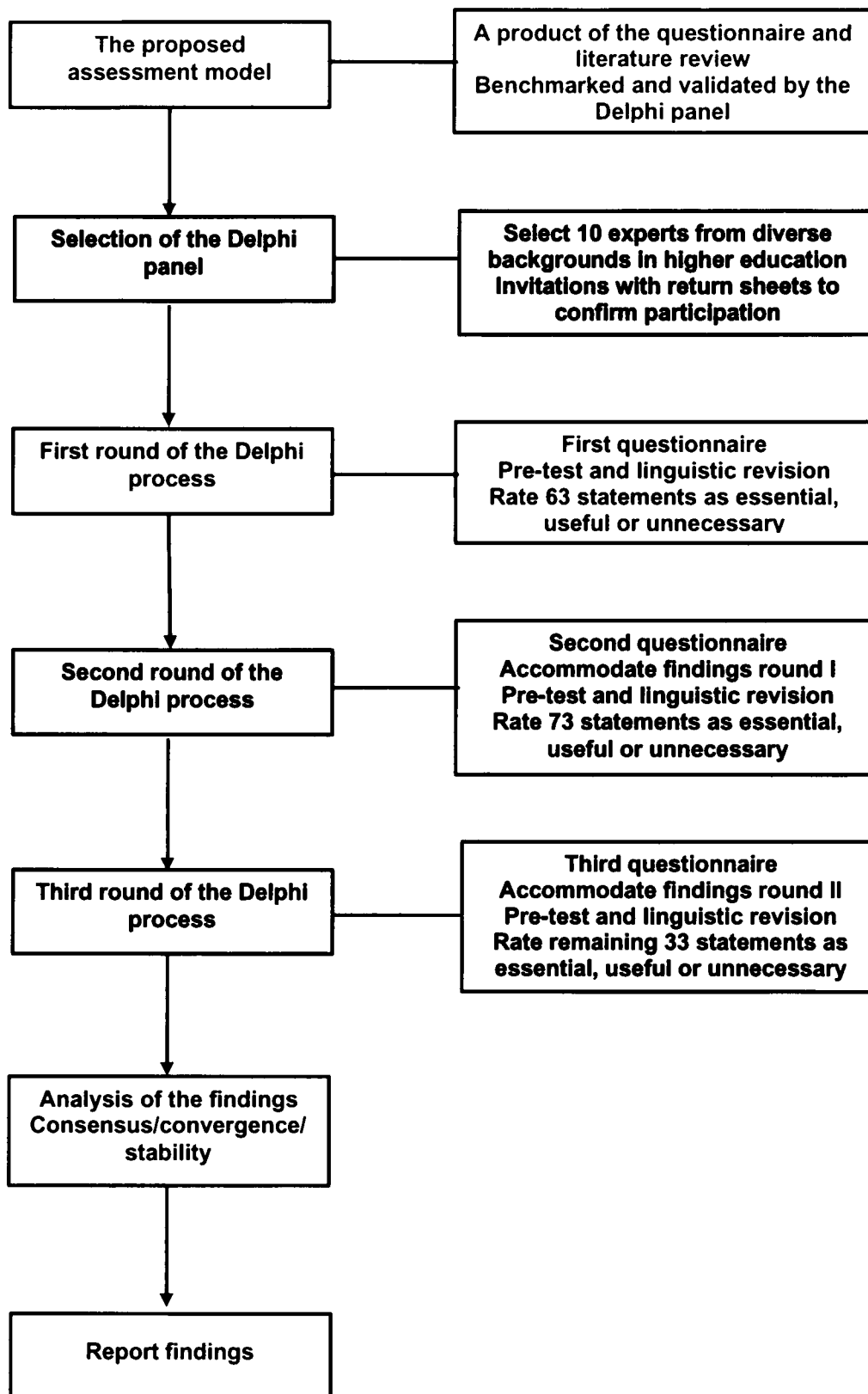
5.3.1 The design of the Delphi process

In the present study, a modified Delphi process was used. The preliminary round of the Delphi process was replaced by the questionnaire and structured interviews as described in Chapter three. With this method a broad base of information, which is usually required in round I of the Delphi process, was achieved. The proposed assessment model presented in Chapter four was formulated as statements. These statements are to be rated by the Delphi panel as being essential, useful or unnecessary elements of an assessment model in Health Sciences and Technology. By using the Delphi process, the assessment model unique to Health Sciences and Technology is benchmarked and validated by experts from diverse backgrounds in higher education.

Three rounds of the Delphi process were required in the present study. The panel of experts was requested to rate, rephrase and comment on statements of the proposed assessment model. The proposed assessment model was presented in the questionnaire as 63 statements in seven categories.

The objective for each of the three subsequent rounds of the Delphi process was to reach an acceptable degree of consensus on the statements of the proposed assessment model. If the required consensus was not achieved in the previous rounds, convergence of opinions on statements was attained and stability declared. Following the recommendations and suggestions of the Delphi panel, changes to statements were accommodated in consecutive rounds of the questionnaire. The changes were made by the researcher and involved editing and/or rewording of the statements. After round III, stability would be declared for statements arriving at convergence of the opinions of the Delphi panel and consensus was not achieved. A flow chart in Figure 5.1 presents a summary of the three-round Delphi process applied in the present study.

FIGURE 5.1 A FLOW CHART OF THE THREE-ROUND DELPHI PROCESS APPLIED IN THE PRESENT STUDY



5.3.2 The selection of the panel of experts

In this study, academics who represent a panel of informed experts by their involvement in assessment matters in higher education, as suggested by Broomfield and Humphris (2001:930), was selected using the judgemental sampling method. It was assumed that the members of the Delphi panel would have the potential to provide a broad perspective on issues associated with assessment in the OBET approach. Three experts were each identified from five specific areas in higher education. The areas are higher education; assessment and higher education; Health Sciences and Technology; assessment at the Technikon; research; and Health Sciences education from outside South Africa.

Two of the identified individuals from each of the five areas were contacted by electronic mail to obtain permission and consent to participate in the Delphi process of the current study. The letter of invitation with details of the study and an estimate of the time schedule, enclosed as Appendix M, was sent as soon as a positive response from the participant had been received. A return sheet that had to be completed by the individual participant was attached to the invitation letter (see Appendix M). Participants were requested to complete and return the sheet to confirm their participation. On the return sheet they could indicate if they preferred the mail to be transmitted electronically. In addition, they had to provide their contact details for future contacts. The third member identified in the category served as a replacement and was to be approached only if either of the two experts in the specific area indicated that they were not available to participate in the Delphi process.

The invitation letter stated that the details and comments provided by the individual members of the panel would remain anonymous. Reporting the findings of the present study would be done collectively without referring to the identity of the panellists (see Appendix M). The researcher had sole access to the details of the panel members provided on the return sheet.

5.3.3 The questionnaires for the Delphi process

In the present study, the Delphi process with three rounds of questionnaires was used (see Figure 5.1). The statements of the proposed assessment model were utilised as a template for the first questionnaire of the Delphi process. Similar to the proposed assessment model, the questionnaire consisted of seven categories. Delphi participants were requested to rate each of the initial 63 statements in the questionnaire using a three-point rating scale. The criteria for rating the statements were as follows: 1: an essential statement, it carries a great deal of weight in an assessment model; 2: a useful statement, it carries moderate weight in an assessment model; and 3: an unnecessary statement, it does not carry any weight in an assessment model.

Over and above the rating of statements, the Delphi panel also had the opportunity to comment, edit, rephrase or provide additional information on the statements of the proposed assessment model. The additional information and inputs were merged and accommodated in statements after each round for rating in the next round. The design of the questionnaire was done in such a manner that it could be mailed,

completed and sent back electronically, as requested by the members of the panel.

On completion, the questionnaire was transmitted electronically to a pilot team (n = 3) for pre-testing. The pilot team comprised colleagues who were involved in Health Sciences Education at the TFS as well as an expert in compiling questionnaires from the Centre for Higher Education Studies and Development at the UFS. Pilot testing of the questionnaire was required to test the clarity of the questions; to confirm the time required to complete the questionnaire; and testing the electronic format of the questionnaire. The electronic route had limitations, but was chosen for its potential advantages such as convenience and accelerating the Delphi process. The questionnaire was sent for linguistic revision and thereafter it was ready to be electronically transmitted to the Delphi panel.

A cover letter providing background information on the study, instructions on the completion of the questionnaire, an explanation of the rating scale, as well as the contact details of the researcher accompanied the questionnaire (enclosed as Appendix N). The first questionnaire was electronically transmitted to the Delphi panel on 12 February 2003. The panel was requested to complete the questionnaire by rating the statements in the questionnaire as essential, useful or unnecessary for an assessment model. To assist with the planning schedule of the research project, panellists were requested to complete the questionnaire within five working days and then return it to the researcher. If the questionnaire was

not returned after five working days, a follow-up by means of electronic mail and/or telephonically was done.

Upon receiving the responses of the panel for round I, these responses were calculated and summarised. The inputs were combined and used as a template to compile the questionnaire for round II of the Delphi process in the present study. The format of the questionnaire for round II was changed to accommodate all the information obtained from round I in an easy-to-read format. The statement, rating scale, an area indicating whether consensus had been obtained and if the statement required another rating, was typed in the same row in table format. A number of the statements achieved consensus, but also received comments advising changes. The panel was therefore provided another opportunity to rate these edited and/or revised statements. Statements achieving consensus without suggested changes did not require a re-rating. The members of the Delphi panel might rethink their contributions and change their ratings of the previous round once the findings of round I had been examined.

On completion, the questionnaire for round II of the Delphi process was pre-tested by colleagues ($n = 2$) and sent for linguistic revision. Round II of the questionnaire, accompanied by a cover letter and attached as Appendix O, was electronically transmitted to the panel on 14 March 2003. The panel was requested to complete the questionnaire within five working days and then return it to the researcher. If the questionnaire was not returned after five working days, a follow-up, similar to round I, was done.

The same procedure was followed to compile the questionnaire for round III. The table format of the questionnaire was maintained. In this round, ratings were required for statements where consensus was not achieved after the previous rounds of the Delphi process. Adjustments to statements, as recommended by the panel, were made and indicated on the questionnaire in bold print. Statements with changes suggested by the panel and achieving consensus after round II were not re-rated in round III. No new statements were added in the round III questionnaire.

On completion, the questionnaire for round III of the Delphi process was pre-tested by a colleague (n = 1). To assist in their planning, the panel received an electronic reminder one week in advance that the questionnaire for round III of the present study was to follow on 19 May 2003. The cover letter as well as the questionnaire for round III, enclosed as Appendix P, was transmitted electronically to the panel, again with a request to complete and return the questionnaire within five working days. The outcome of round III of the questionnaire is integrated in the final assessment model in OBET for Health Sciences and Technology of the present study. This assessment model is presented and discussed in Chapter six.

5.3.4 Analysis and presentation of the findings

In the present study the opinions, ideas and comments of the panel of experts were used to adapt the statements for each subsequent round of the Delphi process. This process was repeated for three rounds until the acceptable degree of consensus, convergence of the results and/or stability had been achieved.

The Department of Biostatistics, Faculty of Health Sciences at the UFS recommended calculating consensus as the endpoint for each statement in the questionnaire and to indicate the number of participants who participated in the rating of each statement. In the present study both these values are expressed as a percentage. The researcher did the calculations manually with a spreadsheet to indicate the ratings that each statement had received.

Consensus was achieved when 80 percent, i.e. 8/10 members of the panel, were in agreement and rated each statement as essential, useful or unnecessary in an assessment model. When a member/members of the panel did not participate in any of the rounds and the response rate was fewer than the number of participants initially identified ($n = 10$), consensus was adjusted to remain as close as possible to 80 percent, e.g. to 78 percent with 7/9 members of the panel in agreement. Stability was declared in the absence of consensus after round III of the Delphi process or when there was enough convergence to justify using the findings without the required consensus.

A summary of the findings for each round was mailed to the participants with each follow-up questionnaire. The findings of the present study are presented in the next section (5.4) by means of descriptions and tables with reference to each round of the Delphi process.

5.4 RESULTS AND FINDINGS OF THE DELPHI PROCESS

In the present study, a three-round Delphi process was used to rate and comment on the statements of the proposed assessment model in OBET for Health Sciences and Technology. This phase of the study took approximately six months to complete. The findings obtained from the three rounds of the Delphi process are firstly presented as a summary. It is followed by the presentation of the findings of the pilot group who tested the questionnaire. The results and findings of the consecutive rounds of the Delphi process are then presented. Lastly the findings are presented with reference to consensus of statements in each category of the assessment model.

In round I of the questionnaire, 10 participants ($n = 10$) rated the 63 statements of the proposed assessment model according to the predetermined criteria. Consensus was attained for 33 percent (21 of the 63) of the statements. Thirteen of these statements remained unchanged in the second questionnaire, while changes were suggested to eight statements. The Delphi panel was requested to re-rate these eight statements in round II. After including the comments and input of the panel for round I, 73 statements were included in the questionnaire for

round II. Round II yielded consensus for 37 percent (27 of the 73) of the statements and, combined with the findings of round I, consensus for 55 percent (40 of the 73) of the statements was achieved. For 45 percent of the statements (33 of the 73) consensus was not achieved after round II. In round III, an additional 5 percent (4 of the 73) of the statements attained consensus. In the absence of consensus, convergence and stability were declared for the remaining 29 statements of the assessment model. The statements obtaining consensus were rated as essential elements for an assessment model.

5.4.1 The pilot group

The pilot group who pre-tested the questionnaires determined that the questionnaires should take approximately 30 to 45 minutes to complete. They identified ambiguous statements and recommended splitting and rephrasing these statements. Another recommendation was to include a terminology list with the questionnaire, which was thus included. This could be helpful and assist the members of the Delphi panel to base their responses, using the same terminology.

5.4.2 The Delphi process round I

The response rate for round I was 100% (n = 10). The researcher received the questionnaires in the following manner: They were collected from participants (n = 5); sent by electronic transmission (n = 3); and sent as a facsimile transmission (n = 2). Despite the fact that participants were requested to return the completed questionnaire within five working days, the last questionnaire was received 20 days after sending it to the panel.

5.4.2.1 *Primary findings of round I*

Consensus (a minimum of eight votes in a specific criteria) was obtained for 33 percent of the statements (21 of 63). A summary of the statements yielding consensus in each category of the proposed assessment model is available in Table 5.1. Consensus for 50 percent of the statements of the proposed assessment model was achieved in categories one and seven respectively. These categories are the purposes of assessment (2 of 4) and the basic qualities of and values underpinning the assessment model (5 of 10). The statements with consensus are all rated as essential elements of an assessment model. According to the predetermined criteria, they carry a great deal of weight in the assessment model. In category two of the assessment model, namely the overall assessment strategy, consensus was achieved for 8 percent (1 of 12) of the statements.

TABLE 5.1 THE NUMBER OF STATEMENTS WITH CONSENSUS AFTER THE FIRST-ROUND QUESTIONNAIRE OF THE DELPHI PROCESS

NO.	CATEGORY	NUMBER OF STATEMENTS WITH CONSENSUS	PERCENTAGE OF STATEMENTS WITH CONSENSUS
1	The purposes of assessment	2/4	50
2	The overall assessment strategy	1/12	8
3	Recommended assessment methods	5/13	38
4	Planning and construction of assessment	3/8	38
5	Practical considerations in assessment	2/8	25
6	Quality assurance in assessment	3/8	38
7	Basic qualities of and values underpinning the assessment model	5/10	50

Fifty of the 63 statements received a full response. Twelve statements received a 90 percent (n = 9) response. These statements are 1.1, 2.7, 3.1.2, 3.3, 3.4, 3.10, 4.2, 4.6, 7.2, 7.3, 7.4 and 7.8, while one statement (6.8) received an 80 percent (n = 8) response. Participants mentioned that they did not rate statements when they were not sure of the purpose of the statement with relevance to assessment in the particular context or when they suggested rephrasing or editing of the statement before they were

prepared to give a rating. The recommended changes were accommodated in the questionnaire for round II of the Delphi process.

In Table 5.1, it is shown that consensus was achieved for 33 percent (21 of 63) of the statements after round I of the questionnaire. Eight of the 21 statements achieving consensus were rephrased and/or edited on the recommendation and/or request of the panel. The panel was requested to re-rate the eight statements in round II of the questionnaire. Therefore consensus was achieved for 13 of the 63 statements in round I of the questionnaire. The panel was not requested to re-rate these 13 statements. A summary of the findings of the Delphi process in round I of the questionnaire is enclosed as Appendix Q.

5.4.3 The Delphi process round II

Round II of the Delphi questionnaire was electronically transmitted to the same members of the panel who had participated in round I. Nine questionnaires were returned to the researcher, offering a 90 percent response rate in round II. One of the members was unable to participate in this round because of health reasons, explaining the adjustment of consensus for this round to 78 percent (7 of 9 participants in agreement) after consulting with the supervisors of the study. Questionnaires were received as follows: electronic transmission (n = 4); collected from participants (n = 2); sent as a facsimile transmission (n = 2); and sent by snail-mail (n = 1). The responses arrived from five days to 40 days after sending them to the participants.

5.4.3.1 *The questionnaire for round II*

The comments from the panel on the questionnaire for round I was accommodated and merged into statements for round II of the questionnaire. Seven new statements were added to the questionnaire to accommodate the comments of the panel of experts and three existing statements with double meanings were separated. This explains the total of 73 statements in the questionnaire for round II. A number of the statements were changed between categories or within the same category. The panel recommended some of the changes, while others were done to maintain a logical sequence in the format of the statements in the questionnaire after the changes to the statements had been effected.

5.4.3.2 *Primary findings of round II*

Consensus in the different categories of the proposed assessment model after round II is summarised in Table 5.2. Consensus was achieved for 37 percent (27 of 73) of the statements in round II. In both the second and the seventh categories of the proposed assessment model, consensus was attained for 55 percent (6 of 11 respectively) of the statements. The statements achieving consensus would thus be essential elements of an assessment model.

**TABLE 5.2 THE NUMBER OF STATEMENTS WITH CONSENSUS
IN ROUND II OF THE QUESTIONNAIRE OF THE
DELPHI PROCESS**

NO.	CATEGORY	NUMBER OF STATEMENTS WITH CONSENSUS	PERCENTAGE OF STATEMENTS WITH CONSENSUS
1	The purposes of assessment	3/7	43
2	The overall assessment strategy	6/11	55
3	Recommended assessment methods	5/15	33
4	Planning and construction of assessment	3/8	38
5	Practical considerations in assessment	2/11	18
6	Quality assurance in assessment	2/10	20
7	Basic qualities of and values underpinning the assessment model	6/11	55

The number of statements achieving consensus increased from 21 percent (13 of 63) in round I to 37 percent (27 of 73) in round II. After round II, consensus was achieved for 55 percent (40 of 73) of the statements in the proposed assessment model. All these statements are essential elements of the assessment model. The total numbers of statements and the combined consensus after round II of the questionnaire are summarised in Table 5.3. In round II, 90 percent of the panel voted for 72 of the statements (90% response) with one statement

(5.1.5) rated by 80 percent of the participants. This particular member of the panel did not agree with the wording of the specific statement as it appeared in the questionnaire. Three statements (5.3, 5.6 and 6.6) received a double rating by a member of the panel. Statements 5.3 and 5.6 were rated as either essential or unnecessary elements of the assessment model. Statement 6.6 was rated as either an essential or a useful element of an assessment model. A summary of the ratings and the comments of the participants for round II of the questionnaire is attached as Appendix R.

TABLE 5.3 THE TOTAL NUMBER OF STATEMENTS WITH CONSENSUS AFTER ROUND II OF THE DELPHI PROCESS

NO.	CATEGORY	NUMBER OF STATEMENTS WITH CONSENSUS	PERCENTAGE OF STATEMENTS WITH CONSENSUS
1	The purposes of assessment	3/7	43
2	The overall assessment strategy	6/11	55
3	Recommended assessment methods	8/15	53
4	Planning and construction of assessment	4/8	50
5	Practical considerations in assessment	5/11	45
6	Quality assurance in assessment	5/10	50
7	Basic qualities of and values underpinning the assessment model	9/11	82

5.4.4 The Delphi process round III

In round III of the Delphi process, all the questionnaires were returned (n = 10), yielding a 100 percent response rate. The questionnaires were received from the participants in the following manner: collected from participants (n = 3); sent by electronic transmission (n = 4); sent as a facsimile transmission (n = 2); and sent by snail-mail (n = 1). All the questionnaires were returned between seven days and 12 weeks after they had been mailed to the participants.

5.4.4.1 *The questionnaire for round III*

Changes and comments suggested by the panel after round II were included in the questionnaire for round III of the Delphi process. Changes to the statements consisted of the addition of qualifiers as recommended by the participants. New statements were not added to the questionnaire for round III. Participants had another opportunity to rate the 33 statements in the questionnaire where consensus had not yet been attained after round II of the Delphi process.

5.4.4.2 *Primary findings of round III*

Consensus was attained for 12 percent (4 of 33) of the statements after round III of the Delphi process in the present study. Three statements (27%) attained consensus in the second category of the assessment model, namely the overall assessment strategy and one statement (9%) in category five, the practical considerations in assessment. The details of the responses for round III are available in Table 5.4. (See Appendix S for a summary of the responses of the third round of the questionnaire for the Delphi process.)

**TABLE 5.4 THE NUMBER OF STATEMENTS WITH CONSENSUS
IN ROUND III OF THE DELPHI PROCESS**

NO.	CATEGORY	NUMBER OF STATEMENTS WITH CONSENSUS	PERCENTAGE OF STATEMENTS WITH CONSENSUS
1	The purposes of assessment	0/7	0
2	The overall assessment strategy	3/11	27
3	Recommended assessment methods	0/15	0
4	The planning and construction of assessment	0/8	0
5	Practical considerations in assessments	1/11	9
6	Quality assurance in assessment	0/10	0
7	Basic qualities of and values underpinning the assessment model	0/11	0

In round III, all the members of the panel (100%) rated 32 statements of the proposed assessment model. Three members of the panel indicated that one statement (7.2) was not clearly formulated, but only one of the participants did not give a rating in this case, yielding a 90 percent response for that particular statement.

After round III of the questionnaire consensus was attained for 60 percent (44 of 73) of the statements, all rated by the panel as essential elements of the assessment model. In all the categories of the assessment model, except for category one, the purposes of assessment, a minimum of 50 percent of the statements attained consensus. Consensus was attained for 82 percent of the statements in categories two (the assessment strategy) and seven (basic qualities of and values underpinning the assessment model) respectively. Convergence of the findings was attained and stability declared for the remaining 29 statements of the assessment model. The number of statements of the assessment model to achieve consensus and stability in each category is provided in Table 5.5.

**TABLE 5.5 STATEMENTS WITH CONSENSUS AND STABILITY
AFTER ROUND III OF THE DELPHI PROCESS**

NO.	CATEGORY	STATEMENTS WITH CONSENSUS		STATEMENTS WITH STABILITY	
		NO.	%	NO.	%
1	The purposes of assessment	3/7	43	4/7	57
2	The overall assessment strategy	9/11	82	2/11	18
3	Recommended assessment methods	8/15	53	7/15	47
4	The planning and construction of assessment	4/8	50	4/8	50
5	Practical considerations in assessment	6/11	55	5/11	45
6	Quality assurance in assessment	5/10	50	5/10	50
7	Basic qualities of and values underpinning the assessment model	9/11	82	2/11	18

In the present study, three rounds of the Delphi process were used to rate the statements of the proposed assessment model as essential, useful or unnecessary statements of the assessment model. Ten selected individuals, representing five areas in higher education inside and outside South Africa, were used as the experts to do the rating. In rounds I and III of the Delphi process, all the participants returned the questionnaires. Consensus was achieved when 80 percent of the participants rated the same statement in the same category. In round II, nine participants returned the questionnaires and consensus has been attained when

78 percent of the panel was in agreement. After round III, consensus has been attained for 60 percent of the statements; all rated as essential statements of the assessment model. In the absence of consensus, stability was declared for 40 percent of the statements of the assessment model in OBET for Health Sciences and Technology.

5.4.5 Findings with reference to consensus and stability in each category of the assessment model

In the next section (5.4.5) the findings in each of the seven categories of the assessment model are presented in Tables 5.6 to Table 5.12. Additionally, reference to consensus and stability of statements is made. The statements achieving consensus and those arriving at stability were identified and presented together with the final ratings of the statements by the Delphi panel as essential, useful or unnecessary for an assessment model.

After round III of the Delphi process, convergence of the opinions of the Delphi panel was attained and stability declared for 29 statements of the assessment model. The opinions of the panel were divided between categories one, two and three for 15 statements. However, in seven statements a minimum of 60 percent of the panel agreed that the statement was in the same category.

5.4.5.1 *The purposes of assessment*

Three of the seven statements in this category arrived at consensus and four at stability (summarised in Table 5.6, Sections A and B respectively). The statements attaining consensus refer to specific purposes of formative and summative assessment. Formative assessment enables academic growth of the learner, while summative assessment verifies that the learner has achieved a specific level of performance. The third statement states that all involved in assessment should understand the purposes of assessment.

TABLE 5.6 CONSENSUS AND STABILITY CONCERNING THE PURPOSES OF ASSESSMENT AND STATEMENTS RATED BY THE DELPHI PANEL AS ESSENTIAL (E), USEFUL (U) OR UNNECESSARY (UN)

THE PURPOSES OF ASSESSMENT			
SECTION A: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
Formative assessment identifies the shortcomings in learner progress and enables learners to grow academically with appropriate feedback.	8	1	0
Summative assessment indicates that the learner has achieved a specific level of performance.	7	2	1
All persons involved (facilitators, learners and employers) should understand the purpose of assessment, i.e. to demonstrate that learners have mastered learning.	7	1	1

TABLE 5.6 CONTINUED

THE PURPOSES OF ASSESSMENT			
SECTION B: STATEMENTS ARRIVING AT STABILITY	E	U	UN
Formative assessment identifies where adjustments in learning facilitation can be made by constantly reflecting on and evaluating the process.	6	3	1
The assessment process facilitates quality assurance through reflection by the facilitator and feedback from the learner.	6	2	2
Formative assessment identifies deficiencies in learning facilitation that require additional interventions.	5	4	1
Summative assessment indicates that the exit-level outcomes linked to the professional vocational profile have been attained.	5	4	1

The opinions of the panel of experts were divided between an essential and a useful statement in an assessment model for two of the four statements, attaining stability (see Table 5.6, Section B). The statements refer to the roles of both formative and summative assessment. Formative assessment identifies shortcomings in learning facilitation that may require additional interventions. Summative assessment verifies that the exit-level outcomes linked to the professional vocational profile have been attained.

Sixty percent of the Delphi panel rated two statements as essential statements. These ratings were not adequate to attain consensus. One statement referred to the purpose of formative assessment to identify where adjustments in learning facilitation could be made by constantly

reflecting on and evaluating the process. The other statement referred to the link between the purpose of assessment to facilitate quality assurance through reflection and feedback from the learner (see Table 5.6, Section B).

5.4.5.2 *The overall assessment strategy*

The Delphi panel reached consensus on nine statements and stability was declared for two statements in this category of the assessment model. This is summarised in Table 5.7, Sections A and B respectively. The statements with consensus referred to integration of outcomes and the holistic approach of assessment in a programme. They also referred to the use of a variety of approaches in assessment, including performance, peer, self- and group assessment, transparent to learners. They specified the use of realistic and relevant assessment criteria used by all facilitators in the programme. The assessment process facilitates academic growth and development of the learner through the feedback with assessment. The last two statements referred to the manageability of the assessment workload and using methods to ensure that assessment is valid, reliable and free from bias.

TABLE 5.7 CONSENSUS AND STABILITY CONCERNING THE OVERALL ASSESSMENT STRATEGY AND STATEMENTS RATED BY THE DELPHI PANEL AS ESSENTIAL (E), USEFUL (U) OR UNNECESSARY (UN)

THE OVERALL ASSESSMENT STRATEGY			
SECTION A: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
The assessment strategy is planned and designed in an integrated way and led by a group of facilitators or tutors to achieve integration of appropriate outcomes in a programme.	9	0	1
Facilitators in the programme must collaborate and discuss the assessment process to achieve a holistic approach in assessment.	7	1	1
The overall assessment strategy includes the use of an appropriate variety of approaches in assessment (e.g. performance, continuous, integrated) and transparent assessment methods for the purpose of learning.	9	0	1
The learning outcomes are assessed by using an appropriate range of performance assessment methods to demonstrate competence, where the overall assessment strategy is performance-based.	8	1	0
Over and above assessment by the facilitator, the assessment strategy includes self-, peer and group assessment.	7	2	0
Realistic and relevant assessment criteria transparent to learners are identified and used by all facilitators or tutors in the programme.	8	0	1

TABLE 5.7 CONTINUED

THE OVERALL ASSESSMENT STRATEGY			
SECTION A: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
The assessment process facilitates and enhances academic growth and development of the learner, provided feedback is given.	9	0	1
The facilitator must be able to manage and cope with the assessment workload/process.	7	2	0
Methods are in place to ensure that assessment is valid, reliable and free of bias.	7	2	0
SECTION B: STATEMENTS ARRIVING AT STABILITY	E	U	UN
The relevant assessment strategy is transparent to learners and places realistic demands on learners that they are able to manage and cope with.	5	5	0
The overall assessment strategy should provide for more assessment opportunities to be created where doubt exists about the level of competence of learners, where outcomes are not attained, or where learners believe that they are now ready to be assessed.	5	4	1

Two statements were rated equally between an essential and a useful statement of an assessment model (see Table 5.7, Section B). One statement refers to the assessment strategy to be transparent to learners and placing realistic demands on them. The other statement refers to the availability of more assessment opportunities where learners do not attain outcomes, where doubt exists about the level of competence, or where learners believe they are now ready to be assessed.

5.4.5.3 *Recommended assessment methods*

There are 15 statements in this category of the assessment model. Consensus was achieved for eight and stability for seven of the statements, as summarised in Table 5.8, Sections A and B respectively. The statements to attain consensus include the selection of assessment methods to focus on practical factors in assessment such as the physical facilities, cost involved and time allowed for completion of assessment. Three statements refer to the selection of assessment methods to focus on methods of learning facilitation, on the outcomes, as well as on the knowledge, skills and attitudes included in the outcomes. One statement refers to the use of performance assessment methods and the last statement to attain consensus refers to the use of appropriate assessment methods to assess the product of learning.

TABLE 5.8 CONSENSUS AND STABILITY CONCERNING RECOMMENDED ASSESSMENT METHODS AND STATEMENTS RATED BY THE DELPHI PANEL AS ESSENTIAL (E), USEFUL (U) OR UNNECESSARY (UN)

RECOMMENDED ASSESSMENT METHODS			
SECTION A: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
The following factors are relevant when selecting the assessment method:			
The practicality in terms of availability of physical facilities.	8	1	0
The cost involved and cost-effectiveness of the assessment method.	7	2	0
The time allowed for the completion of the assessment.	7	1	1
The assessment method must correspond with the learning and facilitation activities.	8	1	1
The assessment method focuses on the learning outcomes.	8	1	0
The assessment method focuses on outcomes that include knowledge, skills and attitudes.	7	1	1
Performance assessment methods are utilised in simulation or in practice where knowledge and skills are integrated with performed procedures.	8	1	1
Appropriate assessment methods are used to assess the product of learning.	8	1	1

TABLE 5.8 CONTINUED

RECOMMENDED ASSESSMENT METHODS			
SECTION B: STATEMENTS ARRIVING AT STABILITY	E	U	UN
The following factors are relevant when selecting the assessment method:			
The time required for the facilitator to construct the assessment.	2	6	2
The time required for grading the performance in assessment.	4	4	2
The learner is allowed adequate time to prepare for assessment.	5	3	2
Appropriate assessment methods are used to assess critical cross-field outcomes such as problem-solving, reasoning and reflection skills relevant to the professional vocational profile, as well as the exit-level outcomes.	7	2	1
Appropriate assessment methods are used that determine accumulated reflective performance and competence of the learner in practice.	5	3	2
Appropriate assessment methods are used to assess the process of learning leading to the product or outcome.	6	3	1
The same outcomes are assessed by different appropriate assessment approaches and/or methods; some focused on knowledge, others on skills, others on a combination of knowledge and skills.	6	2	2

Seven statements in this category arrived at stability (see Table 5.8, Section B). For three statements, the members of the panel were divided between an essential, a useful statement and an unnecessary statement for an assessment model. These statements refer to the time required for the grading of assessment, time for the learner to prepare for assessment, the use of assessment methods to determine accumulated reflective performance, and competence of the learner in practice.

Three statements in this category to attain stability received 60 percent and one statement 70 percent respectively of the votes in a specific category, yet not adequate to attain consensus (see Table 5.8, Section B). The statement on the time required for the facilitator to construct the assessment received a high rating as a useful statement. Three statements received a high rating as essential elements of an assessment model. The statements refer to the assessment of critical cross-field outcomes, the use of appropriate assessment methods to assess the process of learning, and assessing the same outcomes with different assessment approaches and/or methods.

5.4.5.4 *Planning and construction of assessment*

Fifty percent of the statements achieved consensus in this category of the assessment model (see Table 5.9, Section A). The statements refer to the planning of assessment by a team of facilitators to ensure the holistic assessment of the learner. It specifies that appropriate assessment methods should be used to assess the learning outcomes. Another statement to reach consensus is that a memorandum, rubric or marking

scheme accompanies assessment for grading the performance. The last statement to attain consensus refers to feedback to the learner, based on relevant assessment criteria, which is planned as an integral part of assessment.

TABLE 5.9 CONSENSUS AND STABILITY CONCERNING PLANNING AND CONSTRUCTION OF ASSESSMENT AND STATEMENTS RATED BY THE DELPHI PANEL AS ESSENTIAL (E), USEFUL (U) OR UNNECESSARY (UN)

PLANNING AND CONSTRUCTION OF ASSESSMENT			
SECTION A: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
Where relevant, the assessment is planned by a team of facilitators in the programme to ensure the holistic assessment of the learner.	7	2	0
The appropriate assessment method is used to assess the learning outcomes.	8	1	1
A memorandum, rubric or marking scheme as assessment tool accompanies the assessment for grading the performance in assessment.	8	1	0
Feedback to the learner, based on relevant assessment criteria, is planned as an integral part of assessment.	9	0	0

TABLE 5.9 CONTINUED

PLANNING AND CONSTRUCTION OF ASSESSMENT			
SECTION B: STATEMENTS ARRIVING AT STABILITY	E	U	UN
A planning/assessment grid with relevant assessment criteria is used to plan the different cognitive levels included in the assessment.	7	2	1
A planning/assessment grid with assessment specifications, transparent to and negotiated with learners, is used to select assessment criteria and standards to be included in the assessment.	4	2	4
Taxonomies (e.g. Bloom or similar taxonomies) are used to guide, facilitate or encourage the assessment of a variety of cognitive levels.	5	3	2
Learners should be empowered to take responsibility, accountability and ownership in assessment by openly participating in the planning and construction of the assessment process.	3	5	2

The statement specifying that a planning or assessment grid should be used to plan the assessment of different cognitive levels received a rating by 70 percent of the panel as an essential statement. For the remaining three statements in this category, the ratings of the panel were divided between an essential, a useful or an unnecessary element of an assessment model (see Table 5.9, Section B). One statement refers to the use of an assessment grid with assessment specifications transparent to and negotiated with learners. The next statement refers to the use of taxonomies to guide and facilitate assessment of a variety of cognitive levels. The last statement refers to empowerment of the learner to take

responsibility, accountability and ownership in assessment by openly participating in the planning and construction of the assessment process.

5.4.5.5 *Practical considerations in assessment*

Consensus was achieved for six of the 11 statements in this category (see Table 5.10, Section A). Two statements refer to the content of the assessment schedule; the assessment schedule should contain the proposed assessment method(s); tools and strategies used to assess each outcome and specify how every assessment opportunity contributes in weight to the assessment process. One of the four statements with consensus refers to the availability of the assessment schedule to learners. The last three statements refer to the availability and the qualities of the feedback with assessment.

TABLE 5.10 CONSENSUS AND STABILITY CONCERNING PRACTICAL CONSIDERATIONS IN ASSESSMENT AND STATEMENTS RATED BY THE DELPHI PANEL AS ESSENTIAL (E), USEFUL (U) OR UNNECESSARY (UN)

PRACTICAL CONSIDERATIONS IN ASSESSMENT			
SECTION A: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
The assessment schedule contains the following:			
The proposed assessment method(s), tools and strategies used to assess each outcome.	8	1	1
An indication of how every assessment opportunity contributes in weight to the assessment process.	8	1	1
The assessment schedule is documented and available to learners in the assessment manual and/or learner guide.	9	0	0
All assessment opportunities include feedback for the learning and academic development of the learner.	8	2	0
The feedback is timely, appropriate, positive, encouraging and motivating.	9	1	0
The feedback facilitates and encourages the creative thinking skills of the learner where generic skills are integrated in the assessment.	7	1	2

TABLE 5.10 CONTINUED

PRACTICAL CONSIDERATIONS IN ASSESSMENT			
SECTION B: STATEMENTS ARRIVING AT STABILITY	E	U	UN
The assessment schedule contains the following:			
The learning outcomes that are linked to the professional vocational profile.	7	2	1
An indication of different outcomes integrated in one assessment opportunity.	7	2	1
The performance indicators linked to outcomes and assessed by various appropriate assessment opportunities.	7	2	1
Summative assessment opportunities are spaced to give the learner the chance to prepare for the assessment, although learners should be convinced and encouraged to focus on mastering and demonstration of learning and not on assessment <i>per se</i> .	7	2	1
Arrangements for reassessment opportunities, aligned with the relevant reassessment policy of the programme, are possible where outcomes are not attained to allow the learner the opportunity for academic growth, development and another opportunity to attain the outcome.	5	3	2

Seventy percent of the panel rated four statements as essential elements of the assessment model, although this is inadequate to achieve consensus (see Table 5.10, Section B). These statements qualify the content of the assessment schedule and spacing summative assessment opportunities to encourage the learner to prepare for assessment. The

ratings of the panel were divided on the statement about arrangements for reassessment opportunities for learners to allow the learner another opportunity to attain the outcome when outcomes in assessment are not attained.

5.4.5.6 *Quality assurance in assessment*

In this category, participants reached consensus on 50 percent of the statements (see Table 5.11, Section A). These statements refer to procedures to monitor the quality of the assessment process and procedures to monitor the reliability and validity of assessment results. These statements state that a system of feedback from peers and learners in the profession is used to maintain the standard of assessment and that a record system is available where data on learner achievements in respect of outcomes are kept for reflection on and improvement of the assessment process. The last statement refers to the judgement of colleagues (inside or outside the institution) to moderate and benchmark the assessment process.

TABLE 5.11 CONSENSUS AND STABILITY CONCERNING QUALITY ASSURANCE IN ASSESSMENT AND STATEMENTS RATED BY THE DELPHI PANEL AS ESSENTIAL (E), USEFUL (U) OR UNNECESSARY (UN)

QUALITY ASSURANCE IN ASSESSMENT			
SECTION A: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
Procedures are in place to monitor the quality of the assessment process.	9	0	1
Procedures are in place to ensure that assessment results are reliable and valid.	9	0	1
A system of feedback from peers and learners in the profession is used to maintain the standard of assessment integrated with the process of learning facilitation.	9	1	0
A record system is available where data on learner achievements in respect of outcomes are kept for reflection on and improvement of the assessment process.	8	1	0
The judgement of colleagues (inside or outside the institution) is used to moderate and benchmark the assessment.	8	1	1
SECTION B: STATEMENTS ARRIVING AT STABILITY	E	U	UN
Colleagues discuss the appropriate assessment method(s) to be used as a team.	6	2	2
A team approach is used to allow colleagues to judge and discuss the outcome of the assessment.	7	2	1

TABLE 5.11 CONTINUED

QUALITY ASSURANCE IN ASSESSMENT			
SECTION B CONTINUED: STATEMENTS ARRIVING AT STABILITY	E	U	UN
The assessment schedule, documented in the learner guide or assessment manual, is one of the means of quality assurance in assessment, as it provides a framework for the verification of the academic achievements of the learner.	5	2	3
A system of feedback from peers and learners in the profession is used to benchmark assessment standards integrated with the process of learning facilitation.	4	4	2
The relevant professional body benchmarks the assessment process and standards integrated with the process of learning facilitation.	5	3	2

Statements on the discussion of assessment methods in the programme and the discussion of the outcome of assessment by a team of colleagues received a rating of 60 percent and 70 percent respectively as essential elements of an assessment model, yet inadequate to attain consensus. The opinions of the participants were divided on three of the statements, namely that the assessment schedule is one of the means of quality assurance in assessment, a system of feedback from learners and peers in the profession to benchmark assessment standards, and the role of the professional body to benchmark the assessment process. This is summarised in Table 5.11, Section B.

5.4.5.7 *Basic qualities of and values underpinning the assessment model*

The Delphi panel agreed on nine statements in this category as essential elements of an assessment model (see Table 5.12, Section A). The statements covered were the following: Defining the requirements of competency in the programme; to exclude discrimination and bias in assessment; and to encourage meaningful and strategic learning. It states that assessment must reflect a multidimensional and integrated understanding of learning revealed in the performance of the learner over a period of time. The assessment process attempts to exclude bias and assure reliability, validity and fairness. Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification. Where possible an integrated and holistic approach to assessment is used in the programme. The assessment strategy is aligned to institutional education and training policy, procedures and rules and the requirements of the relevant professional body.

Two statements attained stability in the Delphi process (see Table 5.12, Section B). The statement allowing for individual differences of the learner in assessment by exposing learners to a variety of appropriate and transparent assessment methods in the assessment process received a rating as an essential element of an assessment model by 60 percent of the panel. The opinions of the panel were divided between an essential and an unnecessary element of an assessment model for the statement to qualify the integration of assessment activities and learning facilitation.

TABLE 5.12 CONSENSUS AND STABILITY CONCERNING BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL AND STATEMENTS RATED BY THE DELPHI PANEL AS ESSENTIAL (E), USEFUL (U) OR UNNECESSARY (UN)

BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL			
SECTION A: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
The requirements of competency in the programme are clearly defined and documented.	9	0	1
Measures are in place to limit and/or exclude the possibility of unfair discrimination in assessment.	9	0	0
Assessment encourages meaningful and strategic learning.	9	0	1
Assessment must reflect a multidimensional and integrated understanding of learning, revealed in the performance of the learner over a period of time.	7	2	0
The assessment process attempts to exclude bias by way of processes that can assure reliability, validity and fairness.	9	0	0
Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification.	9	0	1
Where possible, an integrated and holistic approach to assessment is used in the programme	8	1	0

TABLE 5.12 CONTINUED

BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL			
SECTION A CONTINUED: STATEMENTS ACHIEVING CONSENSUS	E	U	UN
The assessment strategy is aligned to institutional education and training policy, procedure and rules.	7	2	0
The assessment strategy is aligned to the requirements of the relevant professional body.	8	1	0
SECTION B: STATEMENTS ARRIVING AT STABILITY	E	U	UN
The assessment process provides for the individual differences of learners by exposing learners to a variety of appropriate and transparent assessment methods in the assessment process.	6	3	1
There is a close relationship between valid assessment activities that are integrated with the facilitation of learning.	4	1	4

In this section the statements in the categories of the assessment model attaining consensus, convergence and stability are identified. Statements in two categories yielded a high percentage consensus. They are the overall assessment strategy and the basic qualities of and values underpinning the assessment model. At the end of the Delphi process, consensus had been attained for 60 percent of the statements, all rated as essential elements of an assessment model in OBET for Health Sciences and Technology.

5.5 DISCUSSION OF THE FINDINGS OF THE DELPHI PROCESS

A modified three-round Delphi process with structured questionnaires in each round was used to rate the statements of the proposed assessment model in Health Sciences and Technology as essential, useful or unnecessary elements of an assessment model. The Delphi panel consisted of 10 experts in assessment selected from a diversity of areas in higher education.

In this section (5.5), the findings of the Delphi process of the present study are compared to findings in literature. References are made to variables in the study such as the Delphi process, the panel, the questionnaires and arriving at consensus. This section is concluded with a holistic discussion of the different rounds of the Delphi process in the present study. The questionnaire for round I of the Delphi process was based on a proposed assessment model compiled as part of the present study (compare Chapter four).

The Delphi process is an attractive and useful methodology to use in the present study to validate and benchmark the proposed assessment model. Linstone and Turoff (1979:4) provide the necessary support and motivation to use the Delphi process in the present study. The above-mentioned authors mention the usefulness of the Delphi process to put together the structure of a model. Additionally, the above-mentioned authors point to the usefulness of the Delphi process when the research problem lends

itself to subjective judgements of a panel on a collective basis. Murry and Hammons (1995:426) provide further support when they mention that the opinions of a team of experts are more valid than those of a single person. Clayton (1997:1 of 14) remarks: "Two heads are better than one" and continues by saying that the collection of judgements is an attempt to overcome the weaknesses embedded in relying on a single person (Clayton 1997:2 of 14).

Murry and Hammons (1995:430) describe a Delphi process similar to the one used in the present study. The above-mentioned authors used a modified version of the Delphi process in higher education to develop a core set of assessment criteria to evaluate the effectiveness of administrative personnel. These authors conducted the two-round Delphi study in Washington. In the study by Murry and Hammons (1995:430), the first-round questionnaire containing unstructured questions, such as in the present study, was eliminated. According to Murry and Hammons (1995:430), starting the Delphi process with a structured questionnaire has advantages. These advantages, they add, save time and expenses and allow the members of the Delphi panel to immediately focus their attention on the relevant issues.

The Delphi process in the present study started with a structured questionnaire not providing the Delphi panel with an opportunity to brainstorm and give inputs in the initial stages of the questionnaire for round I. A different outcome of the study might have been attained, should

the panel have had an opportunity to provide inputs on the proposed assessment model.

Williams and Berry (1999:223) used the Delphi method to design and define a model of competence for newly qualified diagnostic radiographers in the United Kingdom. The above-mentioned authors used a three-round Delphi process with the addition of a focus group meeting to conclude the Delphi process. The focus group meeting was attended by 49 percent of the participants completing round III of the questionnaire. Broomfield and Humphris (2001:930) used a three-round Delphi process to investigate cancer education requirements of general practitioners in Ireland. Bezuidenhout (2002:107) used the modified Delphi process with three rounds to validate a set of standards for the accreditation of undergraduate medical education and training programmes in South Africa.

The Delphi panel of experts in the present study represents a sample of 10 members from various geographic areas as well as professional fields. Two members each were selected to represent diversity in opinions from five areas in higher education. The authors Murry and Hammons (1995:428) Williams and Berry (1999:223) and Dils and Ziatz (2000:4 of 12) report that there is no golden standard on the size of the panel and on the sampling technique to select the panel. Both Murry and Hammons (1995:428) and Critcher and Gladstone (1998:435), however, report that the minimum number recommended is 10 members. Clayton (1997:6 of 14) argues that five to 10 participants are sufficient when a group representing a diversified population is used, such as in the present study.

In the study by Murry and Hammons (1995:430), the initial sample size of the panel was 35 with 33 members returning the questionnaires after both rounds. Williams and Berry (1999:225) mention that 47, 40 and 37 of the 51 invited participants respectively responded to rounds I, II and III of the process. In the study by Broomfield and Humphris (2001:930) 49 participants responded to the first round, 32 to the second round and 38 to the third round. In studies by Des Marchais (1999:504) and Bezuidenhout (2002:111) a panel of six Delphi participants was respectively used.

In the present study the panel size varied between rounds. A similar trend regarding the number of members in the panel changing between consecutive rounds comes to the fore in other Delphi studies in the literature. Examples are the Delphi studies by Williams and Berry (1999:223), Larson and Wissman (2000:4 of 14) and Broomfield and Humphris (2001:930). Larson and Wissman (2000:4 of 14) report that "some panel members dropped out".

One of the members of the Delphi panel in the present study was unable to participate in round II of the Delphi process due to health reasons. The member was again available for round III of the present Delphi process. This confirms some of the difficulties of the Delphi process mentioned by Murry and Hammons (1995:427), i.e. the unexpected that cannot be taken into account in the selection of the panel of experts and their commitment to participate during the process.

By pre-testing the questionnaire in the present study, the time required for completing it was determined as approximately 30 – 45 minutes. This is in agreement with the findings of Murry and Hammons (1995:427). These authors indicate that the ideal time required for completing the questionnaire by a member of the panel could be from 30 minutes to two hours per round. The members of the panel in the present study were requested to complete and return the questionnaire within five working days. After the stipulated period, non-respondents were followed up by electronic mail and/or phone calls. Murry and Hammons (1995:430) report using letters and phone calls to follow up the participants not returning the questionnaires.

Pre-testing the questionnaires for the Delphi process is a useful method to determine the clarity of the statements and to assure the quality of the questionnaire for each round. Although the pre-testing process of the questionnaire does not identify and/or eliminate all possibilities of ambiguities in the questions, it is a method to assure that the questions contained in the questionnaire for the Delphi panel are more refined. Critcher and Gladstone (1998:437) report that a more refined questionnaire has the potential to produce definite results fairly rapidly.

In the present study the average time to receive the responses of rounds I, II and III of the questionnaire was respectively 10, 15 and 60 days. The overall duration of the Delphi process was approximately six months, from February to August 2003. Murry and Hammons (1995:430) report that each round in their Delphi study took approximately 60 days to complete.

The duration of their study is reported as approximately six months, from July to December. Des Marchais (1999:504) reports that their study took four rounds and five months to complete. The comments by not only Linstone and Turoff (1979:6), but also Murry and Hammons (1995:426) that the Delphi process does not provide a quick solution, are therefore relevant.

Time schedules of the high profile experts and executives in the academic world as used in the study were sometimes unpredictable. Although participants were enthusiastic and willing to participate, the sometimes unexpected and important responsibilities received priority while the Delphi questionnaires, not part of their duties, were left undone. This explains the much longer than five days' period that had to be allowed and the trouble to do follow-ups with electronic messages and phone calls after each round of the Delphi process in the present study. This was done to retrieve as many as possible (if not all) of the questionnaires after each round of the Delphi process. Clayton (1997:9 of 14) indicates that panel members are often limited in the amount of time they can contribute to the Delphi process. Linstone and Turoff (1979:7) mention the difficulties of choosing a "good" respondent group, while Murry and Hammons (1995:426) point to unexpected events that cannot be taken into account while the Delphi process is in progress.

In the present study, structured questionnaires that were based on the statements of the proposed assessment model was used in the Delphi process. Participants were requested to rate the initial 63 (round I) and 73

(round II) statements as essential, useful or unnecessary elements of an assessment model. A three-point scale was used for this purpose. In their study, Williams and Berry (1999:223) used a combination of open-ended questions and statements on competence of radiographers to be rated on a 10-point Likert scale. Broomfield and Humphris (2001:930) used open-ended questions in the first questionnaire and in the second questionnaire the panel had to rate 101 statements on a four-point Likert scale. In the third questionnaire the results were presented to the panel with the request to rate their level of agreement with the results (Broomfield & Humphris 2001:930). Bezuidenhout (2002:113) used three rounds of structured questionnaires to rate 108 propositions formulated as standards into two categories, namely absolute standards and developmental standards.

Murry and Hammons (1995:429) indicate that literature offers little guidance and there is no agreement regarding the minimum percentage that is necessary to declare consensus. The authors Murry and Hammons (1995:433) in their study calculated consensus as a minimum of 75 percent agreement on any particular item. Williams and Berry (1999:223) took the agreement of 80 percent of the panel as consensus. Broomfield and Humphris (2001:930) in their study used a statistical consensus defined as any response to an item with a score greater than 3.25 and a standard deviation of less than one.

In the present study it was decided before commencing with the Delphi process that the agreement or disagreement of a minimum of 80 percent of the panel would be defined as consensus. This allowed for two members of the panel not to be in agreement with the majority of the panel. This decision on the percentage consensus had an impact on the final results of the present study. If the percentage of consensus of the Delphi study had been selected as 70 percent, the overall picture of consensus to the statements could have changed from the current 60 percent to an assumed 73 percent.

One of the members of the panel in the present study raised the concern regarding the usefulness of the consensus of the statements of the assessment model when the underpinning goal of assessment does not qualify each statement of the assessment model. The comment provided was that a particular statement could be very important for one goal and, for another, not important. The participant concluded that it was therefore inappropriate and therefore difficult to assign a rating when the underlying goal of assessment does not qualify the statement. Comments from Murry and Hammons (1995:427) could be used as an explanation that the unexpected cannot be taken into account, such as the failure of a participant to fully understand the purpose of the study. Clayton (1997:9 of 14) reports that the background and the experience of a panel member may directly affect his/her decision-making. The above-mentioned author contends that this is beyond the control of the Delphi process.

In the present study, a modified three-round Delphi process was used to attain consensus on 63 (round I) and 73 statements (rounds II & III) in seven categories of an assessment model. At the end of round III of the present study, consensus was attained for 44 statements with 13 statements in round I; 27 in round II; and four in round III. Murry and Hammons (1995:433) report that the panel of experts in their study reached consensus on 20 statements and stability on the remaining 50 statements after round II of the study.

Two categories of the proposed assessment model in the present study yielded a high percentage of consensus. They are the overall assessment strategy and basic qualities of and values underpinning the assessment model. Fewer than half of the panel achieved consensus on the category "the purposes of assessment". After round II of the present study, no significant increase in the number of statements arriving at consensus was identified. Consequently, convergence of the responses of the panel as described by Murry and Hammons (1995:429), occurred. The process could be repeated without significantly changing the number of statements to attain consensus. The participants in the present study confirmed this statement when they mentioned that they were not always consistent in rating the statements (see Appendix S). They were allowed to re-rank statements and change the score from the previous rounds in the view of the group's score, as referred to by Jones and Hunter (1995:377).

The authors Murry and Hammons (1995:429) maintain that the Delphi process continues until there is convergence to justify using the results without complete consensus. The above-mentioned authors add that most convergence of panel responses occurs between rounds I and II. This was evident from the results of the present study as well. According to the above-mentioned authors, the Delphi process stops after either consensus or stability of responses has been attained. They (Murry & Hammons 1995:429) describe stability when little or any shifting occurs in the rating of the panel. The authors Jones and Hunter (1995:378) remind the reader that consensus does not mean that the correct answer was found.

The assessment model validated by the Delphi panel of experts will be presented and discussed in Chapter six.

5.6 CONCLUSION

The modified Delphi process used in the present study proved to be a useful qualitative research methodology to rate the statements of the proposed assessment model as essential, useful or unnecessary. Overall consensus was achieved for 60 percent of the statements of the proposed assessment model. In addition, 13 statements were rated by a minimum of 60 percent of the panel as essential statements for an assessment model and one statement as a useful statement in an assessment model. In agreement of the findings of the present study, the authors Williams and Berry (1999:226) mention that it is impossible to reach total uniformity and consensus on all the statements.

The Delphi process is an effective research methodology to use in the present study to rate, edit and rephrase the statements of the proposed assessment model. The panel made changes as suggested to a number of the statements. These changes included the additions of qualifiers and separation of statements containing more than one concept. Cross-references of statements in different categories of the assessment model and duplication of statements were indicated.

The findings in the current study using the Delphi process compare favourably with the findings of similar studies described in literature. Using the opinions of the Delphi panel of experts to validate and benchmark the assessment model in OBET for Health Sciences and Technology was worth the time and effort spent in conducting the present study.

5.7 LIMITATIONS OF THE DELPHI PROCESS USED IN THE STUDY

Some of the potential limitations as identified in the literature study (see Section 5.2) were also evident in the present study. The limitations of the Delphi process in the present study focus on the process, the questionnaires, the selection of the panel of experts, as well as the human factor.

The process was time-consuming and took longer to complete than originally planned. Even if methods were used to speed up the process, for example by using electronic mail and follow up of non-respondents, the

researcher still had to rely on the time schedules and co-operation of members of the panel of experts.

The limitations identified in the questionnaire relate to the information regarding the particulars of the panel members required on the return sheet. This does not include specific questions to obtain information on the following, namely the demographic data of the panel; the familiarity of the panel with the Delphi process; previous experiences of panel members in using the Delphi process; and their experiences of the current three-round Delphi process.

The opportunity of the panel to change opinions between rounds created the potential to provide for a lack of consistency in consensus.

The selection of the panel could have been subjective. It is difficult to identify the experts of the panel and to verify their commitment to participate in the study. The researcher had to assume that the level of expertise of the members of the panel was applicable to the research question in the present study. The group of experts selected for the present study was diverse, as recommended in literature. The diversity of the group is an advantage as well as a potential limitation. Representing a variety of areas in higher education, each member read the statements of the assessment model in his/her own context. Even if a list of terminology was provided to use as reference, members of the panel may read the statements of the assessment model referring to their familiar context, field of expertise and environment. The comments of the panel on some of the

statements could indicate that they were not familiar with assessment of learners in Health Sciences and Technology or that they did not see the relevance of the statements within this specific context.

Each participant rates the statements using his/her own field of expertise as reference. Although the participants arrived at consensus, it could have meant that they did not have the same meaning of the statement in mind. It is thus the responsibility of the researcher to explore, as well as to reduce opinions and comments to statements that are "alike". The skill of the researcher in compiling the questionnaire with items not clearly expressed, containing contradicting comments and to summarise comments, may have forced consensus. Additional limitations are associated with the human factor in research. These include factors such as the possible subjectivity of the researcher to accommodate comments of the panel and a lack of skills in written communication.

The panel remains anonymous (only familiar to the researcher) with the contribution and input provided reported on collectively. The panel therefore cannot receive public recognition for their contributions or be thanked in person for their time, input and commitment.

Despite the limitations identified in the present study, the outcome of the Delphi process is satisfactory and could be used to complement the purpose of the study, namely to present an assessment model in OBET for Health Sciences and Technology.

5.8 RECOMMENDATIONS

Learning through experience and errors are both positive outcomes of the present study. Recommendations are made to improve similar studies in future with reference to the design of the questionnaire, the size of the panel, and the method of summarising the comments of the panel.

Questions to determine demographic data, previous experience of the Delphi process, as well as the extent of experience in the particular field should be included. Including questions for the panel to rate the level of satisfaction on the process and their level of agreement on the consensus statements of the previous round could assist to identify possible limitations in the study and verify the validity of the Delphi process that was used.

The researcher would recommend identifying and selecting a panel of experts larger than the minimum requirement to address the needs of the study. When members of the panel are unable to participate, the percentage to attain consensus does not have to be adjusted. Increasing the size of the panel also has the potential advantage of improving the validity and reliability of the outcome of the Delphi process. The use of a group approach rather than a single person to identify and recommend experts relevant to the field of the study is recommended.

A committee or a team responsible for the summary of the comments of the Delphi panel after each round of the questionnaire and the preparation of the questions or statements of the next round of the questionnaire should be used. This could improve the validity and applicability of the Delphi process. The honesty and integrity of this monitor team should receive high priority.

5.9 REFLECTION ON CHAPTER FIVE

Using the Delphi process in the current study was not only beneficial to the outcome of the present study, but the researcher gained valuable knowledge about the Delphi process; how to adapt the questionnaires for the different rounds of the process; and how to accommodate the comments. By conducting the study, the researcher has learned that the enthusiasm, commitment and contribution of the panel to the study are invaluable resources which counteract the emerging frustration when members of the panel do not keep to the time schedule as requested by the researcher.

If this study has to be repeated, the researcher would again recommend utilising the modified Delphi process. Using the panel of experts to rate, validate and benchmark the proposed assessment model, added immeasurable value to the proposed assessment model in Health Sciences and Technology. The enthusiasm and willingness of the panel of experts to sacrifice their precious time and offer unique expertise to add value to a study should be commended. The author therefore appreciates

the efforts, contributions and comments received from each member of the panel and would like to acknowledge their collective input in the present study. The researcher cannot express enough gratitude to the panel of experts who was willing to explore the proposed assessment model on an individual basis and also as a team. She trusts that they will be proud of the final product.

In the next chapter, the assessment model in OBET for Health Sciences and Technology as final outcome of the study will be presented and discussed. In particular, the background for the assessment model; a practical approach to the assessment model; and the potential of the assessment model to impact on assessment will be described.

CHAPTER 6

AN ASSESSMENT MODEL IN OBET FOR HEALTH SCIENCES AND TECHNOLOGY

6.1 INTRODUCTION

A modified three-round Delphi process was used in the present study to validate and benchmark a proposed assessment model in OBET for Health Sciences and Technology. The "classic" initial round of the Delphi process was substituted by information obtained from academics in Health Sciences and Technology and higher education studies. The information was collected by means of structured interviews during the second semester of 2002. After analysing the findings, the information was verified and supplemented by literature to compile a proposed assessment model in OBET for Health Sciences and Technology. The above-mentioned procedures and findings were described in Chapters three, four and five respectively.

The final assessment model was compiled from statements achieving consensus of opinions by the Delphi panel, as well as statements arriving at stability at the conclusion of the Delphi process. The statements in the assessment model were classified as essential, useful and unnecessary following the outcome of the Delphi process.

The outcome for Chapter six is the presentation of the final assessment model in OBET for Health Sciences and Technology.

6.2 METHODOLOGY AND PROCEDURES

The proposed assessment model was verified by using a modified three round Delphi process. This phase of the study was performed from February to August 2003. Members of the Delphi panel had the opportunity to rate the statements of the proposed assessment model as essential, useful and unnecessary elements of an assessment model.

In the next section (6.3), the assessment model in OBET for Health Sciences and Technology will be presented. This assessment model contains statements that were rated as essential by the Delphi panel and on which consensus of opinions was achieved. In addition, statements arriving at stability at the conclusion of the Delphi process are included.

There were two variations of statements arriving at stability at the conclusion of the Delphi process. The first variation is statements where a majority of the panel rated the statements either as an essential, a useful or an unnecessary element of an assessment model. These statements are included in the final assessment model according to the majority of the ratings. Another variation of statements arriving at stability is where an equal number of ratings of the panel were obtained in more than one category, for example as an essential or a useful element of an assessment model. In this case, the statement was classified in the lesser

category, for example as a useful statement. Statements rated as unnecessary by the Delphi panel were once again evaluated for inclusion in the final assessment model, using the context of the assessment model, literature and recommendations of the Delphi panel as benchmarks.

The final assessment model, presented as outcome of the study, includes minor changes to the statements when compared to the model verified by the Delphi panel. It was necessary to make these changes and it entailed editing as well as moving of the statements. Editing the statements helped to clarify and qualify the statements, while the statements were moved to follow a logical sequence within the category of the assessment model. The changes were based on the recommendations of the Delphi panel in round III of the Delphi process or on literature references. As the final outcome of the present study, the assessment model in OBET for Health Sciences and Technology is presented as essential and useful statements.

6.3 RESULTS AND FINDINGS

In the present study a proposed assessment model was verified and benchmarked, using the Delphi process. The final assessment model as outcome of the present study is presented in this section with the same seven categories as used in both the proposed assessment model and the questionnaires for the Delphi process.

The final assessment model has the following categories: "the purposes of assessment"; "the overall assessment strategy"; "recommended assessment methods"; "planning and construction of assessment"; "practical considerations in assessment"; "quality assurance in assessment"; and "basic qualities of and values underpinning the assessment model".

In each of the categories of the assessment model, the statements are presented as essential and useful statements in Sections A and B respectively. The categories "overall assessment strategy"; "recommended assessment methods"; "planning and construction of assessment"; and "quality assurance in assessment" contain essential and useful statements. The categories "the purposes of assessment"; "practical considerations in assessment"; and "basic qualities of and values underpinning the assessment model" consist of essential statements only.

In the final assessment model, eight statements were edited and two omitted from the assessment model as validated by the Delphi panel. The reasons why these two statements were omitted are thus clarified: The Delphi panel rated one statement in the category "planning and construction of assessment" as essential/unnecessary. This statement was consequently omitted, because the concept of the statement was included in another statement in the same category, as well as in the category "the overall assessment strategy". The other statement was duplicated in two categories, i.e. "the overall assessment strategy"; and

“practical considerations in assessment”. The statement was omitted from the latter category.

One statement in the category “basic qualities of and values underpinning the assessment model” was rated essential/unnecessary by the Delphi panel. Three members of the panel indicated that the meaning of the statement was not clear. Following validation by literature, the statement was edited and included in the final assessment model as an essential statement (see statement 6.3.1.7.3).

In the following section (6.3.1), the assessment model in OBET for Health Sciences and Technology, as outcome of the study, is presented.

6.3.1 The assessment model in OBET for Health Sciences and Technology

6.3.1.1 *The purposes of assessment*

A Essential statements

- 6.3.1.1.1 Formative assessment identifies the shortcomings in learner progress and enables learners to grow academically with appropriate feedback.
- 6.3.1.1.2 Formative assessment identifies where adjustments in learning facilitation can be made by constantly reflecting on and evaluating the assessment process.
- 6.3.1.1.3 Formative assessment identifies deficiencies in learning facilitation that require additional interventions.

- 6.3.1.1.4 Summative assessment indicates that the learner has achieved a specific level of performance.
- 6.3.1.1.5 Summative assessment indicates that the exit-level outcomes linked to the professional vocational profile are attained.
- 6.3.1.1.6 All persons involved (facilitators, learners and employers) should understand the purpose of assessment, i.e. to demonstrate that learners have mastered learning.
- 6.3.1.1.7 The assessment process facilitates quality assurance through reflection by the facilitator and feedback from the learner.

6.3.1.2 *The overall assessment strategy*

A *Essential statements*

- 6.3.1.2.1 The overall assessment strategy is planned and designed in an integrated way and led by a group of facilitators or tutors to achieve integration of appropriate outcomes in a programme.
- 6.3.1.2.2 Facilitators in the programme must collaborate and discuss the assessment process to achieve a holistic approach in assessment.
- 6.3.1.2.3 The overall assessment strategy includes the use of an appropriate variety of approaches in assessment (e.g. performance, continuous, integrated) and transparent assessment methods for the purpose of learning.

- 6.3.1.2.4 The learning outcomes are assessed by using an appropriate range of performance assessment methods to demonstrate competence where the overall assessment strategy is performance-based.
- 6.3.1.2.5 Over and above assessment by the facilitator, the assessment strategy includes self-, peer and group assessment.
- 6.3.1.2.6 Realistic and relevant assessment criteria transparent to learners are identified and used by all facilitators or tutors in the programme.
- 6.3.1.2.7 The assessment process facilitates and enhances academic growth and development of the learner, provided feedback is given.
- 6.3.1.2.8 The facilitator must be able to manage and cope with the assessment workload/process.
- 6.3.1.2.9 Methods are in place to ensure that assessment is valid, reliable and free of bias.

B Useful statements

- 6.3.1.2.10 The relevant assessment strategy is transparent to learners and places realistic demands on learners that they are able to manage and cope with.

6.3.1.2.11 The overall assessment strategy should provide for more assessment opportunities to be created in line with the relevant policy on reassessment. In addition, relearning, remedial and enrichment opportunities are offered to the learner where doubt exists about the level of competence of learners, where outcomes are not attained, or where learners believe that they are now ready to be assessed.

6.3.1.3 *Recommended assessment methods*

A Essential statements

6.3.1.3.1 **The following factors are relevant when selecting the assessment method:**

6.3.1.3.1.1 The practicality in terms of availability of physical facilities.

6.3.1.3.1.2 The cost involved and the cost-effectiveness of the assessment method.

6.3.1.3.1.3 The time allowed for the completion of the assessment.

6.3.1.3.1.4 The learner is allowed adequate time to prepare for assessment.

6.3.1.3.2 The assessment method must correspond with the learning and facilitation activities.

6.3.1.3.3 The assessment method focuses on the learning outcomes.

6.3.1.3.4 The assessment method focuses on outcomes that include knowledge, skills and attitudes.

- 6.3.1.3.5 Performance assessment methods are utilised in simulation or in practice where knowledge and skills are integrated with performed procedures.
- 6.3.1.3.6 Appropriate assessment methods are used to assess the process of learning leading to the product or outcome.
- 6.3.1.3.7 Appropriate assessment methods are used to assess the product of learning.
- 6.3.1.3.8 Appropriate assessment methods are used to assess critical cross-field outcomes such as problem-solving, reasoning and reflection skills relevant to the exit-level outcomes, as well as the professional vocational profile.
- 6.3.1.3.9 Appropriate assessment methods that determine accumulated reflective performance and competence of the learner in practice are used.
- 6.3.1.3.10 Where indicated, the same outcomes are assessed by different appropriate assessment approaches and/or methods; some focused on knowledge, others on skills, others on a combination of knowledge and skills.

B Useful statements

6.3.1.3.11 **The following factors are relevant when selecting the assessment method:**

6.3.1.3.11.1 The time required for the facilitator to construct the assessment.

6.3.1.3.11.2 The time required for grading the performance in assessment.

6.3.1.4 *Planning and construction of assessment*

A *Essential statements*

- 6.3.1.4.1 Where relevant, the assessment is planned by a team of facilitators in the programme to ensure the holistic assessment of the learner.
- 6.3.1.4.2 The appropriate assessment method is used to assess the learning outcomes.
- 6.3.1.4.3 A planning/assessment grid with relevant assessment criteria is used to plan the different cognitive levels included in the assessment.
- 6.3.1.4.4 Taxonomies (e.g. Bloom or similar taxonomies) are used to guide, facilitate or encourage the assessment of a variety of cognitive levels.
- 6.3.1.4.5 A memorandum, rubric or marking scheme as assessment tool accompanies the assessment for grading the performance in assessment.
- 6.3.1.4.6 Feedback to the learner, based on relevant assessment criteria, is planned as an integral part of assessment.

B *Useful statements*

- 6.3.1.4.7 Learners should be empowered to take responsibility, accountability and ownership in assessment by openly participating in the planning and construction of the assessment process.

6.3.1.5 *Practical considerations in assessment*

A Essential statements

6.3.1.5.1 The assessment schedule contains the following:

6.3.1.5.1.1 The proposed assessment method(s), tools and strategies used to assess each outcome.

6.3.1.5.1.2 An indication of how every assessment opportunity contributes in weight to the assessment process.

6.3.1.5.1.3 The learning outcomes that are linked to the professional vocational profile.

6.3.1.5.1.4 An indication of different outcomes integrated in one assessment opportunity.

6.3.1.5.1.5 The performance indicators linked to outcomes and assessed by various appropriate assessment opportunities.

6.3.1.5.2 The assessment schedule is documented and available to learners in the assessment manual and/or learner guide.

6.3.1.5.3 Summative assessment opportunities are spaced to give the learner the opportunity to prepare for the assessment, although learners should be convinced and encouraged to focus on mastering and demonstration of learning and not on assessment *per se*.

6.3.1.5.4 All formative assessment opportunities include feedback for the learning and academic development of the learner.

6.3.1.5.5 The feedback is timely, appropriate, positive, encouraging and motivating.

6.3.1.5.6 The feedback facilitates and encourages the creative thinking skills of the learner where generic skills are integrated in the assessment.

6.3.1.6 *Quality assurance in assessment*

A Essential statements

6.3.1.6.1 Procedures are in place to monitor the quality of the assessment process.

6.3.1.6.2 Procedures are in place to ensure that assessment results are reliable and valid.

6.3.1.6.3 The assessment schedule, documented in the learner guide or assessment manual, provides a framework for the verification of the academic achievements of the learner.

6.3.1.6.4 A record system is available where data on learner achievements in respect of outcomes are kept for reflection on and improvement of the assessment process.

6.3.1.6.5 Colleagues discuss the appropriate assessment method(s) to be used as a team.

6.3.1.6.6 A team approach is used to allow colleagues to judge and discuss the outcome of assessment, facilitating improvements to the curriculum, methods of learning facilitation, and assessment.

6.3.1.6.7 A system of feedback from peers and learners in the profession is used to maintain the standard of assessment integrated with the process of learning facilitation.

6.3.1.6.8 The judgement of colleagues (inside or outside the institution) is used to moderate and benchmark the assessment.

6.3.1.6.9 The relevant professional body benchmarks the assessment process and standards integrated with the process of learning facilitation.

B Useful statements

6.3.1.6.10 A system of feedback from peers and learners in the profession is used to benchmark assessment standards integrated with the process of learning facilitation.

6.3.1.7 *Basic qualities of and values underpinning the assessment model*

A Essential statements

6.3.1.7.1 The requirements of competency in the programme are clearly defined and documented.

6.3.1.7.2 Assessment encourages meaningful and strategic learning.

6.3.1.7.3 Valid assessment activities are integrated with the methods of learning facilitation and are not add-on activities.

6.3.1.7.4 Assessment must reflect a multidimensional and integrated understanding of learning, revealed in the performance of the learner over a period of time.

6.3.1.7.5 Where possible, an integrated and holistic approach to assessment is used in the programme.

6.3.1.7.6 The assessment process provides for the individual differences of learners by exposing learners to a variety of

appropriate and transparent assessment methods in the assessment process.

- 6.3.1.7.7 Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification.
- 6.3.1.7.8 Measures are in place to limit and/or exclude the possibility of unfair discrimination in assessment.
- 6.3.1.7.9 The assessment process attempts to exclude bias by way of processes that can assure reliability, validity and fairness.
- 6.3.1.7.10 The overall assessment strategy is aligned to institutional education and training policy, procedure and rules.
- 6.3.1.7.11 The overall assessment strategy is aligned to the requirements of the relevant professional body.

The assessment model in OBET for Health Sciences and Technology was presented as essential and useful statements in seven categories. In the next section (6.4) the background, prerequisites and assumptions, as well as audiences of the assessment model are discussed. This is followed by a discussion of each category of the assessment model.

6.4 DISCUSSION OF THE ASSESSMENT MODEL IN OBET FOR HEALTH SCIENCES AND TECHNOLOGY

In the present study, an assessment model in OBET for Health Sciences and Technology is presented. The generic assessment model was compiled to be flexible and with the potential for implementation in a variety of programmes in Health Sciences and Technology. It is designed to be adjustable and resilient in addressing the diversity of educational and assessment needs as required by the above-mentioned programmes.

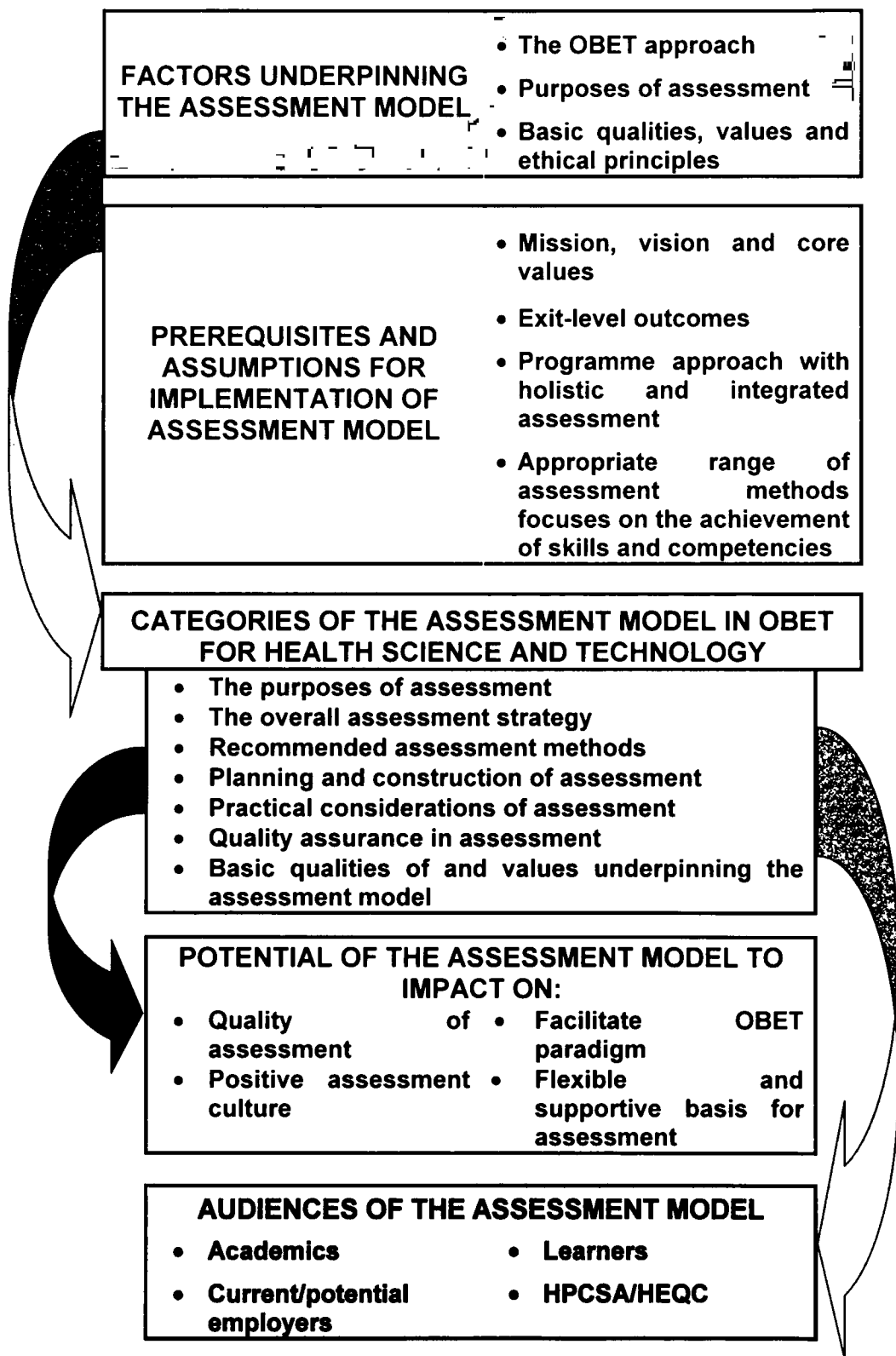
With the exception of two statements, all the statements of the assessment model validated by the Delphi panel were included in the final assessment model. The above-mentioned two statements could be excluded from the final assessment model, because they were duplicated in other categories of the assessment model. Verification of the statements in the assessment model as presented to the Delphi panel was obtained from an international authority in assessment. Following a personal discussion on the assessment model after round III of the Delphi process, Banta (2003: Personal communication) said that all the statements should be included in the assessment model.

In this section (6.4), the background to the assessment model is discussed by providing the philosophy underpinning the assessment model, prerequisites and assumptions of and audiences for the assessment model. It is followed by a discussion of the different categories of the assessment model, based on a practical approach to the assessment

process. The potential of the assessment model in OBET for Health Sciences and Technology to impact on various aspects of assessment, concludes the discussion. The categories of the assessment model, the background factors underpinning the assessment model, and the various aspects on which the assessment model has the potential to impact (as described in the next section) are illustrated in Figure 6.1.

In Figure 6.1, the blue arrow at the top left side indicates that the assessment model was based on the factors underpinning the assessment model and prerequisites and assumptions as described in the next section (see 6.4.1.2). Additionally, the black arrow points to the aspects on which the assessment model has the potential to impact on. The green arrow at the bottom on the right side, points to the potential audiences of the assessment model.

FIGURE 6.1 THE ASSESSMENT MODEL IN OBET FOR HEALTH SCIENCES AND TECHNOLOGY INDICATING THE VARIOUS ASPECTS IMPACTING ON THE MODEL AND THE MODEL IMPACTING ON VARIOUS ASPECTS



6.4.1 Background to the assessment model

Assessment is described as a powerful tool with which educators influence how learners behave and respond to the programme (Gibbs 2000:41). Palomba and Banta (1999:309) mention that assessment must contribute to the heart of higher education, namely to teaching and learning practices inside and outside the classroom. The assessment model in OBET for Health Sciences and Technology was compiled as a generic and flexible model. Although opportunistic in nature, it should have the potential to be adjusted and used in a variety of programmes in Health Sciences and Technology. In addition, it has the potential to provide direction to academics and learners to practise quality and meaningful assessment.

While a number of definitions are available to outline the complex nature of assessment of learners in higher education, the definition of assessment by Palomba and Banta (1999:1) provides the appropriate context of assessment of learning relevant in the present study. The definition helps to narrow down the variety of purposes of assessment for the assessment model in OBET for Health Sciences and Technology presented in the current study. The definition focuses on two processes of assessment of learning. The first is the focus on learning and attainment of exit-level outcomes by learners. The second process entails the review and reflection on assessment practices, done in a planned and systematic manner to drive changes in the curriculum and constantly improve assessment of learning.

Subsequently, the background to the assessment model presented in this study is described, using the following headings: “the philosophy underpinning the assessment model”; “prerequisites and assumptions for implementation of the assessment model”; and “the audiences of the assessment model in OBET for Health Sciences and Technology” (see Figure 6.1).

6.4.1.1 *The philosophy underpinning the assessment model*

The philosophy underpinning the presented assessment model is based on four principles in assessment. These principles are underpinned by literature. These are assessment in the OBET approach (Coetzee-Van Rooy & Serfontein 2001:10-13; RSA DoE 2001:116; Harden 2002:117); the purposes of assessment (Brown & Knight 1995:33-37; Brown *et al.* 1996:16,17; RSA DoE 2001:111); and the qualities of and the values underpinning the assessment model (Brown *et al.* 1996:8,142,143).

The authors Coetzee-Van Rooy and Serfontein (2001:10-13) and Harden (2002:117), as well as the New Academic Policy (RSA DoE 2001:116), describe various principles of assessment in the OBET approach. These principles were integrated in the assessment model in the present study. The above-mentioned authors mention that assessment in the OBET approach is a continuous process based on a holistic and integrated approach to facilitate learning. Assessment should be conducted in a manner to enable progress and academic development of learners. Therefore, it should be closely aligned with the teaching and learning

processes in the programme (Coetzee-Van Rooy & Serfontein 2001:10,13).

Assessment in the OBET approach is based on the exit-level outcomes of the programme. The exit-level outcomes provide detail about the knowledge and the integration of knowledge, skills and attitudes across disciplines as required from learners. Assessment or performance criteria for each assessment task are defined to outline the level of performance of the learner. These criteria are used to provide feedback to the learner for academic growth and development (RSA DoE 2001:116).

Factors of reliability and validity in assessment are important qualifiers as quality assurance methods. In the OBET approach, learners are guided and encouraged to accept responsibility for their own learning process. A diversity of innovative assessment approaches and methods is promoted to accommodate the diversity in learner population. In addition, increasing the possibility for learners to attain exit-level outcomes; opportunities for re-learning; remediation; and enrichment for learners should be available (RSA DoE 2001:116).

The second principle used as backdrop for the present assessment model is the purposes of assessment (Brown & Knight 1995:33-37; Brown *et al.* 1996:16,17; Brown *et al.* 1997:11; RSA DoE 2001:111). In the present study, the cover letter of the questionnaires for the second and the third rounds of the Delphi process (see Appendix N and Appendix O), outlines the purposes of assessment applicable to the assessment model in OBET

for Health Sciences and Technology. It covers the following aspects: That assessment should be based on the provision of an educational experience to the learner; it should be formative as a tool for learning and summative as a tool for validating that learning has taken place; it adds direction in learning facilitation; it guides the academic improvement of learners with feedback on assessment; reflects shortcomings in learning facilitation; and is used for grading of performances of learners (Brown *et al.* 1996:16,17; Brown *et al.* 1997:11).

The third and the fourth principles as bases of the assessment model in the present study are the basic qualities of and the values underpinning the assessment model (see Figure 6.1). The aim to outline the qualities of and values underpinning the assessment model is to enhance the ethical practices in assessment of learning. By doing so, Palomba and Banta (1999:83) argue that participation in assessment should not harm the learner. The above-mentioned authors point out that confidentiality of assessment information should be maintained. Moreover, learners as valuable partners in assessment, should be treated with respect. Facilitators and/or academics involved in assessment therefore have to use the basic qualities of, and values underpinning the assessment model as guidelines to develop and maintain the appropriate professional attitudes while assessing learners.

Statements underpinning the purposes of assessment and the basic qualities of and values underpinning the assessment model, were included in the assessment model of the present study. Therefore these are addressed in the discussion of the statements of the assessment model (see Sections 6.4.2.1 and 6.4.2.2).

6.4.1.2 *Prerequisites and assumptions for implementing the assessment model*

The same prerequisites and assumptions of the proposed assessment model described in Chapter four are applicable to the final assessment model (see Figure 6.1). The prerequisites as the basis for the implementation of the assessment model are the goals, core values, vision and mission statement of the institution/programme and the exit-level outcomes of the relevant programme. The assumptions are that a programme approach in assessment of learners is used and that academics involved in assessment of learners are knowledgeable about the range of assessment methods appropriate to capture the performance of learners in Health Sciences and Technology.

The first of the prerequisites for the assessment model are the goals, core values, and vision and mission statement of the institution and/or programme. These position papers capture the special qualities of graduates produced by the institution and/or the relevant programmes in Health Sciences and Technology. Relevant institutional policies and procedures on assessment dictate the context for the implementation of the assessment model.

The next prerequisite is that the implementation of the assessment model should be based on the exit-level outcomes of the relevant programme. The exit-level outcomes outline the capabilities expected of learners exiting the programme. The exit-level outcomes thus determine the overall assessment strategy used in the programme. In addition, the assessment approaches, methods of assessment, and of learning facilitation used in the programme are based on the exit-level outcomes and capabilities required of the learners in the relevant programme (see Figure 6.1).

The implementation of the assessment model should be based on two assumptions. The first assumption is that a programme approach is used to assess learning. Where applicable, the overall assessment strategy in the programme is continuous, holistic and integrated, reflecting the use of a variety of appropriate approaches in assessment as promoted by the OBET approach.

The next assumption is that academics/facilitators involved in assessment of learners in Health Sciences and Technology are familiar with and adequately skilled to apply a range of appropriate assessment methods. This is necessary to capture the required knowledge, competence and performance of learners specified by the exit-level outcomes and accompanied assessment criteria. In a previous section of the present study (see Chapter three), the lack of knowledge and skills of academics to practise innovative assessment came to the fore. It is a vital requirement of innovative assessment practices that academics should

make use of opportunities such as conferences and staff development initiatives to learn from others (Brown & Glasner 2000:202). In this manner, the lack of knowledge and skills of academics to practise innovative assessment could be addressed.

6.4.1.3 *The audiences of the assessment model in OBET for Health Sciences and Technology*

The audiences of the assessment model are learners, academics (facilitators/assessors), employers, the professional bodies of the HPCSA and the HEQC (see Figure 6.1). The assessment model is directly aimed at academics (facilitators/assessors) performing assessment and at the learners who are doing assessment. By using the assessment model, facilitators in Health Sciences and Technology are guided to practise meaningful and quality assessment of learning. Learners, as partners in assessment, should be guided to take responsibility and accountability for their own learning. The aim of the assessment model is to provide transparency and direction on the assessment process for the benefit of the learners.

The assessment model is indirectly aimed at current or potential employers, the professional bodies of the HPCSA and the HEQC. Employers (current/future) could play an active role in the implementation of the assessment model with particular reference to performance assessment and/or assessment of skills performed in practice. By implementing the assessment model in the programme based on the requirements of the professional bodies of the HPCSA, it permits a format

for verification and benchmarking for accrediting and quality assurance bodies such as the HPCSA and the HEQC. While the HPCSA could use the exit-level outcomes to accredit the programme, it becomes a potential framework for quality assurance by both the HPCSA and the HEQC as well.

The background to the assessment model in OBET for Health Sciences and Technology was discussed as the philosophy underpinning the assessment model and the prerequisites and assumptions for implementing the assessment model. In addition, the audiences of the assessment model are discussed. The assessment model in OBET for Health Sciences and Technology, with the aspects impacting on the assessment model and the model potentially impacting on various aspects, is illustrated in Figure 6.1.

In the next section (6.4.2), a discussion of the assessment model is provided with a practical approach to the assessment process that integrates the assessment model with the cyclic process of assessment.

6.4.2 A practical approach to the assessment model in OBET for Health Sciences and Technology

The discussion to follow provides the narrative for the assessment model in OBET for Health Sciences and Technology, compiled in the present study. The motivation for and verification of the categories and statements of the assessment model from the literature is provided in Chapter four of the present study. For this reason, the discussion is based on a practical approach to the process of assessment of learning in Health Sciences and Technology, integrated with the assessment model presented in the study.

The assessment model as outcome of the present study integrates the procedures, activities and events of the complex assessment process. In reality these procedures, activities and events occur simultaneously and are often repeated. The integration of the assessment model and the cyclic process of assessment with its procedures, events and activities are unpacked and illustrated in Figure 6.2. The black arrows in Figure 6.2 are used to indicate the flow of events of the cyclic process of assessment. Additionally, they link the various assessment events and reiterate that assessment is an integrated process. The diagram (Figure 6.2) is used as the basis for the discussion of the categories of the assessment model as outcome of the present study.

FIGURE 6.2 INTEGRATION OF THE ASSESSMENT MODEL AND THE CYCLIC PROCESS OF ASSESSMENT

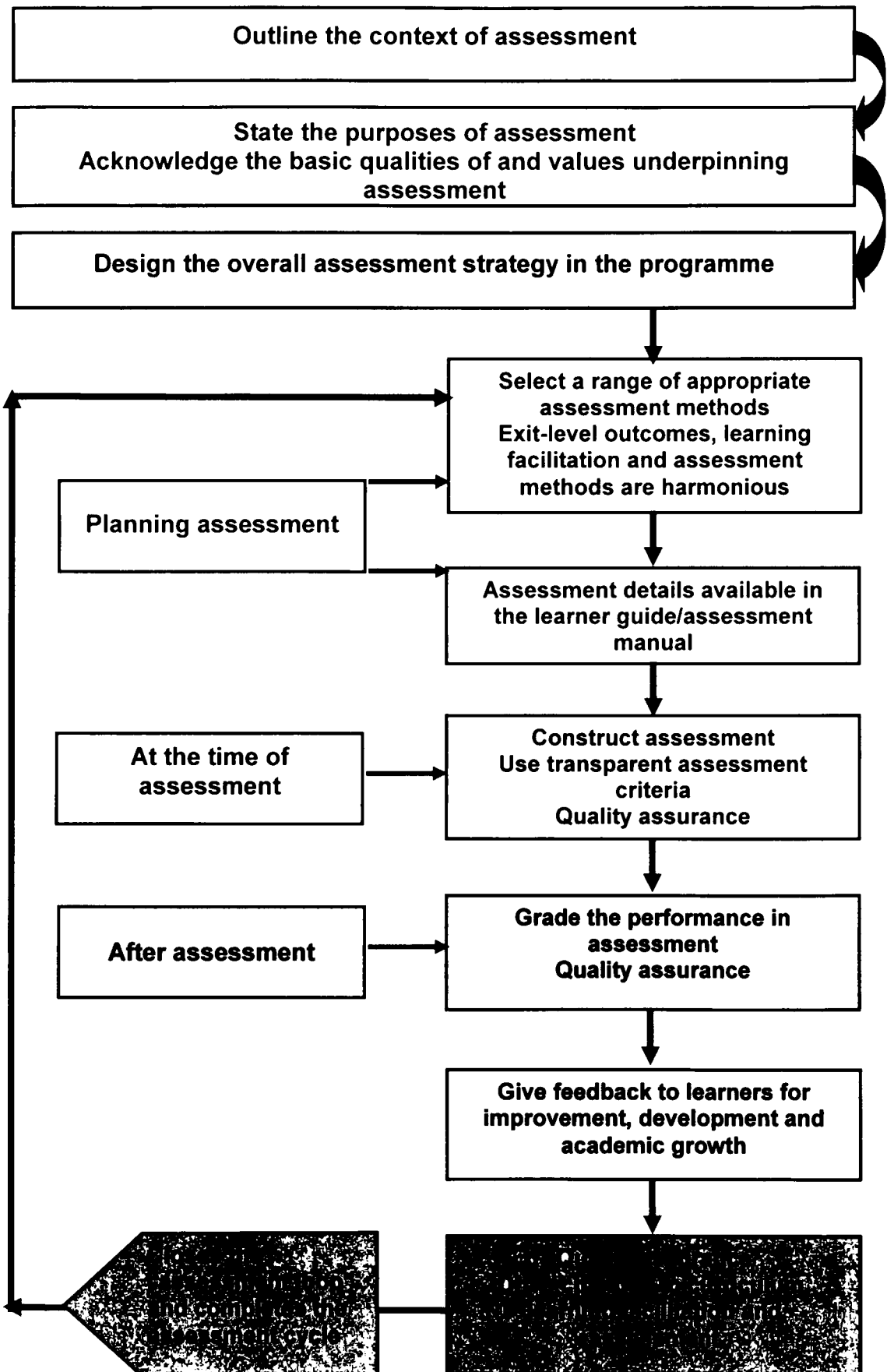


Figure 6.2 shows the context of assessment, the purposes of assessment, and the basic qualities of and values underpinning the assessment model as the background and foundation of the assessment process (see Section 6.4.1). The purposes of assessment applicable in the present assessment model facilitate the focus of the assessment process. It determines the overall assessment strategy and methods of assessment and learning facilitation in the programme and links with the exit-level outcomes.

The overall assessment strategy contains the range of appropriate assessment methods and/or approaches to assess learning and capture performance of learners. The assessment process must focus on elements of performance of the learner to reflect the professional role of the health professionals produced by the relevant programme. It is for this reason that the purposes of assessment indirectly determine the selection of appropriate assessment methods to capture the performance of the learner. Once again, the variety of assessment methods used should be in harmony with the methods of learning facilitation. The details of the overall assessment strategy should be documented in the learner guide and/or assessment manual and consequently be transparent to learners (see Figure 6.2).

To answer to the requirements of quality in assessment, it is recommended that the planning and construction of assessment should be done with a planning/assessment grid. This is accompanied by transparent assessment criteria determining the standards of performance

in assessment. Grading the performance in assessment follows assessment. Ideally, feedback to the learner is provided for the improvement, development and academic growth of the learner. However, it can also be given as a mark or a credit.

Figure 6.2 shows that quality assurance occurs simultaneously with a number of the processes in assessment. Although it is not possible to illustrate it in that manner, it has an essential function in every assessment procedure, activity or event of the assessment process. It is the essential link to complete the cyclic process of assessment followed by improvements in learning facilitation and/or assessment.

In the section to follow, the categories of the assessment model in the present study are discussed with reference to Figures 6.1 and 6.2 as well as to the statements of the assessment model presented in the present study (see 6.3.1).

6.4.2.1 *The purposes of assessment*

With the wide range of possible purposes of assessment, the New Academic Policy (RSA DoE 2001:111) indicates that this also means the different audiences in assessment have different expectations of assessment. Learners want to find out about their academic progress and learning, while assessors and facilitators do assessment to grade learners and assist them in their academic development by providing feedback. Employers are interested in the outcome of assessment to find out if learners, as current or future employees, make progress in learning and

mastering of knowledge and skills. This is indicated by the exit-level outcomes of the relevant programme linked to the professional vocational profile of the profession (RSA DoE 2001:111).

Assessment could assist academics (assessors/facilitators) to determine shortcomings in learning facilitation. As indicated by assessment and, where required, adjustments to the curriculum and methods to improve assessment could be made. Assessment therefore has the potential to facilitate quality assurance in assessment. To facilitate quality assurance in assessment, facilitators/assessors have to reflect on the assessment process and the outcomes of assessment. In addition, feedback obtained from learners on the assessment process could be used to adjust and improve the assessment process.

6.4.2.2 *The basic qualities of and values underpinning the assessment model*

Brown *et al.* (1996:142) describe the “assessment manifesto” containing the ideal principles of assessment of learners in the programme. By using these guidelines when assessing learners, academics respond positively to the vital requirement of ethical practices in assessment. The statements of the assessment model in this category bring to the fore the responsibility of academics to place a high priority on quality assessment of learners, to take the assessment of learners seriously, and to practise assessment in a responsible manner.

In this category of the assessment model, focus is on increased transparency of assessment, to limit unfair discrimination and exclude bias by means of quality assurance procedures. Brown *et al.* (1996:143) encourage the fact that assessment should be designed as an integral and holistic part of the programme and should not be an add-on activity. It has to encourage meaningful and strategic learning and capture the performance of learners over a period. The assessment strategy has to celebrate the individual differences of learners and provide for summative assessment opportunities to determine if the learner can progress to the next academic level or attain a qualification. The overall assessment strategy in the programme should be aligned with the education and training policies, procedures and rules of the institution and the requirements of the relevant professional body of the HPCSA.

6.4.2.3 *The overall assessment strategy*

This category of the assessment model has both essential and useful statements. The essential statements underpin the following, namely that the overall assessment strategy in the programme is planned and designed in an integrated way and led by a group of facilitators. It provides a framework within which assessment of learners can take place in an organised manner so all involved can cope with the demands in assessment. The exit-level outcomes of the programme, together with the assessment criteria, dictate the knowledge, skills and attitudes required by the learners in the programme. It facilitates harmony between assessment and learning facilitation in the programme. It provides a manner to obtain

a holistic view to assessment in the programme to avoid fragmentation of assessment.

The purposes of assessment of learning provided in the present assessment model determines the overall assessment strategy applied in the programme (see Figure 6.2). Over and above the fact that it dictates the methods of learning facilitation used in the programme, it also determines the selection of the appropriate assessment methods and/or approaches used to assess learners such as self-, peer and group assessment. Realistic and relevant assessment criteria should be transparent to learners and used to facilitate the feedback for academic growth and development of the learner.

One of the useful statements in this category is that the overall assessment strategy should be realistic for facilitators and learners to manage and cope with the assessment workload. Another useful statement is to provide opportunities for learners to do reassessment. This should fit in with the relevant institutional policy on reassessment. Re-learning, remediation and enrichment should accompany reassessment opportunities.

6.4.2.4 *Recommended assessment methods*

The essential statements in this category are discussed first. As previously mentioned (see Figure 6.2), the purposes of assessment should drive the selection of an appropriate range of assessment methods. Assessment with the appropriate assessment methods provides a vehicle to present evidence of the learning process of the learner.

A number of factors have to be considered when selecting the most appropriate assessment methods. These are the physical facilities available, the cost, as well as the time for completing the assessment. Another factor to be considered is the time allowed for the learner to prepare for assessment. Assessment in the OBET approach is time-consuming and labour intensive. To successfully implement and practise assessment in the OBET approach could therefore have a negative effect on the programme budget and on academic time.

Literature advises the design of criteria based on the “fit for purpose” principles with which the most appropriate assessment methods in the programme are selected (Palomba & Banta 1999:87). The statements in this category may assist with this procedure. The appropriate assessment method should correspond with the learning outcomes and learning facilitation methods. It could indicate if the process and/or product of learning is assessed. Assessment methods to assess critical cross-field outcomes such as problem-solving and reflection skills and assessment of performance in practice should be selected. Where applicable, different

assessment methods should be used to assess the same exit-level outcomes.

The useful statement in this category indicates that the facilitator should consider the time required to construct and grade the performance in assessment when selecting the most appropriate assessment method.

6.4.2.5 *Planning and construction of assessment*

There are six essential statements and one useful statement in this category. The most appropriate assessment method selected for the assessment will dictate how the planning and construction of the assessment will be done. It is advised that a team approach in the programme is used, where colleagues communicate effectively to assure holistic assessment of the learner. Additionally, the team approach could assure that an appropriate range of assessment methods is used in the programme. The construction of the assessment method should be based on the learning outcomes and methods used to facilitate learning.

It is advised that a planning/assessment grid should be used to plan, guide, facilitate and encourage the assessment of a variety of cognitive levels in assessment. In addition to Bloom's taxonomy, Biggs and Collis (1982:181) as well as Imrie (1995:186) advise the use of the SOLO Taxonomy as a framework for judging the quality of learning and the structure of for example essays and medical diagnoses. The author (Imrie 1995:186) adds that it also serves as a research-based measure of the quality of learning outcomes included in assessment.

A marking scheme or rubric with the relevant assessment criteria should accompany assessment for grading purposes and to facilitate feedback to the learner. The assessment criteria should be transparent to learners and, where indicated, negotiated with the learners.

The useful statement in this category entails that learners are guided and empowered to take responsibility, accountability and ownership in assessment. They should be guided to openly participate in the planning and construction of the assessment process. Palomba and Banta (1999:71) provide motivation for this practice in assessment and mention that assessment is done for learners as active partners in the process of assessment and is not done to them.

6.4.2.6 *Practical considerations in assessment*

The use of an assessment schedule, containing the relevant and required information on assessment activities, tools and assessment criteria, helps to provide the learner and the facilitator with direction and transparency in assessment. The assessment criteria provide a means for feedback to the learner. The feedback encourages the learner to reflect on assessment for future improvements and academic development.

Formative assessment is usually ongoing and could be performed without notice. However, summative assessment should be spaced to allow learners the time and opportunity to prepare for assessment. This enhances the fairness of assessment and increases the opportunities of learners to succeed in assessment.

6.4.2.7 *Quality assurance in assessment*

This category contains both essential and useful statements. The quality assurance process in assessment is the important link to complete the assessment cycle (see Figure 6.2). Quality assurance in assessment is integrated and should take place in every process of the assessment process for improved quality in assessment.

The statements in this category aim to improve and maintain the quality of assessment of learning by ensuring reliability and validity of assessment results. The assessment schedule provides a framework for the documentation and recording of learner achievement. Facilitators could use this for reflection on and improvement of the assessment process.

A team approach in assessment is encouraged. This approach includes colleagues discussing the appropriate assessment methods to be used and judgement by colleagues of the outcome of assessment. Feedback from peers and learners in the profession could be used to maintain the standard of assessment. Colleagues should be used as moderators to judge and benchmark the assessment. The relevant professional body of the HPCSA should benchmark the assessment process integrated with the process of learning facilitation.

Fowell *et al.* (1999:276) mention the phases in quality assurance in assessment. By validating the assessment process, the model answers (e.g. memorandum or rubric), as well as an appropriate selection of the assessment graded by the examiner of each assessment opportunity is

reviewed. The last phase in quality assurance, Fowell *et al.* (1999:281) add, is to take a long-term view at the assessment process to identify trends and deficiencies in the curriculum. By doing this, assessment drives the changes in the curriculum that again could improve assessment in the programme. This starts a new cycle of assessment and does what Banta (2000:1 of 4) recommends, namely to “take that second look” at the assessment results. This action closes the assessment cycle, a necessary requirement for meaningful assessment (see Figure 6.2).

The useful statement included in this section of the assessment model is using a system of feedback from peers and learners in the profession to benchmark assessment standards integrated with the process of learning facilitation, maintaining quality in assessment and qualifications offered by programmes.

In the section above, a narrative for the assessment model in OBET for Health Sciences and Technology was described. A diagram, integrating the assessment model and the cyclic process of assessment, is provided (see Figure 6.2). This diagram should provide academics with useful guidance when implementing and using the assessment model presented in the study.

6.4.3 The potential of the assessment model in OBET for Health Sciences and Technology to impact on assessment

The generic assessment model in OBET for Health Sciences and Technology was designed to provide direction in and transparency to assessment in a programme. It is anticipated that all role-players in assessment could benefit directly or indirectly by implementing the assessment model in programmes for Health Sciences and Technology. Although the prime beneficiary of the assessment model is assessment of learning *per se*, learners, assessors (facilitators/academics), current and/or potential employers, the programme and the institution, the professional bodies of the HPCSA and the HEQC should all benefit by implementing the assessment model (see Figure 6.1). The particular benefits of the assessment model in OBET for Health Sciences and Technology are described in this section (6.4.3).

The quality of assessment could be improved by implementing the assessment model presented in the study. It was said that the professional responsibility of the lecturer is to assure the quality of assessment which impacts on the rights of the learners (Imrie 1995:188). For this reason the quality assurance processes of assessment are central to the assessment model. Consequently, by using the assessment model, the potential to add value to assessment of learning exists. For the same reason, quality assurance processes could be used to verify, benchmark and determine the “graduateness” of qualifications in health care.

The assessment model could be used as an educational tool by academics and learners to facilitate and encourage the change to assessment in the OBET approach. In this manner, it has the potential to impact on the current educational paradigm. Based on the principles of the OBET approach as underlying philosophy, the statements applicable to assessment in the OBET approach are integrated in the assessment model. This could familiarise academics and learners in the programme with the principles of the OBET approach and provide guidance and assistance to them with regard to the new approach in education, focusing on assessment. Becoming acquainted with the principles of assessment in the OBET approach could help to break down the barriers of resistance and facilitate a positive attitude towards assessment in the new educational approach.

Palomba and Banta (1999:344) point out that an assessment culture consists of assumptions, ideas, customs, values and beliefs on assessment shared and transferred to others. To bring about a culture change in assessment, these authors add, will involve the desire to improve, as well as conducting planned conversations and discussions about assessment. Borland (2002:103) add that academics should display an intrinsic desire to know more about assessment and to improve what is done for learners, learning outcomes and the curriculum. Palomba and Banta (1999:345) argue that an assessment model provides the required energy for change. The assessment model in OBET for Health Sciences and Technology therefore has the potential to provide a means to

establish a positive assessment culture for the benefit of all role-players involved in assessment.

Dochy and Moerkerke (2000:32) mention the use of an assessment culture to change instruction from a system that deposits knowledge into the heads of learners to one that tries to develop learners who are capable of learning how to learn, thereby encouraging meaningful learning. Angelo (1999:2 of 6) requests colleges and universities to change from “teaching factories” into “learning communities”. By creating learning communities, the author (Angelo 1999:2 of 6) says, faculty and learners are working together to attain significant learning goals and use assessment as a method to promote learning. Additionally, Barr and Tagg (1995:3,4 of 16) mention that learning is promoted and produced in the “Learning Paradigm” where learners take the responsibility of their own learning. Palomba and Banta (1999:245) quote Judy Sorum Brown who asks a very relevant question, namely “Why is it so difficult for an institution of learning to be a learning organization?”

The assessment model should provide a flexible and supportive basis for assessment in the programme. It should provide educators and learners with a structure combining the requirements of meaningful assessment to add value to assessment. Each programme should respond to the assessment requirements in the programme by adapting the assessment model to suit their individual needs. Involvement of academics and/or learners to “custom-make” the assessment model in the programme, helps them to become part of the assessment process. As a result, the activity

is not forced on academics and they consequently take responsibility and ownership of the assessment model. Brown and Knight (1995:129) mention that assessment programmes should be customised to the circumstances of the department or programme to be valid. This, these authors add, involves academics in the development of assessment.

Using the assessment model to establish a positive assessment culture, to encourage meaningful assessment, and to add value to assessment may not always have a positive impact on assessment. Moreover, it may also entail challenges and obstacles. Dochy and Moerkerke (2000:33) mention that their first attempts to introduce new assessment procedures were not entirely positive. These authors report problems with the institution, time and the cost of the new assessment process.

Miller and McDowell (2002:170-172) describe the difficulties that they encountered during the implementation of outcomes-based assessment. The above-mentioned authors report that they had to make efforts to eliminate the anxiety from learners by explaining the principles of assessment in the OBET approach. By doing so, they could convince their learners of the benefits of the new approach in assessment and win their trust. In their situation, the above-mentioned authors report that the increased volume in assessment in terms of the variety of assessment methods used, caused a culture shock in assessment. Their advice to overcome this obstacle is to use innovative and creative approaches in assessment (Miller & McDowell 2002:172).

Brown and Knight (1995:142-149) name the obstacles that could be encountered in implementing an assessment model. The authors mention factors such as staff, economics, standards and the new paradigm in education as obstacles. Each of these obstacles could also be relevant when the present assessment model is implemented. Innovations in assessment could place demands on valuable academic time that is consequently more labour-intensive. Assessment processes are more time-consuming and because time is money, it places bigger demands on the academic budget.

The change in the emphasis of assessment as a continuous process using a variety of approaches could imply that academic standards are not maintained and that it becomes easier for learners to achieve outcomes. The responsibility of the external examiner and/or the moderator to validate the standards of the assessment process thus becomes more essential. The new paradigm in education based on the exit-level outcomes means that each unit of learning should be assessed. With this the fear of over-assessment of learners, a larger load on academic time as a result of increased assessment opportunities, and more involvement of external examiners/moderators could emerge.

It is anticipated that the implementation of the present assessment model in Health Sciences and Technology will present similar but also unique obstacles and challenges. Brown and Knight (1995:130) offer recommendations in overcoming these obstacles. These authors recommend the establishment of an assessment office/committee

supplying powerful support from senior management to those involved in innovative assessment. In addition, they advise the development of assessment expertise among academic staff. They also recommend the use of assessment data in planning and budgeting and, lastly, to start the changes in assessment on programme level to manage the process successfully. In Section 6.7 the researcher describes recommendations to overcome the potential obstacles and challenges when implementing the assessment model in OBET for Health Sciences and Technology.

In the present study, an assessment model in OBET was compiled and validated by the Delphi process. It is presented as an educational tool to encourage meaningful learning of learners. Moreover, it should impact positively on the establishment of an assessment culture in the programme. The objective for using the assessment model is to add value to assessment and avoid that learning becomes fragmented and assessment-driven.

6.5 CONCLUSION

In the present study, a flexible and generic assessment model in OBET for Health Sciences and Technology was presented. The assessment model has the potential to be implemented in a variety of programmes in Health Sciences and Technology. It is designed with the potential to add value to assessment; to contribute to meaningful learning; to encourage the use of assessment in the OBET approach; and to contribute to the establishment of a positive assessment culture where quality assessment of learning

prevails. In the present study, the assessment model is integrated with the cyclic process of assessment and illustrated as a diagram for practical use (see Figure 6.2).

While the assessment model may not meet all the requirements in assessment, it could provide the much-needed direction to academics and learners on the road to more meaningful assessment in Health Sciences and Technology. By constantly reflecting on the purposes of assessment, as well as the basic qualities and values underpinning the assessment model, the appropriate attitudes of academics in assessment could be established. As a result, the ethical responsibility of academics in assessment of learning should emerge, which could contribute positively to the establishment of an appropriate assessment culture in the programme. In this culture of assessment, academics have high expectations of learners and of themselves. They are serious about their shared responsibility to ensure and improve the quality of the educational experience of the learner and learning is put first.

6.6 LIMITATIONS

Challenges and obstacles may accompany the implementation of the assessment model at the local higher education institutions in programmes involved in Health Sciences and Technology, because it is associated with the new educational paradigm (OBET). Once the assessment model is implemented, a number of limitations might be identified which could not have been anticipated by the researcher in advance. Reflection on

outcomes of assessment as an important step in assessment should provide the opportunity to make changes and adjustments to the assessment model to suit the individual assessment needs in the programme.

The process of change in education is slow. Changing the attitudes of academics and learners may require effort and time. Changing present assessment activities may not happen overnight and without unexpected challenges and obstacles. Providing an assessment model in OBET for Health Sciences and Technology as an outcome of the present study, will be worth the effort when the outcome involves a change in the direction of quality and meaningful assessment of learning.

6.7 RECOMMENDATIONS

As part of the present study (see Chapter three), the attitudes of academics in the new educational paradigm were determined. The findings were that the academics who had participated in the structured interviews were open to change and ready for the challenges of the new educational approach. The participants also indicated a willingness to learn more about the OBET approach.

The establishment of an assessment culture requires constant nurturing and care. Implementing the assessment model therefore has to be accompanied by empowerment of academics and learners to address obstacles and resistance to change. This should give the necessary

guidance in the principles of assessment in the new paradigm to facilitate a shift in attitude and remove any resistance to change.

The management of change to the new approach in assessment in higher education requires that academics and learners are empowerment to become familiar and skilled with principles of assessment in the OBET approach. The empowerment process for the implementation of innovation in assessment could be done by means of a number of methods. These include staff development actions, attending conferences and workshops to learn from what others do, and creating networking opportunities to learn from one another. Opportunities to discuss the new approaches in assessment with colleagues should be created, such as a get-together during the lunch hour. In addition, visible institutional support for academics is required to practise quality assessment. All levels and relevant departments of the institution should participate and support academics to successfully implement assessment in the new approach. Alternatively, learners should be included and guided in the process of assessment by preparing them to use the innovative methods of assessment. This will empower them to become more accountable as active partners in assessment.

The same principles applicable in the continuous and ongoing cycle of assessment should be applied when implementing the assessment model. After implementation it should be assessed, reflected on, shortcomings identified, and adjustments recommended. Changes and improvements should be implemented with the necessary sensitivity and transparency.

6.8 REFLECTION ON CHAPTER SIX

Addressing the ongoing future demands in assessment remains a challenge for every educator. To maintain flexibility and resilience and to be constantly open to changes and new demands in assessment may require from academics dedication, time, energy, innovation and creativity. If educators in Health Sciences and Technology fulfil these requirements, they will contribute to position assessment at the centre of all learning activities.

The demands in assessment that educators are faced with in the near future, are increasing. Some of these demands are learners who are not on campus; an increase in the use of computers in learning and assessment; larger groups of learners; and new demands on knowledge, skills and attitudes of graduates delivered by programme. Educators will have to learn to practise creative and innovative thinking skills in finding practical and meaningful solutions to these demands.

Using the assessment model in OBET for Health Sciences and Technology, should provide both experienced and novice educators with new opportunities to practise innovative and creative assessment in an environment where what learners know and can do, such as in Health Sciences and Technology, are important.

By compiling this assessment model as part of the present study, the researcher has become aware of the complexity of assessment and its powerful role to add value to learning. This assessment model is presented as an educational tool to provide all role-players, but in particular educators and learners in Health Sciences and Technology, with the required knowledge, skills and attitudes to practise meaningful assessment.

The researcher wishes to express the desire that educators will be encouraged to make use of this assessment model in facilitating the establishment of a positive assessment culture. In this culture learners and educators are passionate about the assessment of learning. It is appropriate to reiterate what the authors Brown and Knight (1995:155) say, namely that using the assessment model could position assessment at the heart of learning in an educational environment where assessment is for learning and assessment is learning.

In the next chapter, a synopsis of the present study will be provided. First, a summative perspective on each chapter in the report is supplied. The value and implications of the study, the limitations thereof, and the recommendations will follow. The recommendations focus on pointers for the implementation of the assessment model in OBET for Health Sciences and Technology and emerging matters in assessment to deal with. Future research projects were identified while the study was conducted and these are likewise described. Chapter seven ends with a reflection and a final conclusion.

CHAPTER 7

A SYNOPSIS OF THE STUDY

7.1 INTRODUCTION

Schwarz and Webb (2002:1) made the remark that the literature available on assessment is extensive. These authors (Schwarz & Webb 2002:1) then continue to ask the question why it was necessary to present yet another resource on assessment. The same question may be relevant for conducting a research project on assessment. To answer this question, we need to reflect on the statement that assessment of learning in higher education has more recently become an essential issue and matter to deal with, in particular with the introduction of the OBET approach in higher education.

Assessment of learning has been neglected and used to be regarded as an add-on activity rather than being an essential and integrated part of learning. Therefore the aim of the assessment model designed in this research project is to reposition assessment in Health Sciences and Technology as a process that matters to academics, learners, the institution, accrediting bodies, as well as current and future employers.

In this chapter, a summative perspective reflecting the different phases of the study as described in the previous chapters of the report is provided. Additionally, the value and implications, the limitations and the

recommendations of the study are described. It should be noted that, with singular exceptions, references to the literature are not repeated, since it was already discussed comprehensively in each of the chapters.

7.2 A SUMMATIVE PERSPECTIVE OF THE STUDY

7.2.1 Perspectives on Chapter One

In this chapter with the title "An Overview of the Study" the reader was introduced to the study by providing a background on the role of assessment in higher education. It was noted that in South Africa, the term "assessment" has become synonymous with the OBET approach, introduced in South Africa in 1995 with the SAQA Act No. 58 (RSA 1995). The introduction of the SAQA Act has consequently been triggering changes in the educational arena. At the heart of these changes are the exit-level outcomes that replaced the rigid syllabi. In addition, the exit-level outcomes are used to determine the methods of learning facilitation and assessment of learning.

In the OBET approach, learners have become active participants in learning facilitation and assessment procedures. The traditional role of the lecturer was consequently challenged and the need for academics to be empowered with the principles of the OBET approach came to the fore. Moreover, academics needed to undergo mind changes when performing assessment in the OBET approach. This had particular reference for academics and learners in Health Sciences and Technology, where

learners should be equipped with knowledge, skills and attitudes to be prepared for their professional roles in practice.

With this background as reference, concern was expressed that the assessment methods that were currently used in Health Sciences and Technology at the relevant higher education institutions, did not always reflect the appropriate variety as prescribed by the OBET approach. Additionally, the assessment methods did not always reflect the achievements of outcomes of knowledge, skills and attitudes as applicable in Health Sciences and Technology education and training. It was furthermore essential that all role-players in assessment of learners needed to be empowered with the necessary knowledge, skills and attitudes to practise assessment in the OBET approach. Moreover, all role-players involved in assessment of learners in Health Sciences and Technology needed to deal with assessment practices from the same platform of knowledge and understanding to utilise approaches in assessment synonymous with the OBET approach. For this reason, the aim of the study was to develop an assessment model in OBET for Health Sciences and Technology.

The significance and value of the study was to provide an educational tool to facilitate the paradigm shift towards assessment in the OBET approach. Additionally, by means of this educational tool, academics in Health Sciences and Technology will be guided to acquire the necessary knowledge and skills and to practise innovative assessment in the OBET approach. Consideration was also given to the fact that assessment

should focus on the holistic development of the learner. The OBET approach is in the process of being implemented at both the higher education institutions used in the present study. This fact underlines the significance and the relevant timing of the study.

The respondents in the study were 16 selected academics from the TFS and the UFS. In addition, 10 role-players in higher education from local, national and international institutions were identified for the Delphi panel.

The study was descriptive and qualitative with quantitative elements. The quantitative elements consisted of a questionnaire that had been compiled to conduct structured interviews with selected academics from the above-mentioned higher education institutions. In addition, three rounds of the Delphi process were conducted with a questionnaire in each round of the process (see Appendices B, N, O and P).

The arrangement of the report to outline the content of each chapter was provided at the end of Chapter one.

7.2.2 Perspectives on Chapter Two

Chapter two bears the title "A Literature Review on Assessment and Outcomes-based Education and Training". This chapter provides the search criteria used for the literature review on assessment and the OBET approach. A brief discussion based on the literature mentioned leads the reader to a clarification of the research problem.

The above-mentioned review of the literature was introduced with a brief historic perspective on assessment. Traditional assessment was described and changes suggested to assessment mentioned. Particular attention was paid to assessment of the health professional requiring clinical and communication skills and the development of attitudes appropriate to the clinical environment.

The focus was then directed at emerging assessment issues in higher education. It was mentioned that assessment of learning is an essential matter in higher education. Additionally, it was noted that a number of authors expressed concern about the lack of knowledge and training of academics in higher education to practise quality and meaningful assessment. Assessment of learning in higher education was therefore indicated as the area of greatest concern featuring the weakest technology (see Section 2.2.2).

In the next section where the principles of assessment in the OBET approach were described, it was highlighted that assessment must contribute to the learning experience of the learner. Assessment should correspond closely with the actual tasks performed by the health professional in practice. The close relationship between the OBET approach and performance assessment was noted with the associated challenge to members of the various programmes in Health Sciences and Technology to develop non-traditional learning facilitation and assessment methods and approaches.

Guiding principles to implement the OBET approach were identified from literature and described. These principles could be useful to implement the assessment model such as the one designed and compiled in the study. An essential remark was made that it was a matter of high priority to develop the expertise in assessment among academics. Moreover, it has become necessary for academics to constantly reflect on the value added to learning when assessing learners. Additionally, the values underpinning assessment, such as the ethical conduct of academics to respect learners as partners in assessment, were pointed out.

In the literature review, the move towards the OBET approach in medical and health care education was emphasised. It was furthermore noted that the promulgation of the SAQA Act No. 58 of 1995 (RSA 1995) recommended that higher education institutions should implement the OBET approach. The implementation of Curriculum 2005 has stirred up a great deal of criticism. However, the findings of a study at the Technikon Witwatersrand have provided new perspectives on the implementation of OBET in higher education. Each higher education institution and in particular each programme will have to find a unique variation of the OBET approach to address and benefit the unique learning environment. In this regard, literature has reiterated that variations in the OBET approach are acceptable.

The background information from and the discussion of the literature review provided in Chapter two assisted in clarifying the research problem of the study. The argument of Boud (1995:35) emphasises the

significance of quality assessment of learners, namely that it is hard for learners to escape the effects of poor assessment because they want to graduate.

The substantial role that assessment plays in teaching and learning - with the emerging dynamics, demands, issues and challenges that both educators and learners in higher education are faced with - reiterated the significance and timing of the study. The study was significant because it provided a means whereby current assessment practices could receive thoughtful attention. Additionally, the assessment model designed in the study could assist academics and learners to facilitate the change to assessment in the OBET approach.

7.2.3 Perspectives on Chapter Three

This chapter, entitled "The Questionnaire and Structured Interviews" starts with a review of the literature to provide a background and the support for the design of the questionnaire. The questionnaire was used as the research tool to conduct the 16 structured interviews held with headhunted academics from the TFS and the UFS. The literature review focused on the changes in higher education to the OBET approach in higher education; the purposes of assessment; quality assurance in assessment; factors considered in planning and constructing assessment; assessment criteria and feedback; and assessment methods and their appropriateness. These aspects were identified from the literature as essential elements in assessment. These elements were subsequently

used as the framework to design the questionnaire for the structured interviews (see Appendix B).

The result was a bulky questionnaire with two factors coming to the fore. The first points to the fact that the researcher at the beginning stages of the study experienced difficulties to narrow down the kind of information to be retrieved by means of the questionnaire and the structured interviews. Second, when compared to the final product in the present study, it indicates that the researcher initially could have anticipated a different style for the assessment model developed in the study, for example prescribing the use of specific assessment methods and/or approaches.

Consequently, the information obtained by means of the interviews on the use of assessment methods was not pointless. It was thus used to determine how the participants in the present study applied the large spectrum of available assessment methods. The researcher established that, although the academics selected for the present study were from a relatively narrow field in higher education, the diversity in learners that each academic assessed required from them to use unique assessment approaches and methods. In addition, the information was used to identify current and emerging trends in assessment of learners in Health Sciences and Technology and to establish the attitudes of academics in assessment who had participated in the study (Friedrich-Nel, De Jager, Joubert & Nel 2003:8).

Likewise from this information, the necessity of the portfolio as emerging assessment trend in Health Sciences and Technology was identified. The portfolio in Health Sciences and Technology is highly recommended as assessment method and receives extensive coverage in literature (Young 2000:122; Friedman Ben-David *et al.* 2001:535; Bowie, Joughin, Taylor, Young & Zimitat 2002:54; Roberts, Newble, O'Rourke & Sheffield 2002:899). Also evident from conducting the interviews, the researcher has learned that academics were willing to use the portfolio as assessment method, although they mentioned that they lacked the necessary knowledge and skills to successfully use this assessment method.

The findings of the structured interviews revealed that many of the current assessment practices were aligned with the requirements of assessment in the OBET approach - although at the time of the study - the OBET approach was not formally implemented at the participating higher education institutions. It should be noted that the evidence provided in the present study was isolated and not substantial to provide information on the general orientation of participants to the OBET approach. Moreover, the personal experiences shared by the participants in the study proved to be an invaluable resource to be used in the development of an assessment model in OBET for Health Sciences and Technology.

7.2.4 Perspectives on Chapter Four

In Chapter four, bearing the title "The Proposed Assessment Model in OBET for Health Sciences and Technology", the assessment model was presented as 63 statements in seven categories. A review of the literature as background of the proposed assessment model was provided. In the literature review, the focus was on using an assessment model to practise meaningful assessment. This referred to well-planned assessment with the potential to capture the bigger picture in assessment of learning. Reference was made to several authors using an assessment scheme, plan or model. However, a reference in literature to an assessment model in OBET for Health Sciences and Technology could not be found.

The proposed assessment model in OBET for Health Sciences and Technology was designed by combining the results obtained from the structured interviews with appropriate literature on assessment. The assessment model was designed with the OBET approach as point of departure. Additionally, a holistic approach to assessment of learning in the programme is advised. The design of the proposed assessment model was based on a number of assumptions and prerequisites. These assumptions and prerequisites, together with the background to the assessment model, will be referred to when describing the perspectives on Chapter six.

The categories of the assessment model were based on the elements of the assessment process. Four of the categories of the questionnaire were repeated in the proposed assessment model, while three additional

categories were added. The categories for the proposed assessment model were the following: The purposes of assessment; the overall assessment strategy; recommended assessment methods; planning and construction of assessment; practical considerations in assessment; quality assurance in assessment; and basic qualities of and values underpinning the assessment model.

Each category of the proposed assessment model was discussed while referring to findings in literature on assessment. In addition, the background to the proposed assessment model was discussed. The proposed assessment model was subsequently compared to similar assessment models or plans in literature in terms of adequacy and comprehensiveness, which proved to be satisfactory.

The assessment model was developed as an educational tool to assist academics in facilitating and developing a creative approach to assessment. Likewise, by using this educational tool, a positive assessment culture and learning society to practise meaningful assessment should be accomplished. The assessment model should give adequate guidance in assessment to academics new to assessment and assist the more experienced in assessment to enhance learning. Additionally, it should assist in integrating learning and assessment as promoted by the OBET approach.

7.2.5 Perspectives on Chapter Five

In Chapter five with the title "The Delphi Process" the proposed assessment model was subject to the opinions of 10 members of the Delphi panel in a Delphi process following three rounds. The chapter started with a review of the literature on the Delphi process, which also provided a background for using the Delphi process as research methodology in the study. Although some guidelines were found, specifications in the literature on the ideal size of the Delphi panel and on defining consensus of opinion are not very definite. It was noted that, despite a number of limitations associated with the Delphi process, it has particular advantages to be used as research methodology in a study such as the one conducted by the researcher and presented in this report.

The 10 members of the Delphi panel represented five areas in higher education from local, national and international institutions. These members were contacted by electronic mail obtaining their permission to participate in the Delphi process. The correspondence sent to the members of the Delphi panel consisted of an invitation letter; three questionnaires - each with a cover letter - and the responses to the questionnaires. These are enclosed as Appendices M to S.

The 63 statements in seven categories of the proposed assessment model were used as the framework to design the questionnaire for the first of the three-round Delphi process used in the study. After the first round and on the recommendation of the Delphi panel, the questionnaire for the second round contained 73 statements in seven categories. The members of the

Delphi panel were requested to rate the statements of the proposed assessment model as essential, useful or unnecessary elements of an assessment model. Consensus was attained when 80 percent of the panel rated a statement as essential, useful or unnecessary. In addition, stability was declared when it was evident that convergence in the opinions of the Delphi panel had occurred. In this case, no significant change in the number of statements to attain consensus would be achieved and the process could be concluded.

After round II of the Delphi process, consensus was attained for 55 percent (40 of 73 statements). This increased to 60 percent (44 of 73 statements) after round III of the Delphi process. The findings of the study thus indicated a small increase in the number of statements attaining consensus after round III of the Delphi process. This is in line with findings in literature indicating that convergence of the responses of the Delphi panel usually occurs between rounds I and II of the Delphi process. The Delphi panel rated all the statements attaining consensus as essential elements of an assessment model.

The use of the Delphi process as research methodology to validate and benchmark the proposed assessment model is highly recommended. It was an effective research methodology used to rate, edit and validate the statements of the proposed assessment model.

7.2.6 Perspectives on Chapter Six

In this chapter with the title “An Assessment Model in OBET for Health Sciences and Technology”, the assessment model as outcome of the study is presented. The literature review provided in Chapter four was relevant for both the proposed and the final assessment model, therefore another literature review was not included in Chapter six.

Compared to the proposed assessment model presented in Chapter four, the final assessment model changed considerably after the Delphi panel had rephrased and validated the statements of the assessment model. Eventually all the statements except two were taken up in the final assessment model. The two statements were omitted because they were represented in almost duplicate form in other categories of the assessment model. Based on the recommendations of the Delphi panel or on literature references, eight statements of the assessment model were rephrased and/or shifted. The final assessment model was presented as 65 essential and six useful statements in seven categories. This was based on how the Delphi panel rated the statements of the assessment model.

Each of the categories of the assessment model, namely the purposes of assessment; the overall assessment strategy; recommended assessment methods; planning and construction of assessment; practical considerations in assessment; quality assurance in assessment; and basic qualities of and values underpinning the assessment model, was discussed individually.

The background to the assessment model with reference to the philosophy underpinning the assessment model, prerequisites and assumptions for implementing the assessment model, and the audiences of the assessment model were provided. This was illustrated in a diagram for easy interpretation (see Figure 6.1). In addition, the assessment model was integrated with the cyclic process of assessment and presented as a diagram for practical use (see Figure 6.2).

A generic assessment model was designed in the study to provide a programme with direction to practise meaningful assessment. Additionally, it could assist with the holistic approach to assessment in a programme. It was thus noted that each programme should customise the assessment model with the mission, vision and core values of the institution and the exit-level outcomes of the programme as the points of departure. Moreover, the assumption was made that academics should become empowered to use innovative assessment methods, assuring successful use of the assessment model.

The aim of the assessment model is to benefit assessment *per se*. A number of additional and/or potential beneficiaries were also mentioned. They are academics; learners; current and/or potential employers; the programme; the institution; the HPCSA; and the HEQC. In the discussion the advantages - relevant for each of the mentioned beneficiaries for using the assessment model - was highlighted.

A number of unique obstacles and challenges in assessment were identified that could also be anticipated when implementing the assessment model at the School of Health Technology, the TFS and the Faculty of Health Sciences, the UFS. It is therefore essential to note that the assessment model may not meet all the immediate requirements in assessment. It should however be pointed out that once the assessment model has been implemented, unique limitations and obstacles may be identified at programme level that will have to be dealt with. This initiates the importance of continuous reflection on assessment and the use of the assessment model to adjust and improve learning facilitation and assessment in a programme.

Assessment of learning is a complex process with the potential to add value to learning and thereby enhancing the learning experience of the learner. If academics in Health Sciences and Technology are encouraged to use the assessment model as a tool to practise quality assessment, they should become passionate about assessment. The desired result should lead to the establishment of a positive assessment culture in the programme where assessment is conducted and managed to enhance learning.

In this section, a summative perspective on the report with reference to the different phases of the research process to compile an assessment model in OBET for Health Sciences and Technology was described. In the next sections (7.3, 7.4 and 7.5 respectively), the value and implications of the study, the limitations and the recommendations will be described.

7.3 THE VALUE AND IMPLICATIONS OF THE STUDY

The assessment model was designed as an educational tool in assessment in the OBET approach. It should be used in collaboration with the implementation process of the OBET approach at the TFS and the UFS to orientate academics and facilitate the change towards assessment in the OBET approach. The implementation of the OBET approach is currently driven as a pilot project at the TFS, underlining the significance of the timing of the study.

The assessment model compiled in the study will therefore be presented to the following key role-players at the TFS, namely the Chief Director Academic Planning and Development; the Executive Dean of the Faculty of Health and Environmental Sciences, and the Head of the School of Health Technology. Together with identified role-players, the researcher shall co-ordinate the implementation of the assessment model at the School of Health Technology, the TFS. At the UFS, the assessment model will be brought to the attention of the Head: Division of Educational Development and the Head: School of Allied Health, the Faculty of Health Sciences.

The research project made a contribution to revisit current assessment methods and practices in Health Sciences and Technology at the participating higher education institutions in Bloemfontein. Using the assessment model will contribute to holistic assessment in the programme and subsequently add value to assessment. Although the focus of the

assessment model is on the assessment of learners in Health Sciences and Technology, this generic assessment model could also become the basis for assessment in various other programmes with the focus on achievement of competence by the learners.

7.4 LIMITATIONS OF THE STUDY

The limitations of each phase of the study was identified and described in Chapters three, four, five and six respectively. In this section, the overall limitations of the study are described. Some of the limitations already mentioned may be reiterated while reflecting on the study in a holistic manner.

An essential step at the beginning of a research project is consulting and studying the literature. A skill that the researcher needs to develop is to retrieve from the literature information relevant to enhance the purpose of the study. Likewise, the lack of knowledge and skills of the researcher to conduct the literature review and to design and compile the questionnaire as research tool was evident at the beginning of the study. Additionally, the inability of the researcher to summarise and report on findings came to the fore at the beginning of the study. Reflecting on the research process at the conclusion of the study, the researcher has to express the desire to have been equipped with the knowledge, skills and understanding of the research topic - acquired by conducting the research project - at the beginning of the research process.

A significant limitation refers to the available time of the academics used in both the structured interviews and the Delphi process. Academics were more than willing to participate in the structured interviews, although their scheduled academic tasks made it difficult to set aside enough time in which to conduct the structured interviews. It was therefore a challenge to make the appointments for the structured interviews. A number of interviews had to be rescheduled in more than one session because urgent academic tasks cropped up. The interviews were consequently more time-consuming than had been anticipated by the researcher. It was furthermore impossible to reach some of the selected participants and replacements had to be identified and used.

A similar trend was evident with regard to the Delphi process. The full academic schedules of the Delphi panel caused difficulty to stick to the planned time limits and time schedule of the study. The result was that the Delphi process took longer to complete than originally planned. The limitation associated with the longer period inbetween the different rounds of the Delphi process was that some members of the Delphi panel could lose interest in the impact of the study. Additionally, the time factor could limit the quality of the responses from the members of the Delphi panel, which involved consequences regarding the consensus and/or convergence attained in the statements during the Delphi process.

Using a questionnaire with statements to be rated for the first round of the Delphi process had distinct advantages for the present study. However, this could be a limitation as well. The researcher would therefore suggest

the inclusion of a section in the questionnaire with open questions additionally to the structured questions. By doing so, the opinions of the Delphi panel could be obtained and accommodated. Moreover, this method could assist the members of the Delphi panel to become part of the process. By taking this route, more information that could add validity to the research project will be generated. This method may have additional limitations that should be considered in advance. More information could be collected that might be more difficult and time-consuming to analyse.

The focus of the study was on assessment of learners in Health Sciences and Technology at the TFS and the UFS. While this appears to be a focused area, it became obvious during the study that the academics selected to participate in the study were involved in assessment of learners of various academic levels. This increased the diversity of learner population to be assessed with academics requiring a range of assessment methods larger than what the questionnaire had been designed for.

While planning the present study, the researcher envisaged designing an assessment model that was specific and prescriptive, especially with reference to the use of assessment methods for Health Sciences and Technology. For this reason questions on the use and appropriateness of 18 assessment methods were included in the questionnaire for the structured interviews. However, the assessment model presented as the

outcome of the study was generic and not specific concerning the use of assessment methods.

Even though the attitudes of academics and learners are not a limitation of the research project *per se*, it could, however, become a potential limitation for the implementation of the assessment model. Additionally, several demands and challenges in assessment will have to be dealt with when implementing the assessment model in OBET for Health Sciences and Technology. These factors are described in the next section (see 7.5.2).

7.5 RECOMMENDATIONS

The recommendations described in the following section focus on three areas. They are pointers for the implementation of the assessment model, dealing with specific matters in assessment and areas identified for future research.

7.5.1 Pointers for the implementation of the assessment model

The successful implementation of the assessment model will require co-operation and institutional support of role-players at all levels of the relevant higher education institutions. It will therefore be necessary for the relevant role-players at these higher education institutions to be comfortable with the principles of assessment in the OBET approach and then be introduced to the concepts of the assessment model. This

includes role-players in the top management, relevant non-academic departments, faculty and learners. The implementation of the assessment model in OBET for Health Sciences and Technology should take place consistent with the implementation plan of the OBET approach at the TFS. Similar to the introduction of the OBET approach, long-term results are more significant than results in the short term.

For successful implementation, the assessment model should be custom-designed for each programme. The outcomes of the programme - together with the mission, vision and core values of the institution - are taken as the points of departure and the basis for assessment in the Health Sciences and Technology programmes. This provides for transparent, holistic and planned assessment in the programme.

Key faculty members within the relevant departments and/or schools should be given the responsibility to guide the assessment process based on the assessment model. Rodrigues (2002:2 of 3) recommends an advisory group to assist academics; to identify possible pitfalls in assessment; and where faculty members could share and be allowed to merge their ideas on assessment. Additionally, networking opportunities across institutions where academics could learn from one another should be created. This could be extended to include employers, future employers, and the relevant quality assurance bodies.

The author (Rodrigues 2002:1 of 3) continues by saying that the key to successful assessment efforts is that everyone involved has to understand

the importance of assessment of learning and has to support the implementation of the assessment model. The above-mentioned author (Rodrigues 2002:1 of 3) therefore suggests that the attitudes and culture of the academics on campus should be determined so that they can “buy in” on the assessment model.

With the implementation process, however, the demands, challenges and limitations in assessment identified while the study was in progress, will have to be dealt with. To ensure that the assessment model is implemented and used successfully by all role-players, creative and innovative solutions to these matters in assessment will have to be established. These matters are described in the next section (7.5.2).

7.5.2 Matters in assessment to deal with

In compiling and designing the assessment model presented as the outcome of the present study, specific matters in assessment came to the fore. These are the demands, challenges and limitations associated with the current trends in assessment. In theory, these matters could be separated. However in practice, they are closely related and often linked to one another. Similar solutions may be required in solving more than one matter at a time. Additionally, new issues may emerge in addressing these matters. It is for this reason that all involved in the new approach in assessment need to accept the challenges associated with the changes in assessment with a positive attitude.

One of the demands in assessment is the increase in the number of learners with a greater diversity in learner population as a consequence. To celebrate the diversity in learner population and capture learner achievements, an increase in the variety of appropriate assessment methods is recommended. By doing so, learners experience success in assessment that allows them to exit as winners from the higher education arena. The success that learners experience, establishes a desire in them to return to the higher education arena. By doing so, the lifelong learning requirement of the OBET approach is attended to.

An increase in the variety of assessment methods requires that assessment should become well-planned activities, integrated with the exit-level outcomes and the methods of learning facilitation. Conducting well-planned assessment, it could help academics to address the time problem of innovative assessment associated with constructing, performing and grading of assessment. Moreover, using innovative assessment approaches such as group activities, self- and peer assessment, should also address the relevant time problem. Additionally, the responsibility in assessment is thus transferred to the learner. Gale, Martin and McQueen (2002:558) report on the use of “triadic assessment” (self-, peer and tutor assessment) as part of formative and summative stages of assessment in the programme. The above-mentioned authors (Gale *et al.* 2002:558) mention that using these innovative approaches in assessment could help academics to deal with the resulting increased volume in assessment.

Introducing and using innovative approaches in assessment are accompanied by challenges of their own. Such an example is that plagiarism could emerge. The challenge therefore is to take cognisance of this issue and find ways to exclude and/or overcome plagiarism in assessment.

The new approach in assessment has to be introduced to learners with sensitivity. It has to be accompanied by thorough planning and the necessary empowerment of academics and learners to attain the ultimate and desired goals and objectives in the assessment of learners. It is essential that learners know what is expected of them in assessment. Academics need to work on communication skills to make sure that what we communicate to the learners, correlate with our expectations from the learners. Using learning guides as method of written communication could increase transparency in assessment because they contain the learning outcomes; the assessment criteria; and/or the rubrics according to which learner achievements are determined. Consequently, learning guides could become valuable and essential tools in assessment of learning.

The challenge that lies ahead in assessment in the OBET approach is for all involved to adopt the principles of assessment in the OBET approach. The role-players involved therefore should take note of the powerful role of assessment. In addition, academics should use innovative assessment methods and/or approaches to make sure that learners who exit from the programme, are equipped with the required knowledge, skills and attitudes to fulfil the requirements and face the challenges of the working

environment with confidence and success. Likewise, learners need to be equipped with meta-cognitive skills and move from competency to meta-competency (Harden, Crosby, Davis & Friedman 1999:546). Equipping learners with these additional skills through holistic assessment that focuses on learning outcomes helps to relieve the tensions between the educational and vocational environments (Harden, Crosby, Davis & Friedman 1999:546). Moreover, this will ensure that graduates could become an asset to the working environment.

To assess learners with confidence and gain the necessary knowledge, skills, and competencies in the new educational approach necessitate that academics are trained as assessors (CHE 2003:7). In addition, the higher education institution has to take the responsibility to expose academics to relevant staff development programmes (CHE 2003:7). This will provide academics with the opportunity to broaden their scope of innovative assessment methods. Additionally, opportunities will be created according to which academics could gain knowledge and skills about assessment in the OBET approach. By doing, academics could be assisted to abandon the "old" ways of thinking, realigning their attitudes in assessment to suit the emerging trend of assessment in the OBET approach.

Academics need to think in a new way about the information obtained from assessment. Academics used to be in control of the information that used to place them in a kind of power position. In addition, this information used to be regarded as exclusive for learner progress. More recently it has become necessary for academics and learners to interpret the results

obtained in assessment objectively to adjust learning facilitation, assessment methods and strategies used in a programme. Additionally, this assessment information could be linked to programme validation practices and quality assurance procedures. Academics should therefore move away from the historic view of assessment as a barrier for achievement and work on assessment procedures to promote transparency and credibility (CHE 2003:9).

The limitations in assessment focus on available resources referring to financial, physical and human resources. Although the demands become more challenging, resources are unfortunately not always keeping up with these demands. Therefore resources (human, physical and financial) for the increase in the number of learners and an increase in the number of assessment opportunities - required to practise assessment in the OBET approach - may not always be available or adequate. In finding practical and workable solutions, academics may have to abandon their comfort zones and think creatively and with innovation about assessment. Networking with other academics to learn how they cope with similar demands could provide simple and obvious solutions.

7.5.3 Identification of future research projects

- The potential of the assessment model as a provisional framework and for quality assurance in assessment should be investigated. The results of the study could be used to establish the link between learner assessment and programme validation at the TFS and the UFS (Palomba & Banta 1999:16; CHE 2003:6).
- Investigate and introduce portfolio-based assessment as a valuable addition to the assessment toolkit for formative and summative assessment of health professionals (Young 2000:122; Friedman Ben-David *et al.* 2001:535; Bowie *et al.* 2002:54; Roberts *et al.* 2002:899).
- An action research project could be conducted on learner perspectives of the assessment process by using the feedback and complaints from learners to improve the assessment model in becoming learner friendly (Palomba & Banta 1999:105). Feedback from learners could be used to alter, adjust and customise assessment. In this way learners will become part of assessment and take responsibility and ownership of the assessment process.
- An action research project could be conducted on the content and results of implementing a staff development programme for academics in Health Sciences and Technology education on using innovative approaches in assessment of learners.

- An action research project could be conducted to reflect on the implementation of the assessment model in OBET for Health Sciences and Technology as presented as an outcome of the study.

In this section, the recommendations with the focus on pointers for the implementation of the assessment model were described. Additionally, matters in assessment which have to be dealt with were described and future research projects identified. The next section contains a reflection on Chapter seven and a final conclusion to the report are offered.

7.6 REFLECTION ON CHAPTER SEVEN

Once the assessment model has been implemented, additional matters in assessment unique to each programme - that could not always have been anticipated in advance - will come to the fore. After the implementation of the assessment model, a reflection on the outcome has to become part of the ongoing process in assessment. It is only by reflecting on the results obtained in assessment that improvements and adjustments to the assessment model unique to each programme will be possible. This is an important process to customise the assessment model to the specific assessment needs in a programme.

The ultimate goal of the implementation of the assessment model is to impact positively on assessment. The positive impact means that a positive assessment culture should be established where assessment is

repositioned at the centre of all learning activities and value is added to learning. Learners will consequently exit from the programme and the institution as graduates who fit into a predetermined and specified graduate profile. As a result, the employer is guaranteed to receive graduates who are equipped to face the challenges of the working environment.

In Health Science and Technology, academics need to make sure that graduates are equipped with the knowledge, skills and attitude to be sensitive and tuned in to the ongoing expectations of our clients, the patients. This could be possible with assessment that is planned as an activity that integrates learning and assessment with the aim to add value to learning. Using the assessment model in OBET for Health Sciences and Technology as presented in the study, could provide academics with the means required to attain the desired outcome in assessment of learning. By doing so, the request expressed by the researcher could be accomplished, namely to reposition assessment where it belongs – that is at the centre of learning activities in higher education.

7.7 THE FINAL CONCLUSION

The literature review conducted on assessment and OBET as a background to the study revealed the importance of assessment of learning as one of the duties of an academic. Additionally, the lack of knowledge and skills of academics to perform quality assessment of learning came to the fore. The potential of assessment of learning to add value to learning in higher education was pointed out.

In the study, information on current assessment practices was obtained from 16 headhunted academics in Health Sciences, Technology and higher education studies by means of structured interviews. By means of the structured interviews, it became evident that academics were willing to share information and experiences on successes and failures in assessment practices. Additionally, the participants were not only knowledgeable about, but also willing to learn more about the OBET approach. However, the OBET approach was not always evident in the assessment of learners.

Academics in Health Sciences and Technology expressed the need to require additional knowledge, skills and competencies to practise innovative and meaningful assessment in the OBET approach. Thus an assessment model in OBET for Health Sciences and Technology, such as the one presented as outcome of the study, could become a valuable educational tool to meet the requirements of assessment in the OBET approach.

The results of the study showed that the information on assessment provided by the participants in the study was adequate to feed into the statements of the proposed assessment model. This was validated and supplemented by the literature on assessment. The proposed assessment model will suffice in terms of overall requirements to practise integrated, continuous and quality assessment in the programme.

The modified Delphi process used in the study proved to be a useful qualitative research methodology to rate the statements of the proposed assessment model as essential, useful or unnecessary. By using the opinions of the Delphi panel of experts to validate and benchmark the proposed assessment model in OBET for Health Sciences and Technology, overall consensus for 60 percent of the statements as essential statements of the proposed assessment model was attained. This points to the significance of using the Delphi process in a study of this nature.

A flexible and generic assessment model in OBET for Health Sciences and Technology with the potential to be used in a variety of relevant programmes was presented as outcome of the study. This assessment model was integrated with the cyclic process of assessment and presented in Figure 6.2 to assist both academics and learners to practise more meaningful assessment. The similarities between assessment in the OBET approach and performance assessment was noted (see Section 2.2.9). Although the design of the assessment model was based on the principles of assessment in the OBET approach, the principles of

performance assessment - valid in programmes for Health Sciences and Technology – will remain. These principles substantiate the assessment model presented in the study, should assessment in the OBET approach not accomplish its true potential.

While the assessment model compiled in the study may not meet all the immediate requirements in assessment, it should provide the much-needed direction to academics and learners to establish a positive assessment culture in a programme. In this culture of assessment academics are serious about ensuring and improving the quality of the educational experience of the learner. Using the assessment model as valuable educational tool, assessment of learning in the OBET approach in Health Sciences and Technology could be repositioned at the centre of learning activities.

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SUMMARY

KEY WORDS

- Outcomes-based education and training
- Health Sciences and Technology education
- Innovative assessment methods
- Structured interviews
- Assessment of learning
- Proposed assessment model
- Modified Delphi process
- Higher education
- Generic assessment model

The promulgation of the SAQA Act No. 58 of 1995, following the new democracy in South Africa, is regarded as the impetus for change in higher education. It was consequently recommended that higher education institutions should implement the Outcomes-based education and training (OBET) approach. The literature review conducted in this study emphasised the move towards assessment in the OBET approach in medical and health care education. Assessment in higher education has therefore become an essential issue to deal with. Likewise, the need for educators in Health Sciences and Technology to become empowered with the principles of assessment in the OBET approach was identified.

A study was conducted to revisit current assessment practices in Health Sciences and Technology at the Technikon Free State and the University of the Free State, with the OBET approach as background. The aim of the study was to compile an assessment model in OBET for Health Sciences and Technology. With the assessment model, the change to assessment in the new approach in higher education in Health Sciences and Technology could be facilitated.

A questionnaire for the structured interviews was designed, based on essential elements of assessment identified in literature on assessment and the OBET approach. The structured interviews were conducted with 16 headhunted academics from Health Sciences, Technology and higher education studies from the University of the Free State and the Technikon Free State respectively from July to August 2002. The information from the structured interviews, supported and supplemented by the literature on assessment and the OBET approach, was subsequently used to compile a proposed assessment model.

The statements of the proposed assessment model were fed into the questionnaire for the Delphi process. A three-round modified Delphi process, conducted from February to August 2003, was applied to rate the statements of the proposed assessment model according to essential, useful or unnecessary statements of an assessment model. The aim was to attain consensus on the ratings of the statements, with consensus defined as 80 percent of the Delphi panel in agreement. Additionally, the Delphi panel could rephrase and/or comment on the statements of the proposed assessment model. The Delphi panel, consisting of 10 members, represented five different areas in higher education and assessment. Findings of the Delphi process and the literature on assessment and the OBET approach were used to compile the final assessment model in OBET for Health Sciences and Technology.

The findings of the structured interviews indicated that the participants in the study were knowledgeable about the range of innovative (performance) assessment methods. However, the participants pointed out that they lacked the knowledge and skills to optimally make use of these innovative assessment methods. This was evident from the fact that fewer than 50 percent of the participants used an appropriate range of innovative assessment methods in the questionnaire. However, it should be noted that the OBET approach had not been implemented in the relevant programmes at the participating institutions at the time of the interviews. Even so, the information obtained from the structured interviews was adequate to compile the proposed assessment model in OBET for Health Sciences and Technology.

The outcome after three rounds of the modified Delphi process used in the study, was that consensus on 60 percent of the statements of the proposed assessment model had been attained. The statements were all rated as essential elements of an assessment model, with the majority of the statements achieving consensus between rounds I and II of the Delphi process.

The final assessment model was presented as 65 essential and six useful statements in seven categories. With the exception of two statements, all the statements rated by the Delphi panel were included in the final assessment model. This was based on the ratings of the statements of the assessment model by the Delphi panel and verified by literature on assessment in the OBET approach.

The willingness of the participants in the study to share information on successes and failures experienced in assessment practices contributed positively to the design of the assessment model. This assessment model in OBET for Health Sciences and Technology was developed, designed and compiled to perform integrated and quality assessment in the programme. The generic assessment model should provide a programme with direction to practise meaningful and holistic assessment in the OBET approach. In addition, using the assessment model in OBET for Health Sciences and Technology should add value to learning. Likewise, by means of the assessment model, assessment should be repositioned at the centre of learning activities in higher education.

The information from the structured interviews proved useful to compile and develop the proposed assessment model. The three-round modified Delphi process was an effective research methodology to validate and benchmark the statements of the proposed assessment model. In addition, the assessment model could become a valuable educational tool with which assessment in Health Sciences and Technology could be repositioned as a process that matters to academics, learners, the institution, accrediting bodies, as well as current and future employers.

OPSOMMING

SLEUTELWOORDE

- Uitkomsgebaseerde onderwys en opleiding
- Gesondheidswetenskappe en Tegnologie-onderrig
- Gestruktureerde onderhoude
- Assessering van leer
- Voorgestelde assesserings-model
- Innoverende assesseringsmetodes
- Gewysigde Delphiproses
- Hoër onderwys
- Generiese assesserings-model

Die aankondiging van die SAKO-Wet No. 58 van 1995 wat die nuwe demokrasie in Suid-Afrika gevolg het, word beskou as die gebeurtenis wat die momentum aan verandering in hoër onderwys geïnisieer het. Dit is gevolglik aanbeveel dat hoërondewysinstellings die uitkomsgebaseerde onderrig en opleiding (UGOO)-benadering implementeer. Die literatuuroorsig wat gedoen is vir hierdie studie, het die beweging in die rigting van die UGOO-benadering in mediese en gesondheidsberoepeonderrig onderskryf. Assessering van leer het daarom 'n belangrike kwessie geword wat aandag behoort te geniet. Terselfdertyd het dit nodig geword vir opvoeders in Gesondheidswetenskappe en Tegnologie om bemagtig te word met die beginsels van assessering in die UGOO-benadering.

'n Studie is gedoen om die huidige assesseringspraktyke wat gebruik word in Gesondheidswetenskappe en Tegnologie by die Universiteit van die Vrystaat en die Technikon Vrystaat te hersien, met die UGOO-benadering as agtergrond. Die doelwit van die studie was om 'n assesseringsmodel in

UGOO vir Gesondheidswetenskappe en Tegnologie op te stel. Hierdie assesseringsmodel behoort die verandering na assessering in die nuwe benadering in hoër onderwys in Gesondheidswetenskappe en Tegnologie te kan fasiliteer.

'n Vraelys vir gestruktureerde onderhoude is opgestel wat gebaseer is op die essensiële elemente in assessering soos geïdentifiseer uit die literatuur oor assessering en die UGOO-benadering. Die gestruktureerde onderhoude het geskied met behulp van 16 uitgesoekte akademici van Gesondheidswetenskappe, Tegnologie en hoëronderwysstudies verbonde aan die Universiteit van die Vrystaat en die Technikon Vrystaat vanaf Julie tot Augustus 2002. Die inligting wat bekom is met behulp van die gestruktureerde onderhoude, ondersteun en aangevul deur die literatuur oor assessering en die UGOO-benadering, is gevolglik gebruik om 'n voorgestelde assesseringsmodel op te stel.

Die stellings van die voorgestelde assesseringsmodel is gebruik in die vraelys vir die Delphiproses. 'n Gemodifiseerde Delphiproses, bestaande uit drie rondtes, is aangebied van Februarie tot Augustus 2003 en is gebruik om die stellings van die voorgestelde assesseringsmodel te klassifiseer as essensiële, bruikbare of onnodige stellings van 'n assesseringsmodel. Die doelwit was om konsensus te bereik rakende die klassifikasie van die stellings met konsensus gedefinieer as 80 persent van die Delhipaneel in ooreenstemming. Verder kon die Delhipaneel die stellings van die voorgestelde assesseringsmodel verander en/of kommentaar daarop lewer. Die Delhipaneel, bestaande uit 10 lede, het

vyf verskillende areas uit hoer onderwys en assessering verteenwoordig. Die bevindings van die Delphiroses saam met die literatuur oor assessering en die UGOO-benadering is gebruik om die finale assesseringsmodel in UGOO vir Gesondheidswetenskappe en Tegnologie op te stel.

Die bevindings van die gestruktureerde onderhoue het aangedui dat die deelnemers aan die studie kundig was oor die reeks van innoverende (*performance*) assesseringsmetodes. Die meerderheid van die deelnemers het egter aangedui dat hulle nie oor die nodige kennis en vaardigheid beskik het om hierdie innoverende assesseringsmetodes te gebruik nie. Dit was duidelik omdat die deelnemers minder as 50 persent van die reeks van innoverende assesseringsmetodes in die vraelys gebruik het. Dit is belangrik om kennis te neem dat, ten tye van die onderhoue, die UGOO-benadering nie geïmplementeer was in die relevante programme by die deelnemende instellings nie. Nieteenstaande was die inligting wat verkry is deur die gestruktureerde onderhoue voldoende om die voorgestelde assesseringsmodel in UGOO vir Gesondheidswetenskappe en Tegnologie op te stel.

Die uitkoms na drie rondtes van die aangepaste Delphiroses was dat konsensus bereik is in 60 persent van die stellings. Die stellings is almal as essensiële elemente van 'n assesseringsmodel beskou. Die meerderheid van die stellings het konsensus bereik tussen rondtes I en II van die Delphiroses.

Die finale assesseringsmodel is voorgestel as 65 essensiële en ses bruikbare stellings in sewe kategorieë. Met die uitsondering van twee stellings, is al die stellings wat deur die Delhipaneel geklassifiseer is, ingesluit by die finale assesseringsmodel. Dit is gebaseer op die klassifikasie van die stellings van die assesseringsmodel deur die Delhipaneel en geverifieer deur die literatuur oor assessering en die UGOO-benadering.

Die bereidwilligheid van die deelnemers in die studie om inligting te deel oor die suksesse en mislukkings wat ondervind is in assesseringspraktyke het positief bygedra tot die ontwerp van die assesseringsmodel. Hierdie assesseringsmodel in UGOO vir Gesondheidswetenskappe en Tegnologie is ontwikkel, ontwerp en saamgestel om geïntegreerde en kwaliteitsassessering in die program te bevorder. Die generiese assesseringsmodel behoort 'n program met die nodige riglyne te verskaf om betekenisvolle en holistiese assessering in die UGOO-benadering aan te moedig. Bykomend behoort die gebruik van die assesseringsmodel in Gesondheidswetenskappe en Tegnologie waarde toe te voeg tot die leerproses. Op dieselfde wyse behoort assessering deur middel van die assesseringsmodel herposisioneer te word om die middelpunt van leeraktiwiteite in hoër onderwys te vorm.

Die inligting van die gestruktureerde onderhoude kon gunstig gebruik word om die voorgestelde assesseringsmodel saam te stel en te ontwikkel. Die aangepaste Delhiproses bestaande uit drie rondtes was 'n effektiewe navorsingsmetodologie om waarde tot die stellings van die voorgestelde

assesseringsmodel toe te voeg en die standaard daarvan te bepaal. Verder behoort die assesseringsmodel 'n waardevolle onderriginstrument te word waarmee assessering in Gesondheidswetenskappe en Tegnologie herposisioneer kan word as 'n proses wat van belang is vir akademici, leerders, die instelling, akkrediteringsliggame, asook huidige en toekomstige werkgewers.

APPENDIX A

DEFINITION OF TERMS

Assessment

"Based on the definition of SAQA [RSA 1995] *assessment* is defined as: The structured process of identifying, gathering and interpreting evidence about a learner's achievement in order to assist the learner's development, improve the process of learning and teaching and make judgements about the learner's achievement of outcomes in relation to registered national standards and qualifications" (Coetzee-Van Rooy & Serfontein 2001:7).

Formative assessment

"*Formative assessment* is an assessment that is carried out through the duration of the learning, and the learner progresses towards the outcome. It allows for feedback, remedial activities as well as additional support which might be needed" (Olivier 1999:69).

Summative assessment

"*Summative assessment* takes place at the end of the learning period and is used to confirm that learners have met the standards" (Olivier 1999:69).

The Delphi technique

The Delphi technique is designed to obtain opinions from a group response from an initial panel of experts on a specific topic (Fazio 1985:148). "It collects and organises judgments in a systematic fashion"

(Clayton 1997:10 of 14). "It is a useful tool when the objective is to obtain expert opinion for critical decision-making tasks in education" (Clayton 1997:10 of 14). According to Stewart (2001:922), the Delphi is labelled in literature as a "technique", a "process", a "method", an "exercise" and a "survey". There are many variations of the original; therefore Delphi is often preceded by the word "modified".

Outcomes-based education and training

Outcomes-based education and training is a method of learning that departs from a specific outcome which impacts on how learning programmes are developed and how teaching, learning and assessment takes place (Olivier 1999:27). According to Spady (1994:1), it "[This] means starting with a clear picture of what is important for students to be able to do, then organizing curriculum, instruction, and assessment to make sure this learning ultimately happens".

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APPENDIX B

THE QUESTIONNAIRE AND INTERVIEW SCHEDULE

STRUCTURED INTERVIEW QUESTIONNAIRE FOR AN ASSESSMENT MODEL

BACKGROUND

This questionnaire is the research tool with which systematic and structured information will be obtained from the identified participants. The information obtained will form the basis to draw up an assessment model in Outcomes-based Education and Training (OBET) in Health Sciences and Technology. All the information will be reported on collectively without the identity of individual participants being revealed and as part of a research report for the qualification Ph.D. (Health Professions Education). Feedback on the questionnaire will be available once the report has been published.

It will be appreciated if you answer the questions by drawing on your knowledge and experience. No judgemental conclusions will be made from the information obtained from you. Your valuable input and contribution to this topic is highly appreciated and we are grateful that you are willing to participate by sharing your knowledge and experience on the topic of assessment.

You will be asked some questions. Kindly answer each question as honestly as possible. If you do not understand the kind of information requested, you are welcome to ask for an explanation. You are also welcome to qualify the answer with additional information if so required. The responses will be written down as objectively as possible and verified with you to record your response as accurately as possible. This will enhance the objectivity, reliability and the processing of the questionnaire. The time required to fill in the questionnaire is approximately 90 – 120 minutes.

The first part of the questionnaire (Sections 1 – 7) takes longer to complete than the last part (Section 8) on the use of different assessment methods.

To quantify your opinion, a scale of 1 – 5 is used throughout the questionnaire. Kindly use the following criteria as an indication:

0 = not applicable

1 = poor / little or short (where questions pertain to duration of tasks).

2 = acceptable

3 = average

4 = very good

5 = excellent or long (where questions pertain to duration of tasks).

Thank you again for your contribution.

Hesta Friedrich-Nel

Contact numbers: (051) 507 3268 [work], 083 310 3278 [cell] and hfried@tofs.ac.za [e-mail].

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8.17	Dissertation – process	p.29
8.18	Dissertation – product	p.30

The questions on the demographic data (Section 1); on changes in higher education (Section 2); and on assessment in general (Section 3); will assist to obtain an overview of the background of participants and define the basic knowledge of the participants on the changes in higher education as well as in assessment. There are six questions in Section 1, 15 questions in Section 2; and three questions in Section 3.

		1-2
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1.	DEMOGRAPHIC DATA				Office	
1.1	Male/Female	1.Male	2.Female		3	
1.2	Age group	20 – 35 years			4	
		36 – 50 years				
		51 – 65 years				
		66 and older				
1.3	Position in programme/school/department/faculty				5-6	
1.4	List your function(s) in the programme/school/department/Faculty	1.Management	Yes	No	N/a	7
		2.Administration	Yes	No	N/a	8
		3.Lecturing	Yes	No	N/a	9
		4.Research	Yes	No	N/a	10
		5.Community service	Yes	No	N/a	11
		6.Other (specify)	Yes	No	N/a	12
1.5	Kindly prioritise the functions named in 1.4 from 1 (low priority) to 5 (high priority) in the columns available. Fill in the "n/a column" where functions are not applicable.	1.Management	Yes	No	N/a	13
		2.Administration	Yes	No	N/a	14
		3.Lecturing	Yes	No	N/a	15
		4.Research	Yes	No	N/a	16
		5.Community service	Yes	No	N/a	17
		6.Other (specify)	Yes	No	N/a	18
1.6	Name the field of academic expertise, e.g. Ph.D. in Cell Morphology				19-20	

Contact details	

2. THE CHANGES TO OUTCOMES-BASED EDUCATION AND TRAINING (OBET) AND ASSESSMENT IN HIGHER EDUCATION								Office
2.1	Are you familiar with the current changes in higher education?	Yes	No	Uncertain				21
2.2	What do you regard as the changes in higher education? (Give your opinion.)							22-23
								24-5
								26-7
								28-9
2.3	Express your attitude towards the changes by selecting the one attitude closest to your opinion.	Positive	Negative	Neutral	Uncertain			30
2.4	Name reason(s) for your answer in 2.3:							31-2
								33-4
								35-6
								37-8
2.5	Rate your knowledge on the current changes and the recent developments in HE on a scale from 1 – 5 (1 = poor, 3 = average, 5 = excellent).	1	2	3	4	5		39
2.6	Name the reason(s) for your answer in 2.5:							40-1
								42-3
								44-5
2.7	Are you willing to learn about Outcomes-based education and training (OBET)?	Yes	No	Both	Neutral	Uncertain		46
2.8	State in your own words your interpretation or description of the term "assessment".							47
2.9	Do you understand the difference between assessment and evaluation?	Yes	No	Both	Neutral	Uncertain		48
2.10	Describe your involvement in assessment:							49-50
2.11	Name the period that you have been involved in assessment in years:	1-2	3-5	6-10	11-15	16-20	20+	51
2.12	Classify yourself in terms of assessment attitude and style:							52
	Traditional: Using the assessment methods and techniques of the old paradigm.*							
	Hybrid: Using the assessment methods and techniques of the old and the new paradigm.*							
	Outcomes-based: Using the assessment methods and techniques of the new paradigm.*							
	*A paradigm is a way of doing and a way of viewing things consistent with that viewpoint.							
2.13	Kindly explain why you rate yourself as selected in 2.12:							53

2.14	Do you regard the final written examination as the most important assessment event in the academic year/semester/module?	Yes	No	Both	Neutral	Uncertain		54	
2.15	Name a reason for the answer in 2.14:								55-56

3.	THE USE OF ASSESSMENT METHODS							
3.1	Are you knowledgeable about the variety of assessment methods?	Yes	No	Uncertain				57
3.2	Did you receive training to use the assessment methods in practice?	Yes	No	Uncertain				58
3.3	If "YES", what type of training did you receive in the use of assessment methods? Please mark the appropriate block.	Institutional (compulsory)						59
		Institutional (personal enrichment)						60
		Departmental						61
		School						62
		Outside institution – personal enrichment						63
		Other (please specify)						64

The next questions (Section 4) pertain to the purpose of assessment (i.e. why you do assessment). There are 4 questions in the section.

4.	THE PURPOSES OF ASSESSMENT							
4.1	List the reasons why you assess learners:							65-66
								67-68
								69-70
								71-72
								73-74
4.2	Do you agree or support the following statements that express the purposes of assessment? Select the answer closest to your opinion							
4.2.1	It certifies that a specific level of performance has been achieved.	Yes	No	Not always	Uncertain		75	
4.2.2	It describes in the form of an outcome what the learner can do.	Yes	No	Not always	Uncertain		76	
4.2.3	It motivates the learner.	Yes	No	Not always	Uncertain		77	
4.2.4	It is a learning experience.	Yes	No	Not always	Uncertain		78	
4.2.5	Learners can discover their strengths and weaknesses with proper feedback.	Yes	No	Not always	Uncertain		79	
4.2.6	Learners can record and track their progress in learning.	Yes	No	Not always	Uncertain		80	
4.2.7	It reviews the effectiveness of learning arrangements.	Yes	No	Not always	Uncertain		1	
4.2.8	It identifies the impact of learning.	Yes	No	Not always	Uncertain		2	
4.2.9	It identifies areas where adjustments in teaching and learning can be made.	Yes	No	Not always	Uncertain		3	

4.3	Are you of the opinion that there is a relationship between assessment and learning?	Yes	No	Not always	Uncertain		4
4.4	Please comment on your answer in 4.3.						5-6
							7-8

Section 5 pertains to the quality assurance mechanisms that you use in assessments. There are 24 questions in this section.

5. QUALITY ASSURANCE IN ASSESSMENT							
5.1	Do you communicate assessment events with learners?	Yes	No	Not always	Uncertain		9
5.2	If "YES", which method of communication do you use?	Oral	Written	E-mail	Other		10-11
							12-13
5.3	Please specify 5.2.						14-15
							16-17
5.4	Select from the following the option closest to your situation:						
5.4.1	Assess the learner once/more than once per year.						18-19
5.4.2	Assess the learner once/more than once per semester.						
5.4.3	Assess the learner once/more than once per module.						
5.4.4	Assess the learner once/more than once per term.						
5.5	Explain how you decide on the number of assessments:						20-21
5.6	When do you assess?	Continuous	End of learning period	Both	Other		22
5.7	When you determine the assessment schedule do you consider the following factors?						
5.7.1	Did the learner have enough time to prepare for the assessment?	Yes	No	Not always	Uncertain		23
5.7.2	Did the learner have enough opportunity to prepare for assessment?	Yes	No	Not always	Uncertain		24
5.7.3	Other factors considered (please specify):						25-26
							27-28
5.8	Explain how the weight of the individual assessment is determined? (Please clarify by giving examples.)						
							30
							31
							32
5.9	Do you assess the learner more than once on the same work content or outcomes?	Yes	No	Not always	Uncertain		33
5.10	Provide a reason for 5.9:						34-35
							36-37

5.11	Which of the following do you communicate with the learners regarding assessment?					
5.11.1	Content covered in assessment	Yes	No	Not always	Uncertain	38
5.11.2	Length of assessment (time/marks/credits)	Yes	No	Not always	Uncertain	39
5.11.3	Type of questions	Yes	No	Not always	Uncertain	40
5.11.4	Other (please specify):					41
5.12	If the content of assessment is communicated with the learner, specify how (method):					42-43
5.13	State the following about a policy on reassessment					
5.13.1	Do you have a personal policy on reassessment?	Yes	No	Not always	Uncertain	44
5.13.2	Does your school have a policy on reassessment?	Yes	No	Not always	Uncertain	45
5.13.3	Does your department have a policy on reassessment?	Yes	No	Not always	Uncertain	46
5.13.4	Does your institution have a policy on reassessment?	Yes	No	Not always	Uncertain	47
5.14	If "YES", what does the policy stipulate?					48
						49
						50
						51
5.15	Do you consult colleagues with regard to judgement on the assessment content or outcomes covered?	Yes	No	Not always	Uncertain	52
5.16	If "YES", which of the following?					
5.16.1	Type of questions	Yes	No	Not always	Uncertain	53
5.16.2	Level of questions	Yes	No	Not always	Uncertain	54
5.16.3	Clarity of questions	Yes	No	Not always	Uncertain	55
5.17	Do you consult colleagues with regard to judgement on the assessment process?	Yes	No	Not always	Uncertain	56
5.18	If "YES", which of the following?					
5.18.1	Marking schedule	Yes	No	Not always	Uncertain	57
5.18.2	Memorandum	Yes	No	Not always	Uncertain	58
5.18.3	Marking method	Yes	No	Not always	Uncertain	59
5.19	Do you consult colleagues with regard to judgement on the outcome of assessment?	Yes	No	Not always	Uncertain	60
5.20	Please specify 5.19:					61
						62
						63
						64
5.21	What do you do to determine consistency in assessment?					65
						66
						67
						68

5.22	What do you do to determine that you mark objectively?				69	
					70	
					71	
					72	
5.23	What do you do to determine that you mark consistently?				73	
					74	
					75	
					76	
5.24	Do you communicate the following with the learners?					
5.24.1	Scoring criteria/rubric for scoring?	Yes	No	Not always	Uncertain	77
	If "YES" is it done:	Before assessment	After assessment	Both		78
5.24.2	Memrandum?	Yes	No	Not always	Uncertain	79
	If "YES" is it done:	Before assessment	After assessment	Both		80

The following questions (Section 6) cover content-related and practical issues that you consider when assessments are constructed or compiled. There are eight questions in Section 6.1 and 24 questions in Section 6.2.

6.1	FACTORS CONSIDERED WHEN ASSESSMENT IS PLANNED AND CONSTRUCTED: CONTENT-RELATED					
6.1.1	How do you decide on the content of the assessment?				1-2	
					3-4	
					5-6	
					7-8	
6.1.2	Do you sample the content?	Yes	No	Not always	Uncertain	9
6.1.3	If "YES", how do you sample?				10-11	
					12-13	
					14-15	
					16-17	
6.1.4	Do you consider the outcomes to be assessed?	Yes	No	Not always	Uncertain	18
6.1.5	Do you consider the capabilities and skills defined by the outcome?	Yes	No	Not always	Uncertain	19
6.1.6	Do you determine the assessment method in agreement with the knowledge, skills and attitudes defined by the outcome?	Yes	No	Not always	Uncertain	20
6.1.7	Do you accommodate the taxonomies (levels of knowledge, comprehension, etc.) in the assessment?	Yes	No	Not always	Uncertain	21
6.1.8	Do you use a grid or scheme to plan or construct the assessment?	Yes	No	Not always	Uncertain	22

6.2	FACTORS CONSIDERED WHEN ASSESSMENT IS PLANNED AND CONSTRUCTED: PRACTICAL CONSIDERATIONS						
6.2.1	Do you expose the learners to a variety of assessment methods?	Yes	No	Not always	Uncertain		23
6.2.2	If "YES", how do you decide on the assessment methods to be used?						24
							25
							26
							27
6.2.3	Do you consider the efficiency of the assessment method in terms of staff time available?	Yes	No	Not always	Uncertain		28
6.2.4	Do you consider the efficiency of the assessment method in terms of learner time?	Yes	No	Not always	Uncertain		29
6.2.5	Do you have a favourite method(s) of assessment?	Yes	No	Not always	Uncertain		30
6.2.6	List the methods in 6.2.5:						31-32
							33-34
							35-36
							37-38
6.2.7	Do you differentiate between the levels to be assessed between first-, second- and third-year learners?	Yes	No	Not always	Uncertain		39
6.2.8	Please state how you accommodate this (refer to 6.2.7)?						40-41
							42-43
							44-45
6.2.9	Do you "teach to the test" (emphasise the questions asked in the assessment during lectures and focus on the answers)?	Yes	No	Not always	Uncertain		46
6.2.10	Do you allow reassessment?	Yes	No	Not always	Uncertain		47
6.2.11	Kindly qualify the answer in 6.2.10:						48
							49
							50
							51
							52
							53
							54
6.2.12	Which of the following are used?						
6.2.12.1	Formative assessment	Yes	No	Not always	Uncertain		55
6.2.12.2	Summative assessment	Yes	No	Not always	Uncertain		56
6.2.12.3	Self-assessment	Yes	No	Not always	Uncertain		57
6.2.12.4	Peer assessment	Yes	No	Not always	Uncertain		58

6.2.12.5	Patient assessment	Yes	No	Not always	Uncertain		59
6.2.12.6	Tutor assessment	Yes	No	Not always	Uncertain		60
6.2.12.7	Other (please list):						61
							62
							63
							64
6.2.13	List the motivation for the use of a specific assessment (6.2.12):						65
							66
							67
							68
							69
							70
							71
6.2.14	Do you use criteria (memorandum or rubric) for marking or scoring?	Yes	No	Not always	Uncertain		72
6.2.15	If "YES", kindly list the details of 6.2.14						73
							74
							75
							76
6.2.16	If "YES", when do you compile the criteria (memorandum or rubric) for marking or scoring?	Before assessment	After assessment	Before and after assessment	Never		77
6.2.17	If "NO" (6.2.14), please motivate:						78
							79
							80
6.2.18	If "NO" (6.2.14), explain how marking is done:						1-2
6.2.19	List what the results of assessment are used for:						3
							4
							5
							6
6.2.20	Which of the following is important for you to assess?	Product	Process	Both			7
6.2.21	Motivate the answer to 6.2.20:						8-9
6.2.22	Which of the following do you use?						
1	Criteria-referenced assessment (learners are compared to preset criteria)						10
2	Norm-referenced assessment (learners are compared with other learners in the class)						11
6.2.23	List the difficulties that you experience with any aspect of assessment:						13
							14
							15
							16
							17
							18

The next section (Section 7) is on feedback in general and the use of assessment results. There are 10 questions in this section.

7.	FEEDBACK ON ASSESSMENT AND THE USE OF ASSESSMENT RESULTS					
7.1	Are the results of the assessment analysed?	Yes	No	Not always	Uncertain	19
7.2	Are the results of the assessment interpreted?	Yes	No	Not always	Uncertain	20
7.3	List the method(s) used for the analysis or interpretation of the assessment results:					21
						22
						23
						24
						25
7.4	Are all the assessments used towards the year mark/module mark	Yes	No	Not always	Uncertain	26
7.5	If "NO", "NOT ALWAYS" or "UNCERTAIN", what is assessment used for?					27
						28
						29
						30
7.6	Do you give feedback with/after assessment?	Yes	No	Not always	Uncertain	31
7.7	When is the feedback given?	With assessment	After assessment	With and after assessment	Never	32
7.8	What method do you use to provide feedback (please list)?					33
						34
						35
						36
7.9	What is the purpose of the feedback that you provide?					37
						38
						39
						40
7.10	Any other comments:					41
						42
						43
						44
						45
						46

The last questions in Section 8 are on the methods of assessment that you use and the reasons why the methods are used. Section A of each assessment method is completed if the assessment method is used and Section B if you do not currently use the assessment method. A Likert scale of 1 – 5 is used to express the duration of a task, i.e. to mark one assessment, 1 = short, 3 = average and 5 = long. To express the knowledge, skills, attitudes and values tested with the assessment method, 0 = no or not applicable, 1 = minimal, 3 = average and 5 = excellent.

8. ASSESSMENT METHODS AND APPROPRIATENESS								
Section A		8.1 SHORT ANSWERS, e.g. TRUE/FALSE, MATCHING ANSWERS AND QUESTIONS, FILL IN THE BLANK						
8.1.1	List the reason for the selection of this assessment method:						1-2	
8.1.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.1.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.1.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.1.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.1.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.1.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.1.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.1.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.1.9.1	Knowledge	0	1	2	3	4	5	19
8.1.9.2	Skills	0	1	2	3	4	5	20
8.1.9.3	Attitudes and values	0	1	2	3	4	5	21
8.1.10	Any other comments:						22	
							23	
							24	
							25	
Section B		8.1 SHORT ANSWERS, e.g. TRUE/FALSE, MATCHING ANSWERS AND QUESTIONS, FILL IN THE BLANK						
8.1.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.1.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.1.13	Kindly qualify the answer in 8.1.12:						28	
							29	
							30	
							31	
							32	
							33	
							34-	
							35	
							36-	
							37	
8.1.14	Any other comments:						38	
							39	
							40	
							41	

8. ASSESSMENT METHODS AND APPROPRIATENESS (continued)								
Section A	8.2 MULTIPLE CHOICE QUESTIONS (MCQ)							
8.2.1	List the reason for the selection of this assessment method:						1-2	
8.2.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.2.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.2.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.2.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.2.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.2.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.2.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.2.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.2.9.1	Knowledge	0	1	2	3	4	5	19
8.2.9.2	Skills	0	1	2	3	4	5	20
8.2.9.3	Attitudes and values	0	1	2	3	4	5	21
8.2.10	Any other comments:						22	
							23	
							24	
							25	
Section B	8.2 MULTIPLE CHOICE QUESTIONS (MCQ)							
8.2.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.2.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.2.13	Kindly qualify the answer in 8.2.12:						28–	
							29	
							30–	
							31	
							32–	
							33	
							34–	
							35	
							36–	
							37	
8.2.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A		8.3 ESSAYS						
8.3.1	List the reason for the selection of this assessment method:						1-2	
8.3.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.3.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.3.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.3.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.3.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.3.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.3.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.3.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.3.9.1	Knowledge	0	1	2	3	4	5	19
8.3.9.2	Skills	0	1	2	3	4	5	20
8.3.9.2	Attitudes and values	0	1	2	3	4	5	21
8.3.10	Any other comments:							22
								23
								24
								25
Section B		8.3 ESSAYS						
8.3.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.3.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.3.13	Kindly qualify the answer in 8.3.12:						28–29	
							30	
							31	
							32–33	
							34–35	
							36–37	
8.3.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A	8.4 LISTS, DIAGRAMS, TABLES							
8.4.1	List the reason for the selection of this assessment method:						1-2	
8.4.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.4.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.4.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.4.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.4.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.4.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.4.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.4.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.4.9.1	Knowledge	0	1	2	3	4	5	19
8.4.9.2	Skills	0	1	2	3	4	5	20
8.4.9.3	Attitudes and values	0	1	2	3	4	5	21
8.4.10	Any other comments:						22	
							23	
							24	
							25	
Section B	8.4 LISTS, DIAGRAMS, TABLES							
8.4.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.4.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.4.13	Kindly qualify the answer in 8.4.12:						28–29	
							30–31	
							32–33	
							34–35	
							36–37	
8.4.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)							
Section A		8.5 CASE STUDY							
8.5.1	List the reason for the selection of this assessment method:							1-2	
8.5.2	List the strong points/advantages of this assessment method:							3	
								4	
								5	
								6	
8.5.3	List the limitation(s) of this method (your opinion):							7	
								8	
								9	
								10	
8.5.4	How do learners experience the assessment method (your opinion)?							11	
								12	
								13	
								14	
8.5.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5		15	
8.5.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5		16	
8.5.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain			17	
8.5.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5		18	
8.5.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)								
8.5.9.1	Knowledge	0	1	2	3	4	5		19
8.5.9.2	Skills	0	1	2	3	4	5		20
8.5.9.3	Attitudes and values	0	1	2	3	4	5		21
8.5.10	Any other comments:								22
									23
									24
									25
Section B		8.5 CASE STUDY							
8.5.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain			26	
8.5.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain			27	
8.5.13	Kindly qualify the answer in 8.5.12:								28
									29
									30
									31
									32
									33
8.5.14	Any other comments:								34
									35
									36
									37
								38	
								39	
								40	
								41	

8. ASSESSMENT METHODS AND APPROPRIATENESS								
(continued)								
Section A	8.6 OPEN PROBLEMS/OPEN-BOOK EXAMINATION							
8.6.1	List the reason for the selection of this assessment method:						1-2	
8.6.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.6.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.6.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.6.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.6.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.6.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.6.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.6.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.6.9.1	Knowledge	0	1	2	3	4	5	19
8.6.9.2	Skills	0	1	2	3	4	5	20
8.6.9.3	Attitudes and values	0	1	2	3	4	5	21
8.6.10	Any other comments:						22	
							23	
							24	
							25	
Section B	8.6 OPEN PROBLEMS/OPEN-BOOK EXAMINATION							
8.6.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.6.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.6.13	Kindly qualify the answer in 8.6.12:						28–	
							29	
							30–	
							31	
							32–	
							33	
8.6.14	Any other comments:						34–	
							35	
							36–	
							37	
						38		
						39		
						40		
						41		

8. ASSESSMENT METHODS AND APPROPRIATENESS								
(continued)								
Section A	8.7 MINI-PRACTICAL/PRACTICAL							
8.7.1	List the reason for the selection of this assessment method:						1-2	
8.7.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.7.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.7.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.7.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.7.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.7.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.7.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.7.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.7.9.1	Knowledge	0	1	2	3	4	5	19
8.7.9.2	Skills	0	1	2	3	4	5	20
8.7.9.3	Attitudes and values	0	1	2	3	4	5	21
8.7.10	Any other comments:						22	
							23	
							24	
							25	
Section B	8.7 MINI-PRACTICAL/PRACTICAL							
8.7.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.7.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.7.13	Kindly qualify the answer in 8.7.12:						28–	
							29	
							30–	
							31	
							32–	
							33	
							34–	
							35	
							36–	
							37	
8.7.14	Any other comments:						38	
							39	
							40	
							41	

8. ASSESSMENT METHODS AND APPROPRIATENESS								
(continued)								
Section A	8.8 PROJECTS/REFLECTIVE PRACTICE ASSIGNMENTS							
8.8.1	List the reason for the selection of this assessment method:						1-2	
8.8.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.8.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.8.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.8.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.8.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.8.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.8.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.8.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.8.9.1	Knowledge	0	1	2	3	4	5	19
8.8.9.2	Skills	0	1	2	3	4	5	20
8.8.9.3	Attitudes and values	0	1	2	3	4	5	21
8.8.10	Any other comments:						22	
							23	
							24	
							25	
Section B	8.8 PROJECTS/REFLECTIVE PRACTICE ASSIGNMENTS							
8.8.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.8.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.8.13	Kindly qualify the answer in 8.8.12:						28–29	
							30–31	
							32–33	
							34–35	
							36–37	
8.8.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A	8.9 ORAL (VIVA VOCE)							
8.9.1	List the reason for the selection of this assessment method:						1-2	
8.9.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.9.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.9.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.9.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.9.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.9.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.9.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.9.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.9.9.1	Knowledge	0	1	2	3	4	5	19
8.9.9.2	Skills	0	1	2	3	4	5	20
8.9.9.3	Attitudes and values	0	1	2	3	4	5	21
8.9.10	Any other comments:						22	
							23	
							24	
							25	
Section B	8.9 ORAL (VIVA VOCE)							
8.9.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.9.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.9.13	Kindly qualify the answer in 8.9.12:						28-29	
							30-31	
							32-33	
							34-35	
							36-37	
8.9.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A		8.10 SIMULATIONS						
8.10.1	List the reason for the selection of this assessment method:						1-2	
8.10.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.10.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.10.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.10.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.10.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.10.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.10.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.10.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.10.9.1	Knowledge	0	1	2	3	4	5	19
8.10.9.2	Skills	0	1	2	3	4	5	20
8.10.9.3	Attitudes and values	0	1	2	3	4	5	21
8.10.10	Any other comments:						22	
							23	
							24	
							25	
Section B		8.10 SIMULATIONS						
8.10.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.10.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.10.13	Kindly qualify the answer in 8.10.12:						28–29	
							30–31	
							32–33	
							34–35	
							36–37	
8.10.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A		8.11 LABORATORY PRACTICAL						
8.11.1	List the reason for the selection of this assessment method:						1-2	
8.11.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.11.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.11.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.11.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.11.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.11.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.11.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.11.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.11.9.1	Knowledge	0	1	2	3	4	5	19
8.11.9.2	Skills	0	1	2	3	4	5	20
8.11.9.3	Attitudes and values	0	1	2	3	4	5	21
8.11.10	Any other comments:						22	
							23	
							24	
							25	
Section B		8.11 LABORATORY PRACTICAL						
8.11.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.11.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.11.13	Kindly qualify the answer in 8.11.12						28–29	
							30–31	
							32–33	
							34–35	
							36–37	
8.11.14	Any other comments:						38	
							39	
							40	
							41	

8. ASSESSMENT METHODS AND APPROPRIATENESS								
(continued)								
Section A	8.12 OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)							
8.12.1	List the reason for the selection of this assessment method:						1-2	
8.12.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.12.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.12.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.12.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.12.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.12.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.12.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.12.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.12.9.1	Knowledge	0	1	2	3	4	5	19
8.12.9.2	Skills	0	1	2	3	4	5	20
8.12.9.3	Attitudes and values	0	1	2	3	4	5	21
8.12.10	Any other comments:							22
								23
								24
								25
Section B	8.12 OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)							
8.12.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.12.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.12.13	Kindly qualify the answer in 8.12.12:							28
								29
								30
								31
								32
								33
								34
								35
								36
								37
8.12.14	Any other comments:							38
								39
								40
								41

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A		8.13 ROLE-PLAY						
8.13.1	List the reason for the selection of this assessment method:						1-2	
8.13.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.13.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.13.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.13.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.13.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.13.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.13.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.13.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.13.9.1	Knowledge	0	1	2	3	4	5	19
8.13.9.2	Skills	0	1	2	3	4	5	20
8.13.9.3	Attitudes and values	0	1	2	3	4	5	21
8.13.10	Any other comments:						22	
							23	
							24	
							25	
Section B		8.13 ROLE-PLAY						
8.13.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.13.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.13.13	Kindly qualify the answer in 8.13.12:						28-29	
							30-31	
							32-33	
							34-35	
							36-37	
8.13.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A		8.14 POSTERS/PLANS/PRESENTATIONS						
8.14.1	List the reason for the selection of this assessment method:						1-2	
8.14.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.14.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.14.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.14.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.14.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.14.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.14.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.14.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.14.9.1	Knowledge	0	1	2	3	4	5	19
8.14.9.2	Skills	0	1	2	3	4	5	20
8.14.9.3	Attitudes and values	0	1	2	3	4	5	21
8.14.10	Any other comments:						22	
							23	
							24	
							25	
Section B		8.14 POSTERS/PLANS/PRESENTATIONS						
8.14.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.14.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.14.13	Kindly qualify the answer in 8.14.12:						28	
							29	
							30	
							31	
							32	
							33	
							34	
							35	
							36	
							37	
8.14.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A		8.15 PORTFOLIOS						
8.15.1	List the reason for the selection of this assessment method:						1-2	
8.15.2	List the strong points/advantages of this assessment method:						3 4 5 6	
8.15.3	List the limitation(s) of this method (your opinion):						7 8 9 10	
8.15.4	How do learners experience the assessment method (your opinion)?						11 12 13 14	
8.15.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.15.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.15.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.15.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.15.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.15.9.1	Knowledge	0	1	2	3	4	5	19
8.15.9.2	Skills	0	1	2	3	4	5	20
8.15.9.2	Attitudes and values	0	1	2	3	4	5	21
8.15.10	Any other comments:						22 23 24 25	
Section B		8.15 PORTFOLIOS						
8.15.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.15.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.15.13	Kindly qualify the answer in 8.15.12:						28- 29 30- 31 32- 33 34- 35 36- 37	
8.15.14	Any other comments:						38 39 40 41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A	8.16 ARTEFACTS/PRODUCING SOMETHING							
8.16.1	List the reason for the selection of this assessment method:							1-2
8.16.2	List the strong points/advantages of this assessment method:							3 4 5 6
8.16.3	List the limitation(s) of this method (your opinion):							7 8 9 10
8.16.4	How do learners experience the assessment method (your opinion)?							11 12 13 14
8.16.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5		15
8.16.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5		16
8.16.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain			17
8.16.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5		18
8.16.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.16.9.1	Knowledge	0	1	2	3	4	5	19
8.16.9.2	Skills	0	1	2	3	4	5	20
8.16.9.3	Attitudes and values	0	1	2	3	4	5	21
8.16.10	Any other comments:							22 23 24 25
Section B	8.16 ARTEFACTS/PRODUCING SOMETHING							
8.16.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain			26
8.16.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain			27
8.16.13	Kindly qualify the answer in 8.16.12:							28– 29 30– 31 32– 33 34– 35 36– 37
8.16.14	Any other comments:							38 39 40 41

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A		8.17 DISSERTATION PROCESS						
8.17.1	List the reason for the selection of this assessment method:						1-2	
8.17.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.17.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.17.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.17.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.17.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.17.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.17.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.17.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.17.9.1	Knowledge	0	1	2	3	4	5	19
8.17.9.2	Skills	0	1	2	3	4	5	20
8.17.9.3	Attitudes and values	0	1	2	3	4	5	21
8.17.10	Any other comments:						22	
							23	
							24	
							25	
Section B		8.17 DISSERTATION PROCESS						
8.17.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.17.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.17.13	Kindly qualify the answer in 8.17.12:						28–29	
							30–31	
							32–33	
							34–35	
							36–37	
8.17.14	Any other comments:						38	
							39	
							40	
							41	

8.		ASSESSMENT METHODS AND APPROPRIATENESS (continued)						
Section A		8.18 DISSERTATION PRODUCT						
8.18.1	List the reason for the selection of this assessment method:						1-2	
8.18.2	List the strong points/advantages of this assessment method:						3	
							4	
							5	
							6	
8.18.3	List the limitation(s) of this method (your opinion):						7	
							8	
							9	
							10	
8.18.4	How do learners experience the assessment method (your opinion)?						11	
							12	
							13	
							14	
8.18.5	Express the time to set up this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	15	
8.18.6	Express the time to mark the assessment on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	16	
8.18.7	Can you give feedback with this assessment method?	Yes	No	Not always	Uncertain		17	
8.18.8	Express the time to give feedback on this assessment method on a scale of 1 – 5 (1 = short, 3 = average, 5 = long)	1	2	3	4	5	18	
8.18.9	Assess on a scale of 0 – 5 the appropriateness of this assessment method for the assessment of the following: (0 = not applicable or no testing, 1 = minimal, 3 = average, 5 = excellent)							
8.18.9.1	Knowledge	0	1	2	3	4	5	19
8.18.9.2	Skills	0	1	2	3	4	5	20
8.18.9.3	Attitudes and values	0	1	2	3	4	5	21
8.18.10	Any other comments:						22	
							23	
							24	
							25	
Section B		8.18 DISSERTATION PRODUCT						
8.18.11	Are you familiar with this assessment method?	Yes	No	Not always	Uncertain		26	
8.18.12	Can you implement this assessment method?	Yes	No	Not always	Uncertain		27	
8.18.13	Kindly qualify the answer in 8.18.12:						28-29	
							30-31	
							32-33	
							34-35	
							36-37	
8.18.14	Any other comments:						38	
							39	
							40	
							41	

Thank you very much for your co-operation and input by providing the information in this questionnaire. Your valuable contribution as well as your precious time spent is highly appreciated.

Kind regards

HESTA FRIEDRICH-NEL

APPENDIX C

FUNCTIONS OF PARTICIPANTS IN FACULTY, SCHOOL OR PROGRAMME (n = 16)

FUNCTIONS (%)				PRIORITY OF FUNCTIONS (%)					
	YES	NO	N/A	1	2	3	4	5	N/A
Management	88	13	0	25	13	6	6	44	6
Administration	94	6	0	13	13	25	25	19	6
Lecturing	88	13	0	19	6	19	19	25	13
Research	100	0	0	6	31	25	19	19	0
Community Service	69	31	0	19	25	19	6	31	0
Other	38	6	56	13	0	25	13	0	50

The rating scale: 1= low priority; 3 = average; and 5 = high priority; N/A = Not applicable

APPENDIX D

A SUMMARY OF POSITIVE AND NEGATIVE RESPONSES CONCERNING THE CHANGES IN HIGHER EDUCATION (n = 16)

POSITIVE RESPONSES	%	NEGATIVE RESPONSES	%
The efficiency of the new paradigm and approach that encourages, supports and facilitates learning	25	It is time-consuming and labour intensive to implement the new system	19
Learners are empowered to survive in the real world and are equipped with entrepreneurial skills	19	Restructuring is an unpleasant experience	13
Transformation can be accompanied by growth	13	OBET was not successful in other countries and therefore not unique and new	6
Alignment of education and training in SA with global trends	13	Quality of education and training can be compromised	6
Quality of students produced who can function at different levels	13	Ownership in learning areas makes the change difficult	6
Co-operations between higher education institutions	6	The political associations create negative attitudes	6
Quality assurance and accreditation	13	Security of lecturers and ownership in learning can make the change difficult	6
The new approach to the assessment of knowledge, skills and attitudes of learners	6		
Past inequalities in education are addressed	6		
OBET principles are important, but only an approach	6		

APPENDIX E

COMMENTS ON THE RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING (n = 16)

COMMENTS ON THE RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING	%
Learning and assessment is a unity; if you do not assess, there is no learning	19
The learner can learn where progress is needed and how to improve (formative assessment)	13
Assessment should be a learning opportunity and be part of the process of learning	13
The outcome and the assessment criteria are related, therefore assessment should contribute to learning	13
Outcomes should be formulated correctly for learning to take place	6
The way in which assessment is performed is important for learning to take place	6
Learners can relate to important learning matter and the assessment of relevant knowledge, skills and attitudes	6
If assessment is done correctly, it reflects what was learned	6
The learners can find out what they are able to do after they had an opportunity to learn, therefore the relationship between assessment and learning is hidden	6
Learners learn what they will be assessed on	6
The nature of assessment determines the nature of learning	6
The correct answer/skills should be discussed after an assessment to serve as a learning experience	6
In the clinical situation, learning and assessment are integrated	6

APPENDIX F

SUMMARY OF REASONS FOR APPROACHES IN ASSESSMENT (n=16)

APPROACH	REASONS FOR APPROACH	%
Formative assessment	Identifies problems by means of feedback and provides an opportunity to learn	45
	Learner progress can be monitored through support provided	44
Summative assessment	It is prescribed by the institution	13
	To obtain a mark or credit	75
	It is a method to determine student progress to the next level	75
	Outcomes are measured and a holistic picture is obtained of the integration of learning and the abilities of the learner	75
Self-assessment	Self-assessment facilitates feedback and determines growth and development by removing the element of failure and fear among the learners	6
	Learners are sensitive to the feedback of peers and want to perform well and please the group; they therefore need to understand and apply criteria describing the intended outcome	13
	It makes possible the opportunity for learners to set individual objectives and measure if they can attain their objectives	31

APPROACH	REASONS FOR APPROACH	%
Peer assessment	Learners are comfortable to compete with their peers and receive feedback from them	56
	It is also a learning opportunity where important skills, e.g. listening skills and comparison by peers, are learned	56
Patient assessment	Patient assessment can monitor learner progress in practice	6
Tutor assessment	Tutor assessments are combined with remedial actions and are used as additional opportunities of formative assessment	44
Other	Assessment by industry and persons in practice is valuable, as professionals in industry and practice are familiar with the operational outcomes required from a professional	13
	Clinical assessment, outcomes in practice are measured	6
	A variety of strategies is required for the development of different skills and competencies	6

APPENDIX G

REASONS FOR USING SPECIFIC MODES OF ASSESSMENT (n = 16)

ASSESSMENT MODE	REASON	%
Product	The product weighs more than the process.	6
	The product determines progress to the next level.	6
	It is the end product that is sent into practice after the learning period.	25
	The product determines the range of capabilities of the learner.	6
	The product determines if the outcome has been attained.	13
Process	The process determines the product.	6
	The process is the learning experience and determines the tempo of learning facilitation.	50
Product and process	The type of learning matter determines the role of the process and the product.	6
	A good product is delivered if the process was correct; both the achievement of the outcome as well as the experience gained in reaching the outcome is important.	13
Criterion-referenced	Learners are compared to preset assessment criteria.	100
Norm-referenced	Learners are compared to others in the group.	0
Criterion- and norm-referenced	Compare learners to criteria and to others in the group.	44

APPENDIX H

DIFFICULTIES EXPERIENCED WITH ASSESSMENT AND COMMENTS OF PARTICIPANTS (n = 16)

DIFFICULTIES EXPERIENCED WITH ASSESSMENTS AND COMMENTS	%
To maintain objectivity	31
Use different assessment methods, e.g. group work, presentations to test or measure what is stated by the outcome and coincides with the learning method (optimal assessment method) and the reliability of the assessment	25
Use of tutors and/or outside moderators and the standardisation of marks or credits	25
Creativity and innovation in assessment is time-consuming	19
Skills of learners, e.g. language	6
Appropriate experience in assessment to determine the guidelines of a good product	6
Ethics of clinical assessment	6
Rigidity in assessment created by the use of rubrics	6

APPENDIX I

ABBREVIATIONS FOR THE ASSESSMENT METHODS USED IN FIGURES

ABBREVIATION	EXPLANATION
Product	Dissertation product
Process	Dissertation process
Essays	Essays
Case study	Case study
Presentations	Posters, plans and presentations
Assignments	Projects and reflective practice assignments
Short answers	Short answers
MCQ	Multiple choice questions
Diagrams	Lists, diagrams and tables
Practical	Mini-practical/clinical assessment
OSCE	Objective Structured Clinical Examination, Objective Structured Practical Examination
Simulation	Simulation
Lab-practical	Laboratory practical
Role-play	Role-play
Open-problem	Open-problems
Portfolio	Portfolios
Oral	Oral (<i>Viva Voce</i>)
Artefact	Artefacts/producing something

ADVANTAGES AND/OR REASONS AND LIMITATIONS FOR THE USE OF ASSESSMENT METHODS

TRADITIONAL ASSESSMENT METHODS		
ASSESSMENT METHOD	ADVANTAGES/REASONS FOR USE	LIMITATIONS
Dissertation process	<p>Standard assessment method for post-graduates; assessment of the application of research principles; management of scientific work and thoughts; original approach to and management of research material and the ability of the learner to perform a literature study; to master research principles and the analysis and interpretation of data.</p> <p>The learning process promotes writing skills as well as skills to interpret and develop a holistic approach to research material to provide the product.</p> <p>Learner progress (M/D) in research can be monitored according to a predetermined progress schedule or a time-action development map.</p> <p>The research process is assessed with diagnosis and intervention.</p>	<p>The assessor/examiner should be knowledgeable and an expert in the field of study and be an experienced study leader.</p> <p>Transparent assessment criteria are not always used and the level of the degree of difficulty of the assessor/examiner is not always known.</p> <p>It is problematic for learners with underdeveloped writing skills; the inability to express themselves; and who cannot work independently.</p> <p>It is time-consuming and causes a large workload for the study leader/supervisor.</p>
Dissertation product	<p>Standard assessment method to write up research findings and integrate knowledge on a post-graduate level. It contains elements like motivation, discussion, conclusion and recommendations.</p> <p>Assessment of the integration of the literature study; the mastering of research methods; the analysis and interpretation of research data; and the ability to work independently and thinking creatively.</p>	<p>It is problematic for learners with underdeveloped writing skills; the inability to express themselves and who cannot work independently.</p> <p>It is time-consuming, labour intensive and a huge workload for the study leader at a low remuneration.</p>

ADVANTAGES AND/OR REASONS AND LIMITATIONS FOR THE USE OF ASSESSMENT METHODS

(CONTINUED)

ASSESSMENT METHOD	ADVANTAGES/REASONS FOR USE	LIMITATIONS
Essays	<p>Assessment of reasoning skills; critical and creative thinking; integration of learning matter; problem-solving and the ability to express thoughts.</p> <p>Large volume of work content is summarised and applied to a learning area.</p> <p>Method can determine if the learner plan works logically.</p>	<p>This method can discriminate against learners with underdeveloped writing and reasoning skills.</p> <p>Learners can read and interpret questions different from the assessor who questions the objectivity of the method.</p> <p>Assessment must be constructed, using a grid test-planner not to focus on the recall of knowledge (Level 1) only.</p> <p>Time-consuming and difficult to mark objectively and consistently with much reading to be done.</p>
Short answers	<p>Used as a class test to test knowledge on a basic level.</p> <p>Method is convenient to use, it marks easily because of the objectivity factor and can therefore be delegated.</p> <p>The method covers a large area of assessment of facts and concepts and therefore gives a good idea of the level of knowledge of the learner.</p>	<p>This assessment method focuses on knowledge only; there is no integration of arguments.</p> <p>Learners can guess if questions are not constructed objectively.</p>
MCQ	<p>A large area of content of learning matter on a specific topic is covered in a short period.</p> <p>The method determines if the learner is confident about the work to select the correct answer.</p> <p>Convenient to use because it is quick to mark.</p>	<p>Limited to learning area where the assessment of skills, competencies, problem-solving and critical thinking is not a high priority.</p> <p>The validity of ambiguous questions is called in question.</p> <p>It is labour intensive and time-consuming to set.</p>

ADVANTAGES AND/OR REASONS AND LIMITATIONS FOR THE USE OF ASSESSMENT METHODS

(CONTINUED)

ASSESSMENT METHOD	ADVANTAGES/REASONS FOR USE	LIMITATIONS
List, diagrams, tables	<p>The method assesses the mind-mapping ability of learners and interpreting results/data and research skills.</p> <p>This method information is reproduced in a structured manner where language skills are not important. The method determines if the learner can classify knowledge.</p> <p>Convenient to use because it is easy to mark.</p>	<p>A very limited or summary view of learner knowledge can be assessed.</p> <p>Learners with 3-D vision problems who are not skilled in this method have a disadvantage.</p>
Open problems	<p>The method assesses a large quantity of information as well as the application, management and judgement of information.</p> <p>The method is very appropriate for learning areas where it is not required to memorise large quantities of sometimes useless information.</p>	<p>It is problematic for learners with time management problems who write too much information.</p> <p>Marking is difficult and time-consuming.</p>
Oral (<i>Viva voce</i>)	<p>No writing skills required to perform well with this assessment method.</p> <p>The method is used for the presentation of case studies, for reassessments and summative assessment where an external moderator is present before entering the profession.</p> <p>Convenient to use because it is simple to perform.</p>	<p>The attitude and the skills of assessor are important because the method lends itself to subjectivity. Clear assessment criteria are required.</p> <p>Underdeveloped language skills and high anxiety levels of learners can affect their ability to answer and hinder good performance.</p>

ADVANTAGES AND/OR REASONS AND LIMITATIONS FOR THE USE OF ASSESSMENT METHODS

(CONTINUED)

PERFORMANCE (AUTHENTIC) ASSESSMENT METHODS		
ASSESSMENT METHOD	ADVANTAGES/REASONS FOR USE	LIMITATIONS
Case study	<p>The method assesses the integration of knowledge, practical skills, principles and attitudes and relates to real situations in practice.</p> <p>The collection, analysis and integration of data are combined with the ability to reflect, critical thinking and problem-soiving skills.</p>	<p>In practice the variety of representative authentic cases can be limited.</p> <p>Learners with limited practical experience find this assessment difficult.</p> <p>The assessment method is time-consuming for learners and facilitators.</p>
Posters/plans/presentations	<p>Presentation skills of learners are developed with this assessment method.</p> <p>Technical abilities, preparation, communication and integration of knowledge are assessed.</p> <p>Learners have the opportunity to reveal creativity and initiative.</p>	<p>Appropriate physical facilities are required that can make it expensive.</p> <p>Limitations in group work activity – not all learners have the skill to present their work.</p> <p>It is time-consuming for learners and assessors.</p>
Projects/reflective practice assignments	<p>The integration of a range of competencies as applied in practice is assessed, e.g. presentation skills; application of research techniques; data interpretation; the use of resources; communication skills; confidence-building and group work.</p>	<p>Assessor bias can be in question if more than one assessor is not involved during/after the assessment.</p> <p>It is sometimes difficult to determine if the learner delivered independent work.</p> <p>Assessment criteria must be predetermined to exclude subjectivity.</p> <p>Very time-consuming to use this assessment method.</p>

ADVANTAGES AND/OR REASONS AND LIMITATIONS FOR THE USE OF ASSESSMENT METHODS

(CONTINUED)

ASSESSMENT METHOD	ADVANTAGES/REASONS FOR USE	LIMITATIONS
Mini-practical/Clinical assessment	<p>Assessment of patient treatment and approach to patient in action with the application of knowledge and communication skills.</p> <p>Demonstration of the required knowledge and skills required by the profession – determine if the learner can manage in the real world situation (competency).</p>	<p>Assessor bias can be in question</p> <p>A marking grid/scheme with the level of competency well defined, is required.</p> <p>The availability of learner-friendly patients.</p> <p>This method is time-consuming for the learner and the assessor.</p>
OSCE/OSPE	<p>Assess the integration of competencies, skills and experience through simulation, role-play and videos that cannot always be assessed with assessment methods where writing is important.</p> <p>With this method all learners are exposed to the same conditions; it is therefore reliable and fair.</p> <p>Large learning area can be covered and large groups can be accommodated.</p>	<p>There is no patient contact; therefore still not reality.</p> <p>Skills assessed are limited to the number of cases/films/phantoms available.</p> <p>It is time-consuming and requires much organisation.</p>
Simulations	<p>The level of skills of the learner can improve without exposure to a patient (cannot practise on a patient).</p> <p>A range of competencies can be acquired and the learner can repeat and practise until confidence and competence have been attained.</p> <p>This method can be an alternative for a practical if the correct patient is not available.</p>	<p>There is no patient contact; therefore still not the real situation.</p> <p>Large groups are difficult to assess; learners do not always pay attention to simulations of other learners and use them as learning opportunities.</p>

ADVANTAGES AND/OR REASONS AND LIMITATIONS FOR THE USE OF ASSESSMENT METHODS (CONTINUED)

ASSESSMENT METHOD	ADVANTAGES/REASONS FOR USE	LIMITATIONS
Laboratory practical	<p>With this method skills are observed while the learner is under stress; it is a simulation under controlled conditions.</p> <p>The abilities of the learner in practice are assessed. It can be determined if the learner is competent. Corrections (improvements) can be made on the spot.</p>	<p>Limited physical resources (space and apparatus).</p> <p>Time-consuming and expensive.</p>
Role-play	<p>The method allows the learner the opportunity to function within the professional role and demonstrate professional competencies and skills. It is real-world related but simulated.</p> <p>With this method team dynamics are developed, confidence and presentation skills improved, and attitude changes can be achieved.</p>	<p>Learners with limited communication skills find it difficult.</p> <p>It has a limited application and is not suitable for all learning areas or outcomes.</p> <p>It is time-consuming.</p>
Portfolios	<p>It allows for the assessment of experiential learning and clinical exposure by providing a track record and a report.</p> <p>With this method strengths and weaknesses related to practice can be identified and the progress of the learner in practice is assessed.</p> <p>This method empowers learners with reflection of learning.</p>	<p>The reliability of this assessment method is in question if marking grids are not used.</p> <p>Regular assessment is required and it is time-consuming.</p>
Artefacts/producing something	<p>The method assesses theory principles as applied in practice.</p> <p>The learner can reveal creativity and innovation.</p>	<p>Learners have creative ideas but cannot always present ideas because of financial and time difficulties.</p> <p>This assessment method is more successful as a group work activity - more heads to think and more hands to do.</p> <p>It is time-consuming and expensive.</p>

SUMMARY OF EXPERIENCE OF LEARNERS OF DIFFERENT ASSESSMENT METHODS
(not learners' opinions)

ASSESSMENT METHOD	EXPERIENCE OF LEARNER	%	ASSESSMENT METHOD	EXPERIENCE OF LEARNER	%
Dissertation product (n = 13)	Enjoy when it is done, pleasant experience for academic strong learner	77	Mini-practical/Clinical (n = 7)	Positive and enjoy it	57
	Stressful because of time limits, the repetition is demotivational	38		It provokes anxiety, therefore not enjoyable	43
Dissertation process (n = 13)	Passionate about the research theme, grow through feedback, sense of accomplishment on completion	62	OSCE/OSPE (n = 6)	Positive about the learning experience	17
	Frustrating, demotivational and difficult without necessary skills	31		Negative – scared and stressful	67
	No not have a choice – only method for postgraduate assessment	31		They think it is fair	17
Essays (n = 13)	Positive, it helps to express systematic thoughts - love the writing	69	Simulations (n = 6)	Positive because they learn how others experience them	67
	Initially negative – more positive as they become more familiar with method	8		They have to be positive – it entails the job description of a Health Professional	17
	Prefer more exact and objective methods, this can be overwhelming	38		They think it is fair	17

SUMMARY OF EXPERIENCE OF LEARNERS OF DIFFERENT ASSESSMENT METHODS (not learners' opinions) (CONTINUED)

ASSESSMENT METHOD	EXPERIENCE OF LEARNER	%	ASSESSMENT METHOD	EXPERIENCE OF LEARNER	%
Case study (n = 11)	Love to do it – especially in group activity	55	Laboratory practical (n = 5)	Positive, they see the advantage to learn before knowledge application in practice	60
	Level of development of learner depends on whether they are positive or negative	27		Stressful experience that provokes anxiety	40
	Provokes anxiety if they struggle to identify a case	27		They have to be positive – it entails the job description of a Health Professional	20
Posters/plans/presentations (n = 11)	Positive and enjoyable and understand the purpose, with feeling of accomplishment, confidence and growth after assessment	73	Role-play (n = 4)	Creativity and skills are learned from peers	75
	Do not like it – provokes nervousness	36		Preferred method for extrovert learner	25
Projects/reflective practice assignments (n = 10)	Positive – opportunity to apply knowledge and develop capabilities	70	Open problems (n = 4)	Positive	25
	Negative – stressful, time-consuming, frustrating	30		Do not prefer the method	50
	Depends on learners' ability to express themselves if they like it or not	10		More applicable for post-graduates who can manage time	25

SUMMARY OF EXPERIENCE OF LEARNERS OF DIFFERENT ASSESSMENT METHODS (not learners' opinions) (CONTINUED)

ASSESSMENT METHOD	EXPERIENCE OF LEARNER	%	ASSESSMENT METHOD	EXPERIENCE OF LEARNER	
Short answers (n = 8)	Prefer and enjoy this method	63	Portfolios (n = 3)	Positive about the purpose	67
	Some are positive, some are negative	13		Negative about additional administration load	33
	Can enhance rote learning if not properly constructed	13			
	Can lead to learners frustration	13			
Multiple choice questions (MCQ) (n = 8)	Positive (can guess, no long answers)	63	Oral (n = 3)	Negative until they become more skilled	33
	Negative – difficult to distinguish if answer are almost the same	38		Provokes anxiety	67
	Some positive, some negative	13		Objectivity – moderator present	33
Lists, diagrams, tables (n = 7)	Positive - suits method of lecturing	43	Artefact/producing something (n = 3)	Positive and enjoyable	67
	Find it difficult because of uncertainty factor	57		Some do not prefer the method	33

REASONS WHY ASSESSMENT METHODS ARE NOT USED (n = ASSESSMENT METHOD NOT USED BY PARTICIPANTS)

TRADITIONAL ASSESSMENT METHODS	
ASSESSMENT METHOD	REASONS
Dissertation product (n = 3)	Method is only applicable for assessment of post-graduate work; not applicable to assess generic and clinical skills.
Dissertation process (n = 3)	Method not applicable to assess generic and clinical skills; prerequisite knowledge and experience in research required on a post-graduate level.
Essays (n = 3)	Method encourages parrot work with repetition; no creativity in answers; can test if learner is capable of higher order skills if questions are constructed correctly; cannot be used as assessment strategy in the particular programme.
Short answers (n = 8)	Method is focused on knowledge; has a guess component; does not suit the outcomes to be assessed and not suitable for assessment of skills.
MCQ (n = 8)	Method is not appropriate for the subject content and assessment of skills, more suitable for assessment of basic knowledge; it is important that learners must employ reasoning skills; not competent to construct the question correctly to the required level.
Lists, diagrams and tables (n = 9)	Method does not suit the type of outcomes to be assessed; it forces the learner to reproduce facts briefly and concisely; not applicable for assessment of post-graduate work.
Open problems (n = 12)	Only suitable for the assessment of certain subjects or outcomes; difficult to supply expensive text to all learners; do not have enough experience in using this method; have not yet examined the possibility of this assessment method.
Oral (<i>Viva Voce</i>) (n = 13)	Only used as alternative when reassessment has to be done; it is time-consuming and boring; not skilled to implement this method; fairness in question because of high anxiety levels and focus on communication skills of learner.

REASONS WHY ASSESSMENT METHODS ARE NOT USED (n = ASSESSMENT METHOD NOT USED BY PARTICIPANTS) (CONTINUED)

PERFORMANCE ASSESSMENT METHODS	
ASSESSMENT METHOD	REASONS
Case study (n = 5)	Method does not suit the outcome to be assessed; should be used at the correct level; because in-depth knowledge and background are required.
Posters/plans/presentations (n = 5)	Method not applicable for assessment of the outcomes of the subject; used as part of the presentation of the case study to present data and reflect communication skills.
Projects/reflective practice assignments (n = 6)	Method does not suit the outcomes to be assessed; only used on an informal basis as part of clinical assessment.
Mini-practical/clinical assessment (n = 9)	Requires much preparation that is time-consuming to implement the method; only suitable for the assessment of certain outcomes; implementation problems when learners are off campus.
OSCE/OSPE (n = 10)	Not enough knowledge on method to implement, not suitable for the type of outcomes to be assessed; it does not focus on deeper knowledge; the fairness and ethics to the patient concerning the method are in question.
Simulations (n = 10)	Method not applicable for assessment of the outcomes of the subject; prefer to use the real situation instead.
Laboratory practical (n = 11)	Insufficient knowledge and skills to implement this assessment method; not suitable to assess the outcomes of the subject with this assessment method; was used and is being phased out.
Role-play (n = 12)	Insufficient knowledge and skills to implement this assessment method; not suitable to assess the outcomes of the subject with this assessment method; very time-consuming; is under investigation for implementation because of excellence with skills demonstration.

REASONS WHY ASSESSMENT METHODS ARE NOT USED (n = ASSESSMENT METHOD NOT USED BY PARTICIPANTS) (CONTINUED)

PERFORMANCE ASSESSMENT METHODS	
ASSESSMENT METHOD	REASONS
Portfolios (n = 13)	Assessment method not applicable for assessment of the outcomes of the subject; have insufficient knowledge and skills to implement this assessment method; method is under investigation for implementation because of the excellence of assessment of experiential learning; method was used but phased out because of inconsistency in assessment and control.
Artefacts, producing something (n = 13)	Assessment method not applicable for assessment of the outcomes of the subject; extensive knowledge and experience required from the learners, therefore only used in research; only used as part of assessment of clinical skills.

APPENDIX M

INVITATION LETTER TO THE MEMBERS OF THE DELPHI PANEL

**UNIVERSITEIT VAN DIE VRYSTAAT
UNIVERSITY OF THE FREE STATE
YUNIVERSITHI YA FREISTATA**

Afdeling Onderwysontwikkeling / Division of Educational Development

Kantoor van die Dekaan / Office of the Dean

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences

2002-12-06

Dear

AN ASSESSMENT MODEL IN OUTCOMES-BASED EDUCATION AND TRAINING (OBET) FOR HEALTH SCIENCES AND TECHNOLOGY

As a Ph.D. student in Health Professions Education at the Faculty of Health Sciences, University of the Free State, I am currently engaged in a study entitled "An Assessment Model in Outcomes-based Education and Training (OBET) for Health Sciences and Technology". The supervisors for the study are Prof. M.M. Nel (Division of Educational Development, UFS) and Prof. L. de Jager (School of Health Technology, TFS). The assessment model is compiled with input obtained by means of a comprehensive questionnaire interview from various participants in Health Sciences Technology from both the University of the Free State and the Technikon Free State.

You are kindly requested to serve on the panel of domain experts to assess the assessment model compiled for Health Sciences and Technology in Outcomes-based Education and Training. It is expected that the documents will reach you by February 2003 for the first round of assessment. Should major changes to the model be required after the first round of assessment, you may be requested to assess the adjusted model again for consensus to be achieved (Delphi technique).

It is envisaged that the outcome of the study will serve as a guideline for assessment in Health Sciences and Technology and consequently contribute to the quality of assessment and, indirectly, to teaching and learning. Your participation will serve as a benchmark for this assessment model and will therefore be highly appreciated and acknowledged.

I would like to assure you that your participation in this study is confidential. The full panel of participants will only be communicated to you in the final stages of the study. The outcome of each round of the assessment will be communicated to you in the manner that you prefer (electronic or mail).

It will be appreciated if you could complete the attached form and mail or e-mail it to confirm your participation in the study.

Thank you in advance for your input and participation.

Yours sincerely

HESTA FRIEDRICH-NEL

RETURN SHEET

Are you willing to participate and be involved in the study? (Please make an "x" in the appropriate box.)

YES

NO

If "YES", do you prefer your mail **ELECTRONIC**

OR ORDINARY

(Please indicate with an "x" in the appropriate box.)

PERSONAL DETAILS:

Name and surname:

Title:

Position:

Institution:

Postal address:

Contact numbers:

Telephone:

Fax:

E-mail:

Qualifications:

Please note that your personal information is required only for the purposes of identification and correspondence. There will be no breach of confidentiality regarding the information that you provided, except for the acknowledgement of your participation as assessor in the Delphi process, for which you hereby provide consent.

Thank you in advance.

Yours sincerely

HESTA FRIEDRICH-NEL

Contact Details: School of Health Technology

Technikon Free State

Private Bag X 20539

BLOEMFONTEIN

9300

SOUTH AFRICA

Telephone: 27 51 507 3268

Fax: 27 51 507 3355

E-mail hfried@tfs.ac.za

APPENDIX N

COVER LETTER AND QUESTIONNAIRE ROUND I

**UNIVERSITEIT VAN DIE VRYSTAAT
UNIVERSITY OF THE FREE STATE
YUNIVERSITHI YA FREISTATA**

Afdeling Onderwysontwikkeling / Division of Educational Development

Kantoor van die Dekaan / Office of the Dean

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences

2003-02-10

Dear

**THE DELPHI QUESTIONNAIRE (ROUND 1) FOR AN ASSESSMENT MODEL IN
OUTCOMES-BASED EDUCATION AND TRAINING (OBET) FOR HEALTH SCIENCES
AND TECHNOLOGY**

Information obtained from structured interviews with 16 academic staff members was supplemented by literature and used as an orientation to compile an assessment model in OBET for Health Sciences and Technology. The proposed assessment model is considered to be the ideal basis for assessment in Health Sciences and Technology. The Delphi process used in this study is applied to confirm whether the model is ideal and then to benchmark the model.

The Delphi process involves a panel of experts who are nominated to rate, rank and/or edit statements with the purpose of reaching consensus among the panellists. Consensus in this study is defined as agreement by 80% of the panel. It is envisaged that this process will take two or three rounds. After each round the results will be calculated and included in the follow-up rounds of the questionnaire. If consensus is not reached after several rounds, but responses remain the same, stability is declared.

Attached, please find the questionnaire for the first round of the Delphi process. The statements in the questionnaire are based on the proposed model for assessment and consist of seven categories, each containing a number of statements. Your rating of each statement will assist the researcher in determining to what extent the model is the ideal one. Possible shortcomings and/or recommendations will be accommodated in the follow-up rounds of the questionnaire. A glossary of terms is attached for your convenience.

The questionnaire should take approximately 30 minutes to complete. Please draw an "x" in the appropriate box next to the statement that corresponds with your opinion (please refer to the example).

Example:

1	2	x3
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The following criteria apply for the rating of the statements:

1. An essential statement; it carries a great deal of weight in an assessment model.
2. A useful statement; it carries moderate weight in an assessment model.
3. An unnecessary statement; it does not carry weight in an assessment model.

Comments

You are invited to comment on the relevance of the statements, add additional information, and edit or reword any statement in the questionnaire. If this is required, please be so kind as to indicate the number of the statement that has reference, and indicate where an addition has been made to the statements.

Kindly return the completed questionnaire by e-mail (hfried@tfs.ac.za) or fax [27 (0) 51 507 3355, attention Hesta] **within five working days** after it was received. Please contact me immediately if this is not possible [telephone 27 (0) 51 507 3268]. The questionnaire will be returned for the follow-up rounds with the results of the first round included. Only those statements where consensus was not reached or those statements that were rephrased and/or edited will require rating in the follow-up rounds.

Thank you very much for your time and co-operation, as well as the use of your expertise and your valuable input in this study. It is highly appreciated.

Yours sincerely

Hesta Friedrich-Nel

TERMINOLOGY/GLOSSARY OF TERMS

Assessment	A process that aims to determine the extent of learning of the learner.
Assessment criteria	Standards that relate to learning outcomes and which are used to measure learner achievement.
Assessment manual	A manual to assist with assessment activities.
Assessment method	The method used to perform the assessment, e.g. essay, report, case study, etc.
Assessment opportunity	A predetermined opportunity for a learner to undergo an assessment.
Assessment process	The assessment process is a series of continuous actions to determine competence.
Assessment schedule	A schedule containing information about assessment events, e.g. the dates, venue and method of assessment.
Assessment strategy	A long-term assessment plan aimed at achieving a specific goal.
Criterion-referenced assessment	To compare the learner with predetermined or negotiated criteria vs. "norm-referenced assessment" – to compare the learner with achievements of other learners.
Exit-level outcome	Refers to "learning outcome".
Feedback	Comments to indicate and recommend future improvements for development.
Formative assessment	To use the process and results of the assessment to influence and facilitate the learning process (diagnostic feature) and to shape and form the learner through the learning process.
Grid/checklist	A list of the assessment criteria or traits that should be assessed.
Holistic assessment	The outcomes that are assessed are integrated and not separated.
Learner guide	A guide for the learner containing essential information to assist learning.
Learning outcome/Outcome	What learners will be able to do as a result of the learning in terms of knowledge, skills and attitudes.
Marking scheme/Memorandum	Guidelines or model answers to indicate how credits are allocated.
Performance assessment	Methods to assess competence and skills such as simulations and presentations.
Planning grid	A framework to assist in the construction of the assessment.
Process assessment	Assessment of the task.
Product assessment	Assessment of the outcome or the result.
Peer assessment	Activities where the learner assesses peers.
Reliable	Consecutive assessments by the learner obtain similar outcomes.
Rubric	A descriptive scoring scheme and set of predetermined criteria or marking grid used to assess criterion-referenced assignments.
Self-assessment	Activities where the learner assesses him-/herself.
Summative assessment	To use the results of the assessment to decide whether a learner can be allowed to continue with a course or a study or culminate to a qualification.
Taxonomy	A classification system to organise thoughts on learning in a logical manner.
Valid	Assessment assesses what it aims to assess.

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DELPHI QUESTIONNAIRE: ROUND 1

1. THE PURPOSES OF ASSESSMENT: THEY SET THE STAGE AND STATE THE REASONS WHY ASSESSMENT IS PERFORMED

1.1 Assessment diagnoses the shortcomings in learner progress and enables learners to grow academically.

1	2	3
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1.2 Assessment verifies that the learner has achieved a specific level of performance.

1	2	3
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1.3 Assessment verifies that the exit-level outcomes linked to the job description of the profession have been attained.

1	2	3
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1.4 Assessment identifies areas where adjustments in learning facilitation can be made.

1	2	3
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COMMENTS

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2. THE ASSESSMENT STRATEGY – A ROADMAP AND GUIDELINES FOR ASSESSMENT IN A PROGRAMME

2.1 Assessment is produced by a group of facilitators or tutors and integrated across the programme.

1	2	3
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CRITERIA

1. An **essential** statement; it carries a great deal of weight in an assessment model.
2. A **useful** statement; it carries moderate weight in an assessment model.
3. An **unnecessary** statement; it does not carry weight in an assessment model.

CRITERIA

- 1. An **essential** statement; it carries a great deal of weight in an assessment model.
- 2. A **useful** statement; it carries moderate weight in an assessment model.
- 3. An **unnecessary** statement; it does not carry weight in an assessment model.

2.2 The learning outcomes are linked to the job description and assessed with an appropriate range of assessment methods to demonstrate competence.

1	2	3
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2.3 Assessment is planned by a team of facilitators in the programme to assure the holistic assessment of a learner.

1	2	3
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2.4 Facilitators in the programme must collaborate and discuss the assessment process.

1	2	3
---	---	---

2.5 The assessment strategy includes self-, peer and group assessment.

1	2	3
---	---	---

2.6 The assessment process ensures academic growth and development of the learner.

1	2	3
---	---	---

2.7 Transparent assessment methods are used, and all persons involved (facilitators, learners and employers) must understand what is measured by means of the assessment.

1	2	3
---	---	---

2.8 Realistic and relevant assessment criteria are identified and used by all facilitators or tutors in the programme.

1	2	3
---	---	---

CRITERIA

- 1. An **essential** statement; it carries a great deal of weight in an assessment model.
- 2. A **useful** statement; it carries moderate weight in an assessment model.
- 3. An **unnecessary** statement; it does not carry weight in an assessment model.

2.9 The assessment workload is realistic for the staff.

1	2	3
---	---	---

2.10 Demands on learners undergoing the assessment are realistic, and the learners are able to cope with the process.

1	2	3
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2.11 Methods are in place to ensure that assessment is free of bias and does not discriminate against learners.

1	2	3
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2.12 The assessment strategy must have the capacity to call more evidence from the learner where doubt exists about the level of competency or where outcomes have not been attained.

1	2	3
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COMMENTS

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3. ASSESSMENT METHODS – GUIDELINES FOR CHOOSING THE APPROPRIATE METHOD OF ASSESSMENT

3.1 The following factors are relevant when selecting the assessment method:

3.1.1 The time required for the facilitator to construct the assessment.

1	2	3
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3.1.2 The time allowed for the assessment to be completed.

1	2	3
---	---	---

CRITERIA

- 1.** An **essential** statement; it carries a great deal of weight in an assessment model. **2.** A **useful** statement; it carries moderate weight in an assessment model.
3. An **unnecessary** statement; it does not carry weight in an assessment model.

3.1.3 The time required to mark the assessment.

1	2	3
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3.1.4 Do learners have adequate time to prepare for the assessment?

1	2	3
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3.2 The assessment method must correspond with the learning and facilitation activities.

1	2	3
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3.3 The assessment method is based on the learning outcomes.

1	2	3
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3.4 An integrated approach to assessment focuses on the outcomes of knowledge, skills and attitudes.

1	2	3
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3.5 Assessment methods assess the integration of knowledge (cognitive skills) and problem-solving skills relevant to the job description and exit-level outcome.

1	2	3
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3.6 Utilise performance assessment methods in simulation or in practice where knowledge and skills are integrated with performed procedures.

1	2	3
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3.7 Use assessment methods that demonstrate accumulated reflective performance and competence in practice.

1	2	3
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3.8 Use assessment methods to assess the process of learning.

1	2	3
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CRITERIA

1. An **essential** statement; it carries a great deal of weight in an assessment model.
2. A **useful** statement; it carries moderate weight in an assessment model.
3. An **unnecessary** statement; it does not carry weight in an assessment model.

3.9 Use assessment methods to assess the product of learning.

1	2	3
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3.10 The same outcomes are assessed, using different approaches and/or assessment methods.

1	2	3
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COMMENTS

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4. THE PLANNING AND CONSTRUCTION OF ASSESSMENT – MEASURES TO PLAN AND CONSTRUCT AN ASSESSMENT

4.1 Use a planning grid to select the assessment criteria or standards to be included in the assessment.

1	2	3
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4.2 Use a planning grid to assess different cognitive levels in the assessment.

1	2	3
---	---	---

4.3 Taxonomies (e.g. Bloom) are used to assess a variety of cognitive levels.

1	2	3
---	---	---

4.4 Use the appropriate assessment method to assess the learning outcomes.

1	2	3
---	---	---

4.5 A memorandum, rubric or marking scheme with appropriate and relevant assessment criteria accompanies the assessment for the allocation of credits.

1	2	3
---	---	---

CRITERIA

1. An **essential** statement; it carries a great deal of weight in an assessment model.
2. A **useful** statement; it carries moderate weight in an assessment model.
3. An **unnecessary** statement; it does not carry weight in an assessment model.

4.6 Learners are empowered to take responsibility, accountability and ownership in assessment by openly participating in the construction of the assessment process.

1	2	3
---	---	---

4.7 Feedback to the learner is an integral part of the assessment.

1	2	3
---	---	---

4.8 The feedback is timely, appropriate, positive, encouraging and motivating.

1	2	3
---	---	---

COMMENTS

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5. PRACTICAL CONSIDERATIONS – TO ASSIST IN THE DAY-TO-DAY ASSESSMENT SCHEDULE

5.1 The assessment schedule contains the following:

5.1.1 The proposed assessment method(s) used to attain each outcome.

1	2	3
---	---	---

5.1.2 An indication of the integration of different outcomes in one assessment opportunity.

1	2	3
---	---	---

5.1.3 An indication of how every assessment opportunity contributes in weight to the assessment process.

1	2	3
---	---	---

CRITERIA

1. An **essential** statement; it carries a great deal of weight in an assessment model.
2. A **useful** statement; it carries moderate weight in an assessment model.
3. An **unnecessary** statement; it does not carry weight in an assessment model.

5.1.4 The credits linked to every assessment opportunity.

1	2	3
---	---	---

5.2 The assessment schedule is documented in the assessment manual and/or learner guide.

1	2	3
---	---	---

5.3 Assessment opportunities are spaced to give the learner the opportunity to prepare for each assessment.

1	2	3
---	---	---

5.4 All assessment opportunities include feedback for the learning and academic development of the learner.

1	2	3
---	---	---

5.5 Arrangements for reassessment are possible if outcomes have not been attained.

1	2	3
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COMMENTS

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6. QUALITY ASSURANCE IN ASSESSMENT – TO MAINTAIN QUALITY IN ASSESSMENT AND CONFIRM THE QUALITY OF GRADUATES PRODUCED BY THE INSTITUTION

6.1 The assessment schedule is documented in the learner guide or assessment manual and is the basis for quality assurance in assessment.

1	2	3
---	---	---

CRITERIA

1. An **essential** statement; it carries a great deal of weight in an assessment model.
2. A **useful** statement; it carries moderate weight in an assessment model.
3. An **unnecessary** statement; it does not carry weight in an assessment model.

6.2 Colleagues discuss the assessment methods as a team.

1	2	3
---	---	---

6.3 A team approach is used to allow colleagues to judge and discuss the outcome of the assessment.

1	2	3
---	---	---

6.4 Procedures are in place to monitor the quality of the assessment process.

1	2	3
---	---	---

6.5 Procedures are in place to ensure that assessment results are reliable and valid.

1	2	3
---	---	---

6.6 A system of feedback from peers and learners in the profession is used to maintain the standard of assessment and to benchmark assessment standards.

1	2	3
---	---	---

6.7 The judgement of colleagues (inside and/or outside the institution) is used to moderate and benchmark the assessment.

1	2	3
---	---	---

6.8 The relevant professional body benchmarks and accredits the assessment process.

1	2	3
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COMMENTS

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CRITERIA

1. An **essential** statement; it carries a great deal of weight in an assessment model.
2. A **useful** statement; it carries moderate weight in an assessment model.
3. An **unnecessary** statement; it does not carry weight in an assessment model.

7. BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL

7.1 The requirements of competency in the programme are clearly defined and documented.

1	2	3
---	---	---

7.2 Assessment activities are based on the facilitation of learning.

1	2	3
---	---	---

7.3 The assessment process makes provision for individual differences of learners.

1	2	3
---	---	---

7.4 All possibilities of discrimination in assessment are excluded.

1	2	3
---	---	---

7.5 Assessment encourages meaningful and strategic learning.

1	2	3
---	---	---

7.6 The assessment process excludes bias by way of processes that can ensure reliability, validity and fairness.

1	2	3
---	---	---

7.7 Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or obtain a qualification.

1	2	3
---	---	---

7.8 An integrated and holistic approach to assessment is used.

1	2	3
---	---	---

CRITERIA

1. An **essential** statement; it carries a great deal of weight in an assessment model.
2. A **useful** statement; it carries moderate weight in an assessment model.
3. An **unnecessary** statement; it does not carry weight in an assessment model.

7.9 The assessment strategy is in coherence with institutional requirements.

1	2	3
---	---	---

7.10 The assessment strategy is in coherence with the requirements of the relevant professional body.

1	2	3
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COMMENTS

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KINDLY PROVIDE ADDITIONAL COMMENTS IF NECESSARY

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Thank you once again for your interest, your time spent in providing input, and your valuable participation in this study. It is truly appreciated.

Kind regards

Hesta Friedrich-Nel

Copyright reserved

H. Friedrich-Nel

APPENDIX O

COVER LETTER AND QUESTIONNAIRE ROUND II

**UNIVERSITEIT VAN DIE VRYSTAAT
UNIVERSITY OF THE FREE STATE
YUNIVERSITHI YA FREISTATA**

Afdeling Onderwysontwikkeling / Division of Educational Development

Kantoor van die Dekaan / Office of the Dean

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences

2003-03-13

Dear

**DELPHI QUESTIONNAIRE ROUND II: ASSESSMENT MODEL IN OUTCOMES-BASED
EDUCATION AND TRAINING (OBET) FOR HEALTH SCIENCES AND TECHNOLOGY**

The questionnaire has now been adapted according to the recommendations and comments of participants in round I. Previous responses are attached as "Results Delphi Round I" for your reference. The appraisal of the assessment model should be done keeping in mind that the statements in the questionnaire are based on the *ideal* and that some of the statements may reflect assessment practices that are not currently implemented in higher education institutions. Your opinion as an expert would be valuable in indicating how essential you consider these statements to be for inclusion in the ideal assessment model.

The purpose of assessment, as referred to in literature, is used as the backdrop of the ideal assessment model and covers the following aspects: that assessment should be based on the provision of an educational experience to the learner; it should be formative as a tool for learning and summative as a tool for validating that learning has taken place; it adds direction in learning facilitation; it guides student improvement with feedback on the assessment, reflects shortcomings in learning facilitation, and is used for grading of performances of learners.

The new format of the questionnaire accommodates the statements, as well as ratings and comments on each statement in separate columns or rows in the table. The changes made to statements are indicated in the last column. This questionnaire allows you the opportunity to rate statements where consensus of opinion has not been reached in round I. Statements where an acceptable degree of consensus has been reached (8 out of 10 responses in the same category) are indicated by the word **CONSENSUS**. They are **highlighted** for easy identification and do not require rating. The number of responses obtained in the previous round for each one of these statements is listed next to the statement.

The following presently require your rating:

- Statements were adapted following comments and input of participants in round I, although consensus on these statements has been reached. The number of responses obtained in the previous round is not listed next to these statements. These statements are indicated by **CONSENSUS** and **ADAPTED**.
- **NO CONSENSUS** indicates statements where the acceptable degree of consensus has not been reached.
- New statements were added and are indicated by **NEW STATEMENT**.
- Altered and rephrased statements are indicated by **ADAPTED**.
- Statements were moved either in the same section or from a different section and are indicated by **MOVED**.

When completing the questionnaire, kindly indicate your choice with an "x" in the appropriate column by using the following criteria:

1. **An essential statement; it carries a great deal of weight in an assessment model.**
2. **A useful statement; it carries moderate weight in an assessment model.**
3. **An unnecessary statement; it does not carry any weight in an assessment model.**

Should you require clarity on the terminology, please refer to the attached glossary of terms. Should you wish to add additional comments, you are once again invited to do so by using the open rows provided below each statement. These rows are labelled "C".

Completed questionnaires can be returned via e-mail (hfried@tfs.ac.za) or faxed to 27 (0)51 507 3355, attention HESTA. We kindly request that you return the completed questionnaire within five working days after having received it. If this is not possible, please be so kind as to let me know via e-mail or by phoning 27 (0)51 507 3268.

The results of round II and the final statements for the assessment model will follow round II. Statements where the required degree of consensus has still not been reached after this round (8 out of 10 respondents in agreement) will again require rating.

Thank you again for your willingness to participate.

Yours sincerely

HESTA FRIEDRICH-NEL

TERMINOLOGY/GLOSSARY OF TERMS

Assessment	A process that aims to determine the extent of learning of the learner.
Assessment criteria	Standards that relate to learning outcomes and which are used to measure learner achievement.
Assessment manual	A manual to assist with assessment activities.
Assessment method	The method used to perform the assessment, e.g. essay, report, case study, etc.
Assessment opportunity	A predetermined opportunity for a learner to undergo an assessment.
Assessment process	The assessment process is a series of continuous actions to determine competence.
Assessments schedule	A schedule containing information about assessment events, e.g. the dates, venue and method of assessment.
Assessment strategy	A long-term assessment plan aimed at achieving a specific goal.
Criterion-referenced assessment	To compare the learner with predetermined or negotiated criteria vs. "norm-referenced assessment" – to compare the learner with achievements of other learners.
Exit-level outcome	Refers to "learning outcome".
Feedback	Comments to indicate and recommend future improvements for development.
Formative assessment	Use the assessment process and results to influence and facilitate the learning process (diagnostic feature); shape and form the learner through the learning process with appropriate feedback on the assessment.
Grid or checklist	A list of criteria or traits to be assessed and used for the grading of the assessment.
Holistic assessment	The outcomes that are assessed are integrated and not separated.
Learner guide	A guide for the learner containing essential information to assist learning.
Learning outcome/Outcome	What learners will be able to do as a result of the learning in terms of knowledge, skills and attitudes.
Marking scheme/Memorandum	Guidelines or model answers to indicate how credits are allocated.
Performance assessment	Methods to assess competence and skills such as simulations and presentations.
Planning grid	A framework to assist in the construction of the assessment.
Process assessment	Assessment of the task.
Product assessment	Assessment of the outcome or the result.
Peer assessment	Activities where the learner assesses peers.
Reliable	Consecutive assessments by the learner or similar assessors obtain the same outcomes.
Rubric	A descriptive scoring scheme and set of predetermined criteria or marking grid used to assess criterion-referenced assignments.
Self-assessment	Activities where the learner can assess him-/herself.
Summative assessment	To use the results of the assessment to decide whether a learner can be allowed to continue with a course or a study or culminate to a qualification.
Taxonomy	A classification system to organise thoughts on learning in a logical manner.
Valid	Assessment assesses what it aims to assess.

DELPHI QUESTIONNAIRE ROUND II

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CRITERIA 1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model
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1. THE PURPOSES OF ASSESSMENT: THEY SET THE STAGE AND STATE THE REASONS WHY ASSESSMENT IS PERFORMED						
	STATEMENT	RATING			COMMENTS	
1.1	Formative assessment diagnoses the shortcomings in learner progress and enables learners to grow academically.	1	2	3	CONSENSUS ADAPTED	
C						
1.2	Formative assessment diagnoses deficiencies in learning facilitation that require additional interventions.	1	2	3	NEW STATEMENT	
C						
1.3	Formative assessment identifies where adjustments in learning facilitation can be made by constantly reflecting on and evaluating the process.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
1.4	Summative assessment verifies that the learner has achieved a specific level of performance.	1	2	3	CONSENSUS ADAPTED	
C						
1.5	Summative assessment verifies that the exit-level outcomes linked to the professional vocational profile have been attained.	1	2	3	NO CONSENSUS ADAPTED	
C						
1.6	The assessment process facilitates quality assurance through reflection by the facilitator and feedback from the learner.	1	2	3	NEW STATEMENT	
C						
1.7	All persons involved (facilitators, learners and employers) must understand the purpose of the assessment.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						

CRITERIA

1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model

2. THE ASSESSMENT STRATEGY – A ROADMAP AND GUIDELINES FOR ASSESSMENT IN A PROGRAMME						
	STATEMENT	RATING			COMMENTS	
2.1	The assessment strategy is planned, designed and led by a group of facilitators or tutors to achieve integration of outcomes in a programme.	1	2	3	NO CONSENSUS ADAPTED	
C						
2.2	Facilitators in the programme must collaborate and discuss the assessment process to achieve a holistic approach in assessment.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
2.3	The assessment strategy includes the use of transparent assessment methods.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
2.4	The learning outcomes are assessed, using an appropriate range of performance assessment methods to demonstrate competence.	1	2	3	NO CONSENSUS ADAPTED	
C						
2.5	Over and above assessment by the facilitator, the assessment strategy includes self-, peer and group assessment.	1	2	3	NO CONSENSUS ADAPTED	
C						
2.6	Realistic and relevant assessment criteria are identified and used by all facilitators or tutors in the programme.	1	2	3	NO CONSENSUS MOVED	
C						
2.7	The assessment process ensures academic growth and development of the learner, provided feedback is given.	1	2	3	CONSENSUS ADAPTED MOVED	
C						
2.8	The facilitator must be able to manage and cope with the assessment workload/process.	1	2	3	NO CONSENSUS ADAPTED	
C						
2.9	Demands on learners undergoing assessment are realistic and the learners are able to cope with the process.	1	2	3	NO CONSENSUS	
C						
2.10	Methods are in place to ensure that assessment is free of bias and does not discriminate against learners.	1	2	3	NO CONSENSUS	
C						
2.11	The assessment strategy should provide for more assessment opportunities to be created where doubt exists about the level of competence or where outcomes have not been attained.	1	2	3	NO CONSENSUS ADAPTED	

CRITERIA

1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model

3. ASSESSMENT METHODS – GUIDELINES FOR CHOOSING THE APPROPRIATE METHOD OF ASSESSMENT						
STATEMENT		RATING			COMMENTS	
3.1	The following factors are relevant when selecting the assessment method:					
3.1.1	The practicability in terms of availability of physical facilities.				NEW STATEMENT	
C						
3.1.2	The cost involved and the cost-effectiveness of the assessment method.	1	2	3	NEW STATEMENT	
C						
3.1.3	The period required for the facilitator to construct the assessment.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
3.1.4	The period allowed for completion of the assessment.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
3.1.5	The period required for grading the performance in assessment.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
3.1.6	The learner is allowed adequate time to prepare for the assessment.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
3.2	The assessment method must correspond with the learning and facilitation activities.	8	1	1	CONSENSUS	
3.3	The assessment method focuses on the learning outcomes.	1	2	3	CONSENSUS ADAPTED	
C						
3.4	The assessment method integrates outcomes that include knowledge, skills and attitudes.	1	2	3	CONSENSUS ADAPTED	
C						
3.5	Assessment methods assess problem-solving, reasoning and reflection skills relevant to the professional vocational profile and exit-level outcomes.	1	2	3	NO CONSENSUS ADAPTED	
C						
3.6	Performance assessment methods are utilised in simulation or in practice where knowledge and skills are integrated with performed procedures.	8	1	1	CONSENSUS	

CRITERIA

1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model

3. ASSESSMENT METHODS – GUIDELINES FOR CHOOSING THE APPROPRIATE METHOD OF ASSESSMENT (continued)					
	STATEMENT	RATING			COMMENTS
3.7	Assessment methods are used that determine accumulated reflective performance and competence of the learner in practice.	1	2	3	NO CONSENSUS ADAPTED
C					
3.8	Assessment methods are used to assess the process of learning leading to the product or outcome.	1	2	3	NO CONSENSUS ADAPTED
C					
3.9	Assessment methods are used to assess the product of learning.	8	1	1	CONSENSUS
3.10	The same outcomes are assessed by different assessment approaches and/or methods; some focus on knowledge, others on skills, others on a combination of knowledge and skills.	1	2	3	NO CONSENSUS ADAPTED
C					

CRITERIA

1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model

4. THE PLANNING AND CONSTRUCTION OF ASSESSMENT – MEASURES TO PLAN AND CONSTRUCT ASSESSMENT						
	STATEMENT	RATING			COMMENTS	
4.1	Where relevant, the assessment is planned by a team of facilitators in the programme to ensure the holistic assessment of a learner.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
4.2	A planning grid with assessment specifications is used to select assessment criteria and standards to be included in the assessment.	1	2	3	NO CONSENSUS ADAPTED	
C						
4.3	A planning grid with assessment specifications is used to plan the different cognitive levels included in the assessment.	1	2	3	NO CONSENSUS ADAPTED	
C						
4.4	Taxonomies (e.g. Bloom or similar taxonomies) are used to ensure that the assessment of a variety of cognitive levels is planned in the assessment.	1	2	3	NO CONSENSUS ADAPTED	
C						
4.5	The appropriate assessment method is used to assess the learning outcomes.	8	1	1	CONSENSUS	
4.6	A memorandum, rubric or marking scheme with appropriate and relevant assessment criteria accompanies the assessment for the grading of the assessment.	1	2	3	NO CONSENSUS ADAPTED	
C						
4.7	Learners are empowered to take responsibility, accountability and ownership in assessment by openly participating in the construction of the assessment process.	1	2	3	NO CONSENSUS	
C						
4.8	Feedback to the learner, based on relevant assessment criteria, is planned as an integral part of the assessment.	1	2	3	CONSENSUS ADAPTED	
C						

CRITERIA

1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model

5. PRACTICAL CONSIDERATIONS – TO ASSIST IN THE DAY-TO-DAY ASSESSMENT SCHEDULE						
STATEMENT		RATING			COMMENTS	
5.1	The assessment schedule contains the following:					
5.1.1	The learning outcomes that are linked to the professional vocational profile.	1	2	3	NO CONSENSUS ADAPTED MOVED	
C						
5.1.2	The proposed assessment method(s) used to attain each outcome.	1	2	3	NO CONSENSUS	
C						
5.1.3	An indication of the integration of different outcomes in one assessment opportunity.	1	2	3	NO CONSENSUS	
C						
5.1.4	An indication of how every assessment opportunity contributes in weight to the assessment process.	8	1	1	CONSENSUS	
5.1.5	The credits linked to outcomes and assessed by various assessment opportunities.	1	2	3	NO CONSENSUS ADAPTED	
C						
5.2	The assessment schedule is documented and available to learners in the assessment manual and/or learner guide.	1	2	3	NO CONSENSUS ADAPTED	
C						
5.3	Formal formative and summative assessment opportunities are spaced to give the learner the opportunity to prepare for the assessment.	1	2	3	NO CONSENSUS ADAPTED	
C						
5.4	All assessment opportunities include feedback for the learning and academic development of the learner.	8	2	0	CONSENSUS	
5.5	The feedback is timely, appropriate, positive, encouraging and motivating.	9	1	0	CONSENSUS MOVED	
5.6	The feedback facilitates and encourages the creative thinking skills of the learner.	1	2	3	NEW STATEMENT	
C						
5.7	Arrangements for reassessment opportunities, aligned with the relevant reassessment policy of the programme, are possible where outcomes have not been attained.	1	2	3	NO CONSENSUS ADAPTED	
C						
C						
C						

CRITERIA

1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model

6. QUALITY ASSURANCE IN ASSESSMENT – TO MAINTAIN QUALITY IN ASSESSMENT AND CONFIRM THE QUALITY OF GRADUATES PRODUCED BY THE INSTITUTION						
	STATEMENT	RATING			COMMENTS	
6.1	The assessment schedule, documented in the learner guide or assessment manual, is one of the means of quality assurance in assessment.	1	2	3	NO CONSENSUS ADAPTED	
C						
6.2	Colleagues discuss the assessment method(s) to be used as a team.	1	2	3	NO CONSENSUS ADAPTED	
C						
6.3	A team approach is used to allow colleagues to judge and discuss the outcome of the assessment.	1	2	3	NO CONSENSUS	
C						
6.4	Procedures are in place to monitor the quality of the assessment process.	9	0	1	CONSENSUS	
6.5	Procedures are in place to ensure that assessment results are reliable and valid.	9	0	1	CONSENSUS	
6.6	A system of feedback from peers and learners in the profession is used to maintain the standard of assessment.	1	2	3	NO CONSENSUS ADAPTED	
C						
6.7	A system of feedback from peers and learners in the profession is used to benchmark assessment standards.	1	2	3	NO CONSENSUS ADAPTED	
C						
6.8	A record system is available where data on learner achievements in respect of outcomes are kept for reflection on and improvement of the assessment process.	1	2	3	NEW STATEMENT	
C						
6.9	The judgement of colleagues (inside and/or outside the institution) is used to moderate and benchmark the assessment.	8	1	1	CONSENSUS	
6.10	The relevant professional body benchmarks the assessment process.	1	2	3	NO CONSENSUS ADAPTED	
C						

CRITERIA

1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model

7. BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL					
	STATEMENT	RATING			COMMENTS
7.1	The requirements of competency in the programme are clearly defined and documented.	9	0	1	CONSENSUS
7.2	There is a close relationship between assessment activities and the facilitation of learning.	1	2	3	NO CONSENSUS ADAPTED
C					
7.3	The assessment process provides for the individual differences of learners by exposing learners to a variety of assessment methods in the assessment process.	1	2	3	NO CONSENSUS ADAPTED
C					
7.4	Measures are in place to limit and/or exclude the possibility of unfair discrimination in assessment.	1	2	3	NO CONSENSUS ADAPTED
C					
7.5	Assessment encourages meaningful and strategic learning.	9	0	1	CONSENSUS
7.6	Assessment must reflect a multidimensional and integrated understanding of learning, revealed in the performance of the learner over a period of time.	1	2	3	NEW STATEMENT
C					
7.7	The assessment process attempts to exclude bias by way of processes that can assure reliability, validity and fairness.	1	2	3	CONSENSUS ADAPTED
C					
7.8	Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification.	9	0	1	CONSENSUS
7.9	Where possible, an integrated and holistic approach to assessment is used in the programme.	1	2	3	NO CONSENSUS ADAPTED
C					
7.10	The assessment strategy is aligned to institutional education and training policy, procedures and rules.	1	2	3	NO CONSENSUS ADAPTED
C					
7.11	The assessment strategy is aligned to the requirements of the relevant professional body.	1	2	3	CONSENSUS ADAPTED
C					
KINDLY PROVIDE ADDITIONAL COMMENTS IF NECESSARY					

Thank you for your participation.

APPENDIX P

COVER LETTER AND QUESTIONNAIRE ROUND III

**UNIVERSITEIT VAN DIE VRYSTAAT
UNIVERSITY OF THE FREE STATE
YUNIVERSITHI YA FREISTATA**

Afdeling Onderwysontwikkeling / Division of Educational Development

Kantoor van die Dekaan / Office of the Dean

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences

2003-05-19

Dear

DELPHI QUESTIONNAIRE ROUND III: ASSESSMENT MODEL IN OUTCOMES-BASED EDUCATION AND TRAINING (OBET) FOR HEALTH SCIENCES AND TECHNOLOGY

The questionnaire has now been adapted according to the recommendations and comments of participants in round II. Responses from round II are attached as "Responses Delphi Round II" for your reference. You are once again reminded that the appraisal of the assessment model should be done keeping in mind that the statements in the questionnaire are based on the *ideal* and that some of the statements may reflect assessment practices that are not currently implemented in higher education institutions. Your opinion as an expert would be valuable in indicating how essential you consider these statements to be for inclusion in the ideal assessment model.

The purpose of assessment, as referred to in literature, is used as the backdrop of the ideal assessment model and covers the following aspects, namely that assessment should be based on the provision of an educational experience to the learner; it should be formative as a tool for learning and summative as a tool for validating that learning has taken place; it adds direction in learning facilitation; it guides student improvement with feedback on the assessment; reflects shortcomings in learning facilitation; and is used for grading of performances of learners.

The round III questionnaire allows you another opportunity to rate the 33 statements where consensus of opinion has not yet been reached. Statements where an acceptable degree of consensus has been reached (7 out of 9 responses in the same category for round II) are indicated by the term "CONSENSUS". They are highlighted for easy identification and do not require rating. The number of responses obtained in the previous rounds for each of these statements is listed next to the statement. Changes to statements are printed in bold and indicated by the term "ADAPTED". Your rating is currently required for the statements marked "NO CONSENSUS", indicating statements where the acceptable degree of consensus has not yet been reached (these statements are not highlighted).

When completing the questionnaire, kindly indicate your choice with an "x" in the appropriate column by using the following criteria:

1. **An essential statement; it carries a great deal of weight in an assessment model**
2. **A useful statement; it carries moderate weight in an assessment model**
3. **An unnecessary statement; it does not carry any weight in an assessment model**

Should you require clarity on the terminology, please refer to the attached glossary of terms. Should you wish to add additional comments, you are once again invited to do so by using the open rows provided below each statement. These rows are labelled "C".

Completed questionnaires can be returned via e-mail (hfried@tfs.ac.za) or faxed to 27 (0)51 507 3355, attention HESTA. We kindly request that you return the completed questionnaire within five working days after having received it. If this is not possible, please be so kind as to let me know via e-mail or by phoning 27 (051) 507 3268 (office) or 083 310 3278 (cell phone).

The responses from rounds I and II yielded consensus for 40 of the 73 statements (55%) in the questionnaire. If the required degree of consensus has not been reached after round III, i.e. 80% of respondents in agreement, stability will be declared.

Thank you again for your willingness to participate.

Yours sincerely

HESTA FRIEDRICH-NEL

TERMINOLOGY/GLOSSARY OF TERMS

Assessment	A process that aims to determine the extent of learning of the learner.
Assessment criteria	Standards that relate to learning outcomes and which are used to measure learner achievement.
Assessment manual	A manual to assist with assessment activities.
Assessment method	The method used to perform the assessment, e.g. essay, report, case study, etc.
Assessment opportunity	A predetermined opportunity for a learner to undergo an assessment.
Assessment process	The assessment process is a series of continuous actions to determine competence.
Assessments schedule	A schedule containing information about assessment events, e.g. the dates, venue and method of assessment.
Assessment strategy	A long-term assessment plan aimed at achieving a specific goal.
Criterion-referenced assessment	To compare the learner with predetermined or negotiated criteria vs. "norm-referenced assessment" – to compare the learner with achievements of other learners.
Exit-level outcome	Refers to "learning outcome".
Feedback	Comments to indicate and recommend future improvements for development.
Formative assessment	Use the assessment process and results to influence and facilitate the learning process (diagnostic feature); shape and form the learner through the learning process with appropriate feedback on the assessment.
Grid or checklist	A list of criteria or traits to be assessed and used for the grading of the assessment.
Holistic assessment	The outcomes that are assessed are integrated and not separated.
Learner guide	A guide for the learner containing essential information to assist learning.
Learning outcome/Outcome	What learners will be able to do as a result of the learning in terms of knowledge, skills and attitudes.
Marking scheme/Memorandum	Guidelines or model answers to indicate how credits are allocated.
Performance assessment	Methods to assess competence and skills such as simulations and presentations.
Planning grid	A framework to assist in the construction of the assessment.
Process assessment	Assessment of the task.
Product assessment	Assessment of the outcome or the result.
Peer assessment	Activities where the learner assesses peers.
Reliable	Consecutive assessments by the learner or similar assessors obtain the same outcomes.
Rubric	A descriptive scoring scheme and set of predetermined criteria or marking grid used to assess criterion-referenced assignments.
Self-assessment	Activities where the learner can assess him-/herself.
Summative assessment	To use the results of the assessment to decide whether a learner can be allowed to continue with a course or a study or culminate to a qualification.
Taxonomy	A classification system to organise thoughts on learning in a logical manner.
Valid	Assessment assesses what it aims to assess.

DELPHI QUESTIONNAIRE ROUND III

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CRITERIA					
1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model					
1.	THE PURPOSES OF ASSESSMENT: THEY SET THE STAGE AND STATE THE REASONS WHY ASSESSMENT IS PERFORMED				
	STATEMENT	RATING			COMMENTS
1.1	Formative assessment identifies the shortcomings in learner progress and enables learners to grow academically with appropriate feedback.	8	1	0	CONSENSUS ADAPTED (bold)
1.2	Formative assessment indicates deficiencies in learning facilitation that require additional interventions.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
1.3	Formative assessment identifies where adjustments in learning facilitation can be made by reflecting on and evaluating the process.	1	2	3	NO CONSENSUS ADAPTED (delete "constantly")
C					
1.4	Summative assessment indicates that the learner has achieved a specific level of performance.	7	2	1	CONSENSUS ADAPTED (bold)
1.5	Summative assessment indicates that the exit-level outcomes linked to the professional vocational profile have been attained.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
1.6	The assessment process facilitates quality assurance through reflection by the facilitator and feedback from the learner.	1	2	3	NO CONSENSUS
C					
1.7	All persons involved (facilitators, learners and employers) should understand the purpose of the assessment, i.e. to demonstrate that learners have mastered learning.	7	1	1	CONSENSUS ADAPTED (bold)
C					

CRITERIA					
1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model					
2. THE ASSESSMENT STRATEGY – A ROADMAP AND GUIDELINES FOR ASSESSMENT IN A PROGRAMME					
	STATEMENT	RATING			COMMENTS
2.1	The assessment strategy is planned, designed and led by a group of facilitators or tutors to achieve integration of appropriate outcomes in a programme where the overall assessment strategy is integration.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
2.2	Facilitators in the programme must collaborate and discuss the assessment process to achieve a holistic approach in assessment.	7	1	1	CONSENSUS
2.3	The overall assessment strategy includes the use of an appropriate variety of approaches in assessment (e.g. performance, continuous, integrated) and transparent assessment methods for the purpose of learning.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
2.4	The learning outcomes are assessed by using an appropriate range of performance assessment methods to demonstrate competence where the overall assessment strategy is performance-based.	8	1	0	CONSENSUS ADAPTED (bold)
2.5	Over and above assessment by the facilitator, the assessment strategy includes self-, peer and group assessment.	7	2	0	CONSENSUS
2.6	Realistic and relevant assessment criteria transparent to learners are identified and used by all facilitators or tutors in the programme.	8	0	1	CONSENSUS ADAPTED (bold)
2.7	The assessment process facilitates academic growth and development of the learner, provided feedback is given.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
2.8	The facilitator must be able to manage and cope with the assessment workload/process.	7	2	0	CONSENSUS
2.9	The relevant assessment strategy is transparent to learners and places realistic demands on learners that they are able to manage and cope with.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
2.10	Methods are in place to ensure that assessment is valid, reliable and free of bias.	7	2	0	CONSENSUS ADAPTED (delete "and does not discriminate" refer 7.4 & 7.7)

CRITERIA						
1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model						
2.	THE ASSESSMENT STRATEGY – A ROADMAP AND GUIDELINES FOR ASSESSMENT IN A PROGRAMME					
	STATEMENT	RATING			COMMENTS	
2.11	The overall assessment strategy should provide for more assessment opportunities to be created where doubt exists about the level of competence of learners ; where outcomes are not attained; or where learners believe that they are now ready to be assessed.	1	2	3	NO CONSENSUS ADAPTED (bold)	
C						
C						
3.	ASSESSMENT METHODS – GUIDELINES FOR CHOOSING THE APPROPRIATE METHOD OF ASSESSMENT					
	STATEMENT	RATING			COMMENTS	
3.1	The following factors are relevant when selecting the appropriate assessment method:					
3.1.1	The practicability in terms of availability of physical facilities.	8	1	0	CONSENSUS ADAPTED (bold)	
3.1.2	The cost involved and the cost-effectiveness of the assessment method.	7	2	0	CONSENSUS	
3.1.3	The time (period) required for the facilitator to construct the assessment.	1	2	3	NO CONSENSUS ADAPTED (bold)	
C						
3.1.4	The time (period) allowed for completion of the assessment.	7	1	1	CONSENSUS ADAPTED (bold)	
3.1.5	The time (period) required for grading the performance in assessment.	1	2	3	NO CONSENSUS ADAPTED (bold)	
C						
3.1.6	The learner is allowed adequate time to prepare for assessment.	1	2	3	NO CONSENSUS ADAPTED (delete "the" assessment)	
C						
3.2	The assessment method must correspond with the learning and facilitation activities.	8	1	1	CONSENSUS	
3.3	The assessment method focuses on the learning outcomes.	8	1	0	CONSENSUS	
3.4	The assessment method focuses on outcomes that include knowledge, skills and attitudes.	7	1	1	CONSENSUS ADAPTED (bold)	
3.5	Appropriate assessment methods are used to assess problem-solving, reasoning and reflection skills relevant to the professional vocational profile, exit-level and critical cross-field outcomes.	1	2	3	NO CONSENSUS ADAPTED (bold)	

CRITERIA					
1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model					
3.	ASSESSMENT METHODS – GUIDELINES FOR CHOOSING THE APPROPRIATE METHOD OF ASSESSMENT				
	STATEMENT	RATING			COMMENTS
3.6	Performance assessment methods are utilised in simulation or in practice where knowledge and skills are integrated with performed procedures.	8	1	1	CONSENSUS
3.7	Appropriate assessment methods are used that determine accumulated reflective performance and competence of the learner in practice.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
3.8	Appropriate assessment methods are used to assess the process of learning leading to the product or outcome.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
3.9	Appropriate assessment methods are used to assess the product of learning.	8	1	1	CONSENSUS ADAPTED (bold)
3.10	The same outcomes are assessed by different appropriate assessment approaches and/or methods; some focused on knowledge, others on skills, others on a combination of knowledge and skills.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					

CRITERIA						
1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model						
4.	THE PLANNING AND CONSTRUCTION OF ASSESSMENT – MEASURES TO PLAN AND CONSTRUCT ASSESSMENT					
	STATEMENT	RATING			COMMENTS	
4.1	Where relevant, the assessment is planned by a team of facilitators in the programme to ensure holistic assessment of a learner.	7	2	0	CONSENSUS ADAPTED (delete "the" holistic)	
4.2	A planning/assessment grid with assessment specifications, transparent to and negotiated with learners , is used to select assessment criteria and standards to be included in assessment.	1	2	3	NO CONSENSUS ADAPTED (bold)	
C						
4.3	A planning/assessment grid with relevant assessment criteria is used to plan the different cognitive levels included in assessment.	1	2	3	NO CONSENSUS ADAPTED (bold)	
C						
4.4	Taxonomies (e.g. Bloom or similar taxonomies) are used to guide, facilitate or encourage the assessment of a variety of cognitive levels.	1	2	3	NO CONSENSUS ADAPTED (bold, delete "levels is planned")	
C						
4.5	The appropriate assessment method is used to assess the learning outcomes.	8	1	1	CONSENSUS	
4.6	A memorandum, rubric or marking scheme as assessment tool accompanies the assessment for grading the performance of assessment .	8	1	0	CONSENSUS ADAPTED (bold)	
4.7	Learners should be empowered to take responsibility, accountability and ownership in assessment by openly participating in the planning and construction of the assessment process.	1	2	3	NO CONSENSUS ADAPTED (bold)	
C						
4.8	Feedback to the learner, based on relevant assessment criteria, is planned as an integral part of the assessment.	9	0	0	CONSENSUS	
C						

CRITERIA						
1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model						
5.	PRACTICAL CONSIDERATIONS – TO ASSIST IN THE DAY-TO-DAY ASSESSMENT SCHEDULE					
	STATEMENT	RATING			COMMENTS	
5.1	The assessment schedule contains the following:					
	5.1.1	The learning outcomes that are linked to the professional vocational profile.	1	2	3	NO CONSENSUS
	C					
	5.1.2	The proposed method(s), tools and strategies used to assess each outcome.	1	2	3	NO CONSENSUS ADAPTED (bold)
	C					
	5.1.3	An indication of different outcomes integrated in one assessment opportunity.	1	2	3	NO CONSENSUS ADAPTED (bold)
	C					
	5.1.4	An indication of how every assessment opportunity contributes in weight to the assessment process.	8	1	1	CONSENSUS
	5.1.5	The performance indicators linked to the outcomes and assessed by various appropriate assessment opportunities.	1	2	3	NO CONSENSUS ADAPTED (bold)
	C					
5.2	The assessment schedule is documented and available to learners in the assessment manual and/or learner guide.		9	0	0	CONSENSUS
5.3	Summative assessment opportunities are spaced to give the learner the chance to prepare for the assessment, although learners should be encouraged to focus on mastering and demonstration of learning and not on assessment per se.		1	2	3	NO CONSENSUS ADAPTED (bold and delete: "formal formative and")
	C					
5.4	All assessment opportunities include feedback for the learning and academic development of the learner.		8	2	0	CONSENSUS
5.5	The feedback is timely, appropriate, positive, encouraging and motivating.		9	1	0	CONSENSUS
5.6	The feedback facilitates and encourages creative thinking skills of the learner where generic skills are integrated in the assessment.		7	1	2	CONSENSUS ADAPTED (bold)
5.7	Arrangements for reassessment opportunities, aligned with the relevant reassessment policy of the programme, are possible where outcomes are not attained to allow the learner the opportunity for academic growth, development, and another opportunity to attain the outcome.		1	2	3	NO CONSENSUS ADAPTED (bold)

C					
C					
C					
CRITERIA 1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model					
6.	QUALITY ASSURANCE IN ASSESSMENT – TO MAINTAIN QUALITY IN ASSESSMENT AND CONFIRM THE QUALITY OF GRADUATES PRODUCED BY THE INSTITUTION				
	STATEMENT	RATING			COMMENTS
6.1	The assessment schedule, documented in the learner guide or assessment manual, is one of the means of quality assurance in assessment, as it provides a framework for the verification of the academic achievements of the learner.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
6.2	Colleagues discuss the appropriate assessment method(s) to be used as a team.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
6.3	A team approach is used to allow colleagues to judge and discuss the outcome of the assessment.	1	2	3	NO CONSENSUS
C					
6.4	Procedures are in place to monitor the quality of the assessment process.	9	0	1	CONSENSUS
6.5	Procedures are in place to ensure that assessment results are reliable and valid.	9	0	1	CONSENSUS
6.6	A system of feedback from peers and learners in the profession is used to maintain the standard of assessment integrated with the process of learning facilitation.	9	1	0	CONSENSUS ADAPTED (bold)
6.7	A system of feedback from peers and learners in the profession is used to benchmark assessment standards integrated with the process of learning facilitation.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
6.8	A record system is available where data on learner achievements in respect of outcomes are kept for reflection on and improvement of the assessment process.	8	1	0	CONSENSUS
6.9	The judgement of colleagues (inside and/or outside the institution) is used to moderate and benchmark the assessment.	8	1	1	CONSENSUS
6.10	The relevant professional body benchmarks the assessment process integrated with the process of learning facilitation.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					

CRITERIA					
1 = essential statement, 2 = useful statement, 3 = unnecessary statement in an assessment model					
7.	BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL				
	STATEMENT	RATING			COMMENTS
7.1	The requirements of competency in the programme are clearly defined and documented.	9	0	1	CONSENSUS
7.2	There is a close relationship between valid assessment activities that are integrated with the facilitation of learning.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
7.3	The assessment process provides for the individual differences of learners by exposing learners to a variety of appropriate and transparent assessment methods in the assessment process.	1	2	3	NO CONSENSUS ADAPTED (bold)
C					
7.4	Measures are in place to limit and/or exclude the possibility of unfair discrimination in assessment.	9	0	0	CONSENSUS
7.5	Assessment encourages meaningful and strategic learning.	9	0	1	CONSENSUS
7.6	Assessment must reflect a multidimensional and integrated understanding of learning, revealed in the performance of the learner over a period of time.	7	2	0	CONSENSUS
7.7	The assessment process attempts to exclude bias by way of processes that can assure reliability, validity and fairness.	9	0	0	CONSENSUS
7.8	Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification.	9	0	1	CONSENSUS
7.9	Where possible, an integrated and holistic approach to assessment is used in the programme.	8	1	0	CONSENSUS
7.10	The overall assessment strategy and process are aligned to institutional education and training policy, procedures and rules.	7	2	0	CONSENSUS ADAPTED (bold)
7.11	The overall assessment strategy and process are aligned to the requirements of the relevant professional body.	8	1	0	CONSENSUS ADAPTED (bold)
KINDLY PROVIDE ADDITIONAL COMMENTS IF NECESSARY					

Thank you for your participation

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I

1. THE PURPOSES OF ASSESSMENT: THEY SET THE STAGE AND STATE THE REASONS WHY ASSESSMENT IS PERFORMED					
	STATEMENT	1	2	3	COMMENT
1.1 90%	Assessment diagnoses the shortcomings in learner progress and enables learners to grow academically.	8	0	1	<ul style="list-style-type: none"> • The statement requires separation, i.e. diagnostic shortcomings are useful for student learning and for evaluating instructional purposes – the latter including instructional deficiencies and/or as a guide to the teacher as to further required interventions. • Add “formative” assessment.
1.2 100%	Assessment verifies that the learner has achieved a specific level of performance.	9	0	1	<ul style="list-style-type: none"> • Add “summative” assessment.
1.3 100%	Assessment verifies that the exit-level outcomes linked to the job description of the profession have been attained.	7	2	1	<ul style="list-style-type: none"> • This is possible with integrated assessment. • Replace “job description” with “professional vocational profile”. Education and training are focused on a range of opportunities in a career field. • Add “formative” assessment.
1.4 100%	Assessment identifies where adjustments in learning facilitation can be made.	7	3	0	<ul style="list-style-type: none"> • Add “summative” assessment. • This probably refers more to evaluation than assessment.
COMMENT					
Assessment can also serve as an indicator of where the learning opportunities have shortcomings.					
Add a statement on quality assurance as a purpose of assessment.					
2. THE ASSESSMENT STRATEGY – A ROADMAP AND GUIDELINES FOR ASSESSMENT IN A PROGRAMME					
2.1 100%	Assessment is produced by a group of facilitators or tutors and integrated across the programme.	5	4	1	<ul style="list-style-type: none"> • Not always true, in higher education, a single academic can assess. • Replace “produced by” with “led by”. • Not always implemented this way in general in higher education. • Replace “produced by” with “planned and designed by” and add: “to achieve integration of content in a programme”.
2.2 90%	The learning outcomes are linked to the job description and assessed with an appropriate range of assessment methods to demonstrate competence.	4	4	1	<ul style="list-style-type: none"> • Learning outcomes are not always linked to the job description, rather to the professional vocational profile. • This describes two objectives, therefore separate. • Statement not clear, replace “job description” with “professional vocational profile”.

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I (CONTINUED)

	STATEMENT	1	2	3	COMMENT
2.3 100%	Assessment is planned by a team of facilitators in the programme to assure the holistic assessment of a learner.	4	5	1	<ul style="list-style-type: none"> • This is sometimes true and desired; sometimes this is not the desired objective. • Not always implemented this way in general in higher education.
2.4 100%	Facilitators in the programme must collaborate and discuss the assessment process.	5	5	0	<ul style="list-style-type: none"> • Not always implemented this way in general in higher education. • Not convinced that assessment should always be a group or collaborative activity.
2.5 100%	The assessment strategy includes self-, peer and group assessment.	6	2	2	<ul style="list-style-type: none"> • Add: “Over and above assessment by the facilitator”, the assessment strategy includes
2.6 100%	The assessment process ensures academic growth and development of the learner.	8	1	1	<ul style="list-style-type: none"> • Add: “provided feedback is given”.
2.7 90%	Transparent assessment methods are used, and all persons involved (facilitators, learners and employers) must understand what is measured by means of the assessment.	7	1	1	<ul style="list-style-type: none"> • Double-barrelled statement; requires separation.
2.8 100%	Realistic and relevant assessment criteria are identified and used by all facilitators or tutors in the programme.	6	2	2	
2.9 100%	The assessment workload is realistic for the staff.	3	5	2	<ul style="list-style-type: none"> • Suggestions for change: “An assessment workload is necessary for the staff to carry” or • “Assessment workload is manageable for the staff.”
2.10 100%	Demands on learners undergoing assessment are realistic, and the learners are able to cope with the process.	7	2	1	
2.11 100%	Methods are in place to ensure that assessment is free of bias and does not discriminate against learners.	6	2	2	

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I (CONTINUED)

	STATEMENT	1	2	3	COMMENT
2.12 100%	The assessment strategy must have the capacity to call more evidence from the learner where doubt exists about the level of competence or where outcomes have not been attained.	4	5	1	<ul style="list-style-type: none"> • Change to: “More opportunities for assessment must be created.” • Replace “must have the capacity to call more evidence from the learner” with “should provide for additional assessment opportunities where” doubt exists about the level of competence.
	COMMENT				
	Any of the above statements are not always true or applicable. When the objective or purpose calls for such, then the rating is 1. When the purpose of assessment is different, certain statements are non-applicable and irrelevant.				
	Academics involved in post-graduate assessment must have freedom in assessment, some of the subjects are specialised fields with no-one in a similar subject field to assist in the assessment				
	It could be that certain questions are intended to have a different meaning – but that it is not well formulated.				
3.	ASSESSMENT METHODS – GUIDELINES FOR CHOOSING THE APPROPRIATE METHOD OF ASSESSMENT				
	STATEMENT	1	2	3	COMMENT
3.1	The following factors are relevant when selecting the assessment method:				<ul style="list-style-type: none"> • These factors all refer to “fitness for purpose of assessment”.
3.1.1 100%	The time required for the facilitator to construct the assessment.	5	5	0	
3.1.2 90%	The time allowed for the assessment to be completed.	7	2	0	
3.1.3 100%	The time required to mark the assessment.	5	5	0	<ul style="list-style-type: none"> • Change “mark” to “grade the performance in an assessment.” • Assessments are not marked, you assess.
3.1.4 100%	Do learners have adequate time to prepare for the assessment?	6	1	3	<ul style="list-style-type: none"> • While this is relevant, it is not one related to planning the assessment but the educational objectives. • The method of assessment is appropriate with respect to scope and timing. The “fitness for purpose” concept should come through. • “The method of assessment is appropriate with respect to adequate time for the learner to prepare for the assessment.”

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I (CONTINUED)

	STATEMENT	1	2	3	COMMENT
3.2 100%	The assessment method must correspond with the learning and facilitation activities.	8	1	1	
3.3 90%	The assessment method is based on the learning outcomes.	8	0	1	<ul style="list-style-type: none"> • Replace "based" with "focus".
3.4 90%	An integrated approach to assessment focuses on the outcomes of knowledge, skills and attitudes.	8	0	1	<ul style="list-style-type: none"> • Not always, it can be cross-disciplinary but in one domain such as knowledge, or skills or attitudes. • Not always implemented this way in general in higher education. • Change: "The assessment method integrates knowledge, skills and attitudes" • Reformulate: "on outcomes that include knowledge, skills, values and attitudes"
3.5 100%	Assessment methods assess the integration of knowledge (cognitive skills) and problem-solving skills relevant to the job description and exit level outcome.	7	2	1	<ul style="list-style-type: none"> • The job description is not always relevant, replace with relevant to the "professional vocational profile and exit-level outcome". • Not always implemented this way in general in higher education.
3.6 100%	Utilise performance assessment methods in simulation or in practice where knowledge and skills are integrated with performed procedures.	8	1	1	<ul style="list-style-type: none"> • Not always implemented this way in general in higher education.
3.7 100%	Use assessment methods that demonstrate accumulated reflective performance and competence in practice.	6	3	1	<ul style="list-style-type: none"> • Change: Use assessment methods that "measure and/or evaluate" accumulated reflective performance and competence in practice "of the learner".
3.8 100%	Use assessment methods to assess the process of learning.	6	1	3	<ul style="list-style-type: none"> • Consider rephrasing, it is not clear if this refers to the process or the progress of the learner.
3.9 100%	Use assessment methods to assess the product of learning.	8	1	1	
3.10 90%	The same outcomes are assessed, using different approaches and/or assessment methods.	4	4	1	<ul style="list-style-type: none"> • Consider rephrasing.

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I (CONTINUED)

COMMENTS					
Again the assumption that these statements are independent of the objectives set for the assessment is a mistake. The statements are sometimes true and sometimes non-applicable – few are universally and always applicable.					
Practicability factors (e.g. cost-effectiveness, student time and money) are very important elements in selecting appropriate assessment methods.					
Consider joining statements 3.4 and 3.5.					
4. THE PLANNING AND CONSTRUCTION OF ASSESSMENT – MEASURES TO PLAN AND CONSTRUCT ASSESSMENT					
	STATEMENT	1	2	3	COMMENT
4.1 100%	Use a planning grid to select the assessment criteria or standards to be included in the assessment.	5	4	1	<ul style="list-style-type: none"> • Other tools, e.g. ordinary criteria, can replace planning grids. A planning grid is not specific. • Use a planning grid “with assessment specifications” to select assessment criteria “and” standards to be included in the assessment.
4.2 90%	Use a planning grid to assess different cognitive levels in the assessment.	7	2	0	<ul style="list-style-type: none"> • Use a planning grid “with assessment specifications” to “plan” different cognitive levels in the assessment.
4.3 100%	Taxonomies (e.g. Bloom) are used to assess different cognitive levels in the assessment.	5	4	1	<ul style="list-style-type: none"> • There is no evidence that we can measure the subtle distinctions between all levels in Bloom’s taxonomy. It is useful to develop items that do not only assess recall of facts (knowledge). But the ability to assess each level of the taxonomy in a valid way has not been shown to be possible in practice. At its best it refers to remembering, reasoning and problem-solving. Even the latter is probably “apply” knowledge. • Change to: Taxonomies (e.g. Bloom) are used to “ensure that one plans the assessment of a variety of cognitive levels”. • Taxonomies (e.g. Bloom) are used to plan different cognitive levels in the assessment.
4.4 100%	Use the appropriate assessment method to assess the learning outcomes.	8	1	1	<ul style="list-style-type: none"> • “Design, plan or select” the appropriate assessment method to assess the learning outcomes.
4.5 100%	A memorandum, rubric or marking scheme with appropriate and relevant assessment criteria accompanies the assessment for the allocation of credits.	7	1	2	<ul style="list-style-type: none"> • This is a very important statement. • Some participants are not in favour of a memorandum <i>per se</i>, but marking occurs in the way in which the students argue or reason.

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I (CONTINUED)

	STATEMENT	1	2	3	COMMENT
4.6 90%	Learners are empowered to take responsibility, accountability and ownership in assessment by openly participating in the construction of the assessment process.	3	4	2	<ul style="list-style-type: none"> • Not always implemented this way in general in higher education.
4.7 100%	Feedback to the learner is an integral part of the assessment.	9	0	1	<ul style="list-style-type: none"> • Change: “Plan” feedback to the learner as an integral part of the assessment. • Add an additional statement on feedback with reference to the “record system”, i.e. data recorded about the achievements of outcomes.
4.8 100%	The feedback is timely, appropriate, positive, encouraging and motivating.	9	1	0	<ul style="list-style-type: none"> • Move to number 5 – practical considerations of assessment. • Constructive negativity might also be important when giving feedback in certain instances.
5.	PRACTICAL CONSIDERATIONS – TO ASSIST IN THE DAY-TO-DAY ASSESSMENT SCHEDULE				
5.1	The assessment schedule contains the following:				
5.1.1 100%	The proposed assessment method(s) used to attain each outcome.	5	5	0	
5.1.2 100%	An indication of the integration of different outcomes in one assessment opportunity.	5	4	1	
5.1.3 100%	An indication of how every assessment opportunity contributes in weight to the assessment process.	8	1	1	
5.1.4 100%	The credits linked to every assessment opportunity.	4	2	4	<ul style="list-style-type: none"> • This will be difficult – credits are linked to outcomes and assessed by various assessment opportunities. • Change: “The credits are linked to outcomes and are assessed by different or various assessment opportunities.” • Credits are not linked to an assessment opportunity.
5.2 100%	The assessment schedule is documented in the assessment manual and/or learner guide.	7	3	0	
5.3 100%	Assessment opportunities are spaced to give the learner the chance to prepare for each assessment.	3	4	3	<ul style="list-style-type: none"> • Assessment should not always be a planned activity.

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I (CONTINUED)

	STATEMENT	1	2	3	COMMENT
5.4 100%	All assessment opportunities include feedback for the learning and academic development of the learner.	8	2	0	
5.5 90%	Arrangements for reassessment are possible if outcomes have not been attained.	4	3	2	<ul style="list-style-type: none"> • It depends on the objective set for the assessment. • Final assessment cannot be repeated too many times. • Not in agreement with statement; if a learner does not meet the standard, then he/she fails. • According to Spady, assessment should be arranged with repeated opportunities.
6.	QUALITY ASSURANCE IN ASSESSMENT – TO MAINTAIN QUALITY IN ASSESSMENT AND CONFIRM THE QUALITY OF GRADUATES PRODUCED BY THE INSTITUTION				
	STATEMENT	1	2	3	COMMENT
6.1 100%	The assessment schedule is documented in the learner guide or assessment manual and is the basis for quality assurance in assessment.	7	3	0	<ul style="list-style-type: none"> • Change "the basis" to "one of the means" provided the change is intended. • The schedule cannot be the basis for quality assurance in assessment.
6.2 100%	Colleagues discuss the assessment method as a team.	5	5	0	<ul style="list-style-type: none"> • Not always implemented this way in general in higher education.
6.3 100%	A team approach is used to allow colleagues to judge and discuss the outcome of the assessment.	6	3	1	<ul style="list-style-type: none"> • Not always implemented this way in general in higher education.
6.4 100%	Procedures are in place to monitor the quality of the assessment process.	9	0	1	
6.5 100%	Procedures are in place to ensure that assessment results are reliable and valid.	9	0	1	
6.6 100%	A system of feedback from peers and learners in the profession is used to maintain the standard of assessment and to benchmark assessment standards.	6	3	1	<ul style="list-style-type: none"> • Two statements; require separation. • Not always implemented this way in general in higher education.
6.7 100%	The judgement of colleagues (inside and/or outside the institution) is used to moderate and benchmark the assessment.	8	1	1	<ul style="list-style-type: none"> • Not possible with every assessment. • Not always implemented this way in general in higher education.

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I (CONTINUED)

	STATEMENT	1	2	3	COMMENT
6.8 80%	The relevant professional body benchmarks and accredits the assessment process.	5	2	1	<ul style="list-style-type: none"> • Not exclusively; they should be or must be "included" but they must not be the only source used. • Where applicable to the programme. • It is not clear how the assessment process is accredited.
	COMMENT				
	All the statements are important, but in real life there is usually not enough time to conduct all the discussions described here.				
	Many good practices are mentioned, but not currently implemented in higher education.				
7.	BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL				
	STATEMENT	1	2	3	COMMENT
7.1 100%	The requirements of competency in the programme are clearly defined and documented.	9	0	1	<ul style="list-style-type: none"> • Change: "the requirements of competency, i.e. the outcomes in the programme".
7.2 90%	Assessment activities are based on the facilitation of learning.	3	5	1	<ul style="list-style-type: none"> • Cannot be based on this, can only advance it. • Change to: "There is a close relationship between assessment and the facilitation of learning"
7.3 90%	The assessment process makes provision for the individual differences of learners.	4	4	1	<ul style="list-style-type: none"> • It depends on the purpose of assessment – criterion-referenced or normative, it is NOT applicable for criterion-referenced assessment, it is TRUE for normative. • All learners must attain the outcomes.
7.4 90%	All possibilities of discrimination in assessment are excluded.	7	2	0	<ul style="list-style-type: none"> • It depends on the purpose of assessment criterion-referenced or normative, it is applicable for criterion-referenced assessment, it is NOT TRUE for normative. • Statement can be interpreted incorrectly; assessment can discriminate between good and poor performers in relation to the attainment of outcomes. • The question remains - is this really possible?
7.5 100%	Assessment encourages meaningful and strategic learning.	9	0	1	
7.6 100%	The assessment process excludes bias by way of processes that can assure reliability, validity and fairness.	9	0	1	<ul style="list-style-type: none"> • Add: The assessment process "attempts to" exclude bias. The question remains - is it really possible?
7.7 100%	Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification.	9	0	1	

SUMMARY OF COMMENTS AND RESPONSES ON THE QUESTIONNAIRE ROUND I (CONTINUED)

	STATEMENT	1	2	3	COMMENT
7.8 90%	An integrated and holistic approach to assessment is used.	7	2	0	<ul style="list-style-type: none"> • Not always implemented this way in general in higher education. • Depends on the purpose of the assessment and the context.
7.9 100%	The assessment strategy is in coherence with institutional requirements.	7	2	1	<ul style="list-style-type: none"> • The assessment strategy is "aligned to institutional education and training policy, procedures and rules."
7.10 100%	The assessment strategy is in coherence with the requirements of the relevant professional body.	8	2	0	<ul style="list-style-type: none"> • Where applicable to the programme. • The assessment strategy is "aligned to" the requirements of the relevant professional body.
<p>GENERAL COMMENT</p> <p>For all cases responses are in agreement to goals and ideals, not in agreement to what is currently applied. Difficult to complete questionnaire.</p> <p>The statements do not universally hold truths unless the objective of assessment is attached.</p> <p>Elements like critical and creative thinking, performance with reflection, problem-solving, critical dialogue should be contained in an assessment model.</p> <p>Integration or comparison of this model and the unit standard for assessors are necessary to include all items, i.e. plan, prepare learners, conduct, report/feedback and reflection.</p>					

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND II

	STATEMENT	%	RATING			COMMENT
			1	2	3	
1.	THE PURPOSES OF ASSESSMENT					
1.1	Formative assessment diagnoses the shortcomings in learner progress and enables learners to grow academically.	90	8	1	0	<ul style="list-style-type: none"> Formative assessment <i>per se</i> does not enable growth, in conjunction with feedback, growth is facilitated. Add "with appropriate feedback". Diagnoses is ideal but simply identifying shortcomings is also relevant.
1.2	Formative assessment diagnoses deficiencies in learning facilitation that require additional interventions.	90	6	3	0	<ul style="list-style-type: none"> In my view this is evaluation not assessment, they are inextricably linked, though. The term "diagnoses" is assume "ideal", but a more realistic goal of "indicates" is more realistic.
1.3	Formative assessment identifies where adjustments in learning facilitation can be made by constantly reflecting on and evaluating the process.	90	5	3	1	<ul style="list-style-type: none"> Very important statement; seen as evaluation and not assessment. The term "constantly" is not realistic.
1.4	Summative assessment verifies that the exit-level outcomes linked to the professional vocational profile have been attained.	90	7	2	1	<ul style="list-style-type: none"> No summative assessment is perfect, therefore "indicates" is a better word, as it is more realistic. Double vote no. 10 (2) and (3).
1.5	Summative assessment verifies that the exit-level outcomes linked to the professional vocational profile have been attained.	90	6	2	2	<ul style="list-style-type: none"> No summative assessment is perfect, therefore "indicates" is a better word as it is more realistic. Double vote no. 10 (1) and (2).
1.6	The assessment process facilitates quality assurance through reflection by the facilitator and feedback from the learner.	90	6	3	0	
1.7	All persons involved (facilitators, learners and employers) must understand the purpose of the assessment.	90	7	1	1	<ul style="list-style-type: none"> The question asked – for what purpose? "Must" is not a precondition for some objectives, as the purpose of an assessment is always needed to be known by learners or employers.

SUMMARY OF COMMENTS AND RESPONSES QUESTIONNAIRE ROUND II (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
2.	THE ASSESSMENT STRATEGY – A ROADMAP AND GUIDELINES FOR ASSESSMENT IN A PROGRAMME					
2.1	The assessment strategy is planned, designed and led by a group of facilitators or tutors to achieve integration of outcomes in a programme.	90	6	3	0	<ul style="list-style-type: none"> • Yes, when it refers to outcomes of competence. • Remember that there are different kinds of outcomes – competence outcomes are interdependent and integrated. • Add “qualifier” – if overall assessment is integrated.
2.2	Facilitators in the programme must collaborate and discuss the assessment process to achieve a holistic approach in assessment.	90	7	1	1	
2.3	The assessment strategy includes the use of transparent assessment methods.	90	4	3	2	<ul style="list-style-type: none"> • Not universally: this could be rated 1 if one attaches a qualifier such as “for the purpose of learning”. • Strategies are included in methods, not <i>vice versa</i>.
2.4	The learning outcomes are assessed by using an appropriate range of performance assessment methods to demonstrate competence.	90	8	1	0	<ul style="list-style-type: none"> • Qualify: if the overall assessment strategy is performance-based.
2.5	Over and above assessment by the facilitator, the assessment strategy includes self-, peer and group assessment.	90	7	2	0	
2.6	Realistic and relevant assessment criteria are identified and used by all facilitators or tutors in the programme.	90	8	0	1	<ul style="list-style-type: none"> • Learners should be involved in the process.
2.7	The assessment process ensures academic growth and development of the learner, provided feedback is given.	90	5	3	1	<ul style="list-style-type: none"> • Replace “ensures” with “facilitates”, because it is closer to a realistic goal.
2.8	The facilitator must be able to manage and cope with the assessment workload/process.	90	7	2	0	<ul style="list-style-type: none"> • Do not overstructure assessment.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND II (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
2.9	Demands on learners undergoing assessment are realistic and the learners are able to cope with the process.	90	5	3	1	<ul style="list-style-type: none"> • Not universally, some learners cannot and it may be OK if this is part of the intended measured outcomes being assessed. • Contains two statements; statement too wide. • Does this refer to continuous assessment?
2.10	Methods are in place to ensure that assessment is free of bias and does not discriminate against learners.	90	7	2	0	<ul style="list-style-type: none"> • Contains two statements.
2.11	The assessment strategy should provide for more assessment opportunities to be created where doubt exists about the level of competence or where outcomes have not been attained.	90	6	2	1	<ul style="list-style-type: none"> • Add: "or where learners believe they are now ready to be assessed".
3.	ASSESSMENT METHODS – GUIDELINES FOR CHOOSING THE APPROPRIATE METHOD OF ASSESSMENT					
3.1	The following factors are relevant when selecting the assessment method:					
3.1.1	The practicability in terms of availability of physical facilities	90	8	1	0	<ul style="list-style-type: none"> • Did not understand to what was referred.
3.1.2	The cost involved and cost effectiveness of the assessment method.	90	7	2	0	
3.1.3	The period required for the facilitator to construct the assessment.	90	4	3	2	<ul style="list-style-type: none"> • Use "time", not "period".
3.1.4	The period allowed for completion of the assessment.	90	7	1	1	<ul style="list-style-type: none"> • Use "time" ,not "period".
3.1.5	The period required for grading the performance in assessment.	90	5	3	1	<ul style="list-style-type: none"> • Use "time" ,not "period".
3.1.6	The learner is allowed adequate time to prepare for the assessment.	90	4	5	0	<ul style="list-style-type: none"> • If it is continuous, the learner should always be ready. • The assessment programme must then be realistic.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND II (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
3.2	The assessment method must correspond with the learning and facilitation activities.	100	8	1	1	<ul style="list-style-type: none"> • Consensus round I.
3.3	The assessment method focuses on the learning outcomes.	90	8	1	0	
3.4	The assessment method integrates outcomes that include knowledge, skills and attitudes.	90	7	1	1	<ul style="list-style-type: none"> • Assessment is integrated, it is not the function as mentioned here.
3.5	Assessment methods assess problem-solving, reasoning and reflection skills relevant to the professional vocational profile and exit-level outcomes.	90	6	3	0	<ul style="list-style-type: none"> • That is not all that are assessed, but could be expanded to include all critical cross-field outcomes?
3.6	Performance assessment methods are utilised in simulation or in practice where knowledge and skills are integrated with performed procedures.	100	8	1	1	<ul style="list-style-type: none"> • Consensus round I.
3.7	Assessment methods are used that determine accumulated reflective performance and competence of the learner in practice.	90	6	3	0	
3.8	Assessment methods are used to assess the process of learning leading to the product or outcome.	90	5	4	1	<ul style="list-style-type: none"> • This is in general: more specifically this refers to formative assessment. • Only sometimes, vote (2) and (3).
3.9	Assessment methods are used to assess the product of learning.	100	8	1	1	<ul style="list-style-type: none"> • Consensus round I.
3.10	The same outcomes are assessed by different assessment approaches and/or methods; some focused on knowledge, others on skills, others on a combination of knowledge and skills.	90	5	3	1	<ul style="list-style-type: none"> • The first section of the statement opposes the second part. • Add "different appropriate assessment approaches."

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND II (CONTINUED)

4.	THE PLANNING AND CONSTRUCTION OF ASSESSMENT – MEASURES TO PLAN AND CONSTRUCT ASSESSMENT											
							STATEMENT	%	RATING			COMMENT
									1	2	3	
4.1	Where relevant, the assessment is planned by a team of facilitators in the programme to ensure the holistic assessment of a learner.	90	7	2	0	<ul style="list-style-type: none"> • Omit "the". 						
4.2	A planning grid with assessment specifications is used to select assessment criteria and standards to be included in the assessment.	90	4	5	0	<ul style="list-style-type: none"> • Does this not refer to the assessment grid? It should be negotiated with learners. 						
4.3	A planning grid with assessment specifications is used to plan the different cognitive levels included in the assessment.	90	4	5	0	<ul style="list-style-type: none"> • Having a guide like Bloom's taxonomy is useful, but that does not equate to our ability to measure the various taxonomy levels. • Suggest changing the statement. 						
4.4	Taxonomies (e.g. Bloom or similar taxonomies) are used to ensure that the assessment of a variety of cognitive levels is planned in the assessment.	90	4	5	0	<ul style="list-style-type: none"> • Change "ensure" to "guide, facilitate or encourage", which is more realistic. 						
4.5	The appropriate assessment method is used to assess the learning outcomes.	100	8	1	1	<ul style="list-style-type: none"> • Consensus round I. 						
4.6	A memorandum, rubric or marking scheme with appropriate and relevant assessment criteria accompanies the assessment for the grading of the assessment.	90	8	1	0	<ul style="list-style-type: none"> • Change to "a memorandum rubric or marking scheme as assessment tool is used for grading". 						
4.7	Learners are empowered to take responsibility, accountability and ownership in assessment by openly participating in the construction of the assessment process.	90	4	3	2	<ul style="list-style-type: none"> • Not universally true, sometimes yes, other times no. 						
4.8	Feedback to the learner, based on relevant assessment criteria, is planned as an integral part of the assessment.	90	9	0	0	<ul style="list-style-type: none"> • Not clear about the understanding of the statement. • Is the qualifier "based on relevant assessment criteria" necessary? 						

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND II (CONTINUED)

5.	PRACTICAL CONSIDERATIONS – TO ASSIST IN THE DAY-TO-DAY ASSESSMENT SCHEDULE					COMMENT					
							STATEMENT	%	RATING		
									1	2	3
5.1	The assessment schedule contains the following:										
5.1.1	The learning outcomes that are linked to the professional vocational profile.	90	6	1	2	<ul style="list-style-type: none"> • Not universally true, sometimes yes. 					
5.1.2	The proposed assessment method(s) used to attain each outcome.	90	5	2	2	<ul style="list-style-type: none"> • Change to “the proposed methods, tools, strategies used to assess each outcome”. • Not clear what is meant by statement; change: “attain to assess”. 					
5.1.3	An indication of the integration of different outcomes in one assessment opportunity.	90	2	5	2	<ul style="list-style-type: none"> • Assessment does not integrate outcomes, it can only assess different outcomes. 					
5.1.4	An indication of how every assessment opportunity contributes in weight to the assessment process.	100	8	1	1	<ul style="list-style-type: none"> • Consensus round I. 					
5.1.5	The credits linked to outcomes and assessed by various assessment opportunities.	89	4	4	0	<ul style="list-style-type: none"> • No vote no. 1; link of outcomes with assessment hinders. 					
5.2	The assessment schedule is documented and available to learners in the assessment manual and/or learner guide.	90	9	0	0						
5.3	Formal formative and summative assessment opportunities are spaced to give the learner the chance to prepare for the assessment.	90	5	3	2	<ul style="list-style-type: none"> • Wrong approach, learners should not focus on assessment but focus on the mastering of learning matter and the demonstration thereof. • Edit and omit “formal formative” for no. 1 rating, vote (1) and (3). 					
5.4	All assessment opportunities include feedback for the learning and academic development of the learner.	100	8	2	0	<ul style="list-style-type: none"> • Consensus round I. 					
5.5	The feedback is timely, appropriate, positive, encouraging and motivating.	100	9	1	0	<ul style="list-style-type: none"> • Consensus round I. 					

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND II (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
5.6	The feedback facilitates and encourages the creative thinking skills of the learner.	90	7	1	2	<ul style="list-style-type: none"> • Sometimes correct (1) and other times not (3); depends on the purpose underlying the assessment. • It could also be said of all critical cross-field outcomes.
5.7	Arrangements for reassessment opportunities, aligned with the relevant reassessment policy of the programme, are possible where outcomes have not been attained.	90	6	2	1	<ul style="list-style-type: none"> • Not universally true, often true.
6.	QUALITY ASSURANCE IN ASSESSMENT – TO MAINTAIN QUALITY IN ASSESSMENT AND CONFIRM THE QUALITY OF GRADUATES PRODUCED BY THE INSTITUTION					
6.1	The assessment schedule, documented in the learner guide or assessment manual, is one of the means of quality assurance in assessment.	90	6	2	1	<ul style="list-style-type: none"> • Cannot see the link between schedule and quality.
6.2	Colleagues discuss the assessment method(s) to be used as a team.	90	6	3	0	
6.3	A team approach is used to allow colleagues to judge and discuss the outcome of the assessment.	90	6	3	0	
6.4	Procedures are in place to monitor the quality of the assessment process.	100	9	0	1	<ul style="list-style-type: none"> • Consensus round I.
6.5	Procedures are in place to ensure that assessment results are reliable and valid.	100	9	0	1	<ul style="list-style-type: none"> • Consensus round I.
6.6	A system of feedback from peers and learners in the profession is used to maintain the standard of assessment.	90	9	1	0	<ul style="list-style-type: none"> • Not universally true, usually true – vote 1 + 2; It looks as if assessment is “separate” and should be an integrated part of the teaching and learning process.
6.7	A system of feedback from peers and learners in the profession is used to benchmark assessment standards.	90	5	4	0	<ul style="list-style-type: none"> • Sometimes only. • Are peers and the Professional Body not the same people?

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND II (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
6.8	A record system is available where data on learner achievements in respect of outcomes are kept for reflection on and improvement of the assessment process.	90	8	1	0	
6.9	The judgement of colleagues (inside and/or outside the institution) is used to moderate and benchmark the assessment.	100	8	1	1	<ul style="list-style-type: none"> • Consensus round I.
6.10	The relevant professional body benchmarks the assessment process.	90	5	4	0	<ul style="list-style-type: none"> • Are peers and the Professional Body not the same people?
7.	BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL					
7.1	The requirements of competency in the programme are clearly defined and documented.	100	9	0	1	<ul style="list-style-type: none"> • Consensus round I.
7.2	There is a close relationship between assessment activities and the facilitation of learning.	90	6	3	0	<ul style="list-style-type: none"> • Need to add qualifier: "valid assessment" before no. 1 rating can be given.
7.3	The assessment process provides for the individual differences of learners by exposing learners to a variety of assessment methods in the assessment process.	90	6	3	0	<ul style="list-style-type: none"> • It depends on the outcomes, sometimes only one assessment method is possible. • Not universally so – add "appropriate" assessment methods.
7.4	Measures are in place to limit and/or exclude the possibility of unfair discrimination in assessment.	90	9	0	0	
7.5	Assessment encourages meaningful and strategic learning.	100	9	0	1	<ul style="list-style-type: none"> • Consensus round I.
7.6	Assessment must reflect a multidimensional and integrated understanding of learning, revealed in the performance of the learner over a period of time.	90	7	2	0	

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND II (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
7.7	The assessment process attempts to exclude bias by way of processes that can assure reliability, validity and fairness.	90	9	0	0	
7.8	Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification.	100	9	0	1	<ul style="list-style-type: none"> • Consensus round I.
7.9	Where possible, an integrated and holistic approach to assessment is used in the programme.	90	8	1	0	<ul style="list-style-type: none"> • Only when an integrated approach is taken. • Other OBE approaches are also possible, e.g. continuous.
7.10	The assessment strategy is aligned to institutional education and training policy, procedures and rules.	90	7	2	0	<ul style="list-style-type: none"> • Distinguish clearly between "assessment strategy", "assessment method", and "assessment process".
7.11	The assessment strategy is aligned to the requirements of the relevant professional body.	90	8	1	0	<ul style="list-style-type: none"> • Distinguish clearly between "assessment strategy", "assessment method", and "assessment process". • Not universally so.
COMMENTS						
<p>As noted previously, many of the statements cannot be regarded as essential unless the purpose is added as qualifier. Without such, the statement may well be incorrect for some objectives set for assessment.</p> <p>I like the bias towards integrative performance-based assessment because I think it reflects the selection of an appropriate strategy for the qualification. However, be careful to assume that they are the only OBE strategies. Continuous assessment (e.g.) s also valid.</p>						

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III

	STATEMENT	%	RATING			COMMENT
			1	2	3	
1.	THE PURPOSES OF ASSESSMENT					
1.1	Formative assessment identifies the shortcomings in learner progress and enables learners to grow academically with appropriate feedback.		8	1	0	<ul style="list-style-type: none"> • Consensus round II.
1.2	Formative assessment identifies deficiencies in learning facilitation that require additional interventions.	100	5	4	1	<ul style="list-style-type: none"> • Stability after round III.
1.3	Formative assessment identifies where adjustments in learning facilitation can be made by constantly reflecting on and evaluating the process.	100	6	3	1	<ul style="list-style-type: none"> • Stability after round III. • This statement is stronger than 1.2 and should receive precedence.
1.4	Summative assessment indicates that the learner has achieved a specific level of performance.		7	2	1	<ul style="list-style-type: none"> • Consensus round II.
1.5	Summative assessment indicates that the exit-level outcomes linked to the professional vocational profile have been attained.	100	5	4	1	<ul style="list-style-type: none"> • Stability after round III. • This refers to summative and formative assessment. • Can be replaced with "continuous assessment".
1.6	The assessment process facilitates quality assurance through reflection by the facilitator and feedback from the learner.	100	6	2	2	<ul style="list-style-type: none"> • Stability after round III.
1.7	All persons involved (facilitators, learners and employers) should understand the purpose of the assessment, i.e. to demonstrate that learners have mastered learning.		7	1	1	<ul style="list-style-type: none"> • Consensus round II.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III (CONTINUED)

2.	THE ASSESSMENT STRATEGY – A ROADMAP AND GUIDELINES FOR ASSESSMENT IN A PROGRAMME					
		%	RATING			COMMENT
			1	2	3	
2.1	The assessment strategy is planned, designed and led by a group of facilitators or tutors to achieve integration of outcomes in a programme where the overall assessment strategy is integration.	100	9	0	1	<ul style="list-style-type: none"> • Consensus after round III. • Change statement to: "The assessment strategy is planned and designed in an integrated way and led by a group of facilitators or tutors to achieve integration of appropriate outcomes in a programme".
2.2	Facilitators in the programme must collaborate and discuss the assessment process to achieve a holistic approach in assessment.		7	1	1	<ul style="list-style-type: none"> • Consensus after round II.
2.3	The overall assessment strategy includes the use of an appropriate variety of approaches in assessment (e.g. performance, continuous, integrated) and transparent assessment methods for the purpose of learning.	100	9	0	1	<ul style="list-style-type: none"> • Consensus after round III.
2.4	The learning outcomes are assessed by using an appropriate range of performance assessment methods to demonstrate competence where the overall assessment strategy is performance-based.		8	1	0	<ul style="list-style-type: none"> • Consensus after round II.
2.5	Over and above assessment by the facilitator, the assessment strategy includes self-, peer and group assessment.		7	2	0	<ul style="list-style-type: none"> • Consensus after round II.
2.6	Realistic and relevant assessment criteria transparent to learners are identified and used by all facilitators or tutors in the programme.		8	0	1	<ul style="list-style-type: none"> • Consensus after round II.
2.7	The assessment process ensures academic growth and development of the learner, provided feedback is given.	100	9	0	1	<ul style="list-style-type: none"> • Consensus after round III. • Assuming this cross-reference with 1.1. • Replace "facilitates" with "enhance".
2.8	The facilitator must be able to manage and cope with the assessment workload/process.		7	2	0	<ul style="list-style-type: none"> • Consensus after round II.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
2.9	The relevant assessment strategy is transparent to learners and places realistic demands on learners that they are able to cope with.	100	5	5	0	<ul style="list-style-type: none"> • Stability after round III. • This appears to overlap with 2.3. • Is one of the key features of OBE not high expectations of learners?
2.10	Methods are in place to ensure that assessment is valid, reliable and free of bias.		7	2	0	<ul style="list-style-type: none"> • Consensus after round II.
2.11	The overall assessment strategy should provide for more assessment opportunities to be created where doubt exists about the level of competence of learners or where learners believe that they are now ready to be assessed.	100	5	4	1	<ul style="list-style-type: none"> • Stability after round III. • This is an essential statement only if your own policy is one that additional assessment opportunities should be provided. • It does not always work like this in practice.
3.	ASSESSMENT METHODS – GUIDELINES FOR CHOOSING THE APPROPRIATE METHOD OF ASSESSMENT					
3.1	The following factors are relevant when selecting the assessment method:					
3.1.1	The practicability in terms of availability of physical facilities.		8	1	0	<ul style="list-style-type: none"> • Consensus after round II.
3.1.2	The cost involved and the cost-effectiveness of the assessment method.		7	2	0	<ul style="list-style-type: none"> • Consensus after round II.
3.1.3	The (time) period required for the facilitator to construct the assessment.	100	2	6	2	<ul style="list-style-type: none"> • Stability after round III.
3.1.4	The (time) period allowed for completion of the assessment.		7	1	1	<ul style="list-style-type: none"> • Consensus after round II.
3.1.5	The (time) period required for grading the performance in assessment.	100	4	4	2	<ul style="list-style-type: none"> • Stability after round III.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
3.1.6	The learner is allowed adequate time to prepare for the assessment.	100	5	3	2	<ul style="list-style-type: none"> Stability after round III. If this is an end-assessment (or summative assessment), in the case of formative assessment, the learner must always be ready. Applicable to competency-based assessment.
3.2	The assessment method must correspond with the learning and facilitation activities.		8	1	1	<ul style="list-style-type: none"> Consensus after round I.
3.3	The assessment method focuses on the learning outcomes.		8	1	0	<ul style="list-style-type: none"> Consensus after round II.
3.4	The assessment method focuses on outcomes that include knowledge, skills and attitudes.		7	1	1	<ul style="list-style-type: none"> Consensus after round II.
3.5	Appropriate assessment methods are used to assess problem-solving, reasoning and reflection skills relevant to the professional vocational profile and exit-level outcomes and critical cross-field outcomes.	100	7	2	1	<ul style="list-style-type: none"> Stability after round III. Change sentence to: "Appropriate assessment methods are used to assess critical cross-field outcomes such as problem-solving, reasoning and reflection skills relevant to the professional vocational profile, as well as exit-level outcomes".
3.6	Performance assessment methods are utilised in simulation or in practice where knowledge and skills are integrated with performed procedures.		8	1	1	<ul style="list-style-type: none"> Consensus after round I.
3.7	Appropriate assessment methods are used that determine accumulated reflective performance and competence of the learner in practice.	100	5	3	2	<ul style="list-style-type: none"> Stability after round III.
3.8	Appropriate assessment methods are used to assess the process of learning leading to the product or outcome.	100	6	3	1	<ul style="list-style-type: none"> Stability after round III. Usually formative.
3.9	Appropriate assessment methods are used to assess the product of learning.		8	1	1	<ul style="list-style-type: none"> Consensus after round I.
3.10	The same outcomes are assessed by different assessment approaches and/or methods; some focus on knowledge, others on skills, others on a combination of knowledge and skills.	100	6	2	2	<ul style="list-style-type: none"> Stability after round III.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III (CONTINUED)

4.	THE PLANNING AND CONSTRUCTION OF ASSESSMENT – MEASURES TO PLAN AND CONSTRUCT ASSESSMENT	%	RATING			COMMENT
			1	2	3	
4.1	Where relevant, the assessment is planned by a team of facilitators in the programme to ensure the holistic assessment of a learner.		7	2	0	<ul style="list-style-type: none"> Consensus after round II.
4.2	A planning/assessment grid with assessment specifications, transparent to and negotiated with learners is used to select assessment criteria and standards to be included in the assessment.	100	4	2	4	<ul style="list-style-type: none"> Stability after round III. This is not one question only. Negotiations with learners can be done separately.
4.3	A planning/assessment grid with assessment specifications is used to plan the different cognitive levels included in the assessment.	100	7	2	1	<ul style="list-style-type: none"> Stability after round III.
4.4	Taxonomies (e.g. Bloom or similar taxonomies) are used to guide, facilitate or encourage the assessment of a variety of cognitive levels is planned in the assessment opportunity.	100	5	3	2	<ul style="list-style-type: none"> Stability after round III. Add "enhance". The NQF level descriptors will increasingly become the main "taxonomy" used in this process.
4.5	The appropriate assessment method is used to assess the learning outcomes.		8	1	1	<ul style="list-style-type: none"> Consensus after round I.
4.6	A memorandum, rubric or marking scheme as assessment tool accompanies the assessment for grading the performance in assessment.		8	1	0	<ul style="list-style-type: none"> Consensus after round II.
4.7	Learners should be empowered to take responsibility, accountability and ownership in assessment by openly participating in the construction of the assessment process.	100	3	5	2	<ul style="list-style-type: none"> Stability after round III.
4.8	Feedback to the learner, based on relevant assessment criteria, is planned as an integral part of the assessment.		9	0	0	<ul style="list-style-type: none"> Consensus after round II.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III (CONTINUED)

5.	PRACTICAL CONSIDERATIONS – TO ASSIST IN THE DAY-TO-DAY ASSESSMENT SCHEDULE	%	RATING			COMMENT
			1	2	3	
			STATEMENT			
5.1	The assessment schedule contains the following:					
5.1.1	The learning outcomes that are linked to the professional vocational profile.	100	7	2	1	<ul style="list-style-type: none"> Stability after round III. A missing link between the assessment grid and planned classroom activities – was it mentioned elsewhere?
5.1.2	The proposed assessment method(s), tools and strategies used to assess each outcome.	100	8	1	1	<ul style="list-style-type: none"> Consensus after round III.
5.1.3	An indication of the integration of different outcomes in one assessment opportunity.	100	7	2	1	<ul style="list-style-type: none"> Stability after round III.
5.1.4	An indication of how every assessment opportunity contributes in weight to the assessment process.		8	1	0	<ul style="list-style-type: none"> Consensus after round I.
5.1.5	The performance indicators linked to outcomes and assessed by various assessment opportunities.	100	7	2	1	<ul style="list-style-type: none"> Stability after round III.
5.2	The assessment schedule is documented and available to learners in the assessment manual and/or learner guide.		9	0	0	<ul style="list-style-type: none"> Consensus after round II.
5.3	Summative assessment opportunities are spaced to give the learner the chance to prepare for the assessment, although learners should be encouraged to focus on mastering and demonstration of learning and not on assessment <i>per se</i> .	100	7	2	1	<ul style="list-style-type: none"> Stability after round III. A stronger word than "encourage" can be used.
5.4	All assessment opportunities include feedback for the learning and academic development of the learner.		8	2	0	<ul style="list-style-type: none"> Consensus after round I.
5.5	The feedback is timely, appropriate, positive, encouraging and motivating.		9	1	0	<ul style="list-style-type: none"> Consensus after round I.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
5.6	The feedback facilitates and encourages the creative thinking skills of the learner where generic skills are integrated in the assessment.		7	1	2	<ul style="list-style-type: none"> • Consensus after round II.
5.7	Arrangements for reassessment opportunities, aligned with the relevant reassessment policy of the programme, are possible where outcomes are not attained to allow the learner the opportunity for academic growth, development and another opportunity to attain the outcome.	100	5	3	2	<ul style="list-style-type: none"> • Stability after round III. • See link with 2.11. • Formative assessment can occur continuously – this is an OBET principle to provide continuous opportunities for assessment.
6.	QUALITY ASSURANCE IN ASSESSMENT – TO MAINTAIN QUALITY IN ASSESSMENT AND CONFIRM THE QUALITY OF GRADUATES PRODUCED BY THE INSTITUTION					
6.1	The assessment schedule, documented in the learner guide or assessment manual, is one of the means of quality assurance in assessment as it provides a framework for the verification of the academic achievements of the learner.	100	5	2	3	<ul style="list-style-type: none"> • Stability after round III. • A schedule can demonstrate planning; it is done before assessment and can therefore not verify.
6.2	Colleagues discuss the assessment method(s) to be used as a team.	100	6	2	2	<ul style="list-style-type: none"> • Stability after round III. • Relevant if you refer to the programme, for individual modules may not be appropriate.
6.3	A team approach is used to allow colleagues to judge and discuss the outcome of the assessment.	100	7	2	1	<ul style="list-style-type: none"> • Stability after round III. • Not sure if this item is relevant given 6.2. • Is this for integrated assessment?
6.4	Procedures are in place to monitor the quality of the assessment process.		9	0	1	<ul style="list-style-type: none"> • Consensus after round I.
6.5	Procedures are in place to ensure that assessment results are reliable and valid.		9	0	1	<ul style="list-style-type: none"> • Consensus after round I.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
6.6	A system of feedback from peers and learners in the profession is used to maintain the standard of assessment integrated with the process of learning facilitation.		9	1	0	<ul style="list-style-type: none"> • Consensus after round II.
6.7	A system of feedback from peers and learners in the profession is used to benchmark assessment standards integrated with the process of learning facilitation.	100	4	4	2	<ul style="list-style-type: none"> • Stability after round III.
6.8	A record system is available where data on learner achievements in respect of outcomes are kept for reflection on and improvement of the assessment process.		8	1	0	<ul style="list-style-type: none"> • Consensus after round II.
6.9	The judgement of colleagues (inside and/or outside the institution) is used to moderate and benchmark the assessment.		8	1	1	<ul style="list-style-type: none"> • Consensus after round I.
6.10	The relevant professional body benchmarks the assessment process integrated with the process of learning facilitation.	100	5	3	2	<ul style="list-style-type: none"> • Stability after round III. • Does assessment process not refer to assessment standard?
7.	BASIC QUALITIES OF AND VALUES UNDERPINNING THE ASSESSMENT MODEL					
7.1	The requirements of competency in the programme are clearly defined and documented.		9	0	1	<ul style="list-style-type: none"> • Consensus after round I.
7.2	There is a close relationship between valid assessment activities that are integrated with the facilitation of learning.	90	4	1	4	<ul style="list-style-type: none"> • Stability after round III.
7.3	The assessment process provides for the individual differences of learners by exposing learners to a variety of assessment methods in the assessment process.	100	6	3	1	<ul style="list-style-type: none"> • Stability after round III.

SUMMARY OF COMMENTS AND RESPONSES: QUESTIONNAIRE ROUND III (CONTINUED)

	STATEMENT	%	RATING			COMMENT
			1	2	3	
7.4	Measures are in place to limit and/or exclude the possibility of unfair discrimination in assessment.		9	0	0	• Consensus after round II.
7.5	Assessment encourages meaningful and strategic learning.		9	0	1	• Consensus after round I.
7.6	Assessment must reflect a multidimensional and integrated understanding of learning, revealed in the performance of the learner over a period of time.		7	2	0	• Consensus after round II.
7.7	The assessment process attempts to exclude bias by way of processes that can assure reliability, validity and fairness.		9	0	0	• Consensus after round II.
7.8	Summative assessment opportunities are available to determine whether the learner can progress to the next academic level or attain a qualification.		9	0	1	• Consensus after round I.
7.9	Where possible, an integrated and holistic approach to assessment is used in the programme.		8	1	0	• Consensus after round II.
7.10	The assessment strategy is aligned to institutional education and training policy, procedures and rules.		7	2	0	• Consensus after round II.
7.11	The assessment strategy is aligned to the requirements of the relevant professional body.		8	1	0	• Consensus after round II.
COMMENTS						
<p>Concern about the usefulness of the consensus of the statements in the model when the underlying goal of assessment does not qualify the statement.</p> <p>A particular statement can be very important for one goal, and for another, not important. It is therefore inappropriate and difficult to assign a rating when the underlying goal of the assessment does not qualify the statement.</p> <p>Inconsistency emerged in rating the statements through the different rounds of the questionnaire.</p>						

