AN EVALUATION OF THE ASSESSMENT TOOL USED FOR EXTENSIVE MINI-DISSERTATIONS IN THE MASTER'S DEGREE IN FAMILY MEDICINE AT THE SCHOOL OF MEDICINE, UNIVERSITY OF THE FREE STATE

by

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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 Master's Degree in Health Education Studies and that it has never been submitted to any other university/faculty for the purpose of obtaining a degree.

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DEDICATION

I dedicate this dissertation to my family, Tinus, Marietjie, Hanti and Wynand, for offering me unconditional support during my studies. Thank you so much. I love you!

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LIST OF ACRONYMS

CD	Compact Disk
CHE	Council on Higher Education
CHESD	Centre for Higher Education Studies and Development
CMSA	Colleges of Medicine of South Africa
CV	Coefficient of Variation
FAMEC	Family Medicine Education Consortium
FCFP	Fellowship of College of Family Practice
HEQC	Higher Education Quality Committee
HPCSA	Health Professions Council of South Africa
MHPE	Master of Health Professions Education
MFamMed	Master of Family Medicine
MMed (Fam)	Master of Medicine (Family Medicine)
NQF	National Qualifications Framework
OBE	Outcomes-based Education
Qual	Qualitative
Quan	Quantitative
SAQA	South African Qualifications Authority
SAS®	SAS Institute Inc.
SKR 890	Module code for Extensive Mini-dissertation
SPALHE	Short Programme on Assessment of Learning in Higher Education
UFS	University of the Free State

SUMMARY

Key words: Action Research, Assessment, Family Medicine, Mini-dissertation, Mixed Method Approach.

Family Medicine became a speciality in South Africa in 2007. Postgraduate studies in Family Medicine changed from part-time MFamMed to a full-time MMed(Fam) degree with changes in curriculum and assessment criteria. The overall goal of this study was to evaluate the current assessment tool for extensive mini-dissertations in the postgraduate programme for Family Medicine, UFS and, if necessary to produce a valid and reliable assessment tool that is user-friendly.

An Action Research approach was used in this study, using mixed methods. In the first phase, the current assessment tool was evaluated and the data analysed quantitatively. In phase two, the quantitative results of phase one was discussed during a focus group interview and data were analysed qualitatively. Phase three was the production of a new, improved assessment tool. The evaluation of the new assessment tool did not form part of this study. In phase one, 11 internal and four external assessors evaluated four extensive mini-dissertations with the current assessment tool. In phase two, the internal assessors took part in a focus group interview and evaluated the current tool for validity regarding regulations of the assessment bodies as well as reasons for the differences in marks allocated to specific assessment categories (reliability).

The current assessment tool complied with all the regulations of the assessment bodies. In four out of the possible 12 assessment categories the median scores allocated to specific categories varied more than 15%. During the focus group interview, reasons for this were identified and the assessment tool was adapted accordingly. A lack of training and experience in the assessment of extensive mini-dissertations was also identified as a contributing factor.

The existing assessment tool currently still in use is valid, but not reliable for all assessment categories. The new assessment tool addresses these areas and will be implemented after training of assessors in 2012.

OPSOMMING

Sleutelwoorde: Aksienavorsing, Assessering, Gemengde Navorsingsmetode, Huisartskunde, Uitgebreide Skripsies.

Huisartskunde is in 2007 as ‘n spesialiteit in Suid-Afrika erken. Nagraadse studies in Huisartskunde het daarna ook verander van ’n deeltydse MFamMed na ‘n voltydse MMed (Fam), met veranderinge in die kurrikulum en assesseringskriteria. Die oorhoofse doel van hierdie studie was om die bestaande assesseringsinstrument vir uitgebreide skripsies in die nagraadse program in Huisartskunde, UV te evalueer en daarna indien nodig ‘n geldige en betroubare assesseringinstrument daar te stel wat ook gebruikersvriendelik is.

‘n Aksienavorsingsbenadering met ‘n gemengde navorsingsmetode is in hierdie studie gebruik,. Die eerste fase is die bestaande assesseringinstrument evalueer en die data kwantitatief geanaliseer. In fase twee is die resultate van fase een gedurende ‘n fokusgroep onderhoud bespreek en data is kwalitatief geanaliseer. Fase drie was die daarstelling van ‘n verbeterde assesseringsinstrument. Die evaluasie van die nuwe instrument het nie deel van hierdie studie uitgemaak nie. In fase een het 11 interne en vier eksterne assessore elk 4 uitgebreide skripsies geëvalueer met die bestaande assesserings instrument. In fase twee het die interne assessore deelgeneem aan ‘n fokusgroeponderhoud waar die bestaande assesseringsinstrument geëvalueer is vir geldigheid betreffende regulasies van die eksamineringsliggame, asook vir redes waarom daar verskille was in die toekenning van punte vir spesifieke assesseringskategorieë.

Die bestaande assesseringsinstrument het voldoen aan al die regulasies van die assesseringsliggame en was dus geldig. In vier van die 12 moontlike assesseringskategorieë het die mediaanpunte toegeken vir spesifieke kategorieë met meer as 15% verskil. Gedurende die fokusgroeponderhoud is die redes vir die variasie geïdentifiseer en die nuwe assesseringsinstrument is daarvolgens aangepas. ‘n Gebrek aan opleiding en ondervinding in die assessering van skripsies is ook as ‘n bydraende faktor identifiseer.

Die assesseringsinstrument wat tans steeds gebruik word, is geldig, maar nie betroubaar vir alle assesseringskategorieë nie. Die nuwe assesseringsinstrument is op al die kategorieë gerig en sal in 2012 geïmplementeer word nadat die assessore opgelei is.

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CHAPTER 1
ORIENTATION TO THE STUDY

1.1 INTRODUCTION

In this research project, an in-depth study was done by the researcher with the view to evaluate the current assessment tool for extensive mini-dissertations in the postgraduate programme for Family Medicine and to produce a standardised assessment tool. This assessment tool must be valid (by meeting the requirements of the different examining bodies responsible for postgraduate studies in Family Medicine), reliable and user-friendly.

This first chapter aims to provide the background and context of this study. The chapter starts with a background on the recent changes in the Family Medicine postgraduate curriculum and the changes in assessment for this course. This is followed by the research questions, problem statement, scope, overall goal, aim and research design.

Finally, Chapter 1 concludes by providing an outline of the thesis and the chapters to follow.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

The postgraduate programme in Family Medicine changed from a three-year part-time degree (MFamMed) to a four-year full time MMed(Fam) speciality in 2007. This change in programme brought about a new curriculum, new regulations and new assessment criteria.

Together with these changes the new concept of a single exit examination for all universities was introduced. Therefore, the assessment criteria for the MMed(Fam) programme must now meet the regulations of the accredited programme at the university as well as that of the single exit examination body, namely the Colleges of Medicine of South Africa. This will be discussed further in Chapter 2.

1.3 PROBLEM STATEMENT AND RESEARCH QUESTIONS

At the outset of this study, there was an assessment tool available to assess extensive mini-dissertations in the MMed(Fam) degree at the University of the Free State (UFS). The problem was that this tool was not evaluated in the new MMed(Fam) degree to establish that it is valid and reliable or that it ensures fair context of assessment and compliance with regulations and principles of assessment.

1.4 OVERALL GOAL, AIM AND OBJECTIVES OF THE STUDY

Different terms are used by different researchers to describe what they want to research. For the purpose of this study, a goal will be defined as the broad view of what the researcher would like to achieve with the study (De Vos 2002: 404); the aim as a more focused and richer outcome (Maree 2007: 81); and the objectives as the specific actions that will contribute to the broader goal (De Vos 2002: 404).

1.4.1 Overall goal of the study

The overall goal of the project was to ensure that the assessment tool that is used to assess extensive mini-dissertations in M Med (Fam) at the UFS is valid and reliable, as well as user-friendly - in order to assure quality assessments for all Master's students in Family Medicine.

1.4.2 Aim of the study

The aim of this study was to evaluate the assessment tool used for extensive mini-dissertations in the Master's degree in Family Medicine, at the School of Medicine, UFS.

1.4.3 Objectives of the study

The first objective of this study was to evaluate whether the assessment tool currently in use for the assessment of an extensive mini-dissertation for a Master's degree in Family Medicine at the UFS is in line with the regulations for the requirements for an extensive mini-dissertation for a Master's degree at the UFS. A literature review to gain deeper insight into all the current regulations, as well as discussion during the focus group interview formed part of this objective.

The second objective was to evaluate whether the assessment tool currently in use for the assessment of an extensive mini-dissertation in MMed(Fam) meets the regulations of the current examining body's criteria, namely that of the Colleges of Medicine of South Africa (CMSA). A literature review to gain deeper insight into all the current regulations, as well as discussion during the focus group interview formed part of this objective.

The third objective was to adjust the current assessment tool if not valid and reliable and produce a valid and reliable assessment tool that is also user-friendly. Results of the assessments of the mini-dissertations as well as discussion during the focus group interview formed part of this objective.

1.5 DEMARCATION OF THE FIELD AND THE SCOPE OF THE STUDY

According to Goddard and Melville (2004: 14), demarcation is the setting of boundaries within which the research will be done and it includes the scope of

the study, the variables in the study, as well as the methods and the constraints of the study.

The scope of this study was limited to the field of Health Professions Education and the evaluation of the assessment tool used to assess extensive mini-dissertations in postgraduate degrees in Family Medicine and the production of a valid and reliable assessment tool to assess these dissertations at the UFS. The results of this study can be applied at all other Family Medicine Departments in South Africa, as they all worked together to set the same requirements and outcomes for their postgraduate degrees in Family Medicine. Other Departments at the University will also be able to use the assessment rubric as it is generic and complies with the Regulations for Postgraduate Studies at the University of the Free State.

Although the assessment tool was evaluated by internal as well as external assessors, different universities may choose to continue to use their current assessment tools, as the introduction of a new tool will need some training.

1.6 SIGNIFICANCE AND VALUE OF THE STUDY

The researcher is registered with the Health Professionals Council of South Africa (HPCSA) as a Family Physician. She has been working in the Department of Family Medicine, UFS since 1990. She obtained her MFamMed qualification from the UFS in 1996 and Fellowship of College of Family Practice (FCFP) from the College of Medicine of South Africa. She is involved in clinical work as well as with the training of undergraduate and postgraduate students in Family Medicine.

As a member of the editorial board of scientific journals as well as an external assessor for mini-dissertations at other universities, she is regularly involved in the assessment of research projects. Different types of assessment tools and the assessment of students are her main educational interest. This stimulated her to evaluate and improve the current assessment tool for mini-dissertations in postgraduate Family Medicine at the UFS.

The results of this study, as well as the assessment tool, will be made available to all the other Family Medicine Departments in South Africa, if they wish to use it. As was pointed out above, it can also be used by other departments in the Faculty of Health Science to assess mini-dissertations as it is generic and meets all the criteria for the assessment for extensive mini-dissertations at the UFS. The distribution of these results will be discussed later in this chapter (cf. 1.8).

1.7 RESEARCH DESIGN OF THE STUDY AND METHODS OF INVESTIGATION

In the following paragraphs the researcher will give a brief description of the research methods used in this study. In Chapter 3, the research design and methods will be discussed in detail.

1.7.1 Design of the study

The researcher used an Action Research approach using mixed methods for this study. Action Research will be discussed in Chapter 3 (cf. 3.3.1). This study consisted of three steps:

Phase one was a quantitative study where different examiners assessed the same extensive mini-dissertations with the current standardized assessment tool. The results of these assessments formed the basis for the focus group interview.

Phase two was a focus group interview where the local examiners who used the assessment tool in the assessment of the extensive mini-dissertations were group-interviewed in a structured way on the assessment tool for compliance with regulations of the UFS and CMSA, as well as for shortcomings and possible changes to the tool.

Phase three was the development of an adapted, valid and reliable assessment tool for the assessment of extensive mini-dissertations in MMed(Fam) at the UFS.

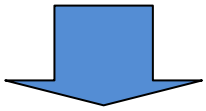
An evaluation of the adapted assessment tool did not form part of this study, as only one student will complete his studies this year and the sample size of one will be too small to make any conclusions. However, the adapted assessment tool will be implemented and evaluated in future students' assessments and the action research cycle will then be completed.

1.7.2 Methods of investigation

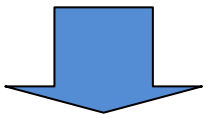
An Action Research approach was followed (using mixed methods) as the method of investigation (cf. 3.3). Figure 1 displays a flow diagram of the action research process.

ACTION RESEARCH APPROACH

Evaluate the current assessment tool and analyse data quantitatively



Discuss ways to improve the tool during focus group interview



Produce a valid and reliable assessment tool for assessment of mini-dissertations in MMed(Fam) UFS

FIGURE 1: PROCESS OF ACTION RESEARCH APPROACH IN THIS STUDY

1.8 IMPLEMENTATION OF THE FINDINGS

As a result of this study, a new, improved assessment tool was produced to assess mini-dissertations in the postgraduate degree in Family Medicine. The new tool meets all the requirements of the different examining bodies and can be used by all Family Medicine Departments in South Africa. This assessment tool will be used in the Department of Family Medicine, UFS, as assessment

rubric to assess postgraduate extensive mini-dissertations from the end of 2011. The results of this study will also be made public at the next Family Medicine conference in Victoria Falls in 2012 and an article will be written for publication in a peer-reviewed journal. Other clinical departments in the Faculty of Health Science, UFS will also be informed about the tool during the Faculty Research Forum 2012. They will be able to use the rubric as it is generic and meets all the requirements of the UFS regarding the assessment of extensive mini-dissertations for Masters degrees.

1.9 ARRANGEMENT OF THE REPORT

This report consists of seven chapters. Each chapter addresses a different aspect of the study.

The arrangement of the chapters are as follows:

Chapter 1: This chapter provides an orientation to the study.

Chapter 2: In the second chapter a literature review will provide the theoretical foundation for the conceptualization and contextualization of the terms evaluation, assessment tools/rubrics, extensive mini-dissertations and Master's Degree in Family Medicine.

Chapter 3: In this chapter, the research methodology will be discussed in detail.

Chapter 4: In Chapter 4 the quantitative results of the evaluations of the assessment tool will be displayed in graphs and tables and discussed.

Chapter 5: The qualitative results of the focus group interview will be displayed and discussed in this chapter.

Chapter 6: In this chapter, the new assessment tool will be discussed. Changes made to the current tool as well as the components of the new tool and information leaflet are described.

Chapter 7: The study will conclude with a formal conclusion, recommendations and a discussion on the limitations of the study.

1.10 CONCLUSION

In this first chapter the researcher introduced the study and set out the background and context of this research. The problem was stated, with the overall goal, aim and objectives and the scope of the study. A brief introduction was given on the research design and methods as well as the arrangement of the rest of the report. The next chapter will provide a theoretical foundation for the research project.

CHAPTER 2:
THEORETICAL FOUNDATION FOR THE EVALUATION AND ASSESSMENT OF MINI-DISSERTATIONS

2.1 INTRODUCTION

In the previous chapter an introduction to the study was given as well as the reasons for the study. The outline of the study was also explained. In Chapter 2 a literature review provides a foundation for this study. A literature review can be described as a structured in-depth evaluation of previous research and information available on the topic of the study (Levy & Ellis 2006: 182). Literature was searched with various search engines, but no study that assessed the use of an assessment tool for postgraduate mini-dissertations was found. This literature review focussed on defining the terms evaluation, assessments tools, mini-dissertations and the Master's degree in Family Medicine and to justify the use of these terms in the title of this study. Other studies regarding dissertation assessment will just be mentioned.

2.2 THEORETICAL CONCEPTS REGARDING EVALUATION AND ASSESSMENT

Confusion exists between the terms *Evaluation* and *Assessment* and they are sometimes used interchangeably. According to Dent and Harden (2009: 35) evaluation can be defined as **"**a systematic approach to the collection, analysis

and interpretation of information about any aspect of the conceptualization, design, implementation and utility of educational programmes." Assessment is the process where people or learners are tested on specific knowledge or skills. Therefore the term assessment is used for people and evaluation for processes or programmes. In the context of this study the term evaluation will be used as an assessment tool will be tested and not the performances of people. However, the tool will assess student performance and therefore assessment will also be discussed.

Assessment is defined by the South African Qualifications Authority (SAQA) as "a structured process for gathering evidence and making judgement about an individual's performance in relation to registered national standards and qualifications" (South African Qualifications Authority 2001: 15). The SAQA Board is a juristic body appointed by the Ministers of Education and Labour with different roles, which include policy on assessment (South African Qualifications Authority 2011: 1).

The following four elements are integral requirements of assessment according to Le Roux (2004: 56):

- Assessments should be structured from the planning up to the execution of the assessment.
- Assessment should gather evidence, therefore more than one assessment method should be used to gather this evidence.
- Assessment should focus on what students can do, rather than on what they cannot do.
- Assessment should be aligned with the specific learning outcomes of the module or learning experience.

The term *Assessment Category* is used in this project to describe the specific component that was measured as a sub-category of the overall project e.g. *Topic and title* or *Literature review* (cf. 6.4).

There are two major types of assessment, namely formative assessment and summative assessment. Formative assessment is the process of continuous assessment where the aim is to improve learning through a process of constructive feedback and it forms part of the educational process. Summative assessment, on the other hand, is a formalised assessment process to certify competence and to make decisions regarding passing or failing (Council on Higher Education 2004: 134). In the assessment of mini-dissertations the feedback and discussions between the study leader and student will be formative and the final filling out of the assessment rubric by the assessors will be summative.

Marks allocated in a summative assessment can be either norm-referenced or criterion-referenced. Norm-referenced assessment refers to the process where student's marks are compared in order to decide who performed better. On the other hand, criterion-referenced assessment is the process of assessing an individual on a specific set of criteria. The student is not compared with other students, but with what competence he/she can demonstrate (South African Qualification Authority 2001: 24). From the above, it follows that criterion-referenced assessment is more appropriate in the assessment of mini-dissertations.

The main purpose of assessment is to allocate marks, - in this case criterion-referenced, but there are also secondary purposes for assessment, and James (1996: 2) described the following as important:

- To assist with the selection or readiness of students to advance to a next level, especially if only a limited number of spaces are available.
- To motivate students to work harder for summative assessment.
- To focus the student's learning on specific outcomes.
- To form part of the learning process.
- To give feedback to students where they performed well and areas to improve on.
- To give feedback to teachers to identify areas of teaching to focus on and teaching skills to improve on.

There is a responsibility on assessors to ensure that assessments are fair, valid and reliable (Caffrey 2009: 22). In order for assessment to be fair, it must meet the following criteria (Brown 2001: 6):

- The assessment tasks and criteria must be aligned with the learning outcomes.
- The assessment criteria must be simple and easy to understand.
- The assessment of assignments by assessors should be fair, reliable and valid.
- Feedback should be meaningful and timely; the sooner after the assessment the better.

Assessment is valid when it measures what it is supposed to measure. It includes what is measured (content validity), how accurately it measures the same thing on different occasions (concurrent validity) and how well the

assessment results will predict performance (predictive validity) (Dent & Harden 2009: 320). For the assessment rubric of the MMed(Fam) course to be valid it must be able to measure if a student can produce an extensive mini-dissertation that meets all the requirements of the assessment bodies (cf. 3.4.2). Reliability of an assessment tool is the ability of the tool to produce the same results when different people use the same tool to assess the same work (Maree 2007: 122). The assessment tool will therefore be reliable if different people get the same result when they assess the same extensive mini-dissertations (cf. 3.4.3).

In the following figure (Figure 2) the relationships between learning outcomes and assessment methods and criteria are illustrated. This figure is adapted from Brown's Assessment guide for lecturers (Brown 2001: 4).

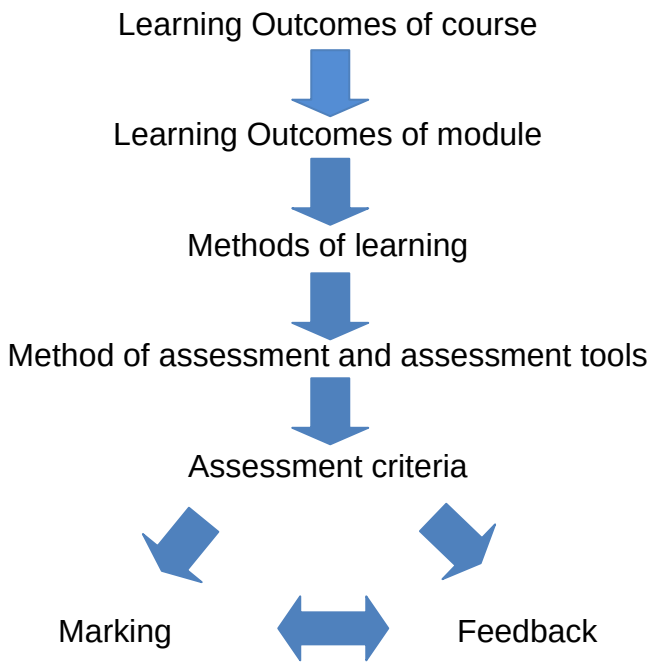


FIGURE 2: ALIGNMENT OF OUTCOMES AND ASSESSMENT (Adapted from Brown 2001)

When planning a module, it is important to start with the learning outcomes of the course to see where one's module fits into the bigger picture. The learning outcomes of one's module must be aligned with that of the course. Then decide how one will be able to assess those outcomes. Thereafter one can design the content of the curriculum and how you are going to teach it. When you know what to teach, how to teach and how to assess, you need to make sure that everything is aligned with each other in your curriculum.

Different assessments methods, sources and instruments are available to assess different skills and competencies (Brown 2001: 9). Methods can be described as the approach to the assessment for example essays, multiple choice tests, presentations, projects or posters. Sources can be described as the person/s involved in the assessment, for example the lecturer, assessors, peers or mentors and the instrument can be described as the marking scheme (rubric) or specific criteria. In the assessment of mini-dissertations, the mini-dissertation will be the method, the internal and external assessors will be the sources and the assessment rubric will be the instrument (cf. 3.3).

Assessors are those individuals who are appropriately qualified to plan and conduct learner assessments against the requirements of the National Qualifications Framework (NQF) (South African Qualification Authority 2001: 47). In the Assessment Policy of the University of the Free State it is stipulated that each lecturer/assessor at the University should undergo the assessment training programme of the University or an equivalent of it and should also participate in regular "refresher workshops" to maintain their knowledge (University of the Free State 2006: 4).

Currently the Short Programme on Assessment of Learning in Higher Education (SPALHE) is the formal assessment course presented to lecturers in the Faculty

of Health Sciences and other Faculties at the University of the Free State. The SPALHE course forms part of the credit-bearing short courses at the University of the Free State. The course is on a NQF level seven and bears 16 credits. The course was developed by the Centre for Higher Education Studies and Development (CHESD) and is currently presented over a year by trained personnel from the Faculty of Health Sciences (University of the Free State 2011(4): 1). Regular workshops and lectures are also presented to all staff as part of professional development.

Training of assessors should include training on inter-rater differences, objectivity, personal biases and how to give constructive feedback. Assessors must also be able to interpret and manage results (Dent & Harden 2009: 279).

2.3 THEORETICAL ASPECTS ON THE USE OF ASSESSMENT TOOLS OR RUBRICS

Different types of assessment tools exist to measure different types of knowledge, skills and attitudes. An assessment rubric is an assessment scoring guide to evaluate or measure a student's work. A range of criteria is scored and added up to make the score instead of just a single score allocated as the mark. According to Pickett and Dodge (2007: 1) all rubrics have three features in common namely:

- "focus on measuring a stated **objective** (performance, behavior, or quality),
- use a **range** to rate performance and
- contain specific performance characteristics arranged in levels indicating the **degree** to which a standard has been met".

There are two types of assessment rubrics, namely analytical rubrics and holistic rubrics. In a holistic rubric different aspects are grouped together and a mark is allocated as the overall mark. In an analytical rubric different marks are allocated to different assessment criteria; these marks are added to give an overall mark (Moskal 2000: 3). For the purpose of the assessment of extensive mini-dissertations, an analytical rubric is most appropriate as it can assess the different assessment criteria separately and different weights can be allocated to each assessment criterion.

In the Kansas State University's Assessment manual some of the additional advantages, except scoring, of an assessment rubric are summarized as follows:

- Instructions are intentionally focused
- Feedback is guided according to the structure
- The desired results are objectively characterized
- Students are involved and can develop self-assessment skills and competence.

(Kansas State University 2004: 2).

There are numerous advantages for the student, as well as the assessor, when a rubric is used for assessment. This includes that the assessment is more objective and consistent, the student knows what is expected of him/her and the feedback is structured. The assessor knows what to assess and what weight to give to each component (Pickett & Dodge 2007: 2).

Andrade (2000: 13) defines an assessment rubric as “a document that articulates the expectations for an assignment by listing the criteria, or what counts, and describing levels of quality from excellent to poor”. In the article “Putting Rubrics to Test” Andrade (2000: 13) argues in favour of the dual advantage of assessment rubrics to assess as well as to promote learning.

According to Stevens and Levi (2005: 5) in their book *Introduction to rubrics: an assessment tool to save grading time, convey effective feedback and promote student learning* a rubric must consist of four parts, namely:

- Task description: Another name for the task description is the assessment criterion. This indicates the aspects that will be assessed and should be clear.

- A scale: The scale indicates the performance achieved for each assessment criterion and can be a numeric score or a word e.g. poor, mastered, excellent etc.

- Weight: The weight allocation indicates how important a specific assessment criterion is and what percentage of the marks are allocated to that criterion e.g. if only 5% is allocated to binding and general layout, the student should not put all efforts and money into that aspect of the project, but rather into criteria with a larger weighting.

- Description of performance level: The description of the performance level can be indicated on the assessment rubric or can be on a separate information leaflet. This description will guide the assessor on what mark to allocate for a specific performance e.g. for an *Acceptable performance* a student should display evidence of understanding of concepts and some application thereof. Acceptable language and professional skills should also be displayed (cf. 6.6).

A schematic figure of a basic assessment rubric is displayed in Figure 3. Different colours indicate the different parts of the assessment rubric.

TASK DESCRIPTION

DESCRIPTION OF PERFORMANCE LEVEL

SCALE

WEIGHT

TASK DESCRIPTION	**SCALE** *Indicate assessment criteria e.g. Unacceptable below*			**WEIGHT**
Assessment criterion e.g. Abstract	Unacceptable	Acceptable	Exceptional	*Indicate % to add to 100*
	DESCRIPTION OF PERFORMANCE LEVEL *Indicate what is expected under each level*			
1. Abstract	Missing information. No or very poor understanding. Non professional language.	Evidence of understanding and some application. Acceptable language and skill displayed.	Constant evidence of understanding and application. Clear evidence of professional skills.	10 %

FIGURE 3: SCHEMATIC FIGURE OF BASIC COMPONENT OF AN ASSESSMENT RUBRIC

Webster *et al. (*2000: 75*)* studied criteria for dissertation assessment and concluded that the following are necessary for fairness and consistency in dissertation assessment:

- The student must know the criteria on which he/she will be assessed.
- The weight of each criterion must be known.
- Students may only be assessed on the stated criteria.
- Terms used in the assessment must be well defined.
- At least two internal examiners and an external examiner must assess dissertations.

Due to the fact that students must obtain marks, as well as learn from their extensive mini-dissertations and be evaluated on different aspects, it seems from the literature that an assessment rubric is an ideal tool to assess mini-dissertations.

2.4 THEORETICAL ASPECTS REGARDING THESES AND EXTENSIVE MINI-DISSERTATIONS

The terms thesis and dissertation are conventionally used to refer to the products that a student needs to hand in to complete a master's or doctoral degree; sometimes these terms are used interchangeably. The meaning and context in which the terms are used are also different in different countries.

Lewis (2004: 5) defined a dissertation as: "A treatise advancing a new point of view resulting from research; usually a requirement for an advanced academic degree". A treatise is according to Dictionary Reference (2009) "a formal and systematic written discourse on some subject, generally longer and treating it in greater depth than an essay, and more concerned with investigating or exposing the principles of the subject". Thesis is the term used at the UFS for the product that a student must hand in for a doctoral degree.

Lack of structure in a dissertation is possibly the reason for most dissertation failures (Calabrese 2009: 145, Gletthorn & Joyner 2005: 3, Single 2009: 100).

The following components should form the structure of every dissertation:

- Abstract: An abstract should be clear and simple, stating all important facts. Most people will only read the abstract and then decide if they are interested in the article or dissertation. Internet searches usually only display abstracts. It is important to write the abstract after completion of the research project and to spend adequate time to ensure good language and flow of the abstract. Avoid copy and paste of single sentences or paragraphs to compile the abstract (Day & Gastell 2011: 56, Glatthorn & Joyner 2005: 214,161, 34).

- Introduction: The introduction chapter should set the scene for the project. Relevant background information regarding the study, the problem statement and the significance of the study should be covered in the introduction. The literature review may form part of the introduction or can be a different chapter (Glatthorn & Joyner 2005: 109, Swetnam 2004: 97, Single 2009: 64).

- Critical literature review: The purpose of the literature review is to inform the readers about the current state of knowledge in the research field. When doing a literature review the researcher should be able to seek relevant, current information regarding the topic of research and critically appraise this information (Levi & Ellis 2006: 185, Davidson, Vrede & Briggs 2005: 969). The literature review should be relevant to the specific research project and not be just a lot of information regarding the topic in general (cf.5.4). Bem (1995: 172) noted that "authors of literature reviews are at risk for producing mind-numbing lists of citations and findings that resemble a phone book – impressive case, lots of numbers, but not much plot."

  According to Levi and Ellis (2006: 182) a "systems" approach should be followed when doing a literature review. Figure 4 is adapted from their article published on effective literature reviews.

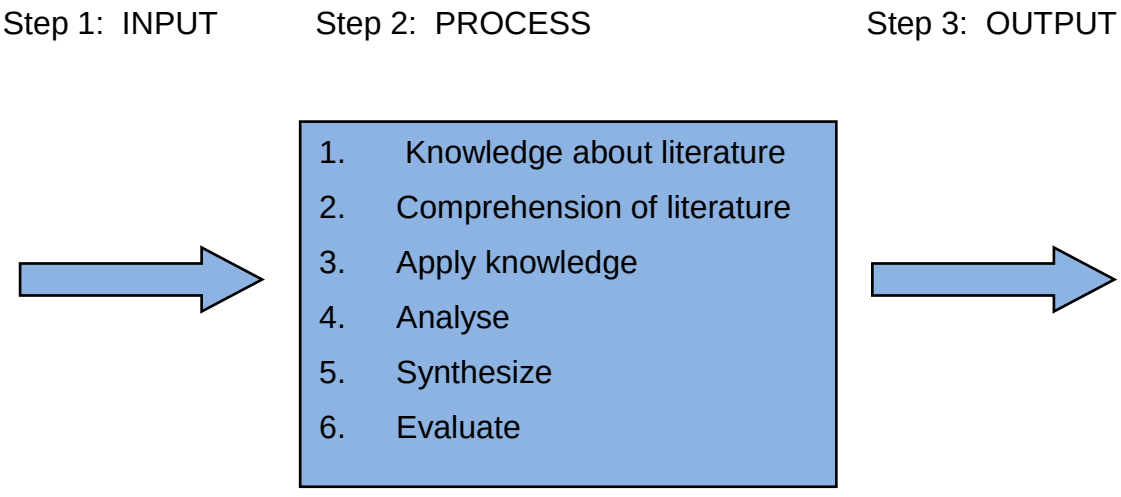


FIGURE 4: THE SYSTEMS APPROACH TO LITERATURE REVIEWS (Adapted from Levi & Ellis 2006)

- Methods, results and discussion**:** In the method section all steps followed to do the research must be described. This includes the study population, the sample selection and size, data collection, data analysis and data interpretation. After reading the method, another researcher should be able to reproduce the research project. In the discussion, the researcher should discuss the results of the project and put it in context (Brause 2000: 49, Mouton 2001:121, Single 2009: 124). "The discussion is also your opportunity to bring to bear your own critical intelligence" (Glatthorn & Joyner 2005: 207).

- Conclusion: In the conclusion the researcher must support or refute the hypothesis or research question/s. Often only the conclusion can be cited and therefore it is important to conclude study results accurately and in context (Brause 2000: 130, Single 2009: 69).

- References: Cronje, Murdoch and Smith (2003: 4) used the following definitions related to referencing in research:

  - "A citation is a reference to a document. It should include all the bibliographic details needed to trace the document.
  - Footnotes are listed at the bottom of the page on which a reference or citation occurs in the text. A number is placed in the text to indicate the cited work and again at the bottom of the page in front of the footnote. Footnotes are used when only a small number of references need to be made.
  - A reference list is the list of citations (material cited) in a written work. It shows the authority on which you base statements in the text, shows how well acquainted (how widely read) you are with the subject, and is a starting point for anyone else wanting to find out about the subject.

- A bibliography is a list of documents (books, articles, papers) read for a specific essay or assignment. All these references are not necessarily included in the list of references."

Either the Harvard or the Vancouver style of referencing is preferred by most academics depending on their field of study. The Vancouver reference style is mostly used in Medicine and Science and consists of citations in the text using numbers and numerical numbers in the reference list indicating the source. In the Harvard method of referencing, the authors' names are written next to the citation, with the year of publication and the page number, and in the References the authors appear alphabetically (University of the Free State 2011: 5). In order to refrain from plagiarism, all sources used in the dissertation, as well as all direct quotations, should be indicated as such in the text and Reference list or Bibliography (cf. 5.4).

Style: The style of each dissertation or thesis should be according to the regulations set for the specific assignment or by the specific academic department. The style includes the font size, the line spacing, numbering and justification of pages. The only style requirement mentioned in the General Institutional Rules and Regulations for Advanced and Postgraduate Qualifications of the University of the Free State is that the line spacing should be at least one and a half spacing (University of the Free State 2011). The University of Cape Town states in their mini-dissertation guideline for Public Health that the dissertations should be typed in double spacing with a font size of 12 and between 10 000 and 15 000 words (University of Cape Town 2011: 3). The University of the Western Cape requires +/- 60 pages for an extensive mini-dissertation (University of Western Cape 2011: 2).

Assessment of dissertations was discussed earlier in this chapter (cf. 2.2).

At the University of the Free State, the Executive Management (University if the Free State Executive minutes 2007: 3) took a decision on 3 September 2007 to use the following terminology for postgraduate research projects:

- Short mini-dissertation: Fewer than 32 credits
- Mini-dissertation: 32-59 credits
- Extensive (Comprehensive before 2007) mini-dissertation: 60-128 credits
- Dissertation: 130 or more credits
- Thesis: 240-360 credits (Depending on the Faculty) and it must comply with the requirements set by the level 10 describers of the Higher Education Qualifications Framework (cf. 5.3).

According to the regulations of the University of the Free State a student must hand in an acceptable dissertation in order to receive a Master's degree. The extent of this dissertation is stipulated according to the credits allocated to the module (University of the Free State 2011: 44).

For most Master's degrees at the University of the Free State, students have the option of a structured course plus an extensive mini-dissertation or alternatively a dissertation only. In the Faculty of Health Sciences, this applies for Allied Health, Nursing and Health Professions Education, but MMed students must complete' a structured course and an extensive mini-dissertation. The module for the extensive mini-dissertation (SKR 890) in the Master's degree for Family Medicine at the University of the Free State is accredited for 96 credits and runs over all four study years (University of the Free State 2011(2): 76). One credit equals ten notional learning hours.

2.5 BACKGROUND ON THE MASTER'S DEGREE IN FAMILY MEDICINE

Investigations to change the postgraduate training in Family Medicine from a part-time, three-year degree Master's in Family Medicine (MFamMed) to a full-time, four-year speciality was agreed upon by the Health Professions Council of South Africa (HPCSA) (previously known as the South African Medical and Dental Board) and finally accepted in 2005 (De Villiers 2008: 59). The decision to add Family Medicine as a speciality was promulgated in the Government Gazette no 30165 on 17 August 2007 (Government Gazette 2007: 4). This change brought about a new curriculum, new assessment methods and new regulations for postgraduate training in Family Medicine. The eight Departments of Family Medicine in South Africa worked together to compile the outcomes of the Master's degree in Medicine (Family Medicine) (MMed(Fam)) (FAMEC minutes 2005). The MMed(Fam) degree at the University of the Free State (UFS) was accredited at the South African Qualifications Authority (SAQA) in 2005. The first MMed(Fam) students started their studies at the UFS in 2007.

The MMed(Fam) course consists of four parts. In part I, students must choose three out of a possible eight choice modules and three compulsory full modules and three continuation modules which includes the research module. Part II consists of the three choice modules, three full modules and two continuation modules of which the research component contributes 16 credits. In part III students have three choice modules, two full modules and the research component, again with 16 credits. In part IV students complete their choice modules and research component. The MMed(Fam) students also complete a compulsory basic research module (NAM) for all MMed students at the University of the Free State to prepare them for their research projects.

An extensive mini-dissertation forms part of the final assessment of the new MMed(Fam) degree at all the universities. This dissertation must meet the requirements for a Master's degree at the specific university where a student is enrolled. The General Regulations regarding the requirements for dissertations for Master's degrees at the UFS is vague regarding the content and length of dissertations and students are referred to the Yearbook of the Faculty where the student studies (University of the Free State 2011: 1-116). Administrative issues regarding admission criteria, registration, supervision and assessment are well addressed in the General Regulations.

The Yearbook of the Faculty of Health Sciences 2011 also does not mention specific requirements for extensive mini-dissertations (University of the Free State 2011(2)). The MMed(Fam) students at the UFS, however, receive a module guide for the extensive mini-dissertation with all the information regarding the extensive mini-dissertation as well as a copy of the assessment rubric (SKR module guide 2011).

As from 2013, all Master's Students in Medicine will be subjected to a single exit examination. The postgraduate committee of the Health Professions Council took this decision in 2010 and they also appointed The Colleges of Medicine of South Africa (CMSA) as the examining body for this examination for a five-year period (Health Professionals Council of South Africa 2010:3). Therefore, students also need to comply with the CMSA regulations for an extensive mini-dissertation. Currently, postgraduate students in Medicine have the choice to do either the University or the College examination in order for them to obtain their specialist qualification. If they prefer they may do both.

The regulations of the Colleges of Medicine stipulate that:

- The University where the student is enrolled must be satisfied with the mini-dissertation.
- The student must declare that the submitted work is original
- The structure of the dissertation (Minimum requirements) must consist of:
    - Summary or abstract
    - Introduction and motivation
    - Literature review
    - Methodology which includes:
        - Aims and objectives
        - Study design
        - Sampling
        - Data collection and analysis
        - Reliability and validity of the study
        - Bias
        - Study limitations
        - Ethical considerations
    - Results
    - Discussion
    - Conclusions / Recommendations
    - References (Harvard or Vancouver)
- There must be no evidence of plagiarism in the work (Colleges of Medicine 2011: 6).

Plagiarism can be defined as the use of another person's work as your own or the verbatim translation of work without acknowledging the author or source. When copying a sentence or paragraph, inverted commas must be used to indicate that it is the work of someone else and the source must be indicated.

When using a source but translating or re-writing it in one's own words, one should still acknowledge the source accurately (University of the Free State 2011(3): 2).

2.6 OTHER STUDIES ASSESSING MINI-DISSERTATIONS

No specific literature was available on the evaluation of assessment tools for postgraduate extensive mini-dissertations when using the databases Nexus and Google Scholar.

A study by Webster and co-workers looked at the assessment of undergraduate dissertations and the different assessment criteria. They concluded that there were "considerable ambiguity" regarding the use of assessment criteria, what they understand under a specific criterion and how they applied criteria. They also expressed the need for training on assessment (Webster, Pepper & Jenkins 2000: 75*).* Hand and Lewis (2000: 19) looked at the marking process of an undergraduate research module and during a focussed group discussion identified the need for staff development regarding assessment. They also indentified the tension between institutional demands and assessor/tutor freedom.

A 2009 study (Bettany-Saltikov, Kilinc & Stow 2009: 621) focussed on the reliability of a generic assessment tool when used by different assessors from different disciplines. The study concluded that it was not essential to have "subject specific knowledge" when using a generic assessment tool to get reliable marks. However, only four assessors and four dissertations were used in this study.

2.7 CONCLUSION

The literature review on specific terms proved to be valuable to clarify these sometimes confusing terms used in different articles. In the next chapter the research design of this study and the specific methods employed will be discussed in detail. Terms used in this regard will be defined from literature.

CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In this chapter, the researcher will explain the context of the study and then give an in-depth description of the research approach used, namely Action Research and the use of mixed methods as methodology. The description will set forth the theoretical grounding of the research approach, the strategies and tools used for data collection, methods of data analysis and steps followed to ensure a quality study. Ethical issues will come under consideration before the conclusion.

3.2 THE CONTEXT OF THIS RESEARCH PROJECT REGARDING STRATEGY

This research project is aligned with the current educational strategy of the University of the Free State (UFS), namely Outcomes-based Education (OBE). Spady described the concept of OBE and is regarded by some as the founder of OBE or at least a world leader in OBE (Killen 2007: 49). He defined outcomes as “high quality, culminating demonstrations of significant learning in context” (Spady 1994: 18).

Smith described OBE as: “what we expect of our graduates and hold us accountable to provide an education that achieves those endpoints. It is not only good education, it is good public policy” (Dent & Harden 2011: 161). Outcomes-based Education is sometimes described as the ”planning backwards” model where you decide what you want to achieve and then work backwards by working out what and how you need to teach students and how to test if they can master what you expect of them (Wiggins & Mc Tighe 2005: 14).

In Figure 5 the educational strategy, approach and methodology used in this research are stated:

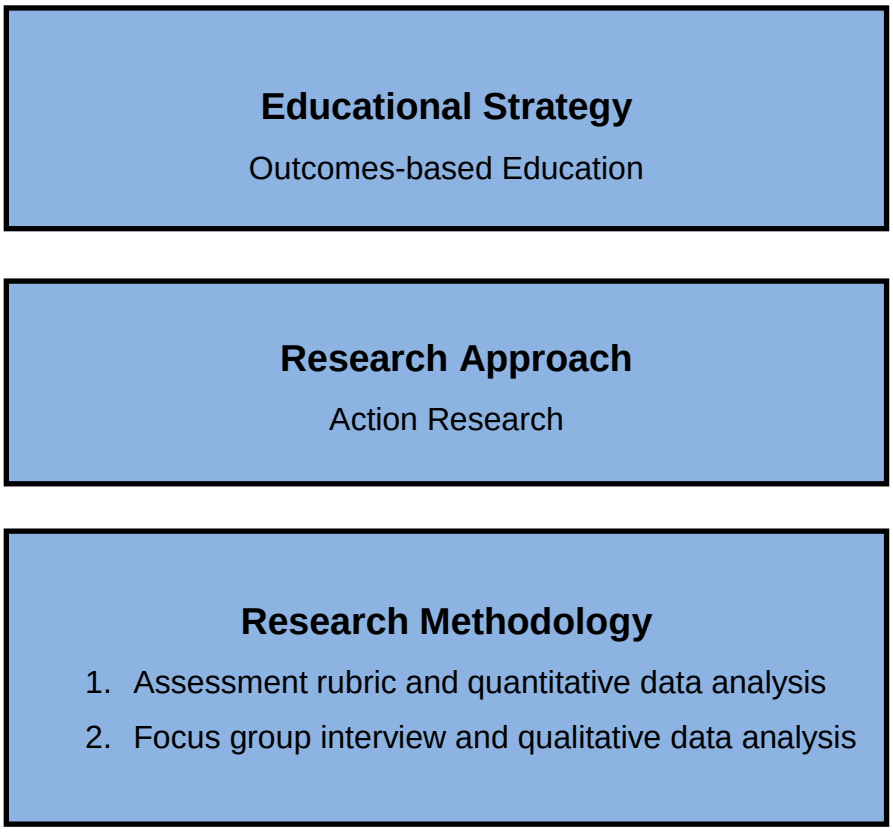


FIGURE 5: STRATEGY, APPROACH AND METHODOLOGY OF THIS STUDY

3.3 THEORETICAL PERSPECTIVES ON THE ACTION RESEARCH APPROACH

Kurt Lewin, (1946: 48) a German psychologist, first described and practiced Action Research. He published his first paper on Action Research with the title *Action Research and Minority Problems* in 1946. Action Research is also known as Collaborative Inquiry, Participatory Research, Emancipatory Research or Action Learning according to Lewin (1946).

3.3.1 Theory building on Action Research

Despite many definitions of Action Research, this relatively old one by Gilmore, Krantz & Ramirez (1986: 161) can be regarded as accurate and relevant for this research project: "Action research...aims to contribute both to the practical concerns of people in an immediate problematic situation and to further the goals of social science simultaneously. Thus, there is a dual commitment in action research to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction. Accomplishing this twin goal requires the active collaboration of researcher and client, and thus it stresses the importance of co-learning as a primary aspect of the research process."

Creswell (2005: 281) describes Action Research as a process which aims to provide solutions for practical problems, where the main focus is to bring about change. This process involves participation or collaboration of different members and it contributes to knowledge development through interaction.

Action Research is a cyclic process which starts with the identification of a problem, planning of an intervention through data gathering and open discussion, then implementing the intervention and evaluating the outcome (Cohen, Manion & Morrison 2007: 297). In this study an Action Research approach is used, but the cycle is not completed. The reason for this was discussed earlier in this study (cf. 1.7.1). The Action Research cyclic process in this study is presented in Figure 6 (cf. 3.3.3).

3.3.2 Justification for the action research plus mixed method research approach

As was pointed out above, Action Research was first used in psychology by Lewin (1946) and has been used productively since then. Mixed method research is also known as multimethod research (Creswell & Plano Clark 2011: 21). Johnson**,** Onwuegbuzie & Turner (2007: 112) define mixed method research as: “the type of research in which the researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, interference techniques) for the purpose of breadth and depth understanding and corroboration.” They came to this definition after they studied 19 published definitions for mixed method research in 21 publications.

Qualitative research can be defined as ”the process of analyzing and interpreting text and interviews in order to discover meaningful patterns descriptive of a particular phenomenon” (Auerbach and Silwerstein 2003: 3).

According to Creswell & Plano Clark (2011: 8) there are different reasons to conduct mixed method research:

- To support quantitative results with qualitative data.
- To use qualitative data for the development of an instrument or theory.
- To validate data through the comparison of qualitative and quantitative data.
- To enrich a study with additional data, which can either be qualitative or quantitative.
- To do a project or research in different stages.

The qualitative (Qual) and quantitative (Quan) parts of mixed method research can take place simultaneously or one may follow the other. Depending on the sequence in which the data gathering takes place as well as the interaction between data sets, four types of mixed method designs can be described:

- Explanatory mixed methods design Quan → Qual
- Exploratory mixed methods design Qual → Quan
- Triangulation mixed methods design Quan + Qual
- Embedded mixed methods design Quan(Qual) or Qual(Quan)

(Cresswell and Plano Clark 2011: 71).

In this research project quantitative data was gathered and analysed and the results formed the basis for the qualitative data gathering process. It can therefore be described as an explanatory mixed methods design.

Despite the fact that this research will have qualitative and quantitative elements and can therefore be regarded as mixed method research, the purpose of this research is, however, not only to get better understanding, but to bring about change. The practical problem of an old assessment tool and a new curriculum exists and change is needed to produce a valid and reliable assessment tool. The researcher therefore prefers to use the term Action Research approach using a mixed method for this specific study, although the whole process will not be completed in this study, the assessment tool will be implemented and tested at a later stage. (See phase 4 of Figure 6.)

3.3.3 The research design in this study

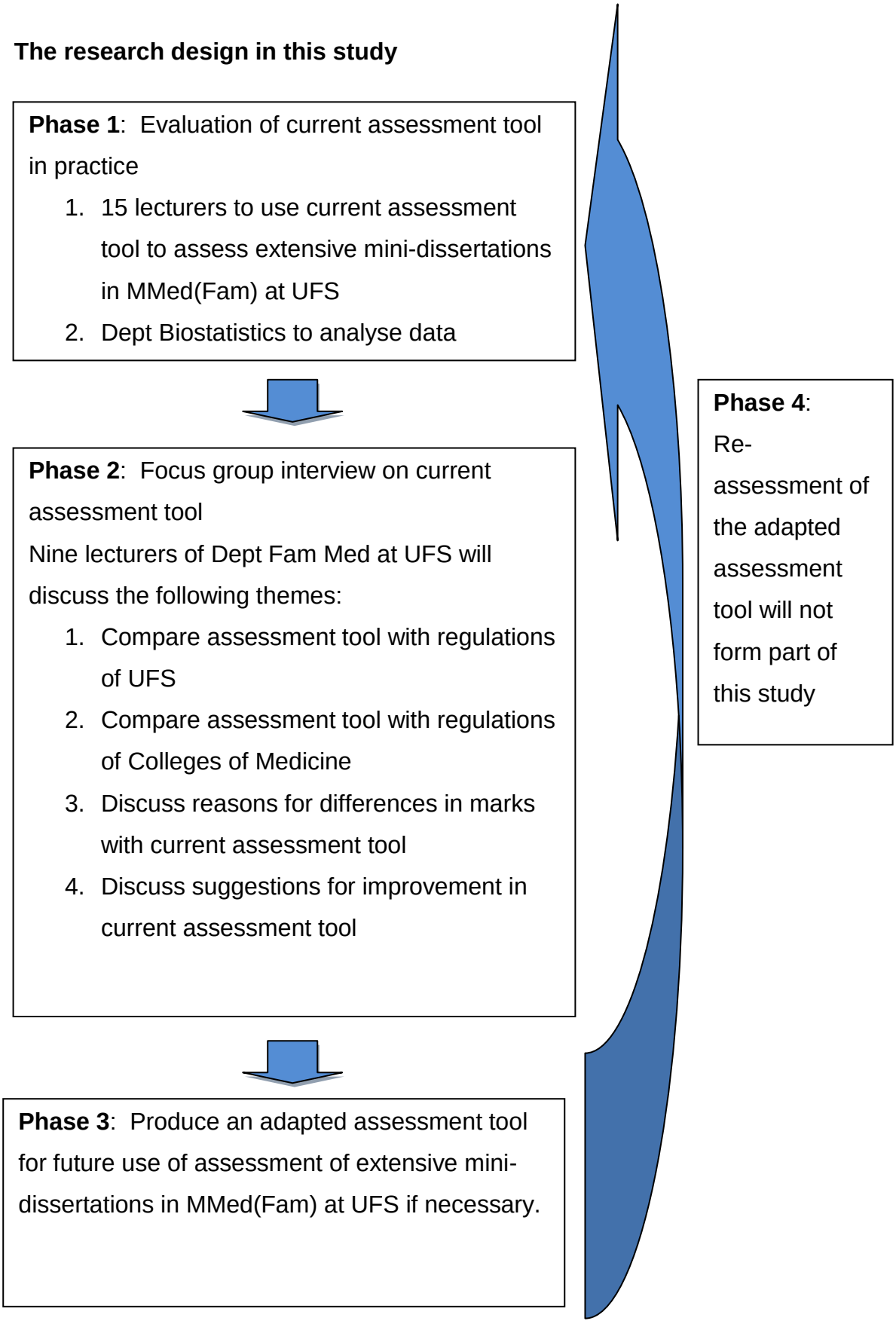


FIGURE 6: FLOW DIAGRAM OF ACTION RESEARCH STEPS

3.4 RESEARCH METHODS

The two research methods used in this action research project will be discussed separately in this chapter. In the first method the strategy for data collection was the assessment of extensive mini-dissertations with the current assessment rubrics and data was analysed with a quantitative method. The second method consisted of data gathering during a focus group interview and data was analysed with a qualitative method.

3.4.1 "Method 1" – Use of the assessment rubric and quantitative data collection

The following paragraphs will describe the components of the assessment rubric for data collection and the analysis of the data with quantitative methods. Theoretical aspects of assessment rubrics or tools were discussed in Chapter 2 (cf. 2.3).

3.4.1.1 Target population

The target population for this study consisted of all Family Medicine lecturers involved in the assessment of extensive mini-dissertations for postgraduate studies in Family Medicine at the University of the Free State. This included internal as well as external assessors.

3.4.1.2 Sample selection

For internal assessors the whole target population, namely all lecturers in the Department of Family Medicine at the UFS were selected. For external assessors the departmental database of available assessors was used to select assessors. Due to the fact that two of the mini-dissertations were in Afrikaans, only assessors who were proficient in Afrikaans could be used to do the assessments. This meant that assessors from only four of the seven medical schools could be approached. The Head of the Family Medicine Department of each of these four medical schools were therefore asked to nominate one assessor from their department to participate in the study as an assessor.

3.4.1.3 Sample size

The sample consisted of 11 internal assessors of the University of the Free State and four external assessors, one each from the University of Cape Town, University of Stellenbosch, University of Pretoria and University of the Witwatersrand.

3.4.1.4 Description of sample

All 11 consultants currently working at the Department of Family Medicine at the UFS as well as four external examiners from other universities in South Africa were asked to each assess all four extensive mini-dissertations of the first group of MMed(Fam) students that completed their research project as part of the MMed(Fam) degree at the UFS. Two of the internal assessors were not able to

assess the Afrikaans mini-dissertations and only assessed the English dissertations.

3.4.1.5 Pilot study

No pilot study was done on the assessment rubric as the tool that was evaluated had been in use for many years. The researcher, did however, discuss the assessment tool with her study leaders, the Department of Biostatistics and members of the Research Expert Committee of the Faculty of Health Sciences to ensure whether it is executable in the study.

3.4.1.6 Description of the assessment rubric

The assessment rubric in use is a single-page document. There are spaces for the student's name and the title of the extensive mini-dissertation. The assessment tool consists of 12 evaluation criteria, each with a different weight allocated to it (cf. APPENDIX D). With each evaluation criterion there is a brief description of what is expected under that specific criterion. The total score of the rubric is 120 and marks are converted to a percentage. At the bottom of the page there is space for general remarks, which can be positive or negative, as well as a tick box where the assessor must indicate if the student passes, passes with a distinction, needs improvement or fails the extensive mini-dissertation.

3.4.1.7 Data collection

Each assessor received four mini-dissertations in the form of hard copies (one of each dissertation) as well as the assessment rubric after they had signed an informed consent form to participate in the research project. The dissertations were also available on compact disk (CD) if requested; however, nobody requested this format. Each assessor also received an information leaflet on the purpose of the research project as well as instructions on how to use the assessment rubric and how to send the information back to the researcher. Each assessor had six weeks to complete the assessments and they received R250.00 per assessment on completion of the assessments.

3.4.1.8 Data analysis

Data from the assessment rubrics were presented to the Department of Biostatistics at the University of the Free State on an Excel spreadsheet after it was checked for correctness. No missing data occurred on the assessment forms. The assessors were not identified by name, but grouped into different categories, namely External assessors, Internal assessors that completed the formal SPALHE course (cf. 2.2) at the University, and Internal assessors that have not done the SPALHE course. The Department of Biostatistics used SAS® (SAS Institute Inc. 2004) to analyse the data quantitatively.

Quantitative data analysis can be described as the process where data is interpreted and then displayed in numbers in order to look at distributions, similarities, relationships and comparisons between the data. The following steps need to be followed for successful quantitative data analysis (O'Hara, Carter, Dewis, Kay & Wainwright 2001: 198):

Step 1: Plan what data to collect before the onset of the study.

Step 2: Organise and code data correctly after collection.

Step 3: Decide on and apply appropriate statistical tests and techniques to get meaningful results.

The first step in this study was to assess the current assessment tool and therefore quantitative data analysis was appropriate to look at the distribution of marks, as well as areas of similarities and to compare groups of assessors with each other when the current tool is used in practice.

3.4.1.9 Data interpretation

Data was interpreted and summarised by looking at the combined results of all the assessments. For each of the four mini-dissertations, and also for each of the 12 assessment criteria the mean and standard deviation of the 13 or 15 assessors were calculated. From this the coefficient of variation (CV) was calculated for each report, for each item. These CVs were summarised over the four reports by median values. The coefficient of variation (CV) "expresses the standard deviation as a percentage of the mean" (Joubert & Ehrlich 2007: 138). Due to the difference in weight between the different assessment criteria, the CV was used to compare variation between the different criteria.

The results of the assessments of external examiners, internal examiners with the recommended formal assessment training (SPALHE) (cf. 2.2) and the internal examiners without assessment training were compared with the

combined results also by calculating the CVs for each assessment category for each report.

The assessment marks allocated by the study leaders were also compared with the average of all the assessors. The mean for each report, for each assessment criterion was calculated over all the assessors. These values were subtracted from the marks given by the study leader. The differences were summarized by means.

The results of the data are displayed in tables and graphs in Chapter 4 (cf. 4.6).

3.4.2 "Method 2" The focus group interview and qualitative data analysis

In the following paragraphs the researcher will discuss the theory behind focus group interviews. The target population and sample size, as well as the methods used during qualitative data gathering, analysis and interpretation will also be included.

3.4.2.1 Theoretical aspects of the use of focus group interviews

Many different definitions exist for a focus group interview and some researchers even use the terms focus group interview and focus group discussions interchangeably. The difference between a focus group interview and a focus group discussion is that in a focus group interview the main objective is to get answers to specific questions, while in a focus group

discussion the interaction between the group and the group dynamics are as important as the information gathered (Boddy 2005: 251).

Merton and Kendall first described the concept of a focus group interview in 1946 and concluded that:

- During a focus group interview there is more interviewer control.
- The people participating in the interview should have a shared experience.
- The interview questions are based on previous data analysis.
- Subjective experiences of people exposed to the same experience are gathered.

(Cohen, Manion & Morrison 2007: 378).

In a focus group interview, between five and 12 people interact, debate and argue their opinions on a specific issue. The members of the focus group should represent the target population. A focus group interview is not just a general discussion, but is focussed on a specific topic. Usually the discussion starts broadly, and then spirals to address the research question (Maree 2010: 122).

The facilitator asks specific questions with the view of obtaining answers to these questions (Boddy 2005: 252). It is important for the facilitator to monitor group dynamics and ensure participation of all members. The facilitator must be in control of the situation without too much or too little personal participation. This discussion should be between 60 and 90 minutes (Joubert & Ehrlich 2007: 321).

In order to capture all the information the facilitator needs to take notes of all discussions and non-verbal cues. It can be very helpful to record or videotape the discussion and ask an outsider to take notes and write down observations as well. The strength of a focus group is that it stimulates new or forgotten ideas and that members can build on each other's input. In contrast to this some of the limitations are that it can be difficult to get the members together, the group might not be representative and some group members may be dominated by other members (Cohen *et al.* 2007: 377).

The value of a focus group interview is that it can generate a large body of rich and valuable data in a short time (Cohen *et al.* 2007: 377).

3.4.2.2 Target population

To recap, the target population for this study consisted of all Family Medicine consultants involved in the assessment of extensive mini-dissertations for postgraduate studies in Family Medicine, UFS. This included internal as well as external assessors as stipulated in the assessment regulations of the UFS and the Colleges of Medicine of South Africa.

3.4.2.3 Sample selection

Due to logistical reasons only the internal assessors, namely consultants of the UFS Department of Family Medicine were selected to participate in the focus group interview while the external assessors were excluded. However, remarks from external assessors included in the assessment tools were also discussed.

3.4.2.4 Sample size

The sample consisted of nine internal assessors from the Department of Family Medicine at the UFS. This number is explained in the next session.

3.4.2.5 Description of sample

The sample consisted of nine of the possible 11 consultants of the Department of Family Medicine, UFS. The tenth consultant was on Sabbatical leave and not available for the focus group interview and the researcher, the eleventh member of the UFS Department of Family Medicine, acted as the facilitator for the interview.

3.4.2.6 Pilot study

No pilot study was done before the focus group interview, as it was important to get the collaborative feedback from the whole group of internal assessors of the Department of Family Medicine at the UFS. The validity of the questions asked in the focus group interview was however discussed with the researcher's study leaders and the panel of the Expert Committee of the Faculty of Health Sciences, UFS, and based on previous experiences of the researcher.

3.4.2.7 Procedures followed during the focus group interview

The date for the focus group interview was selected for a day when all consultants of the Department of Family Medicine were available. The venue was booked and an assistant arranged to help with note-keeping as well as to set up the video camera and audio recorder. The process was videotaped for reference and evidence. After the process was explained to participants all were ask to sign informed consent to participate in the focus group interview. All participants were set at ease and they all knew each other; therefore, introductions were not necessary.

Each assessor received a file with a copy of the assessment rubric, the Regulations for mini-dissertations of the UFS as well as at the Colleges of Medicine of South Africa and a summary of the quantitative results of the assessments of the mini-dissertations. The researcher conducted the focus group interview and asked specific, focused questions in order to answer the research questions (cf. 3.4.2.1). The group decided that if at least seven of the nine assessors agreed on a specific answer to questions 1 and 2 and that no more discussion will convince them otherwise, it would be considered an agreement. Given that questions 3 and 4 are open questions as opposed to the close questions in 1 and 2, explain how they were approached differently. The focus group interview took 70 minutes and agreement was reached on all answers.

Question 1: Does the assessment tool currently in use for the assessment of an extensive mini-dissertation for a MMed(Fam) at the UFS meet the regulations for the requirements of an extensive mini-dissertation for a Master's degree at the UFS?

- The latest regulations regarding extensive mini-dissertations for a Masters degree was downloaded from the University's website (www.ufs.ac.za) from different documents and compared with the assessment criteria used for the assessment of extensive mini-dissertations in MMed(Fam) at the UFS. (University of the Free State 2006, University of the Free State 2011, University of the Free State 2011(2).

Question 2: Does the assessment tool currently in use for the assessment of extensive mini-dissertations in MMed(Fam) meet the regulations of the current examining body's criteria, namely that of the Colleges of Medicine of South Africa?

- The latest regulations regarding the requirements for the assessment of mini-dissertations were downloaded from the website of the Colleges of Medicine of South Africa (http://www.collegemedsa.ac.za) and compared with the assessment criteria for the evaluation of the mini-dissertations in MMed(Fam) at the UFS during the focus group interview.

Question 3: Why did different assessors score the same mini-dissertations differently when they used the same assessment tool?

- The results of the quantitative study, and specifically areas where vast differences in mark allocation occurred were discussed in order to identify the reasons for this discrepancy/ies.

- Copies of the mini-dissertations were available in order to refresh memories if necessary.

Question 4: How can we improve the current assessment tool in order for it to be valid and reliable, as well as user-friendly?

- The layout of the assessment tool, clarity on what was expected under each component of the tool and weighting of marks were discussed as well as suggestions on how to improve the tool.

- Remarks and suggestions from external assessors were also mentioned and discussed during the focus group interview.

3.4.2.8 Data collection

The focus group interview was video- and audiotaped and the researcher and an administrative assistant took notes during the interview. All the responses were transcribed by the researcher from the audio recording and verified from the video recording when necessary. These transcriptions were given to the assessors to check for accuracy before it was analysed.

3.4.2.9 Data analysis

The data gathered were grouped for the four questions and analyzed with qualitative methods. Qualitative research can be defined as ”the process of analyzing and interpreting text and interviews in order to discover meaningful patterns descriptive of a particular phenomenon” (Auerbach and Silwerstein 2003: 3).

Creswell (2003: 191) and Schuh (2011: 176) describe the following six steps to be followed when analysing qualitative data:

- Organize and prepare data by transcribing.
- Read through all the data to get a big picture.
- Start coding the data in text according to macro topics and then re-write it to fit in different themes. Make sure that the themes address the research question: if not, create new themes and start over.
- Describe participants, setting, categories and themes.
- Determine how categories and themes will be represented.
- Interpret and make meaning of data.

3.4.2.10 Data interpretation

Priest et al. (2002: 30) describe three approaches to the interpretation of qualitative data; namely, the grounded theory, qualitative content analysis and narrative analysis. Important in grounded theory is that one needs evidence from the natural context where enquiry took place from which to generate a theory. Content analysis is defined as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon 2005: 1278). In qualitative content analysis, one must break text down into smaller fragments without losing the context in which it was said. The narrative approach is where stories are used to express identity, emotions and interpersonal relationships. A narrative is usually more structured than a story, although it also should contain an introduction, middle and end.

For the purpose of this study the qualitative content analysis approach was used.

3.5 ENSURING THE QUALITY OF THE STUDY

In the following paragraphs the researcher will discuss aspects to ensure the quality of the study.

3.5.1 Trustworthiness

Trustworthiness is an overarching term that includes most of the terms used to ensure quality in research. Lincoln and Guba (1985: 289) established the concept of trustworthiness in qualitative research. They suggested that trustworthiness should include the following four criteria: Credibility, transferability, dependability and confirmability. Credibility is the confidence in which the true picture is presented in order for others to belief it. Transferability refers to the degree in which the findings can be transferred to other situations. Dependability shows that the findings can be repeated, and confirmability suggests that the findings represent the data gathered and not personal opinion (Lincoln & Guba 1985: 290). In quantitative research, the terms validity and reliability are used and will therefore also be described. The researcher took extra care to ensure that attention was paid to all aspects of trustworthiness in this study.

3.5.2 Internal validity or Credibility

A valid instrument should measure what it is supposed to measure (Joubert & Ehrlich 2007: 117). The main outcome of the research component (SKR 890) of MMed(Fam) at the UFS is that a student must carry out a research project and submit an extensive mini-dissertation. For this study it means that the assessment tool must measure if the extensive mini-dissertation contains all the elements of an extensive mini-dissertation in line with the requirements of the UFS and the Colleges of Medicine in South Africa, as they will award the degree. The study itself should also be valid and credible by measuring what it is supposed to measure.

3.5.3 Reliability/dependability and objectivity/conformability

Reliability refers to the repeatability and consistency of an instrument to measure the same thing and get the same results (Maree 2010: 122). In practice, if the same thing is measured by different people with a reliable tool, they should get the same or a similar result. Reliability of an instrument can be improved with standardised guidelines and training on the use of the instrument (Joubert & Ehrlich 2007: 117). In this study, a standardised assessment tool was used by different people to assess the same extensive mini-dissertations. If they get the same results, the tool will be considered reliable.

This research study will be reliable if other researchers get the same results when they use the same assessment criteria used in this study and get the same results.

3.6 ETHICAL CONCIDERATIONS

The Department of Health of South Africa stated in their guidelines on research that research is ethical when good, desirable and acceptable conduct is followed, “to protect the welfare and rights of research participants, and to reflect the basic ethical values of beneficence, justice and respect for persons” (Department of Health 2011: 3).

3.6.1 Approval

The protocol was submitted to the Ethics Committee of the Faculty of Health Science of the UFS for approval before the study was conducted. The committee approved the study on 24 May 2011 and the ETOVS number is 38/2011 (APPENDIX A). Because personnel from the University of the Free State were involved in the study, the Dean of the Faculty of Health Science, Prof. G.J. van Zyl, as well as the Vice rector: Research, Prof. D.R. Hay, gave written permission for the study (APPENDIX B).

3.6.2 Informed consent

Each assessor/lecturer from the Department of Family Medicine at the UFS as well as the four external assessors signed informed consent forms before they participated in the study (APPENDIX C).

3.6.3 Right to privacy and confidentiality

The names of the candidates were not revealed to the assessors and all information was handled confidentially. Mutual respect for each other formed the basis during the focus group interview. Although it was possible to identify assessors, their assessments were handled anonymously. If they wanted to, they received the results of their personal assessments compared to that of the group. This proved to be a good learning opportunity for the assessors.

3.6.4 Minimising of misinterpretation of results

Since methodological, measurement and interpretation errors can influence the conclusions and results of a study, it is important to plan to minimize it. Biases addressed in this study included:

- Poor response rate: The assessors were paid an honorarium of R250 per dissertation for the assessments of the extensive mini-dissertations. This contributed to a 100% response rate.
- Participant bias: All internal assessors were included in this study; however, only Afrikaans speaking external assessors were included as two of the dissertations were in Afrikaans.
- Number of mini-dissertations: Only four students completed their MMed(Fam) studies and therefore only four mini-dissertations were available for assessment, which made the sample size small. To overcome the small number of available studies for assessment the researcher used a larger number of assessors.
- The names of the students were omitted to reduce bias of assessment.

- Participation in the focus group interview could be a problem due to very busy work schedules or some participants could dominate others or isolate themselves, but fortunately all attended and contributed to the discussions, without anybody dominating the discussion.

3.7 CONCLUSION

In this chapter the researcher described the methods used in this action research project and explained the reasons for using the term action research and not mixed methods. The researcher employed both qualitative and quantitative strategies to gather the required data. In Chapter 4 the results of "method 1", namely the evaluation of the assessment tool and quantitative data analysis will be described, followed by a discussion of the results. In Chapter 5 the results of the focus group interview and qualitative data analysis will be described and then discussed.

CHAPTER 4
RESULTS, DATA ANALYSIS AND DISCUSSION OF ASSSESSMENT TOOL EVALUATION

4.1 INTRODUCTION

The previous chapter dealt with the methods used in this action research project as well as the theoretical foundation for the methods used. In this chapter the researcher will describe the results of the evaluation of the assessment tool for mini-dissertations. The results will be displayed in tables and graphs. A discussion of the results will conclude the chapter.

4.2 RESULTS OF PARTICIPATION

All 11 consultants of the Department of Family Medicine at the University of the Free State as well as all four external assessors completed the assessment rubrics. Two of the assessors of the Department of Family Medicine only completed two assessments each, as they were not proficient in Afrikaans and two of the dissertations were in Afrikaans. The rest of the assessors completed four assessments each. This gave a total of 56 completed assessment rubrics for evaluation (four each from the 13 assessors proficient in Afrikaans and two each from the two assessors fluent in English only). The response rate was therefore 100%.

The group of assessors consisted of seven females and eight males; different race groups were represented (Black, White and Asian) and their experience as assessors varied from three months to 28 years. The assessors were also divided into three subgroups, excluding the two assessors not proficient in Afrikaans, as they only assessed the two English dissertations. In Figure 7, the subgroups are displayed with the number of assessors per sub-group. The combination of all the assessors will be referred to as the assessment panel henceforth.

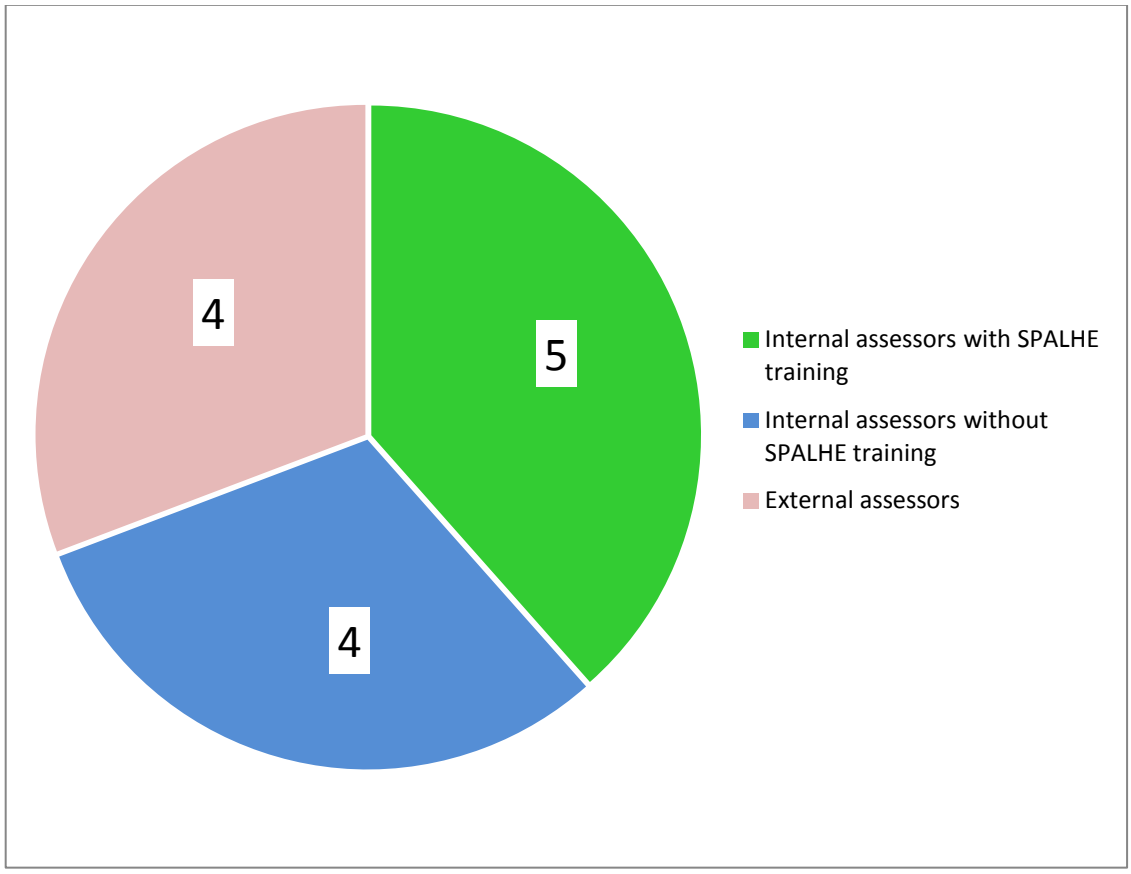


FIGURE 7: SUBCATEGORIES OF ASSESSORS TAKING PART IN THE ASSESSMENT OF THE TOOL

4.3 VARIATION BETWEEN DIFFERENT ASSESSMENT CATEGORIES

The final marks allocated to each mini-dissertation were consistent with a median coefficient of variation of only 9.8% (cf. 3.4.1.9). However, when each assessment category was analysed, the median coefficient of variation was between 10% and 131.9%. Two of the assessment categories, namely the *Abstract* and the *Literature review* varied most; 131.9% and 54.5% respectively. The rest varied between 10% and 16.7%. In the figure below the median coefficient of variation for each assessment category is indicated.

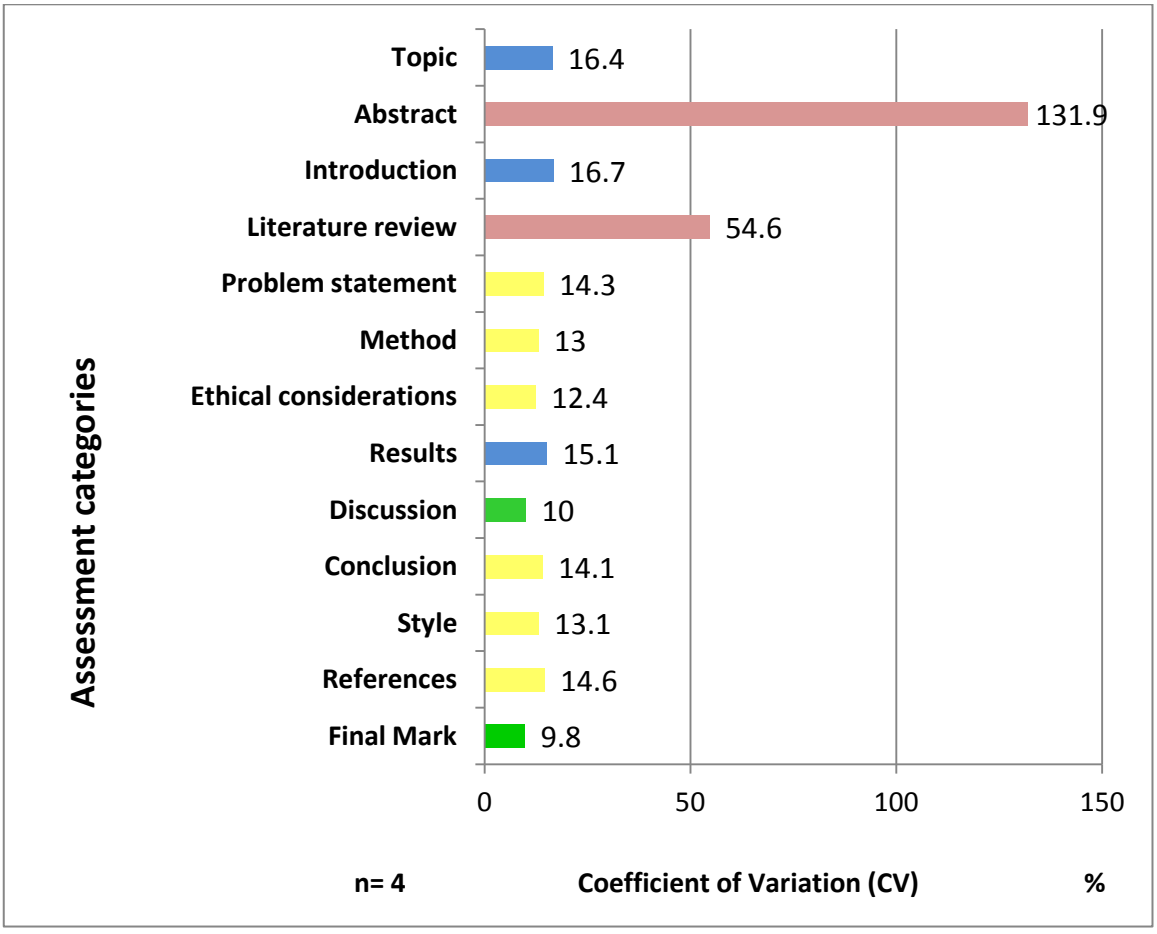


FIGURE 8: MEDIAN COEFFICIENT OF VARIATION FOR DIFFERENT ASSESSMENT CATEGORIES.

Due to the large coefficient of variation in the *Abstract* and *Literature review* compared to the other assessment categories, a separate radar graph will be used to display the variance visually between the marks allocated to an assessment category that scored "constant" marks and an assessment category that scored "scattered" marks.

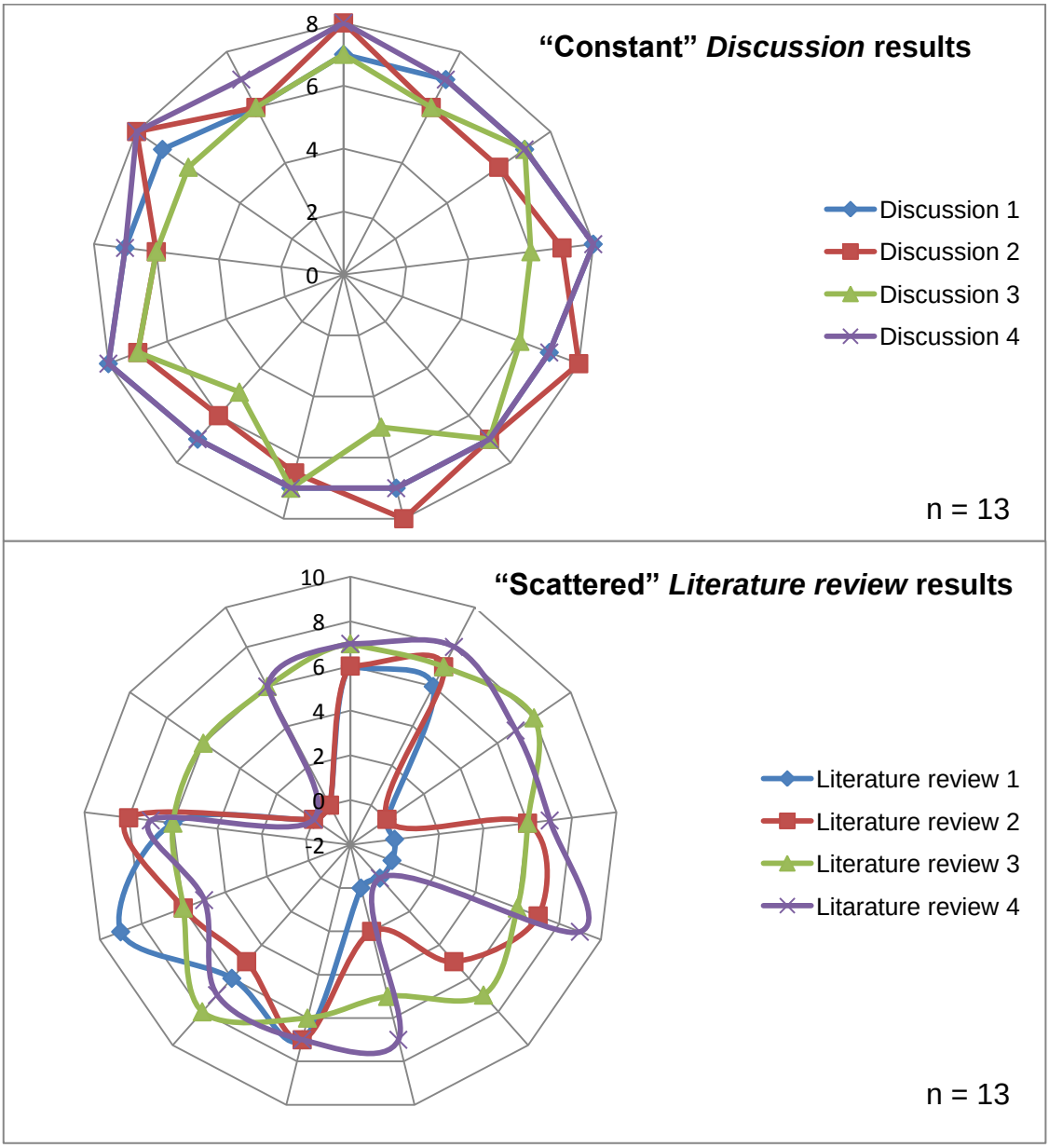


FIGURE 9: DIFFERENCE BETWEEN THE "CONSTANT" MARKS ALLOCATED FOR THE *DISCUSSION* COMPARED WITH THE "SCATTERED" MARKS ALLOCATED FOR THE *LITERATURE REVIEW*

In the bottom part of the figure, the marks allocated for the *Literature review* varied between zero and nine for mini-dissertations 1 and 4, zero and eight for mini-dissertation 2, and five and eight for mini-dissertation 3 out of a possible ten, while in the marks allocated for the *Discussion* varied between six and eight out of a possible ten for all four dissertations

4.4 COMPARISON BETWEEN DIFFERENT SUB-GROUPS OF ASSESSORS

The median coefficient of variation was calculated per assessment category for each dissertation, after which subgroups were compared with the gold standard. The combined average median marks of the assessment panel were considered as the gold standard with which to compare the subgroups. The number of assessors per sub-group was indicated in Figure 7. In Table 1 the median coefficient of variation of each subgroup is displayed for each assessment category. Although differences of more than 100% occurred between the different assessment categories, all three subgroups of assessors gave a final mark within 10% of the median coefficient of variation.

In the table below different colours indicate the different brackets for the coefficient of variation where different sub-groups of assessors are compared with the assessment panel as a whole.

< 10% variation

10-15 % variation

16 – 50 % variation

> 50 % variation

A variation of <10% was considered as good and ≥ 16 % as poor. As no specific value was available from the literature, values were decided on by consensus.

TABLE 1: COEFFICIENT OF VARIATION FOR DIFFERENT ASSESSMENT CATEGORIES BETWEEN SUB-GROUPS OF ASSESSORS

Assessment category	CVs of Internal assessors with SPALHE (n=5)	CVs of Internal assessors with-out SPALHE (n=4)	External assessors (n=4)
Topic	8.1	13.3	14.9
Abstract	118.6	107.7	18.3
Introduction	15	13.3	21
Literature review	39.6	66.9	93.4
Problem statement	9.2	9.5	17.6
Method	9.9	6.1	12.1
Ethical consideration	13.5	14.4	13.6
Data management	14	10.5	14.9
Discussion	9.6	10.6	10.2
Conclusion	13.7	8.2	12.4
Style and layout	13.8	7.9	10.2
References	14.9	7.4	12.1
Total marks	7.7	8.3	9.2

The final marks allocated by the three sub-groups of assessors for each of the dissertations showed a difference between the different dissertations, but a small variation between the different groups of assessors. In Figure 10 the final marks for each dissertation is displayed per sub-group assessors.

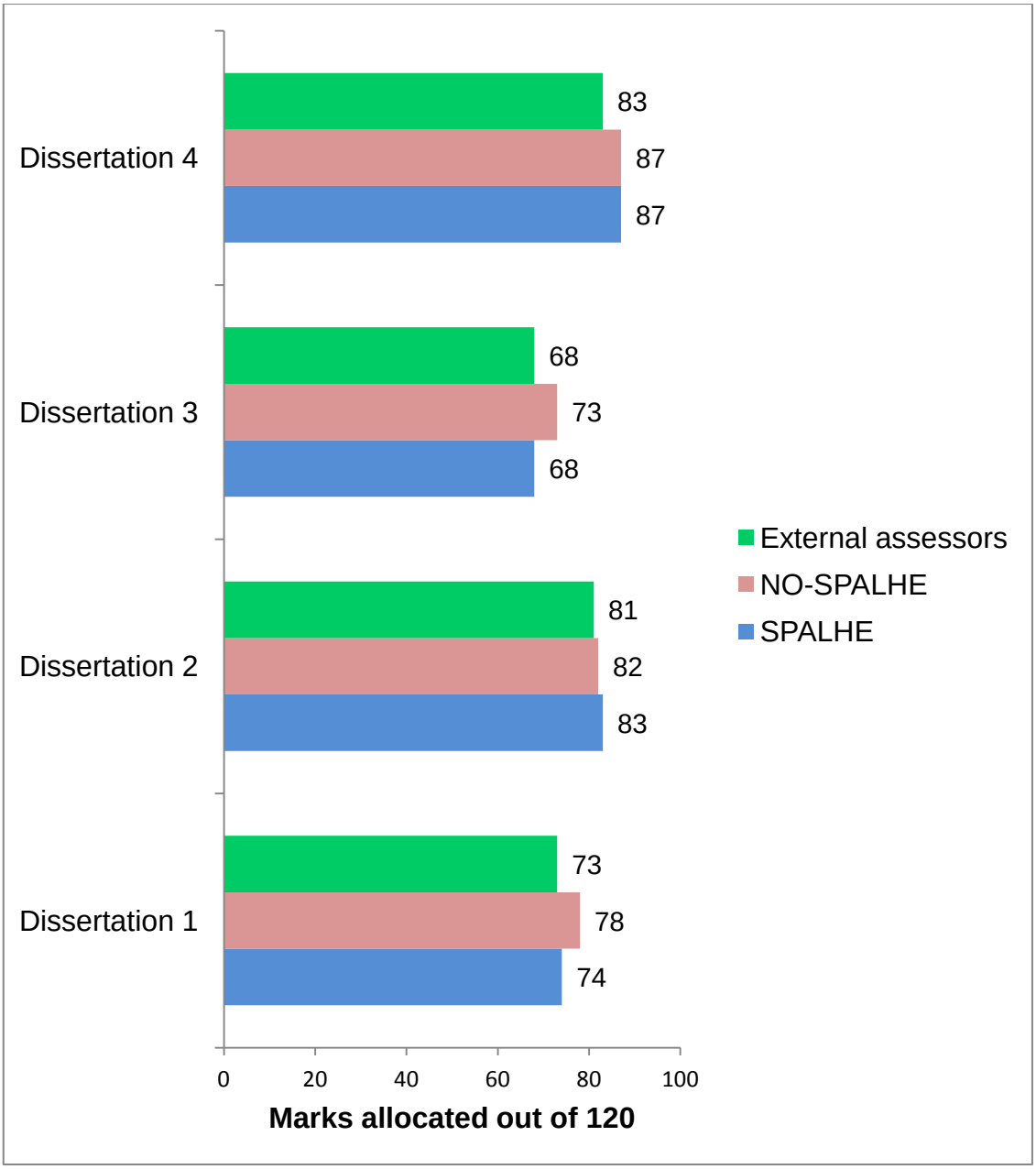


FIGURE 10: COMPARISON OF FINAL MARKS ALLOCATED BY DIFFERENT SUB-GROUPS OF ASSESSORS

4.5 RESULTS OF GLOBAL ASSESSMENT

All assessors gave a global pass mark for the dissertations and all allocated a mark of more than 50 % for all the dissertations. The assessors that gave a distinction in the formal marks also gave a global distinction. There were no discrepancies between the marks allocated and the global assessment. A discussion on the global assessment follows in Chapter 5 (cf. 5.4).

4.6 COMPARISON BETWEEN MARKS ALLOCATED BY SUPERVISORS AND THE ASSESSMENT PANEL

The final mark allocated to each dissertation by the student's supervisor was compared to that of the assessment panel. Two of the supervisors were part of the assessment panel that assessed the dissertations; one was from another department, and one previously worked in the Department of Family Medicine. The supervisors scored the dissertations higher than the mean of the assessment panel for 10 out of the possible 12 assessment categories. The final scores allocated to the dissertations by the supervisors were 4.8% higher than the mean of the assessment panel. All four of the supervisors gave higher final scores to the dissertations than the assessment panel. In Figure 11 the marks out of 120 allocated by the supervisors and assessment panel are compared.

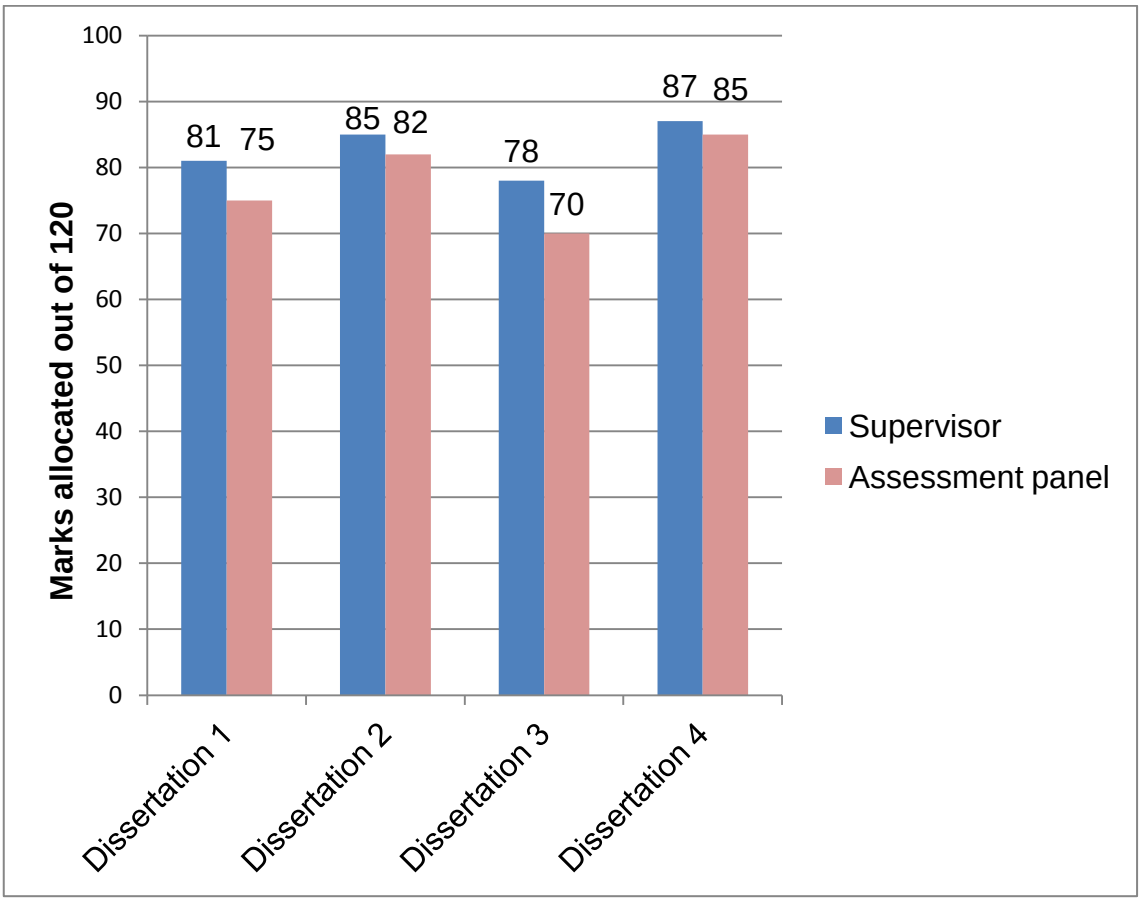


FIGURE 11: COMPARISON OF MARK ALLOCATED BY SUPERVISOR AND ASSESSMENT PANEL

4.7 DISCUSSION

Although only four dissertations were available for assessment, the 100% response rate of assessors and the number of assessors ensured that 56 assessments could be compared with the current assessment tool. The assessors also represented a full spectrum regarding gender, race, training and experience.

The assessment panel allocated different marks when they marked the same mini-dissertations and used the same assessment tool. In some instances the marks differed as much as 90%. Two categories namely the *Abstract* and the *Literature review* were responsible for these big differences. The reasons for this were discussed in the focus group interview and will be addressed in Chapter 5 (cf. 5.3). This inconsistency in the allocation of marks was also demonstrated in other studies. A study by Pathirage and co-workers on the consistency of marks allocated to undergraduate dissertations also showed this difference in marks allocated per assessment category as well as overall marks. In their study, they compared the original marks allocated to a dissertation with that of assessors participating in their study. The marks allocated for *Referencing* varied between 39% and 95% and the final marks for a specific dissertation were between 56% and 87% of the original mark allocated to the dissertation. These dissertations were marked by personnel assessing student dissertations as part of their work (Pathirage *et al*. 2007: 277). In the study by Bettany-Saltikov, Kilinc and Stow on the assessment of Masters Dissertations only the final marks were compared (not specific assessment criteria), and it varied with as much as 11% (Bettany-Saltikov, Kilinc & Stow 2009: 628). The current assessment tool is therefore not very reliable, as different assessors allocated different marks (coefficient of variation ≥ 16%) in four out of the possible 12 assessment categories when they assessed the same mini-dissertations with the same assessment tool (cf. 3.5.3).

The big difference in marks allocated for some assessment criteria supports the fact that the assessors refrained from defensive marking. Defensive marking is where assessors avoid giving very high or very low marks in order to be unidentifiable and safe in the middle (Pathirage *et al.* 2007: 275).

When the different sub-groups, namely the internal assessors without formal assessment training, the internal assessors with formal assessment training (SPALHE) and the external assessors were compared the same differences

occurred for the different assessment categories. The final marks allocated were consistent for each dissertation, but varied between the different dissertations. The marks allocated by the three sub-groups compared well with each other, although the sub-group without SPALHE training give the highest marks to three of the four dissertations. The formal assessment course for lecturers at the University of the Free State (SPALHE) does not include a section on the assessment of dissertations. This was also mentioned in the focus group interview (cf. 5.3).

Different sources in the literature (Bettany-Saltikov, Kilinc & Stow 2009: 637, Hand and Clewes 2000: 17 and Matthews 2007: 22) suggest and some prove that supervisors may be biased and tend to allocate higher marks to their students. In this study all four the supervisors gave higher final marks than the mean of the assessment panel as well as for ten out of the possible 12 assessment categories, which verifies the statements that supervisors tend to be biased in favour of their own students. A possible reason for this is that the mark allocated also reflects on the study leader's ability. They therefore propose that dissertations be marked by more than one person.

According to the Regulations of the University of the Free State for Postgraduate studies, all Master's dissertations must be marked by two assessors of which one should be an internal assessor and one an external assessor (University of the Free State 2011: 45).

4.8 CONCLUSION

This chapter looked at the results of the evaluation of the current assessment tool. It can be concluded that the use of the current assessment tool for

extensive mini-dissertations in postgraduate Family Medicine at the University of the Free State is not reliable, for all assessment criteria, as it could not prove reproducibility as measured with CVs. In the next chapter, the reasons for this will be discussed. It will also be determined whether the current tool is valid.

CHAPTER 5
RESULTS AND DISCUSSION OF THE FOCUS GROUP INTERVIEW

5.1 INTRODUCTION

The quantitative results of the assessment tool were discussed in the previous chapter. In this chapter the researcher will describe the results of the focus group interview as part of the qualitative method (cf. Chapter 3). The results will be described in words and supported with direct quotes. A discussion of the results will conclude the chapter.

5.2 GENERAL REMARKS

An informal setting was prepared, around a large table with places indicated by files and drinks. The files contained all the documents necessary for reference, if needed by the participants. Nine internal assessors, as well as the facilitator, all consultants from the Department of Family Medicine at the University took part in the focus group interview.

The facilitator welcomed the nine internal assessors and thanked them for their participation in the research project. The overall project was once again explained, as well as the procedure and aim of the focus group interview. All

nine participants had agreed to participate and signed the informed consent forms.

5.3 RESULTS

Question 1: Is the assessment tool currently in use for the evaluation of an extensive mini-dissertation for a MMed(Fam) at the UFS is in line with the regulations for the requirements of a extensive mini-dissertation for a Master's degree at the UFS?

All participants read through the latest regulations regarding postgraduate studies at the University of the Free State with emphasis on the areas that addresses extensive mini-dissertations for a Masters degree. Regulation A. 89 specifically addresses requirements with regard to dissertations. All participants read through this in order to answer the question.

To start the discussion a first question was posed to the participants namely, "What do you think of these regulations?"

Answers like: *"It's informative enough", "The guidelines are clear and easy to understand", "I don't see any problems in the guidelines"* were first responses.

"I'm not sure if we are doing number (h), the summary, are we counting the words and is it in Afrikaans and English?" Number (h) stipulates "A summary in Afrikaans and English of no more than 600 words each must be included at the back of the dissertation, together with approximately ten key terms in English

describing the subject of the dissertation." (University of the Free State 2001: 45). After the discussion the group concluded that we would prefer an abstract instead of a summary. The group also interpreted the guidelines as that all Afrikaans dissertations must have an English summary, but English dissertations probably do not need an Afrikaans summary. We also do not count the words in the abstract when we assess the dissertation.

"There is administrative stuff in the regulations that we need to adhere to as mentioned in point (j) and although not part of the assessment, we need to realize that these dissertations are not only available in the library but also on the net and that everybody has access to it." Another participant contributed that *"Therefore we need to make sure that the standards are high enough to be published worldwide."* A discussion followed and everybody agreed on the importance and responsibility of assessing mini-dissertations to ensure good quality work and to be transparent. A validated assessment tool is important in this regard.

In conclusion, agreement was reached that we comply with the regulations of the University regarding the assessment of mini-dissertations and that there were no contradictions between the assessment tool and the regulations for postgraduate studies at the University of the Free State.

Question 2: Does the assessment tool currently in use for the assessment of extensive mini-dissertations in MMed(Fam) meet the regulations of the current examining body's criteria, namely that of the Colleges of Medicine of South Africa?

The participants used the one page document “Appendix A” with the regulations regarding the requirements for the assessment of mini-dissertations in Family Medicine from the Colleges of Medicine to assist with this question. *“Yes, and more, we included everything in their list, maybe we used different words in some instances.”, “Yes, I think that we included more in the current assessment tool. The grouping of information is a little different, but I’m happy that we comply with the regulations.”* The trend of all the answers followed the above-mentioned.

A question was posed about the referencing method that we expect of our students, *“Do we expect the Harvard method?”* The answer from the participants was that we prefer the Vancouver method and therefore we still comply with the regulations of the College as they state that either the Vancouver or Harvard method can be used.

The participants agreed that the assessment tool complies with the regulations of the College of Medicine regarding the regulations for mini-dissertations in Family Medicine.

Question 3: Why did different assessors score the same mini-dissertations differently when they used the same assessment tool?

The summary of the results of the quantitative study was used for this discussion.

A first question from the participants was about the word mini-dissertation: ”*Why do you use the word extensive mini-dissertation and not dissertation?”*

According to the regulations of the University of the Free State and a decision by the Executive Management in the Council Chamber, taken on 3 September 2007, the terms used for dissertations and research reports were standardized according to the credits allocated to these. The extensive mini-dissertation in postgraduate Family Medicine is registered for 96 credits and therefore falls in the bracket of 60 – 128 credits and therefore qualifies as an extensive mini-dissertation (cf. 2.4).

Firstly, overall remarks and clarification of terms and results were encouraged by the facilitator. It was explained that assessment results of all the assessments of each dissertation were compared for variation in marks.

"How can you have such a big difference in marks, are you sure you calculated it correctly?" This comment specifically was for the marks allocated to the Abstract and Literature review. The facilitator clarified that there were no abstracts in two of the dissertations and that some assessors actually allocated marks to this assessment category. After a little laugh the seriousness of this was obvious. A summary or abstract is a requirement of the University and the Colleges of Medicine and therefore it must be part of the extensive mini-dissertation. Everyone was in agreement that one cannot allocate marks if an abstract was absent.

*"Although there was not a specific heading for literature review [in the mini-dissertation], I evaluated the literature used throughout the dissertation and allocated marks to it." "No, if there was not a specific literature review, I scored them zero for that category" "I deducted some marks if a heading was not present, but still gave them marks" "Should you not rather deduct the marks at the category of Style and layout and give them marks for Literature review?" "Dis goed dat ons daaroor praat." [It's good that we talk about it.] A*fter these

and other remarks we agree that we disagree on how to allocate marks for the literature review. Some discussion followed and after an anonymous vote eight of the nine participants indicated that there should be a separate heading for Literature review. A discussion also followed on whether the number of words to use in the literature review or numbers of references should be stipulated to the students. The conclusion was that the components indicated on the assessment rubric, namely: "Relevant, current, well-interpreted and connected to study" are all important and should all be addressed when allocating marks, rather than the number of words or references.

Regarding the marks allocated to the method these were some of the responses*: "I think, my own opinion is that I don't know enough about all the different methods to assess the method properly." "I would say that it is an assessor problem rather than an assessment tool problem." "The method actually makes or breaks your research." "The assessors need training!" "Not even SPALHE taught us on how to assess dissertations." "Supervision can also help to improve our knowledge and experience of assessment of dissertations." It boils down to one thing we all need to refresh ourselves."* In conclusion, all participants agreed that they need more training on research methods and more experience as supervisors to improve their own knowledge. The formal assessment course at the University, SPALHE, also does not address the assessment of dissertations.

In the category *Display of data* or *results* the following discussion followed: *"For me, proper display and good graphs will ensure good marks" "Most people are visual and would like to see pictures or graphs" "Should all data then be displayed in words and graphs, just to fill space or should it be appropriate to the study aim?" "I think the display should be transparent and appropriate to what you want to achieve in your study and not a rewriting of ALL the results that you have." "An example from today, would it be necessary or appropriate to*

put in graphs regarding the age of all the assessors participating in this focus group interview, for me the answer is obviously NO, we or you want to look at the assessment tool and not the ages of the assessors?" Consensus was reached that the display of data or results should be "Clear and accurate" as indicated on the assessment tool, but that the part "answer the research question/s" should be changed to "in context with the research question/s".

Plagiarism was discussed as part of the references as well as the style and layout of the study. *"Plagiarism has become an issue and there is a computer programme available to check all Master dissertations (130+ credits) at the University, however I'm not sure if we should use it for the mini-dissertations." "I see basically three mistakes with plagiarism: The direct re-writing of words without indicating it as such, incorrect interpretation of data from sources and then incorrect referencing." "Do you actually check for plagiarism?" "I'm guilty of not checking this." "I think we're all guilty."* Agreement was reached among the participants that they realize the importance to check for plagiarism, but that it is not done. They agreed that at least random checks should be done on some references.

<u>Question 4:</u> How can we improve the current assessment tool in order for it to be valid and reliable?

"I think that the first part of the question was answered in question one and two where we determined what we need or want to assess and if we assess that. According to the regulations we assess what we are supposed to assess and therefore the tool is valid in my opinion." Everybody agreed that the assessment tool was valid.

The current assessment tool was not reliable for four of the 12 assessment categories to produce the same results when different assessors used the same tool to evaluate the same dissertations and therefore steps are necessary to address it.

Two comments from the external examiners were: *"Should you not change the total score to 100 rather than the 120 marks currently in use?" and "It's nice that the marks are not out of 100".* Some of the remarks from the participants on these suggestions were as follows: *"That will be easier to calculate", "I tend to calculate all the time when it is out of 100 and I don't think it is good." "If you change the total score you will need to change the weighting of each assessment category and I think its fine."* Consensus was reached to keep the score out of 120 and to keep the weighting the way it is at present.

All participants agreed with the following statements by participants: *"I would like to suggest that we add a remarks column next to each assessment category as part of feedback to the student and to be able to justify our marks.", "I would encourage the use of decimals when allocating marks and give marks like 6.5 and not only six or seven. "Global assessment should stay part of the assessment."*

After discussion, the following was agreed regarding the assessment tool:

- Keep the assessment tool a one-page document.
- Keep the layout of the tool in its current format.
- Encourage the use of decimals or half marks when appropriate.
- Keep the global assessment as part of the assessment tool.

- Change the words in the *Data management* category as discussed above.
- Add a column for comments next to each assessment category.

Important areas identified from the discussion were the lack of training of assessors regarding:

- The use of the assessment tool
- General research methods
- Expertise in supervision of research projects

5.4 DISCUSSION

The general arrangements for the focus group interview worked well. The venue was convenient, all the possible participants were present and the quality of the video and audio recordings was good. All participants participated well and nobody dominated the discussions. Participants were open and admitted their own shortcomings. The discussions took place in a relaxed atmosphere and finished within the allocated time.

Questions 1 and 2 addressed the validity of the assessment tool. After studying the regulations of the University of the Free State and the Colleges of Medicine the participants were satisfied that the current assessment tool is valid. In a paper by Matthews (2007: 10) on *Dissertation: Issues in guidance, supervision and assessment* he emphasises the importance of complying with the regulations of a specific university to ensure the awarding of the degree.

Although not part of this project, it follows that more attention must be given to administrative issues relating to the dissertations and specifically to ensure that the copies posted on the Internet are of high quality and meet the requirements of the university.

Question 3 specifically addressed issues around reliability of the assessment tool. The quantitative assessment already demonstrated that the assessment tool was not reliable for four out of a possible 12 criteria, as it gave different results when different assessors assessed the same dissertation with the same tool. The participants identified a problem with the assessors, rather than with the assessment tool as the reason for the difference in marks for each assessment category. As an example, marks were allocated for abstracts that were not part of the dissertation. However this is not unique to this study, for in a study by Pathirage *et al.* (2007: 278) assessors also allocated marks to students' independence and initiative when they marked unidentified (anonymous) dissertations and were not provided information on the students' independence or own initiative.

Confusion existed around the literature review and whether it should be a separate heading in the mini-dissertation. Eventually consensus was reached that the literature review should be a separate part of the mini-dissertation. According to the literature, a Literature Review follows the Introduction and forms the basis of a good research project as it forms the theoretical basis of the study (Ellis & Levy 2007: 183). "A good literature review is comprehensive, critical and contextualised. This means that it will provide the reader with a theory base, a survey of published works that pertain to your investigation, and an analysis of that work. It is a critical, factual overview of what has gone before" (Hofstee 2006: 91). Another advantage of a good literature review, besides that it forces the researcher to read comprehensively on the research subject, is that it gives the researcher the opportunity to demonstrate the ability

or skill to seek information and to critically appraise the literature (Taylor 2011: 1).

A lack of formal training and inexperience were identified as the major factors for the differences in assessment results. All participants expressed their desire for further training. A study by Webster, Pepper and Jenkins (2000: 77) on the assessment of undergraduate dissertations also identified the lack of training and a variable understanding of terms as factors that could seriously influence fair assessments. Pathirage and co-workers (2007: 284) did a study on *Enhancing the quality and consistency of undergraduate dissertation assessment* where they identified the need for assessor training. After the attendance of training workshops the deviation between assessments decreased from 3.89 to 0.51. The importance of training on assessment tools and staff development was also emphasized by Bettanny-Saltokov, Kilinc and Stow (2009: 622), Hand and Clewes (2000: 19) and Matthews (2007: 11).

Plagiarism was identified as an area that needs more attention, but no final solution was proposed. According to the University of the Free State "Policy on the Prevention of Plagiarism and Dealing with Academic Writing Misconduct of 4 May 2010" it is the responsibility of all departments to inform students about plagiarism, to avoid plagiarism themselves and to "use plagiarism detection software where appropriate and available to check submitted assignments/dissertations/ theses." (University of the Free State 2011(3): 4). Training on the use of the software programme is necessary. It is important to confirm plagiarism and then manage it according to the level of misconduct according to university regulations.

Question 4 focussed on the improvement of the current assessment tool. Although no major changes were suggested, the addition of a comments

column next to each assessment category and the use of decimal marks were encouraged. Although no study was found to prove that the allocation of decimal marks will improve assessment, many arguments supported this practice; e.g. if the assessment is out of 5 marks and the student scores border line one can only award 40% or 60%. Minor change was also suggested to the *Data management* category.

The focus group interview in which all but one of the consultants in Family Medicine, UFS, participated could also contribute to the buy-in in of the assessment tool by the assessors. Pathirage (2007: 273) emphasizes the importance of assessor contribution to assessment tools in order to increase ownership and buy-in of the tools.

A study by Webster *et al.* (2000: 76) demonstrated the difference in overall opinion (global score) and marks allocated to a research project. The following are quotes from their study: "Real evidence of awareness of the various perspectives" and then a mark of 46% was awarded and "results section unclear" mark awarded 57% and "this is a clear well presented [dissertation] …which fulfils it specific aims" mark awarded 49%. Bettany-Saltikov, Kilinc and Stow (2009: 634) conclude that it is best to use analytic and holistic marking combined when assessing dissertations. The use of assessment category marks as well as a global assessment as proposed during the focus group interview is also supported by literature.

5.5 CONCLUSION

This chapter focussed on the results of the focus group interview, as well as the discussion thereof. The focus group interview proved to be valuable in gaining

information to improve the assessment tool as well as to identify assessor problems and motivate assessors to improve their own skills. The current assessment tool also was shown to be valid to assess extensive mini-dissertations for postgraduate study in Family Medicine. In the next chapter the new, improved assessment tool will be discussed.

CHAPTER 6
PRODUCTION OF A NEW, IMPROVED ASSESSMENT TOOL

6.1 INTRODUCTION

The third phase in this action research project was to produce a valid assessment tool. In the previous chapters the researcher described how information was gathered in step one with the evaluation of the assessment tool and in step two from the focus group interview. In this chapter the researcher will describe the new, improved assessment tool.

6.2 THE CURRENT ASSESSMENT TOOL

The assessment rubric was a single-page document (APPENDIX D). It is important to ensure correct mark allocation and therefore there are spaces for the student's name as well as the title of the extensive mini-dissertation.

The assessment tool consisted of 12 evaluation categories, namely:

- Title and topic
- Abstract
- Introduction and background

- Literature review
- Problem statement, aim and objectives
- Method
- Ethical considerations
- Data analysis, management and presentation
- Discussion
- Conclusion and recommendations
- Style, language and layout
- References

Below each of the criteria a brief description was provided on what was expected under each assessment category. A different weighting was allocated to each assessment category and varied between five and 20. The maximum total achievable was 120.

6.3 COMPONENTS OF THE ASSESSMENT RUBRIC

A rubric has two components, namely, the assessment criteria (components that need to be assessed) and quality indicators (detailed information on what quality is expected or what is acceptable or unacceptable for each assessment criterion) (Stevens & Levi 2005: 3, Hansen 2011: 100). These components can be on the same page or the assessment criteria can be on the assessment tool and the quality indicators on a separate instruction sheet. In the new

assessment tool the assessment criteria will be on the new improved assessment tool and the quality indicators on the instruction sheet.

All Family Medicine Departments in South Africa use assessment tools for the evaluation of their mini-dissertations. Most of these assessment tools consist of a one-page document with different assessment criteria where one allocates a mark per assessment criterion. The number of assessment criteria varied between seven and 12. Some have separate quality indicators or an instruction sheet with marking guidelines. (See APPENDIX E for examples from other Family Medicine Departments in South Africa.)

6.4 ASSESSMENT CATEGORIES

The term *Assessment Category* is used in this project to describe the specific component that was measured as a sub-category of the overall project e.g. *Topic and title* or *Literature review.* A brief description of what is expected under each assessment category forms part of each assessment category.

Consensus was reached during the focus group interview on keeping the assessment categories exactly the same as in the old tool, but to change some wording in the descriptions below each assessment category. See Figure 12 (cf. 6.5) for the new improved assessment tool. The weight of each assessment category also stayed the same and an extra column was added next to each assessment category for comments.

6.5 GLOBAL RATING AND GENERAL COMMENTS

Global rating scales give an overall impression or judgement on a specific domain e.g. communication skills (Dent at al. 2009: 306). In this assessment tool the assessor must give a global rating of the extensive mini-dissertation, which is independent of the marks allocated to the project. The global rating scale consists of the following categories:

- Fails
- Needs corrections
- Satisfactory
- Distinction

The space for *General comments* is meant for constructive feedback to the student as the assessment rubric is also a learning tool.

The new improved assessment tool is displayed in Figure 12.

Name of student……..

Title……

Component	Marks	Comments
1. Topic and title Accurate, concise, relevant to the field of Family Medicine	/5	
2. Abstract All aspects covered, clear and accurate	/10	
3. Introduction/Background Problem stated well and justification for the study is clear	/5	
4. Literature review Relevant, current, well interpreted and connected to study	/10	
5. Problem statement, Aim and objectives Clearly formulated, focused, feasible and logical	/10	
6. Method Study design, sampling, measurement, errors and pilot study well described, logic and justified	/20	
7. Ethical considerations Informed consent, approval and confidentiality addressed	/5	
8. Data analysis, management and presentation Clear and accurate presentation, in context with research question/s?	/15	
9. Discussion Accurate interpretation and supported by literature	/10	
10. Conclusion and recommendations Accurate and justified from findings, logic, limitations described	/10	
11. Style, language and layout Grammatically correct, consistent style and numbering, neat presentation	/10	
12. References Good sources, Correctly referenced, up to date	/10	
Total	/120	

Global rating

Fail ☐

Needs improvement ☐

Pass ☐

Distinction ☐

%

General remarks ……

……

……

……

FIGURE 12: THE NEW IMPROVED ASSESSMENT TOOL

6.6 INSTRUCTION SHEET

The instruction sheet is a separate document with general instructions on how to use the assessment tool, as well as a description of the quality indicators (APPENDIX F). During the focus group interview the importance of accurate marking was emphasized and the suggestion that decimal marks must be introduced was agreed upon by all participants. This information was also included in the instruction sheet.

The quality indicators are indicated within a percentage bracket. The following categories were used:

- Unacceptable (0-39%)
- Weak (40-49%)
- Acceptable (50-60%)
- Good (61-74%)
- Exceptional (75-100%)

Underneath each *Quality Indicator* the marks that can be awarded per weight category are indicated e.g. in the *Unacceptable* category marks of between zero and one and a half out of five can be awarded or between zero and seven out of 20.

Next to each *Quality Indicator* a description of the criteria used for that category follows. Aspects of understanding, application, effort and professional skills like

language and creativity are addressed in each category. In table 2 the quality indicators from the information leaflet are displayed.

TABLE 2: QUALITY INDICATORS AND DESCRIPTION OF INDICATORS

Quality indicators	Description of indicators
Unacceptable 0-39% 0-1.5/5 0-3.5/10 0-5.5/15 0-7/20	No or very poor understanding. No application of knowledge. Missing information. No effort to execute task appropriately. Unprofessional language or skills displayed. Fail
Weak 40-49% 2/5 4-4.5/10 6-7/15 7.5-9.5/20	An attempt to understand concepts, poor application of knowledge. Some contradictory information and applications. Distractions are evident. Lack of professional language and skills displayed. Needs moderate improvements.
Acceptable 50-60% 2.5-3/5 5-6/10 7.5-9/15 10-12/20	Some evidence of understanding of concepts. Some application. Task executed most of the time. No evidence of creativity. No evidence of extra effort. Acceptable language and professional skills. Pass
Proficient 61-74% 3.5/5 6.5-7/10 9.5-11/15 12.5-15/20	Evidence of understanding of concepts and application of knowledge. Appropriate and correct task execution throughout. Good evidence of creativity and professional skills. Above average – Good work
Exceptional 75-100% 4-5/5 7.5-10/10 11.5-15/15 15.5-20/20	Consistent evidence of understanding of concepts and application of knowledge. Excellent task execution throughout. Clear evidence of creativity and professional skills. Way above expectations. Distinction

6.7 CONCLUSION

In this chapter the researcher introduced the new, improved assessment tool which was developed as step three of the action research model. Step four, the re-evaluation of the assessment tool will not form part of this study as only one student will complete his studies this year and therefore only one mini-dissertation will be available for assessment. However, the tool will be used for this assessment by all assessors, but the results will not form part of this study, due to the too small sample size. The next chapter will conclude the study with final conclusions, recommendations and discussion of the shortcomings of the study.

CHAPTER 7
CONCLUSION, RECOMMENDATIONS AND LIMITATIONS OF THE STUDY

7.1 INTRODUCTION

In the previous chapter the new, improved assessment tool was discussed and displayed. This final chapter will conclude the study with final conclusions, recommendations and a short discussion on the limitations of this study. According to Glatthorn and Joyner (2005: 4) in their book *Writing a Winning Thesis or Dissertation* there are three perspectives on the purpose of a dissertation, namely the institutional purpose, the personal purpose and the communicative purpose. The conclusions of this extensive mini-dissertation were reached by answering the research questions. A personal reflection of the personal purpose of this extensive mini-dissertation by the researcher is also included in this chapter.

7.2 CONCLUSIONS FROM THE STUDY PROCESS

In these paragraphs the research questions regarding the overall goal of the study, the aim of the project as well as the objectives will be answered.

7.2.1 Overall goal of the study

The overall goal of the project was to ensure that the assessment tool that is used to assess extensive mini-dissertations in MMed(Fam) at the UFS is valid and reliable in order to assure quality assessments for all Master's students. To achieve this goal the researcher set an aim for the study as well as objectives. The answers to each specific part will be displayed below.

7.2.2 Aim of the study

The aim of this study was to evaluate the assessment tool used for extensive mini-dissertations in the Masters degree Family Medicine, at the School of Medicine, University of the Free State. In step one the current assessment tool was evaluated in order evaluate it for reliability. From the results of the evaluation, some assessment criteria were identified as reliable and some not reliable. The focus group interview provided valuable information on how to improve the assessment tool to be reliable.

7.2.3 Objectives of the study

Objective 1: To evaluate if the assessment tool currently in use for the evaluation of an extensive mini dissertation for a Masters degree in Family Medicine at the UFS is in line with the Regulations for the requirements for an extensive mini-dissertation for a Master's degree at the UFS. From the focus group interview the conclusion was reached that the current tool met all the requirements for extensive mini-dissertations at the University of the Free State and is therefore reliable to measure what it is supposed to measure.

Objective 2: To evaluate if the assessment tool currently in use for the assessment of an extensive mini-dissertation in MMed(Fam) meets the regulations of the current examining body's criteria, namely that of the Colleges of Medicine of South Africa. Consensus was reached during the focus group interview that the current assessment tool meets all the requirements for extensive mini-dissertations of the Colleges of Medicine of South Africa and is therefore also reliable in that regard.

Objective 3: To adjust the current assessment tool if not valid and reliable and produce a valid and reliable assessment tool. As the current assessment tool was found not to be reliable, it was adjusted to be more reliable after discussions and consensus during the focus group interview. The new tool now conformed to regulatory requirements. The reliability of the new tool needs to be tested during future use.

7.3 PURPOSE OF THE EXTENSIVE MINI-DISSERTAION FROM THE RESEARCHER'S PERSONAL POINT OF VIEW

From the literature review, the researcher gained theoretical knowledge about:

- Assessment and assessment methods
- Assessment tools and rubrics and
- Extensive mini-dissertations.

By doing the research the researcher learned about:

- Different research approaches e.g. Action Research and Mixed-method research.
- Focus group interviews.
- Interpretation and data analysis.

The researcher also learned to implement professional skills such as:

- Time management
- Professional attitudes towards people
- Organizational skills
- Writing skills and
- Patience.

Doing the research project was an overall positive experience for the researcher.

7.4 RECOMMENDATIONS

The first recommendation from this study will be to implement the new assessment tool and to re-evaluate it for reliability and validity. It was not

possible to do the re-evaluation in this study as only one extensive mini-dissertation will be available for assessment at the end of this year.

The second recommendation will be to include the new assessment tool in the module guide for extensive mini-dissertations in MMed(Fam).

Other recommendations are:

- To add the new information leaflet to the assessment tool in order to give assessors clear instructions regarding the use of the new assessment tool.
- To conduct a training session for all consultants in the Department of Family Medicine on the new assessment tool.
- To arrange formal training sessions for all consultants in the Department of Family Medicine to refresh previous knowledge and to provide them with additional knowledge about different research methods and data management.
- To encourage all consultants in the Department of Family Medicine to regularly participate in extensive mini-dissertations assessments.
- To encourage all consultants in the Department of Family Medicine to act as supervisors and study leaders for research projects of undergraduate as well as postgraduate research studies.
- To encourage all consultants in the Department of Family Medicine to undertake research projects themselves to improve their personal research skills.
- To distribute the knowledge gained from this project to other universities offering the MMed(Fam) degree, as well as to the other departments at the University of the Free State offering MMed degrees where an

extensive mini-dissertation forms part of the studies via publication of these results in peer-reviewed journals, presentations at congresses, as well as the Faculty Research Forum.

7.5 LIMITATIONS OF THE STUDY

Only four extensive mini-dissertations were available for assessment during the study, as only four students completed their studies. Therefore, the study sample of assessments was small. However, all assessors of the Department of Family Medicine as well as four external assessors were included to increase the number of assessments to 56.

Two of the extensive mini-dissertations were in Afrikaans, which limited the possible external assessors to only those proficient in Afrikaans and also excluded two of the consultants in the Department of Family Medicine who were not able to assess those two dissertations.

The last step of the action research process, namely re-evaluation of the process could not be included in this study due to the fact that only one student will complete his studies at the end of this year. However, the new tool will be implemented for this assessment and all the consultants of the Department of Family Medicine will be exposed to the new tool (with the information leaflet) after appropriate training sessions on the tool and the research process.

7.6 FINAL CONCLUSION

This extensive mini-dissertation on *An evaluation of the assessment tool used for extensive mini-dissertations in the Master's degree Family Medicine at the School of Medicine, University of the Free State* revealed that the current tool was content valid as it measured if a student could produce an extensive mini-dissertation according to the requirements of the examining bodies. It was not reliable, as it could not produce the same results when used by different people under the same circumstances. Therefore, a new assessment tool and information leaflet was developed for future use. This new tool will be implemented in 2011 and will be re-evaluated as soon as enough extensive mini-dissertations are available for assessment. The action research cycle will be completed after evaluation of the new tool. The other recommendations from this study will also be implemented in due course.

REFERENCES

Andrade, H. 2000. Using rubrics to promote thinking and learning. *Educational Leadership*, Vol *57* (No.5) pp13-18.

Auerbach, C.T., Silverstein, L.B. 2003. An introduction of coding and analysis of Qualitative data. New York University Press. United States of America. pp 1-7.

Bem, D.J. 1995. Writing a review article for psychological bulletin. *Psychological Bulletin, Vol.118* (No.2), pp172-177.

Bettany-Saltikov, J. Kilinc, S, & Stow, K. 2009. Bones, boys, bombs and booze: an exploratory study of the reliability of marking dissertations across disciplines. *Assessment & Evaluation in Higher Education*. Vol 34 (No.6) pp 621-639.

Boddy, C. 2005. A Rose by any other name may small as sweet but "group discussion" is not another name for a "focus group" nor should it be. *Qualitative Market Research: An International Journa*l; Vol 8 (No.3) pp248-255.

Brause, R.S. 2000. Writing your doctoral dissertation: Invisible rules for success. Falmer Press. London.

Breimer, D.D. Damen, J, Freedman, J.S. Hofstede, M. Katgert, J. Noordermeer, T. Weijers, O. 2005. Hora Est! on Dissertations. Universiteitsbibliotheek, Leiden.

Brown, G. 2001. Assessment: A guide for Lecturers. York. LTSN. Generic Centre. http://www.heacademy.ac.uk/assets/documents/resources/database/id3_Assessment_A_Guide_for_Lecturers.rtf. [Accessed 12 March 2011.]

Caffrey, E.D. 2009. Assessment in Elementary and Secondary Education. Congressional Research Service. 7-5700. www.CRS.gov.

Callabrese, R.L. 2009. The Dissertation Desk Reference: The doctoral student's manual to writing the dissertation. Rowman & Littlefield Education. New York.

Colleges of Medicine of South Africa. 2011. Fellow of the College of Family Physicians Regulations http://www.collegemedsa.ac.za/view__exam.aspx?examid=102 [Accessed 20 July 2011]

Cohen, L. Manion, K. & Morrison, K. 2007. *Research methods in Education.* Sixth Edition. Routhledge. Taylor and Francis Group. New York.

Council on Higher Education. Higher Education Quality Committee (CHE HEQC). 2004. ITL no 5. The Assessment of Student Learning. Improving Teaching and Learning Resources. pp 119-135. http://che.ac.za/documents/d000087/ITLResources_no5.pdf [Accessed 19 April 2011].

Creswell, J.W. 2003. Research Design: Qualitative, quantitative and mixed methods approaches (2nd ed.) Thousand Oaks. CA. SAGE pp 180-197.

Creswell, J.W. 2005. *Educational Research – planning, conducting and evaluating quantitative and qualitative research*. Upper Saddle River: Pearson Prentice Hall. p281

Creswell, J.W. & Plano-Clark, V.L. 2011. Designing and Conducting Mixed Method Research. 2nd Edition. SAGE Publications.

Cronje, M. Murdoch, N. & Smit, S. 2003. Referencing Techniques: Harvard method and APA style. Available from: rsmi@bib.rau.ac.za.

Davison, R.M. Vreede, G.J. & Briggs, R.O. 2005. On peer review standards for the information systems literature. Communications of the Association for Information Systems. Vol16(No.4) pp967-980.

Day, R.A. & Gastel, B. 2011. How to write and publish a scientific paper. 7th Edition. Library of Congress Cataloging-in-Publishing Data. California. USA.

Dent, J.A. & Harden, R.M. 2009. A Practical Guide for Medical Teachers. 3rd Edition. Churchill Livingstone.

Department of Health. 2011. Factsheet on Guidelines on Ethics in research. http://www.doh.gov.za/docs/factsheets/guidelines/ethnics/sec2.pdf [Accessed 24 August 2011]

De Villiers, P.J. 2008. Becoming a Family Medicine Specialist. (Editorial) *SA Family Practice* Vol **50** p59.

De Vos, A.S. 2002. Research at Grass roots. Van Schaik Publishers, Hatfield, Pretoria.

Dictionary Reference – HTTP://Dictionary.reference.com/browse/treatise. 2009. [Accessed 13 August 2011]

FAMEC minutes of meeting at Hammanskraal regarding outcomes of proposed M Med (Fam) 2004.

Gilmore, T. Krantz, J. & Ramirez, R. 1986. Action Based Modes of Inquiry and the Host-Researcher Relationship. *Consultation.* Vol.5 pp161-76.

Glatthorn, A.A. Joyner, R.L. 2005. Writing a Winning Thesis or Dissertation: Step by step guide. Updated edition. Corwin Press.

Goddard, W. & Melville, S. 2004. Research Methodology 2nd Edition. Juta and Co.

Government Gazette - Department of Health. 2007. Government Notice R. 712 of 17 August 2007: Health Professions Act (Act No.56 of 1974). Regulations relating to the Registration of Specialities and Sub-specialities in Medicine and Dentistry: Amendment. Government Gazette; 30165:3–5.

Hand, L. & Clewes, D. 2000. Marking the Difference: An investigation of the criteria used for assessing undergraduate dissertations in a business school. *Assessment & Evaluation in Higher Education*. Vol 25 (no.1) pp 5-21.

Hansen, E.J. 2011. Idea-Based Learning: A Course Design Process to Promote Conceptual Understanding. Stylus Publishing. Virginia.

Hofstee, E. 2006. Constructing a Good Dissertation. *A Practical Guide to Finishing a Master's, MBA or PhD on Schedule*. EPE publishers. pp 91-106.

HPCSA - Minutes of the Health Professionals Council of South Africa: Subcommittee for Post Graduate Education and Training, New Requirements for the Registration of Specialists in South Africa 2 November 2010. http://www.hpcsa.co.za/education/postgraduate/agenda. [Accessed 2 March 2011]

Hsieh, H-F, Shannon, S.E. 2005. Three approaches to qualitative content analysis. *Qualitative Health Research*, Vol 15 (No.9), pp1277-1288.

James, M. 1996. Creating a positive impact of assessment on learning. Paper presented at the annual meeting of the American Educational Research Association, New York.

Johnson, R.B. Onwuegbuzie, A.J. & Turner, L.A. 2007. Towards a Definition of mixed method research. *Journal of Mixed Methods Research* Vol. 1 (No. 2) pp112-133.

Joubert, G. & Ehrlich, R. 2007. Epidemiology - A Research Manual for South Africa. 2nd Edition. Oxford University Press, South Africa.

Kansas State University (KSU). 2004. Assessment Manual. Manhattan: Office of Assessment, KSU. http://www.k-state.edu/assessment/Learning/ [Accessed 2 March 2011]

Killen, R. 2007. Teaching Strategies for Outcomes-Based Education. 2nd Edition. Juta & Co. Cape Town.

Levy, Y. & Ellis, T.J. 2006. A Systems Approach to Conduct an Effective Literature Review in Support of Information Systems Research. *Information Science Journal.* Vol.9 pp181-211.

Lewin, K. 1946. Action Research and Minority Problems. *Journal of Social Issues* **2**; pp 34-46.

Lewis, A. 2004. WordWeb Dictionary. Princeton University.

Lincoln, Y.S. & Guba, E.G. 1985. Naturalistic Inquiry. Sage Publishing, Thousand Oaks.

Maree, K. 2007. First steps in Research. Van Schaik Publishers, Pretoria p122-142.

Matthews, L. 2007. Dissertations: Issues in guidance, supervision and assessment. British Library, Northumbria University. pp1-29

.

Mouton, J. 2001. How to succeed in your Masters and Doctoral studies. Pretoria: Van Schaik: pp120-126.

Moskal, B.M. 2000. Scoring rubrics: what, when and how? Practical Assessment, Research & Evaluation, 7(3). http://PAREonline.net/getvn.asp?v=7&n=3 [Accessed 20 September 2011]

O'Hara, M. Carter, C. Dewis, P. Kay, J. & Wainwright, J. 2001. Writing Successful Dissertations. Continium International Publishing Group. India. pp 187-204.

Pathirage, C. Haigh, R. Amaratunga, D. & Baldry, D. 2007. Enhancing the quality and consistency of undergraduate dissertation assessment. *Quality Assurance in Education.* Vol 15 (No. 3) pp271-286.

Pickett, N. & Dodge, B. 2007. *Rubrics for Web lessons.* webquest.sdsu.edu /rubrics/weblessons.htm (United States) [Accessed 2 March 2011]

Priest, H. Roberts, P. & Woods, L. 2002. An overview of three different approaches to the interpretation of qualitative data. Part 1: Theoretical issues. Nurse Researcher 10:1. pp 32-42.

SAS Institute Inc. 2004. SAS/STAT® 9.1 User's Guide. Cary, North Carolina: SAS Institute Inc.

Single, P.B. 2009. Demystifying dissertation writing: a streamlined process from choice of topic to final text. Stylus Publishing, LLC. Virginia.

South African Qualifications Authority (SAQA). 2001. Criteria and Guidelines for Assessment of NQF Registered Unit Standards and Qualifications. (http://www.saqa.org.za/docs/critguide/assessment/assessment.pdf) [Accessed 12 March 2011].

South African Qualifications Authority 2011. SAQA website. http://www.saqa.org.za/show.asp?include=about/about.htm [Accessed 20 September 2011].

Schuh, J.H. and Associates. 2011. Assessment methods for Student Affairs. John Wiley and Sons.

Spady, W.G. 1994. Outcome-based Education: Critical issues and answers. American Association of School Administrators.

Stevens, D.D. & Levi, A.J. 2005. Introduction to Rubrics: An assessment tool to save grading time, convey effective feedback and promote student learning. Stylus Publication, Virginia.

Swetnam, D. 2004. Writing your dissertation: How to plan, prepare and present successful work. 3rd Edition. Cromwell Press Limited. Wiltshire.

Taylor, D. 2011. University of Toronto. http://www.writing.utoronto.ca/ advice/ specific-types-of-writing/literature-review [Accessed 3 September 2011]

University of Cape Town 2011. Dissertation guide for Public Health. http://web.uct.ac.za/depts/publichealth/documents/MPH%20Dissertation%20Guidelines.pdf

University of the Free State 2006. Assessment Policy. Assesseringsbeleid. http://www.ufs.ac.za/documents/ufs facts/policies/assessmentpolicy Final May 2006 [Accessed 20 July 2011].

University of the Free State 2007. Minutes of a Meeting of the Executive Management in the Council Chamber, George du Toit Administration Building. Monday 3 September 2007 at 09:00. (Hard copy received from Administration)

University of the Free State 2010. Policy on the Prevention of Plagiarism and Dealing with Academic Writing Misconduct. 4 May 2010. http:www.ufs.ac.za/dl/userfiles/Documents/00000/364_eng.pdf. pp1-8.

University of the Free State. 2011. General Institutional Rules and Regulations for Advanced and Posgraduate Qualifications. http:www.ufs.ac.za/dl/userfiles/Documents/00000/48_eng.pdf. pp1-154.

University of the Free State. 2011(2). Faculty of Health Science, Postgraduate degrees and diplomas. Yearbook 2011. pp72-75. http://apps.ufs.ac.za/dl/yearbooks/151_yearbook_eng.pdf

University of the Free State. 2011(3). Library and Information services: Plagiarism http://library.ufs.ac.za/content.aspx?uid=121. [Accessed 12 March 2011]

University of the Free State. 2011(4). Short learning programme. http://apps.ufs.ac.za/dl/slp/91Assessment%20of%20learning%20in%20Higher%20Education%20UFS%20FORM%205.pdf [Accessed 12 March 2011]

University of the Free State. 2011(5). Harvard referencing style. http://studentportal.ufs.ac.za/documents/13/Economic%20and%20Management%20Sciences%20SKILLS/Harvard%20referencing%20system.pdf [Accessed 30 September 2011]

University of the Western Cape. 2011. Post Graduate Structure. http://www.uwc.ac.za/index.php?module=cms&action=showfulltext&id=gen11Srv7Nme54_9709_1210050437&menustate=dept_english

Webster, F. Pepper, D. & Jenkins, A. 2000. Assessing the Undergraduate Dissertation. 2000. *Assessment & Evaluation in Higher Education.* Vol. 25 No.1 pp71-80.

Wiggins, G. & Mc Tighe, J. 2005. Understanding by Design 2nd edition. Association for Supervision and Curriculum Development Printers. United States of America. pp13-28.