

**SUPERVISOR-STUDENT RELATIONSHIPS: A LEADERSHIP
MODEL FOR ENHANCING POSTGRADUATE RESEARCH AT A
UNIVERSITY OF TECHNOLOGY**

by

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Thesis submitted in fulfilment of the requirements for the degree

Philosophiae Doctor

in Higher Education Studies

in

**THE SCHOOL OF HIGHER EDUCATION STUDIES
FACULTY OF EDUCATION**

**UNIVERSITY OF THE FREE STATE
BLOEMFONTEIN**

2012

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DECLARATION

I hereby declare that the work submitted here is the result of my own independent investigation. Where assistance was sought, it has been acknowledged as such. I further declare that the work is being submitted for the first time at this university/faculty towards the Philosophiae Doctor Degree in Higher Education Studies and that it has not previously been submitted to any other university/faculty for the purpose of obtaining a degree.

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ACKNOWLEDGEMENTS

I THANK GOD FOR GIVING ME LIFE AND HOPE IN THE WORLD TO FULFIL MY EVERYDAY DREAMS.

It is a great pleasure to acknowledge the assistance of certain individuals without whom this study would not have been possible. No achievement in my life has been accomplished in isolation.

I would like to express my sincerest gratitude towards the following individuals:

- The UoT postgraduate supervisors involved in this study, who gripped my imagination with their comments and made valuable contributions to the content of my research study.
- My mentors for their endless encouragement and guidance to the end, particularly Prof. Francis, Prof. Niemann and Prof. Kotze.
- Erica Wessels for the linguistic revision of the thesis.
- My colleagues, friends and family for their interest, kind words of support and encouragement throughout the study.
- The Central University of Technology, Free State for generous financial assistance.
- My quilting-circle friends who endured my frequent absences and accepted my curtailed Saturday visits, always in the spirit of untiring support.

- My best friend, Sas, for offering constant encouragement, much-needed humour, and a welcoming refuge when I needed a break.
- My sister and brother-in-law, Hester and Gert, as well as my brother and sister-in-law, Lourens and Lissie, for their phone calls, endless concern, and their support, inputs and suggestions whenever I felt lost.
- My father for making sure I received the best education possible and for being my rock throughout my academic career.
- And lastly, a special word of thanks to my mother, who has never wavered in her absolute belief in me.

Thank you.

ABSTRACT

This study was undertaken against the backdrop and importance of leadership in the postgraduate supervision environment in universities of technology (UoTs) in South Africa. Although many higher education institutions (HEIs) realise the importance of postgraduate supervision and research, universities need to implement effective leadership strategies in order to address external competitiveness, challenges and complexities in the learning and teaching environment.

The literature review provided guidelines for HEIs in terms of postgraduate supervision in a complex and challenging academic learning and teaching environment. These institutions are governed by law and have experienced numerous changes in policies and procedures, coupled with funding pressures, a demand for higher pass rates, more enrolments and outputs, and improved communication processes, as well as the challenge of managing the postgraduate student-supervisor relationship within a challenging South African higher education context. The new higher education dispensation brought on by the merger and incorporation process that occurred some years ago, whereby former technikons became universities of technology, challenges South African HEIs to revisit their in-house postgraduate supervision environment within a relatively new and young research milieu so as to attend effectively to a more diverse adult student population.

The purpose of this study was to develop a model for supervisory leadership in the postgraduate supervision relationship and research environment within the Faculty of Management Sciences of a South African UoT.

This research was based on a pragmatic approach to gain insight into the views and experiences of postgraduate supervisors in terms of leadership in the

supervision environment. A mixed-method design was used, incorporating a developmental phase, a questionnaire survey and semi-structured interviews, which combined qualitative and quantitative research methods that provided valuable data collected from respondents from four UoTs in South Africa.

The significance of the study lies in the development of a leadership model for postgraduate supervisors in the supervision environment in South African UoTs. The study incorporated the views and perceptions of respondents within the higher education context in South Africa. The model is not only based on sound theoretical principles (as discussed in the literature review), but also provides a practical model that could be used by novice postgraduate supervisors within the developing research environment, and affords an opportunity to enhance the research capacity of UoTs in South Africa. The study could be applicable to other UoTs in South Africa.

Keywords:

higher education institutions; postgraduate supervision; leadership; postgraduate students; postgraduate supervisors

OPSOMMING

Hierdie studie is onderneem teen die agtergrond en belang van leierskap in nagraadse studieleiding in universiteite van tegnologie (UvT's) in Suid-Afrika. Alhoewel baie hoër-onderwys-instellings besef hoe belangrik nagraadse studieleiding en navorsing is, moet universiteite in doeltreffende leierskapstrategieë belê om sodoende eksterne mededingendheid, uitdagings en kompleksiteite in die leer- en onderrigomgewing die hoof te bied.

Die literatuuroorsig het riglyne verskaf oor hoër-onderwys-instellings en nagraadse studieleiding in 'n akademiese leer- en onderrig-omgewing van 'n komplekse en uitdagende aard. Hierdie instellings word deur die wet beheer en ervaar talle veranderings in beleide en prosedures; befondsingsdruk; eise ten opsigte van 'n beter sukseskoers, meer inskrywings en uitsette en verbeterde kommunikasieprosesse asook die uitdaging om die nagraadse student-studieleierverhouding in 'n uitdagende Suid-Afrikaanse hoër-onderwys-konteks te bestuur. Die nuwe hoër-onderwysbedeling wat deur die samesmeltings en opnames teweeg gebring is, waardeur voormalige teknikons na universiteite van tegnologie verander het, daag Suid-Afrikaanse hoër-onderwys-instellings uit om hul interne nagraadse-studieleiding-omgewing in 'n relatief nuwe en jong navorsingsomgewing te hersien ten einde 'n meer diverse volwasse studente populasie doeltreffend te kan hanteer.

Die doel van die studie was om 'n model vir leierskap in studieleiding in die nagraadse studieleiding-verhouding in 'n navorsingsomgewing binne 'n Bestuurswetenskappe Fakulteite van 'n spesifieke UvT in Suid-Afrika te ontwikkel.

Die navorsing is gegrond op 'n pragmatiese benadering om insig te verkry oor die sienings en ervarings van nagraadse studieleiers met betrekking tot leierskap in die studieleidingomgewing. 'n Gemengde metode-ontwerp is gebruik deur die

gebruik van 'n ontwikkelingsonderzoek-, 'n vraelysopname en onderhoude, wat kwalitatiewe en kwantitatiewe navorsingsmetodes gekombineer het om waardevolle data van respondente van vier UvT's in Suid-Afrika in te samel.

Die belang van die studie lê in die ontwikkeling van 'n leierskapsmodel vir nagraadse studieleiers in die studieleidingomgewing in UvT's in Suid-Afrika. Die studie het die sienings en persepsies van respondente in die hoër-onderwys-konteks in Suid-Afrika byeen gebring. Die model is nie net op grondige teoretiese beginsels (soos in die literatuuroorsig bespreek) gegrond nie, maar verskaf ook 'n praktiese raamwerk wat deur nuweling-nagraadse studieleiers die ontwikkelende navorsingsomgewing gebruik kan word asook geleentheid om die navorsingskapasiteit van UvT's in Suid-Afrika te verbeter. Die studie kan op ander UvT's in Suid-Afrika toegepas word.

Sleutelwoorde:

hoër-onderwysinstellings; nagraadse studieleiding; leierskap; nagraadse student; nagraadse studieleiers.

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LIST OF ACRONYMS AND ABBREVIATIONS

ASSAf	Academy of Science of South Africa
EQ	Emotional Intelligence
HEI	Higher Education Institution
HEQC	Higher Education Quality Committee
IPA	Interpretative Phenomenological Analysis
IQ	Intelligence Quotient
NPHE	National Plan for Higher Education
PQ	Physical Quotient
SQ	Spiritual Quotient
UoT	University of Technology

CHAPTER 1

ORIENTATION OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

The changing postgraduate supervision landscape of higher education institutions (HEIs) in South Africa has become a much-contested area and one of the core academic activities for further and higher education qualifications. This study sought to explore the professional and personal nature of leadership in the postgraduate supervision relationship that enables and stimulates high-quality supervision practices and research performance within the context of the research landscape of a university of technology (UoT) in South Africa. Vilkinas (2008:297) explained that enrolments in higher degree programmes are increasing, with postgraduate supervisors required to supervise more research students than ever before. Muller (2005:90) emphasised that UoTs need to become more engaged in postgraduate teaching up to doctoral level. Pearson and Brew (2002:135) stated that research is recognised as a vital element in innovation and national economic growth and that research education has become a matter of greater concern for both the government and the public. The process of research supervision in institutions of higher learning calls for dedicated postgraduate supervision from the moment a faculty supervisor is assigned to a student (Morrison, Oladunjoye & Onyefule 2007:212). Dann (2008:333) expanded on the issue by pointing out that postgraduate research supervision is a complex journey that draws on the pedagogical structures of higher education for personalised service delivery with a high level of interpersonal dynamics between the parties.

HEIs expect from postgraduate supervisors to lead or guide their students through their learning journey, which will ideally result in an intense intellectual

commitment between the parties. As a result, postgraduate supervisors are under pressure to improve their supervision practices (Pearson & Brew 2002:136). According to Moriarty, Danaher and Danaher (2008:435) “the common denominator in these circumstances is a dialogical pedagogy that gives central place to a supervisor-postgraduate student relationship based on and lived through reciprocal regard and trust”. At a more intimate level, it involves the postgraduate supervisor and the student learning together, both experiencing intellectual growth (Moriarty *et al.* 2008:433). The postgraduate student and the supervisor should become partners in the student’s academic scholarship development – a partnership in which the supervisor plays an important part, particularly in establishing and maintaining that relationship. Therefore, effective postgraduate supervision and quality-assurance mechanisms should be an institution-wide matter demanding a particular form of leadership from a supervisor (Andrew & McKenzie 2001:1; Buttery, Richter & Filho 2005:7; James & Baldwin 1999:3). This implies a process of leading the scholarly and personal development of the postgraduate student by means of effective guidance towards the successful completion of a first-class research qualification. Dann (2008:333) and Rugg and Petre (2004, cited in Watts 2010:337), took this relationship further to transcend the service context by explaining that “supervision is a relationship not a service and that interactions between supervisors and their students, as well as between supervisors in the team, need to be managed”. Dison (2004:89, cited in Lues & Lategan 2006b:118) expressed the opinion that the relationship between a researcher and supervisor or mentor is likely to be one of the most significant learning experiences in which research capacity-building may take place.

Postgraduate programmes are crucial to HEIs, because they *inter alia* promote the development of scholarship (Dyason, Lategan & Mpako-Ntusi 2010:44,46), which requires a type of leadership from the postgraduate supervisor on a number of levels, such as professional, cognitive and emotional (Bell-Ellison & Dedrick 2008:555). These three domains of development of postgraduate supervision are embedded in sound relationships – something that must be present in the relationship between the postgraduate student and the supervisor (Bell-Ellison & Dedrick 2008:555). Furthermore, an Academy of Science of South Africa (ASSAf) report (2010:94) referred to the essential attributes of an effective PhD programme, which requires “committed and energetic leadership”, implying that the success of postgraduate supervision research depends to a large extent on the commitment, energy, goal orientation, connections and enthusiasm of the leaders, namely the postgraduate supervisors. Evidently, postgraduate supervisors need to contribute to the development of academic scholarship, as well as to the human development of the student who is being supervised.

The latter means that there are two dimensions to postgraduate supervision, namely the academic aspect and the human aspect. Freire (1993:26,32) recommended that individuals should become humanised, because their identities are tied to one another (Freire 1998, cited in Rozas 2007:565). Rau (2008:2) also emphasised the importance of a humanistic discourse with the “acceptance of the person as a unique and valuable individual”, which can also be applied to the postgraduate supervision process. The responsibility for successful completion in the postgraduate supervision process lies with the postgraduate supervisor and the student as co-creators of a research product (Dann 2008:333). Of course, this does not mean that the supervisor writes for the student, but rather that the supervisor leads the student to scholarship and independent work.

Postgraduate students are mostly “drawn towards programmes by the reputations, academic accolades and charisma of the programme leaders” (ASSAf 2010:94). The ASSAf report emphasises the importance of the “education of high-quality scholars and professionals in research and development activities” in order to bring innovative changes to the workplace in business, government, academe or non-profit sectors (ASSAf 2010:36). Therefore it can be said that successful postgraduate supervisors from well-known established institutions are generally those academics who publish in leading journals, develop their postgraduate students and acquire external grants that may attract high-quality students. In Australia and elsewhere, there is an “increased emphasis on efficiency and quality, and on the wider context of the national research enterprise and its links to the international research community” (Pearson & Brew 2002:1135). Botha (2009:204) explained that “quality assurance mechanisms may also include instruments that focus on specific processes or services” and may demand “sound leadership and management processes within an institution, or the provision of access to academic information, learning and teaching or research programmes”.

Li and Seale (2007:512) acknowledged that achieving a PhD is a lengthy and complicated process that demands competence, commitment, time, energy and emotion from both the postgraduate student and the supervisor. A golden rule of doctoral education is that “a doctoral student may only be supervised by someone who has a doctoral degree” (ASSAf 2010:97). Most of the guidelines for doctoral supervision would add to this rule that “the doctoral supervisor has some experience in supervision and is also himself/herself a relatively experienced scholar and scientist. The practical implication of these rules is that the pool of potential doctoral supervisor is determined by the number of academic staff who has PhDs” (ASSAf 2010:97).

This notion can be extended to the responsibility of HEIs to increase the pool of doctorates so that they can contribute to the research and scholarship in their disciplines, but also to that of their students. Conrad (2006:115) explained the importance of supporting staff, especially inexperienced staff, and giving them the opportunity to become familiar with a variety of research skills that would enable them to improve their competence and confidence. Lues and Lategan (2006b:113) confirmed that their UoT enhances their research capacity-building with various workshops and seminars aimed at giving all researchers (staff and students) the opportunity to develop their research skills and knowledge.

1.2 PROBLEM STATEMENT

Against the above backdrop, the necessity of quality supervision in HEIs cannot be neglected. Postgraduate supervisors at HEIs are challenged by, amongst things, the demands of continuous changes in the research environment, the need for more master's and doctoral graduates, and the development of students as scholars and human beings able to contribute to the future of the country. These types of demands have implications for effectively leading the academic as well as the human project while guiding the student towards the completion of his or her studies. Bitzer (2007:1010) emphasised the value of postgraduate supervision in contributing to the "institutional and broader goals" of HEIs and the good of the country. UoTs face similar challenges in terms of the supervisory process and research at postgraduate level. In this context this study is focussed on South African UoTs, particularly the Faculty of Management Sciences at one such UoT. This particular faculty was selected as the case study due to the alarming figures within the faculty, which indicated the urgency of such a study. The figure and table below provide information on the qualifications and postgraduate supervision experience of the lecturers within the case-study faculty in the years 2011 and 2012.

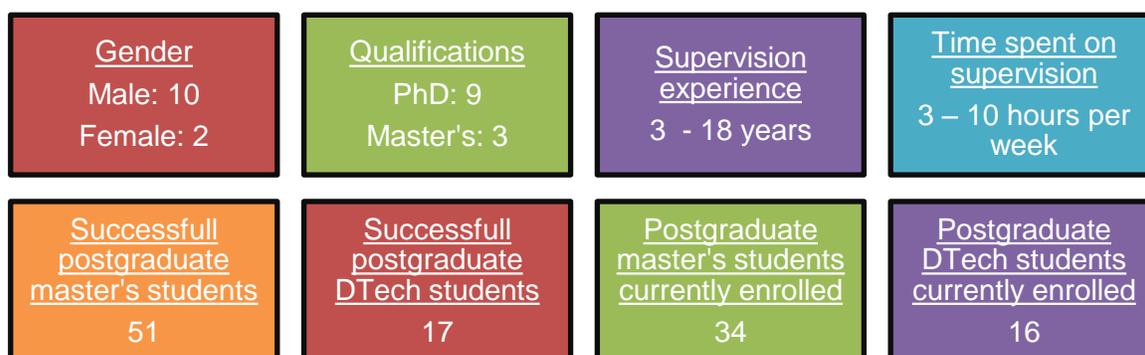


Figure 1.1: Current postgraduate supervision history in the Faculty of Management Sciences at a particular South African UoT

Of the 12 postgraduate supervisors, three were in possession of a master's degree and the remaining nine a doctorate, but notwithstanding their apparent sufficient qualifications, they had little supervision experience and were not delivering the expected number of master's and doctoral students, if benchmarked against the country's appeal for a higher research output.

Table 1.1: Current postgraduate supervision history in the Faculty of Management Sciences at a particular South African UoT

	Gender		Qualification	Years of supervision	Completed postgraduates				Current students			
	M	F			Supervisor		Co-supervisor		Supervisor		Co-supervisor	
					M	PhD	M	PhD	M	PhD	M	PhD
1.	✓		M	18	6	0	2	4	2	0	0	0
2.		✓	D	3	6	1	0	0	6	1	0	0
3.	✓		D	10	4	1	1	2	0	0	1	2
4.	✓		D	15	3	1	1	0	0	2	1	0
5.	✓		D	8	8	1	0	0	1	1	0	0
6.	✓		D	0	0	0	0	0	0	0	0	0
7.	✓		D	10	1	0	0	1	4	3	0	1
8.	✓		M	9	3	0	1	0	0	1	1	0
9.	✓		D	9	0	1	0	5	0	1	0	3
10.		✓	D	4	0	0	1	0	4	0	0	1
11.	✓		D	9	8	0	0	0	8	0	0	0
12.	✓		M	10	2	0	4	0	2	0	4	0

In analysing the above data, it would appear that the majority of master's students (19 students) had been delivered by staff members with five to nine years of involvement in postgraduate supervision (Table 1.1). However, the very few doctorates delivered raised concerns about the staff members' performance. It is also questionable that one staff member (number 9 in Table 1.1) had delivered a doctoral student before successfully delivering a master's student. These figures can even be taken further by interpreting the number of students delivered in terms of the number of staff members. In this regard the staff members holding a master's degree had delivered an average of 3.4 master's students each, while the staff members with doctorates had delivered only an average of 0.56 students each. Figure 1.2 below shows the performance of the staff members in terms of delivering master's and doctoral students and in terms of their years of involvement in supervision. It is important to keep in mind that UoT staff often have "different types of expertise (university, technikon and/or industry-based), varying degrees of disciplinary or professional affiliation, different levels of tertiary education, and different institutional histories" (Winberg 2005:194).

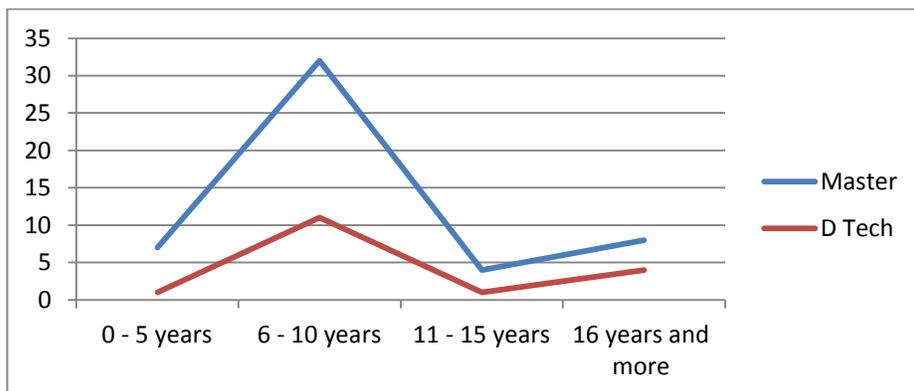


Figure 1.2: Master's degrees and doctorates delivered in terms of staff members' involvement in postgraduate supervision

In comparison with the country's benchmarks or demand for the delivery of master's degrees and doctorates, it is clear that this particular UoT has much room for improvement. Outcome 14 of the National Plan for Higher Education

(NPHE) emphasises that graduate enrolments and outputs need to increase at master's and doctoral level for UoTs (Minister of Education 2001, cited in Lues & Lategan 2006b:108). However, if the master's and doctoral outputs of four South African UoTs are compared further, they remain lacking.

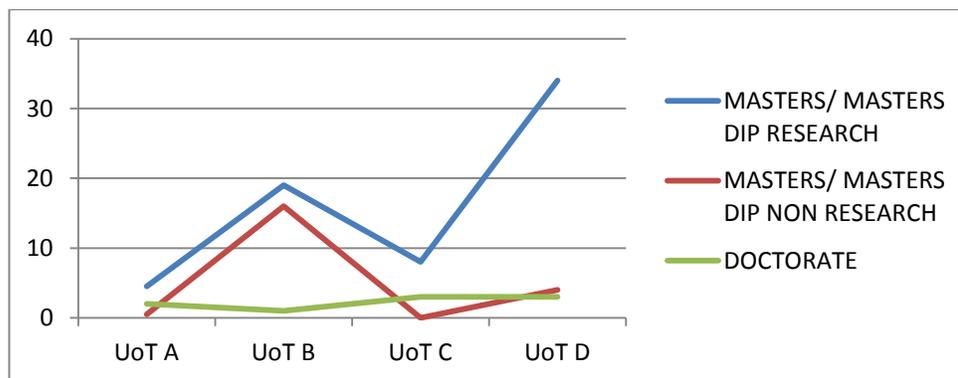


Figure 1.3: Statistical data on master's degrees and doctorates delivered at four South African UoTs in 2010 (DHET 2010)

Okeke (2010:127) stated that practising academics are required to keep abreast with the changes and challenges that are taking place within their domain or research discipline – something that appears to be lacking in this constituency, as the staff members who are seemingly “experienced” in terms of years do not deliver students accordingly. Lues and Lategan (2006b:109) agreed that “former technikons had to deviate from their past focus of conducting teaching to post matriculates, and as a consequence had to make rigid core changes within the livelihood of the institution. The focus was directed at the development of structural and intellectual research capacity to promote a research culture.”

Covey (2004:98) claimed that in order to progress from merely providing support to functioning with excellence, good leadership is required. This can be extended to postgraduate supervision excellence, which also requires good leadership to allow individuals to realise their full potential. Covey (2004:4) went on to explain that leadership for excellence and innovation “requires building on and reaching

beyond effectiveness, which requires a new mind set". This may imply that leaders in postgraduate supervision need to "find the right balance between human requirements and the *theory of wisdom*" (Sternberg 2005:37). Goleman (2004:1) added to the leadership discourse by emphasising the necessity of human and emotional dimension. Successful postgraduate supervisors should therefore also be able to engage with their students in ways that will foster relationships that will keep the students on track towards the completion of their studies.

As postgraduate supervisors at UoTs are challenged by the demands of continuous changes in the research environment on various levels, they clearly also face challenges in terms of effectively leading their students towards the completion of their master's and doctoral studies. This challenge probably arose from the fact that the former technikons (now UoTs) were established to address the shortage of technically skilled people and thus primarily employed staff who focussed on commerce and industry to teach in the various certificate and diploma programmes (Winberg 2005:192). As such, these staff members regarded themselves less as academics and more as professionals (Winberg 2005:192). Winberg (2005:192) explained further that "the idea of students doing their own research on a particular project or topic was not in the technikon paradigm". Pratt, Margaritis and Coy (1999:43, cited in Muller 2005:90) confirmed that "many of the new designated universities have their origin in applied and vocational disciplines where there is a stronger focus on teaching than on research". Lues and Lategan (2006b:110) agreed that UoTs were being confronted with serious challenges and that some of the researchers who had been contributing to the postgraduate supervision landscape "were taken up in administrative and managerial positions, and the result was a void in terms of study leadership and research output". Wisker (2005:9) went on to ask who is responsible for ensuring adequate postgraduate supervision for intellectual leadership in the research process. In this regard, Wadee, Keanne, Dietz and

Hay (2010:21) referred to “poor planning and management” (by both the postgraduate student and the supervisor) as contributing to unsuccessful postgraduate studies.

Canfield (2005:29) and Fetzer (2005:1312) agreed that leading the postgraduate supervision process and the building of sound relationships with students are not a given; it requires supervisors to be leaders and have the courage to reflect on and face their own capacity and to lead students to achieve their optimum level in a way that fosters an affiliation of trust and support. Sternberg (2004:108) explained that acquiring such skills is not a natural process, but needs to be developed.

Some of the existing literature on postgraduate supervision as a practice avoids the usage of the term ‘leadership’ in relation to the supervisory process, which is rather strange, because there is a clear resemblance between organisational and people leadership activities and that of supervisory leadership. Badat (2005:1, cited in Lues & Lategan 2006b:119) explained that leadership is important for success in the research environment. Ngcongco (2001:54–55) stated that leadership in postgraduate supervision also involves the directing, motivating and guiding of a student’s thinking to achieve success. Canfield (2005:29) suggested that leadership, personal knowledge and confidence from the postgraduate supervisor are important for the development of competent autonomy in a student. However, the perceptions of postgraduate supervisors and the complexities surrounding the supervision task cannot be neglected. From the information above, it is evident that postgraduate supervision is a burning point for South African UoTs, necessitating the use of a **developmental question**. Supervisors from all South African UoTs were questioned about the leadership process and the challenges related to quality. Responses were received from six supervisors at four UoTs. The outcomes of the developmental question provided a basis for an understanding of the context of the supervision process at UoTs. The

developmental question posed to the research units of five South African UoTs was: *“How would you define leadership in the postgraduate supervision environment?”* The subsequent discussion illustrates the complexity of supervision and the challenges for postgraduate supervisors to act effectively as leaders in the supervision process at South African UoTs. The results of the developmental question are merely highlighted in this chapter, but are discussed in detail in chapter 4 (see 4.6).

The participants agreed that postgraduate supervisors play a critical role in the success of postgraduate students. One participant responded that *“The candidates should also be assisted to complete their course requirements within the time period laid down by the institution”*. Participants identified certain traits necessary in a supervisor, namely being a people person, having scholarship, being knowledgeable and responsible, leading by example, practising research, being well-informed about a variety of topics, being informed about current trends and the rules and regulations of the institution, and lastly having the ability to provide direction and carefully considered feedback while encouraging independent thinking.

In line with the above, several authors (Mainhard, Van der Rijst, Van Tartwijk & Wubbels 2009:359–360; Olivier 2007:1127; Van der Linde 2006:95–96) found that postgraduate supervision is a huge task with an enormous responsibility to lead and guide students for success, but that there seems to be a lack of effective postgraduate supervision skills, willingness and competence amongst supervisors, who are needed to provide high-quality supervision within South African UoTs (ASSAf 2010:77; Dietz, Jansen & Wadee 2006:11; Van der Linde 2006:95-96). These deficiencies point to a need for well-established training and leadership programmes in the postgraduate supervision environment (Bitzer 2010:32). In light of the need for UoTs to deliver more graduates at master’s and doctoral level, capacity-building is essential (Bitzer

2009:309; Du Pré 2009:34; Dyason *et al.* 2010:43; Erasmus & Kapp 1998:112; Van der Linde 2006:95-96) in order to equip postgraduate supervisors with the competencies and skills to lead students to success.

As the leading of postgraduate students through the research process is not a given; it requires supervisors to act as leaders with the courage to reflect on and face their own capacity levels so as to guide students in such a way that they will be able to meet their full potential (Canfield 2005:29; Fetzer 2005:1312). Sternberg (2004:108) explained that acquiring such skills is not a natural process, but must be developed. Competencies such as planning the research, leading students through the process, keeping them motivated, fostering sound relationships, building trust and providing continuous guidance and support have to be built into capacity-building programmes so that postgraduate supervisors will be able to become leaders in this domain of their academic task, even more so in UoTs, where there is a dire need for supervisors delivering more Master's and Doctoral students

In order to address the problems associated with the enhancement of postgraduate research at UoTs and the need to capacitate supervisors within those institutions to lead the supervision process, the following primary question was asked:

What model can be used to guide supervisors in leading postgraduate research so that the academic and personal relationships can contribute to delivering more successful students in the UoT sector in South Africa?

In addressing the above question, this study explored the dynamics of postgraduate leadership in the South African UoT research landscape. This study was thus directed by the following subsidiary research questions stemming from the primary research question:

- How does supervisory leadership relate to leadership theory?
- Which theoretical points of departure can direct a draft leadership model for postgraduate supervision?
- How do postgraduate supervisors at UoTs in South Africa view their roles as leaders in the supervision process and in their relationship with their students?
- How do postgraduate supervisors at a particular UoT in South Africa view the challenges they experience with their students in terms of their roles and skills, and why?
- What theoretical models exist to guide postgraduate supervision and student performance?
- How do these theoretical frameworks, the draft leadership framework and the empirical data inform the final developmental model for postgraduate supervision in terms of supervisor-student relationships?
- What supervisory model for the development of academic supervisor-student relationship can serve as a basis for leading master's and doctoral research in the South African UoT sector?

1.3 RESEARCH PURPOSE AND OBJECTIVES

The purpose of this study was to develop a model for supervisory leadership in the postgraduate supervision process by exploring the role of academic guidance and personal relationships in the research environment within South African UoTs, in particular the Faculty of Management Sciences at a certain UoT. The development of such a model can serve as a base for capacitating postgraduate supervisors at UoTs and as such contribute to the delivery of more graduates at this level.

In order to achieve the research purpose, the following research objectives were formulated:

- To undertake a comprehensive literature review in order to identify those characteristics and traits in the leadership theories that correspond with leadership in the postgraduate environment to conceptualise supervision leadership;
- To develop a theoretical point of departure in drafting and compiling a draft leadership model for postgraduate supervision;
- To investigate how postgraduate supervisors at UoTs in South Africa view their roles as leaders in the supervision process and in their relationship with their students.
- To investigate the challenges that postgraduate supervisors at a particular UoT experience with their students, and the reasons for such views;
- To identify a sound supervisory leadership to enhance student performance at master's and doctoral level at a particular South African UoT;
- To undertake a comprehensive review of existing and quasi-academic leadership models so as to further inform a leadership model for supervisor-student relationships for enhanced student performance;
- To develop a leadership model for the development of an academic supervisor-student relationship that can serve as a basis for guiding postgraduate supervision in the South African UoT sector.

1.4 THEORETICAL FRAMEWORK

Worldwide, there has been a major expansion of postgraduate studies and attention in respect of the improvement of postgraduate supervision, research skills and training for postgraduate students and postgraduate supervisors (Cryer & Mertens 2003:93; Morley, Leonard & David 2003:64; Powel & Green 2003:55). “Postgraduate education has become big business. Universities, and

postgraduate educators, are caught in the middle needing the income that such students bring, responding to their specific needs and those of employers and with a responsibility for maintaining the standards of awards” (Atlay & Lawrence 2011:29).

A major challenge in South African HEIs, and specifically UoTs, is how to develop a learning and teaching culture within a relatively new and young postgraduate research environment (Bitzer 2007:1012; Du Pré 2009:34). The transformation started when the former technikons transformed into UoTs, with the authorisation of degree status being awarded to these institutions (Du Pré 2010:7). The rationale of this thesis was to investigate the development of leadership in postgraduate supervision at South African UoTs with the focus on the supervisor-student relationship by following a pragmatic approach. McMillan and Schumacher (2010:6) stated that the pragmatic approach allows for “common sense and practical thinking” in the selection of the methods used to explore the issues at hand.

In light of the above rationale, this study aimed to explore leadership in the postgraduate supervision process from a pragmatic frame of mind. This mode of inquiry enabled the researcher to combine elements from both the quantitative and qualitative method of research. The term *method* refers to “procedures and activities for selecting, collecting, organising and analysing data” (Harrits 2011:151) that are compatible for the purposes of understanding and corroborating the research problems (Ivankova, Creswell & Plano Clark 2007:263), with the potential to yield comprehensive evidence. This enabled the researcher to view the current concept of leading the supervisory process in terms of how participants view the world and what role relationships play in such postgraduate supervision processes. An important consideration of the study is the relative importance of the qualitative or quantitative components of research that cannot be fully determined in advance (Teddlie & Tashakkori 2006:13). In

the real world, a quantitative plus qualitative study may become a qualitative plus quantitative study if the qualitative data becomes more important in understanding the leadership process in the supervisory milieu at a UoT or vice versa (Teddlie & Tashakkori 2006:13). The research components that emerged are addressed in the subsequent section.

1.5 RESEARCH DESIGN

A **research design** is a master plan or blueprint that specifies how one intends to accomplish the research study through different methods and procedures (Zikmund 2003:65). To achieve the envisaged purpose, the study used a **mixed-method** design whereby quantitative and qualitative data sets were allowed to complement one another for a complete analysis (Ivankova *et al.* 2007:261) of the seemingly unknown and complex dimension of integrating leadership concepts into postgraduate supervision processes.

According to Leedy and Ormrod (2010:93–94), various **research methodologies** have emerged over the years. It was therefore essential to take into account the research problem and the nature of the data to be collected before selecting the methodology. Since mixed-method research does not necessarily constitute a single research paradigm, it can be regarded as transcending the paradigm wars (Creswell & Plano, Clark 2010; Teddlie & Tashakkori 2009). However, a mixed-method approach to research is mostly associated with a pragmatic stance, as it does not necessarily focus on one philosophical approach to exploring the research problem and the research questions (Teddlie & Tashakkori 2009:270). Following a pragmatic approach widens the meta-perspective within the pragmatic perspective, allowing the researcher to address the predetermined research questions by applying methods that yield/provide both quantitative and qualitative data, as long as these yield meaningful data. A good example of the latter is the work of Edwards and Lopez (2006:282, cited in Leech, Dellinger, Brannagan and

Tanaka 2010:22-23), which was primarily a quantitative study followed by a single open-ended question providing the overarching perspective needed.

This study followed a multi-strand sequential design with various data-collection phases (see 3.1), including a mono-strand approach during the first empirical phase of inference, with data collected by means of a developmental question followed by a questionnaire consisting of both closed and open-ended questions (cf. Edwards & Lopez above). The responses were analysed, providing valuable information for the development of a supervisory leadership model for the UoT sector in South Africa (more details on this can be found in the relevant chapters).

McMillan and Schumacher (2010:6) described pragmatic research as “a belief that one scientific method, by itself, is insufficient. Rather, common sense and practical thinking are used to determine the best approach (e.g. quantitative, qualitative), depending on the purpose of the study and contextual factors. This approach provides the theoretical basis for conducting mixed-method studies.” To address the predetermined research questions, it was consequently necessary to apply both quantitative and qualitative research methods. An important aspect of this design was that the responses were analysed as a means of providing valuable information for the development of a supervisory leadership model for a South African UoT.

The general **population** for this research was postgraduate supervisors within South African UoTs. Although the term ‘population’ always refers to a “study of the whole”, a smaller group was selected (Salkind 2009:31; Strydom 2005:193). Phase 1 was a developmental phase consisting of a purposeful sample size from each UoT, with postgraduate supervisors being invited (via an e-mail sent to the research units of UoTs) to participate in the qualitative developmental process (see 5.7.1). In phase 2, a questionnaire was e-mailed to South African UoTs with a request for it to be completed by postgraduate supervisors. Phase 3 consisted

of semi-structured interviews about the use of the leadership model, held with 10 postgraduate supervisors in the Faculty of Management Sciences at a certain South African UoT. With the evaluation of a proposed model in phase 4, each UoT research unit identified postgraduate supervision experts to provide feedback about the model (see 5.13). The second evaluation process consisted of an e-mailed invitation to well-known authors in the South African postgraduate supervision milieu with accredited articles in academic journals. This sample size in all phases was a purposeful sampling of possible respondents/participants corresponding with the topic of research (Leedy & Ormrod 2010:212–213).

1.6 DATA-COLLECTION

Empirical data for this study was collected by means of a questionnaire survey (containing closed and open questions) and a number of interviews (also cf. 1.5).

1.6.1 Developmental phase

During phase 1, the researcher asked the respondents from UoT research unit to reflect their ideas and experiences in terms of leadership in the postgraduate supervision context.

1.6.2 Primary empirical investigations

The next step consisted quantitative investigation by means of a questionnaire sent to UoT's in South Africa. Prior to the distribution the questionnaires, the instrument was piloted by requesting postgraduate supervisors from a particular UoT to evaluate the questionnaire on leadership in the supervision environment. This provided direction on the collection instrument, thus allowing the researcher to contextualise the questionnaire, which consisted of both open- and closed-ended questions, was regarded as the most appropriate design for this study due

to the vast geographical distribution of UoTs in South Africa. The data on leadership in postgraduate supervision was then collected from respondents/participants by means of an e-mailed invitation. The aim of the data-collection process was to gain insight from postgraduate supervisors into their views on the leadership role of supervisors in establishing academic and interpersonal relationships with their students in the UoT research milieu.

The research design of the empirical research process is discussed in more detail in chapter 3, but the following figure can be used as a reference for how the investigation was conducted and as a foundation for understanding this study.

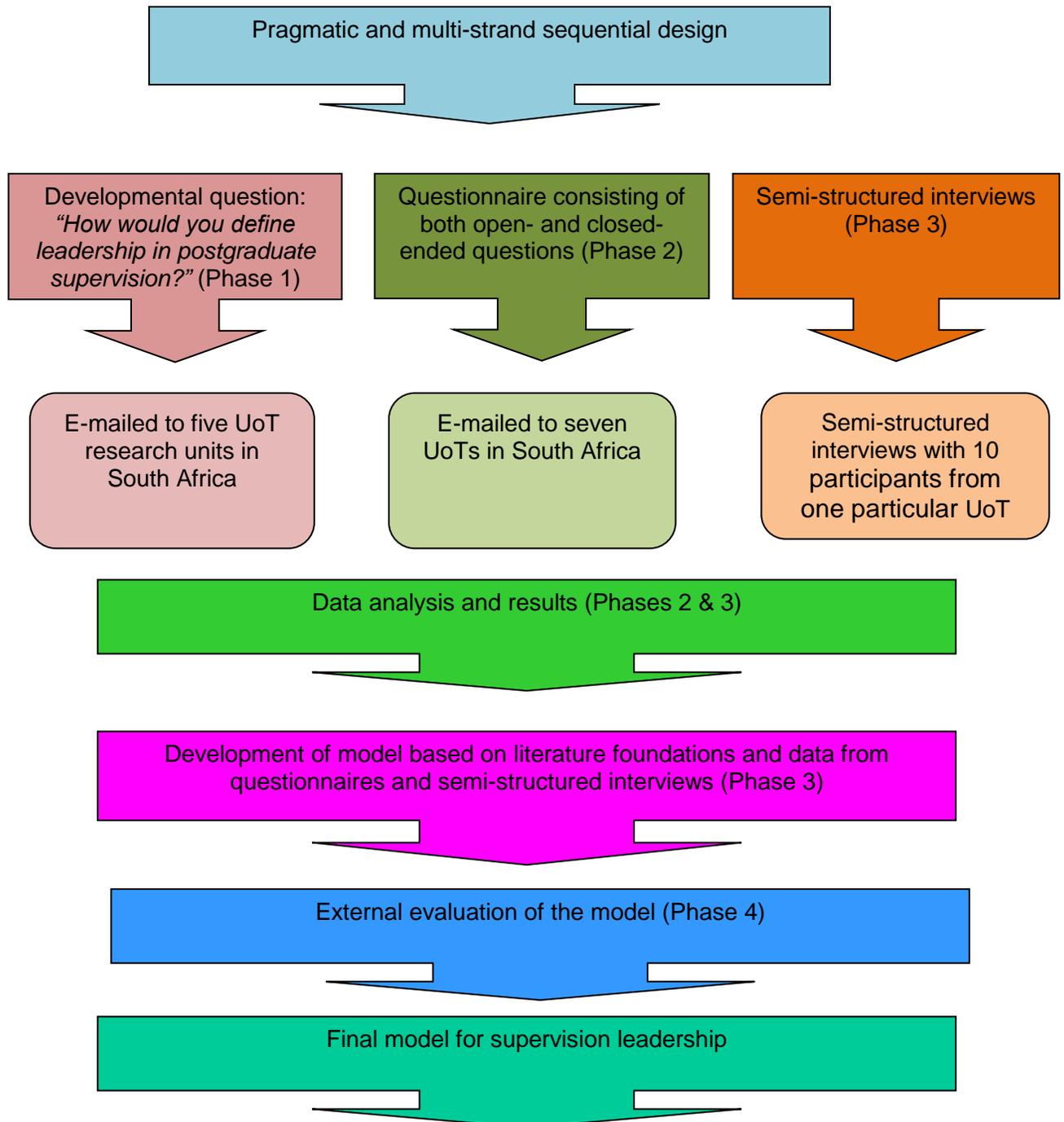


Figure 1.4: Schematic illustration of the research design and methodology

1.7 DATA ANALYSIS, INTERPRETATION AND REPORTING

Data analysis involves a process of consolidating all the collected responses (Ertmer 1997:158). The data obtained from the developmental question was categorised according to the participants' viewpoints. The data obtained from the questionnaires was coded numerically. Quantitative data was processed using the Excel computer program, and participants' perceptions were reconstructed for the analysis of the qualitative data. This breakdown of data captured the richness and complexity of leadership in the postgraduate supervision environment, with the identification of themes to categorise the views and experiences of the participants. Propositions were then formulated and included in a model for leading postgraduate supervision in UoTs. A team of experts, together with semi-structured interviews with postgraduate supervisors in the Faculty of Management Sciences at a UoT, provided formative evaluation and feedback (phase 3) in terms of the feasibility of the proposed leadership model in the postgraduate supervision milieu (see 5.9). The final evaluations were done by UoT research units and well-known authors in the South African postgraduate supervision milieu.

1.8 ETHICAL CONSIDERATIONS

Researchers have an ethical obligation to their respondents/participants and colleagues, since they delve into the social lives of other human beings (Maree & Van der Westhuizen 2007:41–42). For purposes of this research, the confidentiality of the institutions and respondents/participants was guaranteed through the use of reference numbers in the questionnaire (see 3.5).

Prior to distributing the questionnaire to the postgraduate supervisors, the researcher applied to the Faculty of Education of the University of the Free State for clearance to conduct the research (see Appendix A), and seven

UoTs were approached for permission for their staff members to participate (see Appendix C).

The role of the researcher in this study is acknowledged as she entered into a collaborative partnership with postgraduate supervisors for data-collection and data-analysis purposes.

1.9 DEMARCATION OF THE RESEARCH

This research falls within the domain of HEIs, with special emphasis on the postgraduate supervision context at UoTs in South Africa, exploring the leading role of postgraduate supervisors in the planning phase of a research project, the formal grading (quality) of the research project, and the empowerment (knowledge) of the student (Bitzer & Wilkinson 2009:387–388; Spear 2000, cited in Abiddin, Hassan & Ahmad 2009:12; Tight 2003:7). Postgraduate students should receive a legacy (academic aspect and human aspect) from the researcher through the enhancement of lifelong learning and the chance to develop their own voices within academic freedom and institutional management (Bitzer & Wilkinson 2009:387–388; Tight 2003:7; Webber 2010:92).

An additional aspect of importance in this study was the human aspect, which relates to the relationships between parties within the higher education environment (Bitzer & Wilkinson 2009:394; Deuchar 2008:491). Academic developments within HEIs should improve growth in competency, diversity and knowledge of both postgraduate supervisors and students (Bitzer & Wilkinson 2009:387–388; Pearson & Kayrooz 2004:100; Tight 2003:7). This growth could include leadership maturity and relationship-building between different HEIs, the industry and the community (Bitzer & Wilkinson 2009:387–388; Tight 2003:7).

1.10 CONTRIBUTION OF THE RESEARCH

South African HEIs are facing several challenges in terms of improving capacity-building (ASSAf 2010:110; Erasmus & Kapp 1998:112). The contribution of the research lay in the development of a leadership model for novice postgraduate supervisors, as well as experienced supervisors, in terms of academic and personal relationships in the research environment of South African UoTs. Such a model could provide guidance to novices as it was based on the lived best practices of experienced postgraduate supervisors at UoT's. There is a gap in terms of research that has been done on the leadership context of postgraduate supervision, and although this study cannot be generalised to all universities in South Africa, it could be of value to the young and new in the research milieu at South African UoTs.

1.11 BRIEF OVERVIEW OF CHAPTERS

Chapter 2 sets the scene for the research study by providing an introduction and significant information about leadership in general, leadership theories, and leadership in postgraduate supervision. This chapter also addresses the first four research questions by focusing on the major requirements of leadership within the postgraduate supervision environment. This chapter also provides the necessary understanding of the influence of leadership requirements (roles and skills) in the postgraduate supervision milieu.

Chapter 3 covers the research design containing the methodology and procedures employed in the mixed-method (quantitative and qualitative) approach to the study. This chapter also addresses data collection, population, the role of the researcher, and integrity in the research study.

Chapter 4 covers the analysis and interpretation of the quantitative and qualitative data of the questionnaire, highlighting the quantitative data and substantiating it by means of the interpretation of the qualitative results. This chapter also contains reflections and feedback on the qualitative developmental question.

Chapter 5 contains an explanation of the semi-structured interviews on the draft leadership model. This chapter integrates the fundamental building blocks of the roles and skills of leaders in postgraduate supervision, namely to motivate and to lead. It describes and explains the proposed leadership model for effective relationships between parties in a South African UoT based on the findings of the research study, and also addresses research questions four and six.

Chapter 6 highlights the development of a leadership model and addresses the last three research questions by presenting elements of an adapted version of existing or quasi-academic leadership models. This conceptual model was also tested with an e-mail response from well-known authors in the postgraduate supervision arena and with semi-structured interviews with respondents from a specific South African UoT. Since postgraduate leadership expands into the different intelligences, these are incorporated in the leadership model, namely physical (hard-working and committed), emotional (passionate and motivated), mental (long-term and strategic thinking) and spiritual (legacy and compassion).

Chapter 7 provides a summary of the findings, as well as the conclusions and limitations of the research study.

CHAPTER 2

LEADERSHIP IN A POSTGRADUATE SUPERVISORY CONTEXT: A THEORETICAL OVERVIEW

“J.F. Kennedy signified: *Leadership and learning are indispensable to each other.*”

(Clemmer 2007:1)

2.1 INTRODUCTION

In countries such as Australia, Canada, South Africa and some European countries, concerns have been raised in accredited journals, conference proceedings and books about the poor completion rates of postgraduate students in HEIs and the quality of supervision (Cranfield & Taylor 2008:86; Lessing & Lessing 2004:73; Lessing & Schulze 2002:139; Van der Westhuizen & De Wet 2003:185). In terms of leadership as an issue, almost all the literature focuses mainly on leadership in an organisational or institutional context, with very little attention being directed towards the importance of leadership in the postgraduate supervision process at HEIs. The latter strengthens the need for this study, as it is necessary for researchers to be nurtured in the practice and habit of research and to become competent in leading such processes (Dyason *et al.* 2010:45; Lategan 2009:161).

Any form of leadership challenges the fundamental choices that a person makes in life, because a successful leader needs to unleash people's potential so that they can become creative, innovative, fully-engaged individuals able to participate in the world around them. Ngcongco (2001:53) stated that leadership in the postgraduate supervision process requires the empowerment of students. This process will embrace positive and continuous mentoring, guidance and facilitation

through the entire postgraduate research process. Manathunga (2007:207) pointed out that “postgraduate supervisors guide and facilitate their students’ gradual development into independent researchers through empathetic dialogue and by modelling appropriate disciplinary-based research behaviour”. McPhail and Erwee (2000:77) also recognised the involvement of a strong motivational character and trust-building between two individuals within the postgraduate supervision context.

This chapter commences with a brief overview of the foundation of leadership and the importance of leadership in the context of postgraduate supervision within HEIs. The main focus of this chapter, however, is the leadership requirements necessary in the supervisory academic and human course of action in the postgraduate supervision process.

Burton and Brueckner (1995, cited in Abiddin, Hassan & Ahmad 2009:13) explained that the primary function of any type of supervision involves the guiding of processes, as well as encouragement and recognition in terms of achieving set goals. Maxwell and Smyth (2011:222) explained that the concept of leadership may be useful in that it may allow the lead to be taken, or even shared, as the function varies especially during the creative process, such as that which occurs within postgraduate research endeavours. In the latter context, leadership will primarily reside with the postgraduate supervisor. Abiddin *et al.* (2009:13) described a good supervisor as an individual who really enjoys supervision, who is committed to helping the supervisee grow, and who strengthens his/her involvement in all supervisory activities by taking the lead in areas of quality control (Maxwell & Smyth 2001:222).

This chapter contains a brief overview of the foundations of leadership and the importance of leadership in the context of postgraduate supervision in HEIs, but

the main focus is on the type of leadership required for the academic and human course of relationships in the research process.

2.2 LEADERSHIP: A THEORETICAL FOUNDATION

There are many requirements for leadership, highlighting the need for the clarification of effective leadership skills (Dubrin 2004:3). Some authors (Dubrin 2004:56; Schermerhorn, Hunt & Osborn 2008:243) have suggested that leaders possess certain personal requirements that distinguish them from non-leaders, such as the ability to build successful relationships, to plan efficiently, and to guide decision-making, motivation and communication (Dyason *et al.* 2010:45).

Effective leadership can take one of many forms or combinations thereof, and Van Rensburg (2007:2) stated that it can relate to education and be the foundation to improve the circumstances of any given situation. According to Canfield (2005:29) effective leadership enables the research student to seize control of his/her own research project and gain the confidence to achieve his/her goals. The latter emphasises the need for postgraduate supervisors to develop their own leadership approach in view of the supervision process and to lead their students to achieve their goals. *The leadership concept has risen above the historical organisational context in which a leader has to function, and has transcended the 'status-bound' meaning.* As such, this study uses the concept of 'leadership' as defined by Gardner (2000:3), namely a "process of persuasion or example" to induce an individual or group to pursue the objectives. From this it is clear that the leader is an integral part of the process, as he/she has to perform tasks that are essential for accomplishing the objectives. Not only does leadership imply particular tasks, but it refers to tasks that have the potential to *move* people towards their goals. This notion is supported by Zenger, Ulrich and Smallwood (2002:23) who also referred to the process of providing support to deliver quality work.

In contemplating leadership, one must distinguish between leadership and management. Nienaber (2010:670) explained that the distinction between leadership and management roles is not clear, but both have a common goal and are linked to the overall success of the business. Amos *et al.* (2011:95) found an important ingredient to be the realisation of leadership and management as intellectual capital. Managers hold hierarchical positions, but they should also possess the necessary human skills and the ability to work with others. “Management and leadership are sometimes seen as synonymous and used interchangeably” (Amos *et al.* 2011:198). The overlap between management and leadership lies in the fact that leadership forms an important part of effective management (Amos *et al.* 2011:198). Brewster *et al.* (2011:48) stated that instead of an individual being either a leader or a manager, he/she should fulfil both roles. It is the ideal that all managers should be leaders, since leadership is regarded as one of the four management functions, along with planning, organising and control (Robbins & Coulter 2012:488). However, leadership is related more to “soft” issues such as maintaining interpersonal relationships, setting direction, aligning people, and motivating and inspiring others (Amos *et al.* 2011:198). The term ‘leadership’ is also associated with concepts such as creativity, change, innovation and vision (Brewster *et al.* 2011:48). Brewster *et al.* (2011:48) also emphasised that leadership is related to a process and not a position, which involves a relationship between a leader and individuals within a given process. This relationship requires commitment and enthusiasm from the individuals to allow a leader to influence them.

Management and leadership are complementary yet distinctive concepts, each with its own functions and characteristics. They are not mutually exclusive and are both essential for success.

2.3 LEADERSHIP APPROACHES

According to the existing literature on leadership, a number of theories have emerged over time, touching on how leaders approach their task in terms of moving, developing and supporting people to achieve their goals, by using particular skills, behaving in a particular manner, or doing whatever they consider necessary to lead the way. Figure 2.1 provides an overview of the various theories depicting leadership approaches. The various theories are addressed in more detail, but only a brief overview of each is needed to eventually draw a *synthesis on the tasks to be performed to lead people and also provide leadership in terms of supervising a postgraduate student*.

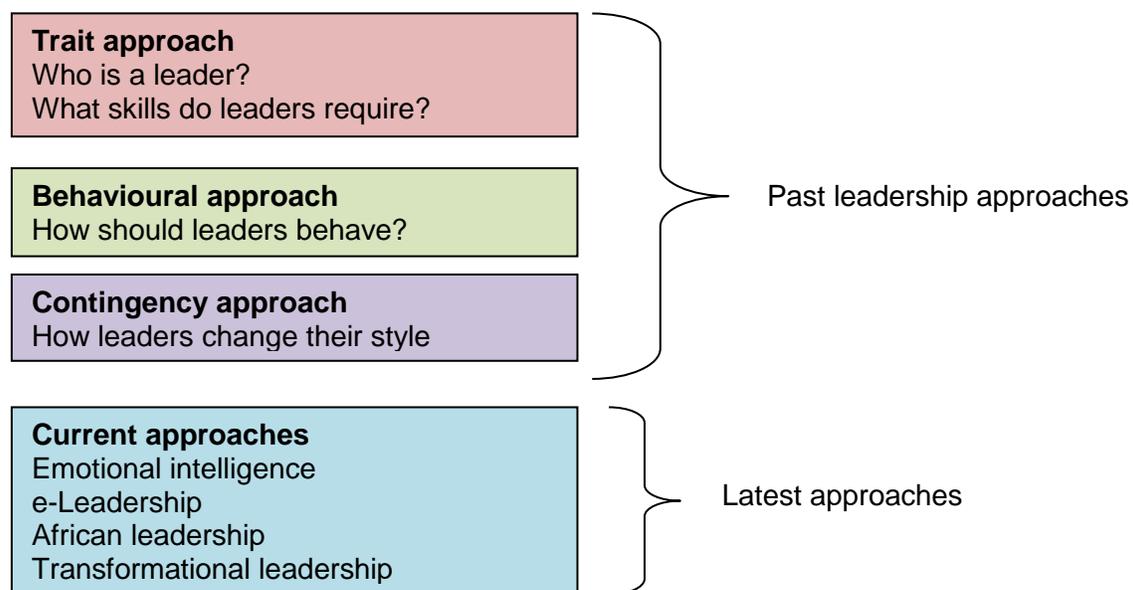


Figure 2.1: Basic leadership approaches (adapted from Amos, Ristow, Ristow & Pearse 2011:200)

The first leadership approach to be discussed is the trait approach or theory, which proposes that leaders are born, not made. This leadership approach focuses on the identification of the qualities and characteristics possessed by a great leader (Van Zyl 2009:205).

Table 2.1: Trait approach or theory

Trait approach or theory		Conclusion
Physical characteristics	Young to middle-aged, energetic, striking in appearance, tall and slender.	Believed to differentiate leaders from non-leaders – these characteristics are evident in natural leaders. Impossible to identify a particular set of traits that would always differentiate a leader (the individual) from a non-leader across all cultures.
Social characteristics	Educated at the right schools, socially prominent, upwardly mobile and valued.	
Personal characteristics	Emotionally stable, dominant, sociable, intelligent, self-confident and determined.	
Current interest in characteristics and traits demonstrates the concern with the leadership skills, abilities, knowledge and expertise that leaders must possess in organisations. The trait approach relates more to the leadership process than the person.		
Leadership traits		
High level of <u>drive</u> , shows <u>initiative</u> , persistent in activities, ambitious with high energy levels and a relatively strong desire for achievement.		
Strong desire to lead and <u>influence others</u> , and willing to <u>take responsibility</u> . Leadership consists of complex <u>managerial activities</u> (<u>motivation</u> , <u>communication</u> , <u>conflict resolution</u>).		
Known for <u>honesty</u> and <u>integrity</u> . Can be <u>trusted</u> to make good decisions. Build <u>trusting relationships</u> by being truthful or non-deceitful and show high consistency between word and deed.		
Able to <u>instil confidence</u> in other people. Self-confident and able to convince others of the correctness of goals, actions and decisions.		
Good reasoning ability and power of judgement. Shows intelligence in gathering, synthesising and interpreting large amounts of information to <u>create a vision</u> , <u>solve problems</u> and make the right decisions.		
<u>Vision</u> of a future better than the present. Able to explain the vision in a practical and comprehensible way. Committed to the vision, although it may entail considerable personal risk, cost and self-sacrifice.		
High degree of <u>knowledge</u> about the organisation, the industry and technical matters. In-depth knowledge allowing for well-informed decisions and an understanding of the implications.		
Energetic, lively, <u>sociable</u> and assertive.		
<u>Enthusiastic</u> with a strong drive to take action and a willingness to work and to accept responsibility.		
<u>Monitors</u> the environment constantly. Keeps abreast of developments relating to the situation and environment. Able to sum up a situation and <u>understand the group's feelings and expectations</u> .		
Able to bring about change and adapt to changing circumstances.		

Sources: Amos *et al.* (2011:200); Brewster, Carey, Grobler, Holland and Wörnich (2011:53); Coleman and Earley (2005:9); De Beer and Rossouw (2012:47–51); Hellriegel, Jackson, Slocum, Staude, Amos, Klopper, Louw and Oosthuizen (2004:288); Robbins and Coulter (2012:489).

According to Hellriegel *et al.* (2004:288) leaders need to demonstrate certain following skills, attributes and personal characteristics, namely consistency and integrity, fairness, patience, courage, determination and perseverance, innovative thinking, the ability to instil entrepreneurship in the organisation, rational decision-making and self-management. Another important aspect of this approach is the vision and enthusiasm of the leader with the needed motivation to influence others to accept responsibility and work towards a set goal. This approach also leads to trusted resolutions to problems through knowledgeable decision-making that shapes an individual in his or her developmental process.

“Researchers eventually recognised that traits alone were not sufficient to identify effective leaders since descriptions based solely on traits ignored the interactions of leaders and their groups members as well as situational factors” (Brewster *et al.* 2011:53). At a certain point, research turned to what effective leaders actually do, rather than focusing on leadership traits. Researchers began to wonder if there is something unique in what effective leaders do to influence individuals to achieve organisational goals – in other words, something unique in their behaviour (Jones & George 2003:450; Robbins & Coulter 2012:489).

The behavioural approach of leadership focuses on the differences in the actions of effective leaders across all situations, what effective leaders do, how they delegate tasks to people, and how they perform their roles within the organisation (Amos *et al.* 2011:201; Hellriegel *et al.* 2004:289). The five main leader behaviour approaches are summarised in Table 2.2.

Table 2.2: Behavioural theories of leadership

Behavioural approaches and leadership characteristics	
University of Iowa	<p><i>Democratic style:</i> Involving subordinates, delegating authority, and <u>encouraging participation</u>.</p> <p><i>Autocratic style:</i> Dictating working methods, centralising decision-making, and limiting participation.</p> <p><i>Laissez-faire style:</i> Giving the group freedom to make decisions and complete work.</p> <p>Democratic style of leadership found to be most effective, although later studies showed mixed results.</p>
Ohio State	<p><i>Consideration:</i> Being considerate of followers' ideas and feelings (<u>trust, respect, appreciation, support of individuals, friendly environment and care</u>).</p> <p>High-high leader (high in consideration and high in initiating structure) achieved high levels of subordinate performance and satisfaction, but not in all situations.</p>
University of Michigan	<p><i>Employee oriented:</i> Emphasis on <u>interpersonal relationships</u> and taking care of employees' needs.</p> <p><i>Production oriented:</i> Emphasis on <u>technical or task aspects</u> of a job.</p> <p>Employee-oriented leaders associated with high group productivity and higher job satisfaction.</p>
Managerial Grid	<p><i>Concern for people:</i> Measuring a leader's concern for subordinates on a scale of 1 to 9 (low to high).</p> <p><i>Concern for production:</i> Measuring a leader's concern for getting the job done on a scale of 1 to 9 (low to high).</p> <p>Best-performing leaders found to be those with a score of 9 on both scales (high concern for production and high concern for people).</p>
Empowerment Model	<p><i>Sharing of influence and control:</i> Involving individuals and giving them a sense of meaning, <u>competence</u>, self-determination and impact.</p> <p><i>Empowered people:</i> Self-managing and self-leading.</p> <p>Good leaders have <u>vision</u>, but also the ability to <u>enthuse</u> those around them and then give them the space to go for it – thus empowering them.</p>

Sources: Hellriegel *et al.* (2004:292); Jones and George (2003:450); Marishane and Botha (2012:7); Robbins and Coulter (2012:490).

Leadership researchers discovered that predicting leadership success involved something more complex than isolating a few leader traits or preferable behaviours. With behavioural leadership, leaders realise the importance of involving individuals in the decision-making process and allowing positive participation. This leads to respect and trust between individuals within a positive and friendly relationship and environment. Leaders realise the importance of

individuals' needs and have a realistic vision that allows individuals the space to grow. However, when researchers came to realise that the behavioural theories do not cover all the importance aspects of leadership, they started investigating the contingency models of leadership.

The contingency approaches demonstrate the importance of situational factors and individual characteristics. Effective leaders are adept at recognising the requirements of the situation and the needs of individuals and will then adjust their own leadership style (or the situation) accordingly. This approach implies that leaders should be able to adapt their behaviour to the different conditions they may encounter (Hellriegel *et al.* 2004:300). The following table explains the contingency models of leadership.

Table 2.3: Contingency models of leadership

Contingency approaches and leadership characteristics	
Fiedler Model	<p><i>Task-oriented:</i> Interested in <u>task accomplishment</u> and getting the job done.</p> <p><i>Relationship oriented:</i> Interested in <u>developing good relationships</u> and being liked by individuals.</p> <p><i>Leader-member relations:</i> <u>Confidence</u>, <u>trust</u>, <u>loyalty</u> and respect for the leader.</p> <p><i>Task structure:</i> Formalised with <u>clear-cut job assignments</u> and structures.</p> <p><i>Position power:</i> Influence and amount of legitimate, reward and coercive power of a leader by virtue of his/her position over activities. This model proposes that effective group performance depends upon properly matching the leader's style and the amount of control and influence in the situation. Effective leaders can, and do, change their style, and each situation is unique and must be considered and studied.</p>

Table 2.3 continued

Hersey and Blanchard's Situational Leadership Theory	<p><i>Followers:</i> Emphasis on followers accepting or rejecting the leader.</p> <p><i>Readiness:</i> <u>People's ability and willingness</u> to accomplish a specific task.</p> <p><i>Telling:</i> Leader <u>defines the roles</u> and tells people what, how, when and where to do various tasks (high task – low relationship).</p> <p><i>Selling:</i> Leader provides both <u>directive and supportive behaviour</u> (high task – high relationship).</p> <p><i>Participating:</i> Leader and followers <u>share in decision-making</u>. Leader mainly plays a <u>facilitating</u> and <u>communicating</u> role (low task – high relationship).</p> <p><i>Delegating:</i> Leader provides little direction or support (low task – low relationship).</p> <p>The theory has intuitive appeal; it acknowledges the importance of followers and builds on the logic that leaders can compensate for ability and motivation limitations in their followers. Effective leaders choose a style to match the maturity level of individuals.</p>
Path-Goal Model	<p><i>Directive behaviour:</i> People know what is expected of them, work is scheduled to be done, and <u>guidance</u> is provided on how to accomplish tasks.</p> <p><i>Supportive behaviour:</i> Leader is <u>friendly</u> and <u>shows concern</u> for the needs of followers.</p> <p><i>Participative behaviour:</i> Leader <u>consults with the team</u> and considers their suggestions before making a decision.</p> <p><i>Achievement-oriented behaviour:</i> Leader <u>sets challenging goals</u> and expects followers to perform at their highest level.</p> <p>An employee's performance and satisfaction are likely to be positively influenced when the leader chooses a leadership style that compensates for shortcomings in either the employee or the work setting.</p>

Sources: Hellriegel *et al.* (2004:292-297); Jones and George (2003:452-457); Robbins and Coulter (2012:492-495).

With the contingency models it is important that leaders are able to influence and motivate individuals to achieve both high productivity and greater job satisfaction. Another important aspect is that leaders must be able to change their leadership style according to the unique situation and maturity level of the individuals with whom they are currently working.

The more recent approaches discussed below are as important as the older approaches discussed above.

The most recent approaches, and what may be considered the least traditional forms of leadership, are emotional intelligence leadership, e-leadership, transformational leadership and the African (*Ubuntu*) style of leadership.

Table 2.4: Recent leadership models

<u>Leadership approaches and leadership characteristics</u>	
Emotional Intelligence Leadership	<p><u>Managing people</u> effectively and consistently on a daily basis.</p> <p>Effective management of <u>self and relationships</u>.</p> <p>Self-awareness – <u>understanding one’s strengths and weaknesses</u>.</p> <p>Self-management – displaying <u>trust and integrity</u>.</p> <p>Social awareness – <u>showing empathy</u> for others.</p> <p>Social skills – <u>influencing others with a vision</u>.</p> <p>It is not an easy task to manage each individual in a way that will allow him/her to reach his/her full potential.</p> <p>Positive sense of self-worth.</p> <p>Managing one’s <u>responsibilities</u> and being adaptable and flexible to change.</p> <p>Making suitable decisions and taking an active interest in understanding others.</p> <p>Effective <u>communication</u> skills, <u>conflict management</u> skills and competence in promoting teamwork.</p>
e-Leadership	<p>Widely used in the modern working environment with its <u>advanced information systems</u>. Possible systems include e-mail, message boards, groupware, group support, knowledge management and executive information systems.</p> <p>Defined as a <u>social influence</u> to produce a change in attitudes, feelings, behaviour, and/or performance amongst individuals, groups and/or organisations.</p> <p>Such technologies can help leaders to scan, plan, decide, disseminate and control information within the organisation.</p>
Transformational Leadership	<p>Leader is more than a <u>manager</u> and must develop individuals.</p> <p>Leader is a <u>role model</u>.</p> <p>Leader <u>provides a vision</u> with team spirit and enthusiasm.</p> <p>Leader encourages <u>innovation and creativity</u>.</p> <p>Needs of individuals are considered, and <u>coaching and mentoring</u> are the norm.</p> <p>Raises <u>motivation and morality</u> levels in both leaders and individuals.</p> <p>Relates to <u>capacity-building</u> of individuals, and individuals emulate the leader.</p> <p>Leader provides a <u>positive and supportive environment</u>.</p>

Table 2.4 continued

African (<i>Ubuntu</i>) Style of Leadership	<p>Known leadership approach in South Africa, originating in African communities. Emphasis is on <u>co-operative teamwork</u>, <u>relationships</u> and the community, not on Western values that emphasise individualism.</p> <p>Influences a manager's leadership style.</p> <p>An important task in business involves connecting the internal culture of the enterprise to the <u>social and cultural values</u> of the people.</p> <p>Based on the view that a person is only a person through other people – every person is entitled to respect and acceptance by the community.</p> <p>Means being human or having humanity, and symbolises values such as <u>caring</u>, <u>sharing</u>, <u>compassion</u>, communalism and a predisposition to relationship.</p> <p>Leaders cannot choose their style at will in African countries; they need to find a style that is depends to a large extent on the cultural conditions of the subordinates.</p>
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Sources: Amos *et al.* (2011:217-220); Brewster *et al.* (2011:61); Coleman and Earley (2005:15); De Beer and Rossouw (2012:48).

The above-mentioned leadership approaches imply that a leader often needs to change his or her style according to the individual, and the emotional intelligence leadership approach acknowledges that managing individuals is no easy task. This leadership approach emphasises the importance of knowing one's own strengths and weaknesses and having the ability to be flexible to change. Also important are social skills, including the ability to influence individuals through effective communication, which is an important feature in today's working environment, especially when working with the latest technology systems. Another important aspect is co-operative teamwork and relationship-building with individuals, which relates to respect and acceptance of the leader and symbolises his or her compassion and humanity towards other individuals.

Leadership is the process according to which a person exerts influence over others by inspiring them, motivating them and guiding their activities to help achieve the goals and objectives of the organisation (Amos *et al.* 2011:196; Brewster *et al.* 2011:48;; De Beer & Rossouw 2012:38; Du Toit, Erasmus & Strydom 2010:185; Robbins & Coulter 2012:488). The need for effective

leadership styles in business becomes more important due to the rapid changes that are taking place in every field (De Beer & Rossouw 2012:47). In order to influence employees to achieve goals, managers/leaders should understand what motivates their behaviour and should create a working environment where individuals are motivated to work productively and voluntarily (Du Toit *et al.* 2010:185).

The theoretical leadership foundation provides many requirements and attributes for the creation of a leadership foundation within the postgraduate supervision environment of a South African UoT. It is important that managers and leaders employ leadership approaches that will enable the organisation to survive change. Influencing and leading are important functions that leaders have to execute in the organisation. In considering the various leadership theories, some common categories emerge in relation to the social, personal, emotional and managerial requirements of a leader. **Although it is not possible to cluster these requirements rigidly because they overlap, they have been categorised to prevent repetition in the development of a model.** The table below summarises the various requirements according to leadership theories and categories.

Table 2.5: Categories of leadership requirements

THEORIES	CATEGORIES OF LEADERSHIP REQUIREMENTS			
	<u>Social</u>	<u>Personal</u>	<u>Emotional</u>	<u>Managerial</u>
Trait Theory	Being sociable; Influencing others; Instilling confidence; Solving problems; Communicating effectively	Being trustworthy; Showing honesty and integrity; Understanding others' feelings and expectations; Able to handle conflict; Being driven; Taking the initiative	Being enthusiastic; Able to motivate	Able to identify a vision and goals; Having an adequate knowledge base and competence base; Able to monitor various actions; Efficient in managerial activities

Table 2.5 continued

Behavioural Theory	Maintaining interpersonal relationships; Creating a friendly atmosphere; Involving individuals; Supporting individuals	Being trustworthy and respectful	Showing concern for others	Able to direct activities; Showing concern for products and processes
Contingency Theory	Being sociable and friendly; Communicating effectively	Being facilitative; Creating positive relationships; Being trustworthy; Being loyal; Acknowledging people's abilities and willingness; Providing guidance	Showing confidence and concern	Able to accomplish tasks; Providing clear-cut assignments; Able to define roles; Able to set challenging goals; Consulting others in decisions
Emotional Intelligence Leadership Theory	Influencing others; Communicating effectively	Being trustworthy; Showing integrity; Creating positive relationships; Able to self-manage	Recognising own weaknesses and strengths; Showing empathy	Able to handle conflict; Able to manage people
e-Leadership Theory	Being sociable			Having knowledge of advanced information technology
Transformational Leadership Theory	Providing coaching and mentoring; Encouraging innovation and creativity in others; Providing support	Showing compassion and morality; Creating positive relationships; Able to manage activities	Providing motivation	Being a good role model; Providing a vision Supporting capacity-building
African (<i>Ubuntu</i>) Leadership Theory	Being sociable	Creating positive relationships; Showing compassion	Able to motivate individuals; Able to understand cultural values	Able to work in a team

Leadership in the university context is influenced by the impact of the prevailing circumstances both within the university and with other universities. However, university contexts differ and therefore leadership is likely to be influenced by these differing circumstances (Ball 2007:452). Leaders need to develop their leadership talent constantly and realise that it is important to understand the fundamentals of leadership as an entity on the one hand, and the application thereof in a practical leadership-demanding context on the other (Marishane & Botha 2012:24).

2.4 RELATIONSHIP BETWEEN LEADERSHIP AND POSTGRADUATE SUPERVISION IN A HIGHER EDUCATION INSTITUTION

As already indicated, the literature on leadership focuses mainly on leadership in organisational context. Socrates believed that one needs professional or technical competence to hold a position of leadership, while Plato stated that “knowledge is the main gateway to leadership” (Adair 2002:11). Since this research relates to leadership within the context of postgraduate supervision, the conceptualisation of leadership in supervision at HEIs is necessary. Canfield (2005:29) explained that ‘leadership’ is a term that is commonly used in a university to describe the level of responsibility and the roles of an individual and the products of academic pursuit, namely education, research output and services. Ramsden (1998:4) explained academic leadership as the “practical and everyday process of supporting, managing, developing and inspiring academic colleagues”.

Research supervision is a process whereby academics (postgraduate supervisors) support the learning of postgraduate research students (Maxwell & Smyth 2010:407). According to Adair (2009a:145), continuing education in the adult years is a desirable experience and a lifelong learning curve for every individual, especially in the context of leadership. Leadership in postgraduate supervision requires a lifelong learning process due to ongoing changes in the national and international world of academic research, allowing students to take the legacy with them (Canfield 2005:29).

There has been increasing pressure on universities over the past decade, and there is no doubt that this pressure will continue to escalate. In this context, Cranfield and Taylor (2008:86) explained that globalisation and marketisation “forced HEIs to think about the way in which they teach, conduct research and

manage". Various researchers have found that South African higher education has a shortage of skilled leadership and a lack of management capacity (see 1.1; 1.2 and 1.4), with some of the reasons being increasing competition for resources and public funding, new forms of learning, pressure on human resources, and changes in teaching and technologies (Ramsden 1998:3; Van der Westhuizen & De Wet 2003:191). It is clear picture that there is a need to investigate leadership within South African HEIs from a new perspective (Herbst *et al.* 2006:593).

How does leadership in education relate to postgraduate supervision in South Africa, with its unique history and hierarchical academic power structures? Adair (2009a:139) explained that academics need to prepare the next generation to become the leaders of the future, and that this can only be done by placing more emphasis on leadership. Growth and developmental opportunities for postgraduate supervisors need to be recognised, as development is critical for universities to produce the best possible outcomes and goals (Bush 2008:xi; Glickman, Gordon & Roos-Gordon 2009:8).

Universities must create a climate in which leadership can flourish. The above-mentioned challenges need to be considered, and the focus should be placed on the development of new leadership programmes to ensure improved research education in the future (Van der Westhuizen & De Wet 2003:191). Bitzer (2009:307) declared that a university education will take an individual into a leadership position, which means that postgraduate supervision is just one of the leadership positions held by an academic. Nerad (2009:14) stated that postgraduate students prepare themselves for a variety of careers, not just as academic professors, but also as researchers and teachers in industry, business, government and non-profit organisations. In fact, doctorates are increasingly held by those in non-academic careers.

‘Postgraduate supervision’ and ‘leadership’ are perhaps two of the most commonly used terms, but they are rarely defined as a single phenomenon.

Leadership in postgraduate supervision is a complex element and resides in the leader. Leadership entails respect, experience, emotion, knowledge, discipline, vision, passion, adequate preparation and support (Dyason *et al.* 2010:43; Maxwell 2000:43). Leadership in postgraduate supervision suggests that support should be given to colleagues to enhance their competence, improve their performance and maximise their potential (Erasmus & Kapp 1998:111). According to Baptista, Huet and Jenkins (2011:54) a postgraduate supervisor mentioned that “interacting with doctoral students allowed him not only to learn about human relations, but also to grow at intellectual and cognitive levels”. Leadership is also defined as a social process in which individuals are influenced to work voluntarily, enthusiastically and persistently towards a specific goal (Bergh & Theron 2008:251; Mosley, Pietri & Mosley 2008:210; Oosthuizen 2009:99; Robbins & De Cenzo 2001:298; Schermerhorn *et al.* 2008:243; Van Rensburg 2007:3).

The development of leadership in postgraduate supervision in the 21st-century can be regarded as an ongoing process that can span an entire academic career. The achievement of this competency requires adequate knowledge, cognitive skill and a meta-cognitive approach (Ladyshevsky 2006:67). Transformation (see 1.1, 1.2 and 1.4) and new approaches within the academic world and education require leadership and development to be viewed in a wider context of economic and community growth (Erasmus & Kapp 1998:111).

Unfortunately the literature on postgraduate supervision tends to avoid the term ‘leadership’, regardless of the fact that a supervisor develops leadership skills within a research project (Canfield 2005:29) and works as a leader and expert in his/her field of knowledge (Van der Westhuizen & De Wet 2003:191). Popper

(2004:109) emphasised the need for a more complex view of leadership in postgraduate supervision, based on the requirements and different qualities of effective leadership. The figure below illustrates the possible requirements for leaders.

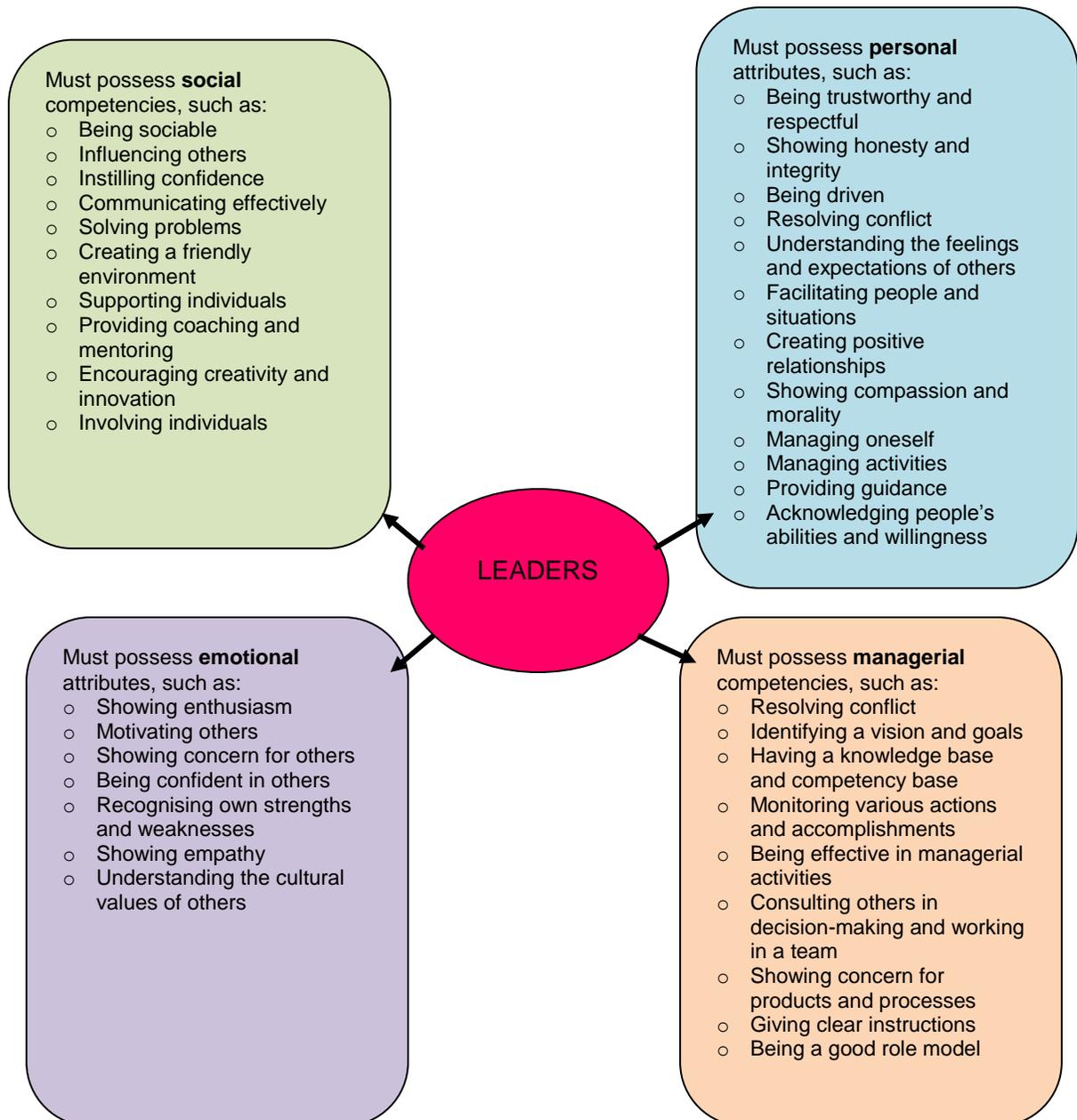


Figure 2.2: Model for leadership requirements: A synthesis (also cf table 2.5)

In the changing research environment, it is important to investigate the leadership qualities in greater depth. Today's postgraduate supervisors need to be leaders in body, mind and heart, who create conditions that will foster creativity and inspiration for students who will grasp the knowledge and understand the research environment.

2.5 SUPERVISORS' ROLES: IMPLICATIONS FOR LEADERSHIP

South Africa has experienced exceptional change and growth in the research environment, and the postgraduate supervision milieu has come under increased scrutiny over the past decade (Buttery *et al.* 2005:8; Erasmus & Kapp 1998:111; Hodza 2007:1156; Mapasela & Wilkinson 2005:1239; Mouton 2005:1078; Van Rensburg 2007:8). Wadee *et al.* (2010:16) identified the challenges being faced by postgraduate supervision in South Africa as "inadequate academic literacy and writing skills, power relations and inadequate preparation in research methodology". This emphasises the challenging and complex task of the postgraduate supervisor in the academic environment (Vilkinas 2002:129).

The requirement of effective leadership in postgraduate supervision is to inspire students, to establish their needs and expectations in the research environment, and to determine how best to guide, lead and support them (Mosley *et al.* 2008:210; Ngcongco 2001:53). Wisker, Robinson, Trafford, Warnes and Creighton (2003:388) described the postgraduate supervisor as a manager, leader and mentor. Key statements describe the postgraduate supervisory process or behaviours as the domain of supervisory practices construed as an influencing activity such as coaching, guiding, managing and mentoring, which will be discussed below.

2.5.1 Postgraduate supervisor as coach

In the academic environment, the most important aspect for postgraduate students is to observe the coaching process from a leader. The importance of coaching in the postgraduate supervision process must not be taken lightly. Coaching goes beyond mere postgraduate supervision in the research process, and supervisors can only develop a roadmap for success and go on the journey with the student if he/she keeps growing as an individual (Dyason *et al.* 2010:56; Manathunga & Goozée 2007:310; Maxwell 2008:11; Rose 2005:53; Wadee *et al.* 2010:51). Ladyshevsky (2006:68) identified the attributes of coaching as “open ended questions, active listening, trust and engagement and a willingness to learn”.

Leadership may be understood as ‘influencing’ or ‘coaching’ (Bush 2008:3; Maxwell 2008:29, 32). According to Wadee *et al.* (2010:49), an effective coach addresses the whole situation and the whole person; therefore, the coach will encourage the broader development of a postgraduate student. The influence of leaders depends on the acceptance and beliefs of their postgraduate students, which will be shown in the research output (Kotterman 2006:14). Leaders become co-learners and coaches of postgraduate students to the benefit of the university and community (Glickman *et al.* 2009:37). Postgraduate supervisors need to advise their students throughout the research project and also give the required emotional and psychological support (Mouton 2005:17). McPhail and Erwee (2000:77) agreed that the postgraduate supervisor-student relationship is important, because the supervisor “coaches the candidate on writing style, participates with the candidate on presenting papers at conferences and finally delegates the completion of the dissertation to the candidate”.

This paints a picture of the different actions and steps taught by postgraduate supervisors through coaching within a research environment. Postgraduate

supervisors must also recognise the importance of their actions within this supervision process and how students mould themselves according to the specialist supervisor in their field of interest. According to the ASSAf (2010:94) report, postgraduate students, both national and international, are drawn towards a programme's reputation and the reputations, accolades and charisma of the academic leaders. Leaders need to be creative and flexible thinkers who are constantly involved in their own research; they must have a good publication record and must be influential in the research environment (Buttery *et al.* 2005:9). Knapper (2006:2) argued that if one wants to be a good supervisor "you have to work at it, just as you do to become a successful researcher, and if we wish to foster proficiency (or even excellence) in both teaching and research we have to deliberately plan for that to happen".

The above discussion reveals that the coaching process should embrace the postgraduate student in the research environment, because the research project could start as an existing experience, but can quickly turn into a daunting task for a student. The coaching of a postgraduate student does not stop; it is a process that continues until the last day of the research project. The coach in the research process is the postgraduate supervisor who keeps the student motivated to achieve the set goals within a positive environment that will support the necessary growing opportunities for creativity and reflective thinking.

2.5.2 Postgraduate supervisor as guide

"Postgraduate supervisors are content to give guidance at regular intervals to their students" (Phillips & Pugh 2005:15). Dann (2008:340-341) stated that "supervision failures range from non-delivery of supervision through to delays in responding to requests for feedback, failure to read draft material, or avoiding contact with the student". Mouton (2005:2) agreed that a postgraduate student must be guided through the entire research process. McPhail and Erwee

(2000:77) commented that “the supervisor guides the candidate on the structure of the dissertation (directive behaviour)”.

Hay (2008:19) mentioned that postgraduate supervisors need to “give guidance about the nature of research, requirements of the degree including the nature and extent of an ‘original contribution’, standards expected, choice of research topic, planning of the original research programme and acquisition of the requisite techniques”. According to Baptista *et al.* (2011:54), “supervisors see themselves as guiding students on the doctoral journey, developing a proper intellectual and emotional climate, and helping students to experience the research and doctoral process by themselves”, and that “supervisors’ responses emphasise that the main challenge to achieving success in a doctoral supervision process is to assure the quality of the supervision relationship by tailoring their approaches when guiding each student” (Baptista *et al.* 2011:57). However, guidance is not limited to the doctoral process, but extends to the whole postgraduate research environment.

Wisker (2001:36) stated that a postgraduate supervisor needs to “guide the structure, scope and decisions about methodology”; that postgraduate students could expect to be told if their work “goes off course, seems misguided, is likely to be too adventurous and enormous in scope”; and that “supervisors cannot give this kind of guidance without seeing and discussing the work in progress and they should be asked for this kind of guidance”.

Leder (1995:6) viewed the role of the postgraduate supervisor as offering “guidance with the research topic and program”. This is important due to the continuing knowledge expansion and the increasing challenges within the research environment. Postgraduate supervisors need to possess the necessary guiding skills in order to support a student to achieve success in the academic world.

2.5.3 Postgraduate supervisor as manager

Management in the postgraduate research environment can be defined as the process of working with and through students to achieve specific objectives by means of effective decision-making, co-ordination of available resources, planning, informed observation, sensitive analysis, appropriate application, organising and executing control within the supervision process (Dubrin 2004:4; Jaques & Clement 1995:18; Mosley *et al.* 2008:6 & 9; Van der Westhuizen & De Wet 2003:187; Vilkinas 2002:130). The postgraduate supervisor's managing task is to involve students in a research project. This postgraduate research project is being supervised or managed by a supervisor who shares a common goal for success (Vilkinas 2002:130). Therefore, one could say that postgraduate supervisors and researchers or students are the managers of the research process (Van der Westhuizen & De Wet 2003:187).

The manager or leader needs to be a knowledgeable person in the academic environment for the task at hand and a leader in the postgraduate research process (Vilkinas 2002:130). Therefore, "the role of the academic postgraduate supervisor and the role of a business manager are analogous" (Vilkinas 2002:130). Postgraduate supervisors must ensure that students know and understand the institution's rules and take ownership of and commit themselves to the research process (Wisker, Waller, Richter, Robinson, Trafford, Wicks & Warnes 2003:3).

The above discussion reveals that the manager's task within the postgraduate research process is of vital importance for the student. In most cases when postgraduate students enrol for a research project, they do not realise the importance of a structured plan for success, and the ASSAf (2010:40) report indicates that a major limitation of traditional systems of doctoral research training are seen by critics to be the fact that graduates lack key professional,

organisational and managerial skills. This could also be applied to other postgraduate research processes. Postgraduate supervisors are individuals who have already walked the road of a research project and have an understanding of what needs to be done. Buttery *et al.* (2005: 19) stated that only a postgraduate supervisor who has “been there and done it” can engage in a personal discussion that reinforces the importance of the supervision process.

Postgraduate supervisors need to remind students about the importance of planning and assist with data analysis. In the current postgraduate research environment, it is important to remember that students are first-generation researchers entering an HEI. Herman (2012:7) agreed that “acquiring the basic skills can be difficult for South African students, since many of them are first-generation entrants into academia”. Many of these postgraduate students are in need of the necessary funds, and supervisors have to assist with this process and ensure that students have an idea of how long research processes take from start to finish.

2.5.4 Postgraduate supervisor as mentor

Mentoring is geared by ambitious postgraduate supervisors who are seeking to fulfil their own potential (Maxwell 2008:8–37; Mosley *et al.* 2008:318; Sondhi 2009:41; Wadee *et al.* 2010:33) by means of research outputs and improved knowledge. Mentoring can benefit postgraduate students who are seeking sustained relationships with mentors for the benefit of personal security.

In the postgraduate supervision environment there should be a close working relationship between the mentor and the student. Postgraduate research supervision is a facilitative process, and the supervisor should look into the educational tasks (progress of the student) and activities (mentoring of the research project) required (Lee 2007:686). Mentoring is a supporting activity from

an experienced postgraduate supervisor who helps develop students' abilities by tutoring, steering, counselling, accepting, confirming and emotionally supporting them to achieve their own dreams or develop their own professional skills so that they can become key individuals in organisations (Dyason *et al.* 2010:47; Manathunga & Goozée 2007:310; Mosley *et al.* 2008:318; Ngcongco 2001:53; Rose 2005:53; Sambrook, Stewart & Roberts 2008:72; Van der Westhuizen & De Wet 2003:188; Van Zyl 2009:98; Wadee *et al.* 2010:33).

Another important aspect of mentoring is that it provides wisdom and knowledge in a manner that benefits a protégé, such as a postgraduate student (Manathunga 2007:209; Schulze 2009:140). Studies have shown that the psychosocial aspect of mentoring is connected to the protégé's sense of competence, confidence and role in effectiveness (Mainhard *et al.* 2009:360; Wadee *et al.* 2010:33). Bell-Ellison and Dedrick (2008:556) argued that mentoring symbolises a "respectfulness for self and others and empower[s] protégés to make deliberate, conscious choices about their lives".

Mentoring or leading is a key strategy for leaders who wish to bring about a positive change in postgraduate students and their specialist subject field (Busher, Harris & Wise 2000:135). Therefore, the mentor or postgraduate supervisor needs to be someone with integrity who displays desirable features with ethical actions and is thus "worthy of emulation as a role model" (Bell-Ellison & Dedrick 2008:556). The best thing that a mentor can do for a postgraduate student is to communicate clearly and effectively and provide honest and constructive feedback during the research process (Rose 2005:53). Dow, Hart and Nance (2009:36) agreed on the importance of the postgraduate supervisor supporting a student to successfully achieve the goals and tasks in the research process.

The above information provides a clear picture of the importance of the different actions and steps that postgraduate supervisors teach through their mentoring within a research environment. Coaldrake (1999:7) stated that academics should be both teachers and active researchers, and only then may they truly deliver the quality work necessary for university education. Outstanding leaders have a vision for their postgraduate students, and that vision must be communicated in a way that will secure commitment between both parties to achieve the set objectives (Bush 2008:3). Effective leadership requires certain skills, such as knowledge and interpersonal and technical skills, for the supervisory tasks, and should direct assistance for professional development (Glickman *et al.* 2009:8).

It has been revealed that the mentoring process in postgraduate supervision is vague. The literature includes many features, but does not specify what exactly needs to be done. The mentoring process will differ from student to student, and supervisors should remember that students need extended support when participating in the postgraduate research process. Hodges, Malfroy and Vaughan (2006:56) stated that “there are now different student cohorts and different types of doctoral degrees bringing changes to the traditional dyadic and hierarchical model of supervisor. It is expected that in this new environment, supervisors will have to learn more from their students and that the relationship will merge in a much more equal relationship recognising the different expertise and interests of both parties in the supervisor-student relationship”.

To guarantee that the postgraduate research process continues as a positive experience, the supervisor must communicate a clear and understandable goal with a definite plan for achieving success in the research process. The main reason for this is because postgraduate students enter into a new and unknown world during their research endeavours. The wisdom and know-how that a postgraduate supervisor brings to the supervision process are of the utmost

importance to students' success, because the supervisor knows the importance of detailed planning, having a vision and managing a research process.

In conclusion, it is important to remember that an effective mentoring process will reinforce the relationship between parties that is created and built by academics during the research process and which will enhance the academic culture that all universities value in the research process (Dyason *et al.* 2010:59).

Influencing practices (coaching, guiding, managing and mentoring) have a direct impact on the success of a postgraduate research project and the supervision process within the HEI. The type of leadership and inspiration that is applied during the postgraduate supervision process will largely determine whether the relationship between the parties will prosper or fail. The table below shows how the various influencing activities overlap.

Table 2.6: Key qualities of coaching, guiding, managing and mentoring

A coach needs to ...	A guide needs to ...	A manager needs to ...	A mentor needs to ...
Observe	See the student's work regularly	Work hard	Facilitate the research process
Allow growth			Allow development
Support a vision	Guide the overall research process	Follow procedures	Support a vision
Display leadership skills	Provide structure	Manage the process	Display leadership qualities
Give advice	Understand the requirements	Understand institutional rules	Provide individual support
Provide emotional support	Provide emotional support		Provide emotional support
Provide psychological support	Allow intellectual development	Be knowledgeable	Provide wisdom and knowledge
Be a flexible thinker	Know the nature of the research process	Be open-minded	Mentor educational tasks
Come up with innovative ideas	Support the choice of topic	Be informed	Be positive about change
	Build an effective relationship	Be committed	Build an effective relationship
		Achieve the objectives	Achieve the goals
	Know the research process		Communicate effectively
	Give positive criticism		Give constructive feedback
		Be responsible	Have integrity and ethics
		Be reliable	Be honest
	Know the required standards and quality	Execute control	
		Be courteous	Provide counselling
		Be trustworthy	Be respectful
	Support decision-making	Support decision-making	
	Support planning	Support planning	

Leadership requirements for the postgraduate supervision process

2.6 BLENDING LEADERSHIP AND POSTGRADUATE SUPERVISION ROLES: A DRAFT MODEL

Now that the leadership model has been put into context with the roles of supervisors (Figure 2.6) and how postgraduate supervision can be related to leadership (Figure 2.3), the leadership model can be extended to provide a foundation for a leadership supervision model as a first draft to serve as a guide for supervisors leading the research process. The following represents the first leadership requirements model for postgraduate supervisors leading the supervision process. **Although there might be overlapping in the different categories of competencies and attributes, this will not be reflected so as to provide structure to the model.**

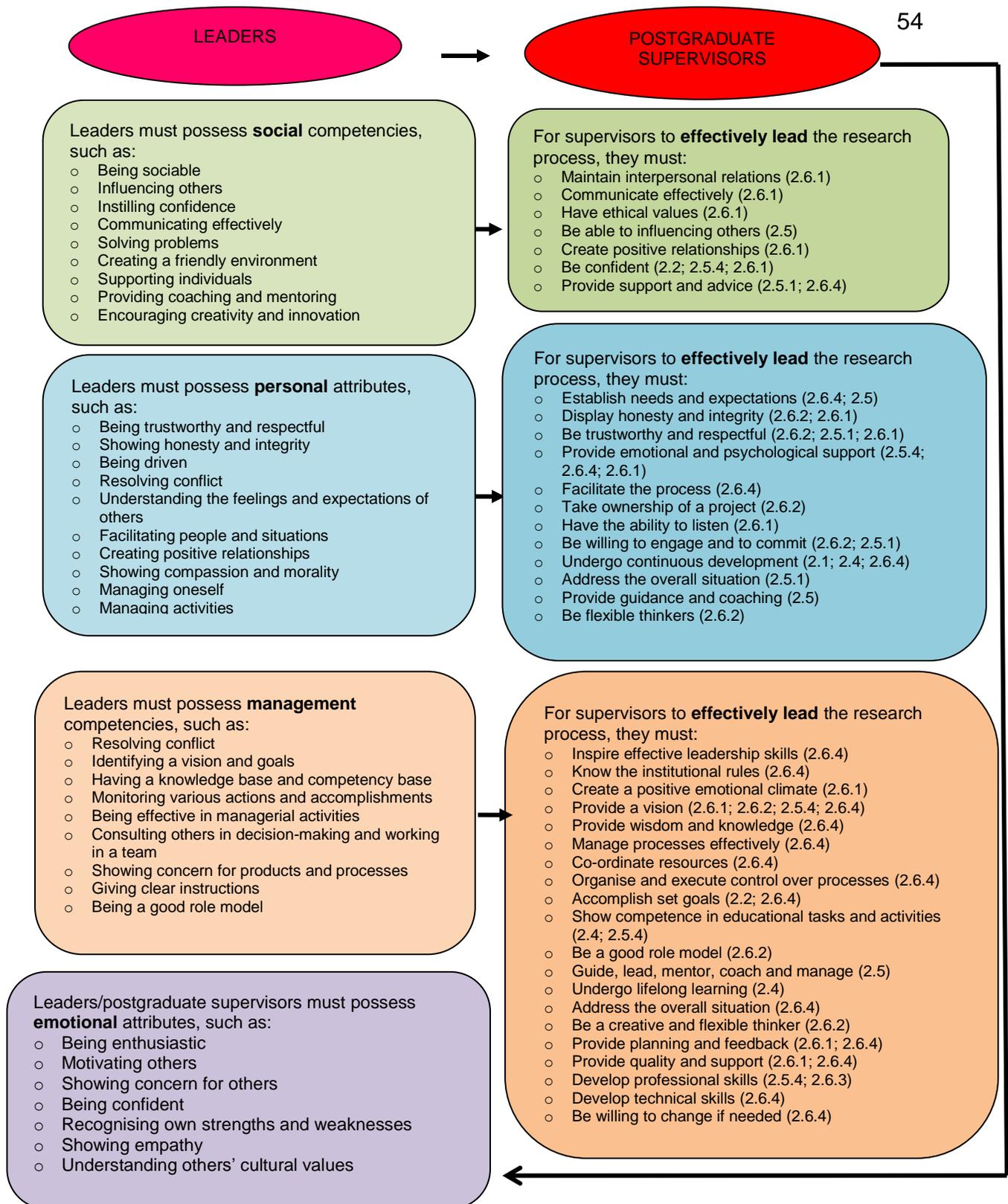


Figure 2.3: Model for postgraduate leadership requirements: A synthesis

Manning (2007:14) explained that the leadership concept can be a mystery, because it is perceived as a role and as a job. Therefore, this vagueness within a new leadership territory such as the postgraduate supervision environment may generate anxiety and uncertainties if an individual has to advance as a leader and as a supervisor (Robbins & De Cenzo 2001:15). Buttery *et.al.* (2005:9) stated that the role of a postgraduate supervisor in the supervision environment is described as the most advanced level of teaching, critical conversation and mentorship, and that being a professional teacher, facilitator, patron, mental coach and judge of the research process is difficult for one person, but is possible with the help of a host of advisors (Buttery *et.al.* 2005:9).

Hodges *et al.* (2006:56) contended that “the role that a supervisor plays, and the nature of the work that a supervisor does, are influenced by the context in which he or she supervises, and so needs to be understood ecosocially, as a total environment within which postgraduate research process takes place”. Olivier (2007:1127) suggested that postgraduate supervision is made even more daunting by “the plethora of roles contemporary academics are engaged in, related to teaching, community service and research”.

Hodza (2007:1160) explained the role of the postgraduate supervisor as “a set of responsibilities, obligations and duties that are associated with the position that the individual holds within society. There are duties and responsibilities that are expected to be performed by supervisors of post-graduate research projects. A number of supervisor roles were identified, supporting, challenging, consulting, evaluating and mentoring”. The roles of the postgraduate supervisor are diverse (Hodza 2007:1160) and they need to consider the student’s development and needs before assuming the role of supervisor (Hodza 2007:1160). Furthermore, these needs have to be adaptable to the postgraduate supervisor’s role so as to ensure effective supervision in different situations with different techniques and approaches (Hodza 2007:1160). Amundsen and McAlpine (2009:331)

emphasised that the postgraduate supervisor's role is to provide structure and create goals with regular and constructive feedback to students on the progress of the research process.

In the postgraduate supervision process, one will find that a supervisor plays a vital role in the training of a graduate student, which incorporates a wide range of activities. The contribution or role of the postgraduate supervisor is considered to be threefold, namely knowledge in the research area, support for the student, and the balancing of creativity and critique (Fraser & Mathews 1999:5; Hockey 1994:293, cited in Lessing & Lessing 2004:75). Activities in the postgraduate supervision process include shaping and developing students so that they can resolve problems and learn to reason logically within their specific field of study and build good relationships with other individuals. The postgraduate student will also have the opportunity to enter the broader scholarly community of graduates. The ongoing learning process in postgraduate supervision is a chance to enhance supervisors' scholarly values, roles and identities, whereby they meet their own expectations, as well as those of the university.

The primary responsibility of a postgraduate supervisor is to develop students to allow them to reach their full potential and to hold ethical and professional values in life (Ngcongong 2001:53; Truter 2008:58). According to Amundsen and McAlpine (2009:331) the experience of postgraduate supervision can be seen as "an individual activity in the sense of *privately* making sense or meaning of the supervisory role." Dann (2008:340) identified the most important stage of the postgraduate research supervision process as being when the student and the supervisor negotiate their respective roles and agree on the structure and nature of the research project. According to figure 2.3 the competencies and attributes required in the supervision process are clustered into the social, personal, management and emotional domains, which are hence discussed in more detail:

2.6.1 Social competencies

- *Producing a friendly and positive communication environment*

According to Van Lill (2005:973), universities answered the call from industry and stakeholders to make their curricula more relevant to today's global workplace through improved communication (speaking with influence, facilitating open communication, active listening and effective written communication) and leadership (teamwork, fostering motivation, developing others, embracing change, leadership versatility, as well as intrapersonal and interpersonal skills).

Effective leaders need to facilitate good communication that encourages openness and trust between the parties, because both bring experience, expectations and attitudes to the communication process (Busher *et al.* 2000:127; Canfield 2005:30; Mosley *et al.* 2008:167; Van Lill 2005:973). The success of leaders and personal relationships depends on good communication skills, and postgraduate students need to understand where they are going with a delegated research task (Maxwell 1999:25).

Postgraduate research supervision is a process of "fostering and enhancing learning, research and communication at the highest level" (Zhao 2001:2). Postgraduate supervisors need to get a research project completed and therefore need to have good interpersonal skills, listen with empathy, communicate effectively as leaders and delegate work to students throughout the entire research process (Robbins & De Cenzo 2001:19).

Communication involves the transfer of meaning, and for communication to be successful, meaning must not only be imparted, but also understood (Robbins & De Cenzo 2001:331). Postgraduate supervisors can be more effective communicators if they do the following:

- Before speaking or writing, postgraduate supervisors should ask themselves what message they are trying to convey and how they can organise and present their message so that it will achieve the desired outcomes (Halse & Malfroy 2010:84; Hodza 2007:1158–1159; Holtzhausen 2005:96). It is important to remember that communication is not just what one says, but also how one says it.
- Postgraduate supervisors must refrain from impressing students with big words or complex sentences. They should rather keep information simple and be enthusiastic to ensure that they connect with their students (Lessing & Lessing 2004:79; Mainhard *et al.* 2009:360).

Postgraduate supervisors' actions speak louder than words, therefore it is important to think about which actions will convey the desired message, build trust and gain credibility with students (Robbins & De Cenzo 2001:346). Credibility paves the way to good communication. There are two ways to convey credibility to audiences: firstly, by believing in what one says and, secondly, by living by what one says (Maxwell 1999:26–27).

Postgraduate supervisors need to ask themselves whether communication is a priority within the supervision environment and whether a supervisor can inspire and motivate students. It is important to remember that when postgraduate students trust their leader, they may be more positive, honest and open to decisions (Covey 2004:195; Halse & Malfroy 2010:83; Robbins & De Cenzo 2001:331). Postgraduate supervisors need to express a vision in such a way that a postgraduate student is able to understand the vision and wants to be a part of it (Halse & Malfroy 2010:84; Kumar & Strack 2007:462; Wisker 2010:238).

Effective communicators focus on people by using face-to-face communication (Hodza 2007:1158–1159). The best communication occurs in a setting in which postgraduate students are comfortable and barriers are reduced (Robbins & De

Cenzo 2001:331). Leaders in postgraduate supervision need to live their message and ensure that there are no discrepancies between what they communicate and what they do.

Leaders in postgraduate supervision get things done through postgraduate students. It is only through communication that supervisors are able to ignite their vision and passion with students (Maxwell 1999:27–28; Rau 2008:9). It would be naïve to assume that individuals always communicate in a fully rational manner. It is a known fact that emotions can cloud and distort the transference of meaning (Robbins & De Cenzo 2001:344).

The communication process within postgraduate supervision is important for a successful research project. Postgraduate students may understand the communication or feedback according to their understanding of the situation. Therefore, postgraduate supervisors must remember the students' backgrounds and knowledge of the research environment and their influence in assisting students with research language.

Many communication problems are caused by misunderstandings and inaccuracies. Leaders should therefore use feedback, either verbal or nonverbal (Kumar & Strack 2007:462; Lessing & Schulze 2003:164; Nsibande 2007:1121; Rau 2008:3). The feedback received by postgraduate students will form the basis for further learning (Rowley 2000a:2). Postgraduate supervisors need to reflect from time to time on how they report back to students. The following principles should guide feedback:

- Short and direct sentences that allow students to grasp the reasoning and which don't leave them scrambling for understanding (Frick, Albertyn & Rutgers 2010:81).
- Simplicity and clarity (Mainhard *et al.* 2009:360; Maxwell 1999:25–26).

- Meaning is attached to words according to an individual's experiences (Covey 2004:195).

Postgraduate supervisors should never forget that the goal of all communication is reaction. Every time they speak to postgraduate students, they should give them time to think and to reflect on the information. If the postgraduate supervisor is successful in doing this, his or her ability to lead others will move to a new level (Maxwell 1999:28). People are poor listeners, and improving listening skills for the future is therefore essential (Mainhard *et al.* 2009:360; Robbins & De Cenzo 2001:345; Van der Westhuizen & De Wet 2003:192).

Regular meetings form an integral part of the communication process (Buttery *et al.* 2005:8). Postgraduate supervisors should allow students to develop original ideas, to have flexibility in a research project and to engage with other academics (peers) in the academic research environment (Lessing & Schulze 2003:164; Mainhard *et al.* 2009:360).

Leaders help postgraduate students to identify and unleash their talents by providing timely feedback, which supports growth on a continuous basis (Adair 2009a:21-22; Charan 2008:80-81). Postgraduate supervisors provide supportive leadership by means of positive feedback to students and the recognition of achievements (Dubrin 2004:83; Green 1996:2; Kandlbinder 2000:3; Rau 2008:5).

Another source of misunderstanding within the postgraduate research environment is the time perspective. Western culture is dominated by a 24-hour day in which work and leisure are firmly planned, but other cultures may not be used to this rigid time concept and may thus regard time as flexible. Therefore, both the postgraduate supervisor and the student must be sensitive to one another's concept of time.

Another important aspect within postgraduate supervision is that supervisors must not rely only on e-mail communication, but should try from time to time to give feedback during face-to-face meetings. It is of the utmost importance that regular meetings take place between the parties in the postgraduate supervision process. A good practice after each of these meetings is to minute the decisions that were taken during the meeting, following consultation with the parties involved. This practice will ensure that both parties are up-to-date with all decisions and actions. Another good practice is to always ensure that the parties are prepared for such meetings and that fundamental choices are made for the postgraduate research process. The opportunity for an open and transparent communication process ensures better understanding and helps to clarify any uncertainties and support the creation of new and innovative ideas.

- *Creating and supporting innovative ideas*

Leaders need to keep up with what is happening in the academic and business world, because they must be the entrepreneurs that empower postgraduate students to meet these new and evolving challenges (Cunningham & Cordeiro 2006:155; Dubrin 2004:15; Oosthuizen 2009:87; Schermerhorn *et al.* 2008:14). Postgraduate supervisors have to determine the most strategic and appropriate route for the research project and visualise the finished academic project with the presentation of the final research results (Vilkinas 2002:132).

Buttery *et al.* (2005:15) stated that “institutions have a responsibility to foster an environment that is not just conducive to pure but also to applied research and to effective commercialisations. This involves nurturing entrepreneurial cultures in universities, recognizing the value of all research, but particularly appreciating that knowledge and its commercial benefit can be paired, rather than rival systems goals, and fostering the necessary linkages with industry.”

Coaldrake (1999:4) commented that “the ‘core’ of teaching and research, academic work, has also become more specialised and demanding. Academics nowadays are asked to teach more diverse student groups, at more flexible times and locations, to master the use of information technology in teaching, to design curricula around learning outcomes and across disciplines, to teach in teams, to evaluate and improve their teaching, to improve assessment and feedback, to monitor and respond to the evaluations made by students and graduates, to meet employer needs, and to understand and use theories of student learning.”

Most leaders need to play the role of innovator, with the responsibility of suggesting new and innovative ideas for postgraduate students (Vilkinas 2002:132). Knapper (2006:3) commented that “good teaching almost always seems to involve change in teaching methods, in organisation of curricula, and in learning outcomes” and that “good teaching and changed practice does not happen accidentally, but requires leadership”.

Lessing and Lessing (2004:74) contended that leadership, transformation and innovation are of the utmost importance in order to maintain quality in postgraduate research in the changing environment. Nerad (2006:6) described the research population of South Africa as young and stated that the country needs to build up that young population with significant knowledge as producers for economic growth. “Being quality minded in higher education means maintaining a scientific basis and adhering to scientific and ethical principles in research” (Lessing & Lessing 2004:74).

Postgraduate supervisors must therefore be empowered by effective training, interpersonal skills and relevant university strategies to assist their students in developing the ability to deal with the continuous changes that are taking place in the research environment.

- *Introspection of human and interpersonal skills*

The ASSAf (2010:76-77) report found that postgraduate supervisors did express an interest in the development of their students and that “the development included the students’ research, their possible academic careers and skills such as writing and publishing”. Also, “most students report that their supervisors displayed interest in their personal welfare and professional development, provided them with as much supervision as they wanted, had general discussion with them about their subject area, where available for consultation, provided constructive criticism of their research and allowed them to work as independently as they wanted to” (ASSAf 2010:81).

Bitzer (2007:1010) and Mapasela and Wilkinson (2005:1242) recognised postgraduate supervision as a process involving complex academic and interpersonal skills, including “guiding postgraduate students towards sound proposal preparation, methodological choices, documenting and publishing their research, maintaining both supportive and professional relationship, as well as reflecting on the research process” (Bitzer 2007:1010). Leaders deal with interpersonal relationships and therefore require effective interpersonal skills, namely relationship-oriented attitudes and behaviours (Kandlbinder 2000:3; Lessing & Lessing 2004:75).

Additional requirements are the influence, commitment and development of postgraduate students to achieve a dream or specific goal (Dubrin 2004:12; Van Zyl 2009:6, 226). These requirements are a set of activities or behaviours that need to be developed by a leader who leads with enthusiasm, energy and inspiration, resulting from their job or position within the postgraduate supervision environment (Van Zyl 2009:6.226). The leader’s enthusiasm needs to be a quiet and slow-burning process from within that shows a willingness to be involved in the planning of a goal (Zhao 2003:193). In enthusiasm one finds the basic human

requirements such as kindness, warmth, sympathy and a sincere interest in others (Adair 2009a:8, 32).

“An effective supervisor is regarded as having ‘compassionate rigour’, a delicate pedagogical balance of compassion, providing support, encouragement and empathy while simultaneously providing rigours feedback” (Manathunga 2005:24). Nsibande (2007:1124) stated that competence is essential for postgraduate supervisors “in relation between abilities or capabilities of people and the satisfactory completion of appropriate task(s)”.

Wisker *et al.* (2003:387) confirmed that quality leadership is important to collegiality, because it stresses collaboration and interpersonal relationships. Poor interpersonal relationships and lack of rapport between student and supervisor may be a reason for failure to successfully complete a postgraduate research study (Armstrong 2004:600). Dann (2008:337) stated that empathy is connected to the “interpersonal connection between the service provided and the service consumer through a concerted effort to understand the consumer’s needs.” According to Li and Seale (2007:513) the doctoral supervision process is a shared emotional and intellectual learning journey that involves mutual expectations and responsibilities from both parties.

Teamwork is therefore vital for, success and postgraduate supervisors need to develop students’ interpersonal skills and allow them to become and support a “community of champions”, because the more superstars one has on one’s bench, the better (Canfield 2005:30; Dubrin 2004:14; Manning 2007:21; Nieman & Nieuwenhuizen 2009:16). Leadership plays a key role in the creation of a team; therefore it is imperative that a leader co-operates and collaborates with other postgraduate students (peers) and universities to achieve the best results. For this reason it is important to set common goals, have respect for one another’s

disciplinary and interpersonal requirements, and pay attention to future planning, which results in timely outcomes.

In the education environment, individuals find that teamwork is vital for the learning and assessment process within a postgraduate research project (Canfield 2005:30). According to Canfield (2005:30) it is important that the postgraduate supervisor and also the co-supervisor have real team skills, because these two people are research collaborators who have experience of working closely together on students' research projects. Postgraduate supervisors need to be caring and compassionate team builders that monitor progress within the research process (Vilkinas 2002:129). The postgraduate supervisor needs to foster mutual respect between individuals and build a balanced team where the strength of each individual is used to its fullest for success and productivity (Adair 2009a:21-22; Covey 1999:246). Team members need to develop a positive and effective relationship so that they can develop the capacity to vary their roles according to the research project to ensure that goals are achieved (Canfield 2005:30; Van der Westhuizen & De Wet 2003:191).

Another important element of the postgraduate research environment is that the leader needs to be one of the team players and needs to provoke and provide the correct challenges and questions for the team to fuel their curiosity in a specific research field (Dubrin 2004:15). Besides the challenges and questions that leaders contribute to a team, they need to debate in a positive way with the team to ensure that each postgraduate student can analyse his or her own beliefs and ideas (Manning 2007:85). The best way to engage learners is to "allow space for the learners themselves to engage critically with the issues, to bring their own insights, culture and different aspects of their multiple subjectivities to bear on the learning process" (Freire 1936, cited in Mayo 2007:537). In addition, the postgraduate relationship is the primary key to ensuring that such a debate takes

place to receive a wealth of personal and cultural experiences that guide and support a student to be an independent researcher (Wisker *et al.* 2003:384).

Postgraduate supervisors need to demonstrate their willingness to be key players in the creation of team partnerships. It is important that postgraduate supervisors realise that they provide the cohesion between co-supervisors and students. This partnership can be enhanced through group meetings where individuals help one another to understand and discuss various topics or problems related to the postgraduate research project. It is important that all individuals are present, because this ensures that there is no confusing information or feedback.

Teamwork may enhance continuous learning and may allow individuals to challenge their assumptions, ideas and decisions within a postgraduate research project. This dialogue between team members may strengthen the research relationship and ensure self-sufficient researchers that direct ethical research for the future.

- *Directing ethical research*

The ASSAf (2010:37) report mentioned the importance of understanding the ethical questions in the research and field of interest. Another important aspect is postgraduate supervisors' "competence with respect to the student project as reflected in scientific competence, familiarity with the relevant academic literature, expertise in the area of the project and awareness of science overseas" (Buttery *et al.* 2005:9). It is important to have a contact person in the department or unit to operate as an official representative available to external individuals (Dubrin 2004:12; Oosthuizen 2009:87; Schermerhorn *et al.* 2008:14). This person's role is also extended to setting ethical guidelines for the team of postgraduate students (Van der Westhuizen & De Wet 2003:188).

Leaders in HEIs should adhere to a code of values, quality and integrity in terms of their work and should also demonstrate a level of self-confidence in their own work and talents. Postgraduate supervision can also be spiritually based, where leadership is the foundation for values, principles, influences and ethics (Gorton, Alston & Snowden 2007:15; Zhao 2001:3). Hodza (2007:1160) stated that effective postgraduate supervisors are “continually balancing student learning needs, professional guidelines, ethics, legal and procedural and organisation or conceptual needs” within the supervision process. Amundsen and McAlpine (2009:331) viewed this as the repositioning of the postgraduate supervisor’s scholarly values and identity, since “on the one hand, the supervisor supports the production of a quality thesis that will meet the expectations of the examination process and, on the other hand, supports the entry of the student into the broader scholarly community”.

Postgraduate supervisors act as ethical gatekeepers within the research process. They need to be familiar with the criteria and standards required for theses and dissertations in the supervision environment and the university. This information needs to be explained by the postgraduate supervisor to the student prior to the commencement of the research project. Postgraduate supervisors have to remember that first-generation researchers enter the system from diverse backgrounds and it is therefore important to inform them of the professional guidelines pertaining to postgraduate research, with the assistance of other academics if necessary within a healthy research environment.

- *Building relationships in the research environment*

It is essential that postgraduate supervision (leadership and relationship) be seen as a form of teaching and postgraduate research as a form of learning, because many academics at all levels in HEIs are devoting their lives in some or other way to research, while governments spend billions on research (Wisker *et al.*

2003:387). The key aspect to this is the balance between the professional (technical) and social (emotional) aspects of leadership and the postgraduate relationship (Sambrook *et al.* 2008:73).

Where strong relationships exist between the parties, postgraduate supervisors may encourage students to attend appropriate conferences in their research field (Sambrook *et al.* 2008:73). This creates inspiration and visibility (Lessing & Lessing 2004:75; Lessing & Schulze 2002:139), leads to the satisfaction of higher-level needs (Lessing & Lessing 2004:75), and promotes the encouragement of principles and values (Dubrin 2004:102). The creation of relationships often takes place on the level of research interest (scholarship and research practices) among parties and is not really related to personal compatibility. Therefore, the parties are not necessarily best friends, but have mutual respect in terms of academic credibility (Armstrong 2004:560; Sambrook *et al.* 2008:72).

Rau (2008:12) explained that postgraduate supervisors need to respect the personhood of the student, which is a quality that is essential for establishing and maintaining an unbiased and successful supervision relationship. McPhail and Erwee (2000:77) stated that the relationship between parties will differ “depending on the supervisor’s style of guiding students, the characteristics of the doctoral student, the research climate and infrastructure in the institution, as well as exogenous factors such as the particular research design”. The postgraduate supervision relationship between parties is influenced by a number of factors, such as supervisor style, seniority, gender, trust and emotions (Hean & Matthews 2007:2; Herbst *et al.* 2006:595). Picard, Wilkinson and Wirthensohn (2010:23) suggested that the postgraduate supervision relationship will differ according to the “choice of topic, monitoring of progress and writing of the research documents to the provision of emotional support and quality assurance”.

Essential steps in postgraduate supervision are the facilitation of valuable relationships between parties, the identification of the students' needs, and the provision of sufficient assistance (Ngcongco 2001:55). Constructive mentoring of a postgraduate student within the relationship will allow for professional, cognitive and emotional development with support and encouragement during the research process (Bell-Ellison & Dedrick 2008:555; Green 1996:2; Kandlbinder 2000:3; Lee 2007:686; Lessing & Schulze 2002:139; Pearson & Kayrooz 2004:102; Sambrook *et al.* 2008:73).

According to Van der Westhuizen and De Wet (2003:191), the postgraduate relationship is initially of a primarily academic nature, but it also shows other characteristics during the research process. Dann (2008:340) commented that the supervisor-student relationship goes from being a master-apprentice relationship to a more advisory role later in the postgraduate research process. The view of postgraduate students is that supervisors have to be the ideal people for the role and be professionally qualified in a specific research area.

Armstrong (2004:599) indicated that one of the main reasons for the failure of research dissertations in the social sciences is dissatisfaction and a poor supervisor-student relationship. The ASSAf (2010:79) report pointed out that "problems emanating from the student-supervisor relationship also emerged as one factor directly affecting doctoral students' decision to discontinue their studies. In certain instances an unsatisfactory advisory relationship is strongly implicated in many students' decision to leave doctoral study". Another problem reported by the ASSAf (2010:79) report was the need for prompt, regular, positive verbal and written communication indicating postgraduate students' progress and making insightful suggestions.

Teamwork is widely recognised as an important skill across a range of occupations and professions. However, the success of teamwork depends to a

large extent on the mediated management of complex variables such as individual conduct, collective action, technologies, space and communication (Watts 2010:335). To overcome some of these problems, the emphasis should shift from human rights to mutual responsibilities in the research process for both parties (Mackinnon 2004:395). According to the ASSAf (2010:65) report, “the availability of appropriately qualified doctoral supervisors is particularly important within the South African context, where the traditional apprenticeship model remains the most prevalent approach to doctoral education. It is evident that the traditional approach – being based on the availability of suitably qualified supervisors – serves a relatively small number of students and may not be an efficient model for rapidly increasing PhD production, especially when it involves a one-on-one student-supervisor relationship. As indicated above, the shortage of suitably qualified academic staff and the continuing ageing of the same cohort pose a serious constraint on any substantive growth in doctoral enrolments in the near future.”

Armstrong (2004:600) and Buttery *et al.* (2005:19) explained that it is important for success in the postgraduate supervision process to ensure adequate matching of supervisors and supervisees, proper prerequisites such as possessing research experience, together with proper time availability on the workload. Agreement and transparent accountability by staff can ensure the regularity of meetings that may be needed to ensure completion.

Maxwell and Smyth (2010:413) acknowledged the importance of keeping an eye on the process and the product when learning is facilitated through the development of a relationship with postgraduate students. The importance of quality teaching/learning relationships is well known in the postgraduate supervision process. Another important aspect of relationships is between universities, industry partners and community organisations that have an impact on the understanding of the purpose of postgraduate studies and the expectations

about the type of knowledge produced from research study (Hodges *et al.* 2006:57).

Nsibande (2007:1118) stated that “effective supervision should create an environment that would introduce students to the world of research and provide intellectual stimulation so that they can grow in the field. This means helping students to appreciate the world of doing research which is focused on requirements for degrees and the world of research as practice. Both worlds have particular ways of thinking, working and communicating findings which students should be exposed to”. Martin, Drage, Sillitoe and Clingin (2006:95) argued that when working in a productive research environment, postgraduate students can contribute in a more significant way to the overall research output of an area than if they work alone. Within such an environment there is a network of relationships and responsibilities that provide continuous support and direction to developing researchers. In institutions where there is no well-developed research culture, it is often difficult to provide these ongoing situations that can help guide new students and developing supervisors.

Holbrook (2007:1022) described the postgraduate relationship concept as capturing many important aspects of “candidature-relationship with supervisors, with institutions, with others, and also with thesis”. Hodza (2007:1161) commented that “the better the supervisor’s self-esteem, communication ability, personal congruence and role flexibility, the more likely that the supervisor relationship will foster exploration, learning and development”. Another important aspect of the postgraduate supervision relationship is that it needs to be based on trust and mutual obligations (Mackinnon 2004:245). Hodza (2007:1156) also stated that the postgraduate supervision relationship is a “two-way interactional process that requires both the student and the supervisor to consciously engage each other within the spirit of professionalism, respect, collegiality and open-mindedness”. The recipe for success of the postgraduate supervision relationship

is based on “concepts of collaboration, community and most importantly companionship” (Bartlett & Mercer 2000:199).

Bailey (2001:4, cited in Lessing & Lessing 2004:74) confirmed that “the supervisor relationship plays a critical role in the success of the degree process and can make or break the postgraduate experience for the student”. Postgraduate supervisors must remember their important position in contributing significantly to the creation and promotion of a sound interpersonal atmosphere within the relationship with the student. This postgraduate relationship needs to be positive with considerable trust and honesty between the parties – trust in the sense that postgraduate students know that they will receive constructive feedback in time, and honesty in the sense that they can feel free to differ from the supervisor on academic research-related issues. The encouragement from the postgraduate supervisor for in-depth research discussions may easily lead to differences, but a competent leader will welcome a healthy exchange of new and vibrant ideas and it is important not to allow the differences between parties to affect the relationship.

Postgraduate supervisors need to remember that they must explain their reasons for not agreeing with a student and that they not force a student in a specific direction. They must ensure that the direction has been explained to the student and that the final decision has been accepted by both parties. Both parties must be careful within the postgraduate relationship, because this relationship is a delicate friendship that could flourish if the necessary emotional and professional support and understanding are present. Positive, trusting postgraduate relationships allow students to discover themselves, to develop a passion for their academic and professional environment, and to grow into mature individuals. The postgraduate relationship is a fragile process and requires support and understanding from both parties during the research process.

2.6.2 Personal attributes

- *Instilling trust*

Leaders are distinguished from non-leaders by the desire to lead with ambition, energy, honesty, integrity, self-confidence, intelligence, warmth, trust, depth and specialist knowledge, to develop relationships and listening skills, and to encourage argument and debate, cultural awareness and flexibility in order to achieve a specific vision or a desired goal for postgraduate students (Armstrong 2004:560; Bergh & Theron 2008:252; Herbst *et al.* 2006:595; Mainhard *et al.* 2009:360; Nsibandé 2007:1118; Schermerhorn *et al.* 2008:243). Dann (2008:337) suggested that reliability has been regarded as an important attribute of service delivery, because it represents the capacity of the organisation to deliver the promised service, and noted the importance of “personal factors such as competence, courtesy, credibility and the sense of security” that inspire trust between the service provider (supervisor) and the customer (student).

Referring to his own postgraduate supervision practices, Olivier (2007:1129) commented that “practice is mainly informed and directed by my ontological values of faith, honesty and sincerity, which in turn form the basis of my educational values for supervision. The latter can be expressed as compassion for my work and my students and commitment to my supervision task and my students. Compassion includes other values such as love for, care of, guidance to, passion about, trust in, pleasure from and justice/fairness to my work and my students. These values are fundamental in the relationship with the student.”

The discussion above confirms that a firm postgraduate supervision relationship is based on mutual trust and open communication for a successful supervision process (Eley & Jennings 2005:56; Mackinnon 2004:395). Hodza (2007:1164) described postgraduate supervision as “a very complex process which requires

complete commitment and respect by and for the student and the supervisor if the relationship is to be fruitful". The most powerful functions of all human interaction are understanding and accepting one another, simplifying if something is unclear, and listening with compassion to ensure that one understands the other person's viewpoint (Mosley *et al.* 2008:228; Vilkinas 2002:129). Leaders may share a vision and build trust that would result in empowerment between parties that could facilitate a better understanding for change (Bush 2008:14; Dubrin 2004:80; Herbst, Maree & Sibanda 2006:595; Mackinnon 2004:402; Rau 2008:5; Sambrook *et al.* 2008:73). Hodza (2007:1162) confirmed that the empowerment of postgraduate students in the overall supervision process is extremely important.

McPhail and Erwee (2000:77) proposed nine stages as an element of trust in the professional relationship between supervisors and the empowerment of doctoral candidates, or for that matter any postgraduate student.

- "Attention – the leader (supervisor) provides time and attention to helping the employee (doctoral candidate) to know how to perform the task;
- Support – the subordinate (doctoral candidate) can count on the leader (supervisor) to provide support for solving work-related problems;
- Feedback – information sharing wherein the worker (doctoral candidate) expects the manager (supervisor) to give appropriate feedback as to why something needs to be done, and to give recognition and information about matters affecting the worker (doctoral candidate);
- Nurturing – involves the sharing of ideas and interpersonal feelings;
- Emerging autonomy – the employee (doctoral candidate) experiences high enthusiasm and motivation and begins to think and act independently;
- Setting limits – the leader (supervisor) sets limits or controls on appropriate organisational roles for the employee (doctoral candidate);

- Personal competency – the employees (doctoral candidates) are considered to be high achievers with good task skills and a willingness to take responsibility for results; and
- Loyalty and commitment – the employees (doctoral candidates) see themselves as part of a larger organisation with a responsibility for impacting on that environment in a personal way” (McPhail & Erwee 2000:77-78).

Armstrong (2004:600) suggested that “successful supervision depends to a significant extent on relationships that are founded in trust, warmth and honest collaboration”. Postgraduate supervisors inform students what needs to be done and give appropriate guidance along the way with schedules of specific work to be done at specific times. Schedules may be used when the task is unstructured and complex and the postgraduate student are inexperienced. This increases the individual’s sense of security and control and hence is appropriate to a research situation (Cunningham & Cordeiro 2006:162; Gorton *et al.* 2007:13-14; Schermerhorn *et al.* 2008:249).

Postgraduate students should be introduced to and intellectually stimulated in the research environment so that they can develop through effective supervision (Hodges *et al.* 2006:56; Nsibandé 2007:1118). Some postgraduate supervisors may argue that different disciplines require different forms of supervision and leadership and that it is not possible to provide a generic model for postgraduate research supervision. Certain aspects of the supervision process are, however, generic in nature (Vilkinas 2002:130).

Postgraduate supervisors need to remember that their supervision will be directed from their own set of values, based on genuineness, truthfulness and confidence. To be true to one’s own values, one must be committed to the postgraduate supervision process, the task and the student. This includes being passionate and giving guidance throughout the entire postgraduate research process, which

are basic aspects. Another important aspect of the postgraduate supervision process is that supervisors must be confident in their own abilities and knowledge. Buttery *et al.* (2005:9) stated that postgraduate supervisors' academic and intellectual standing is "reflected in an ability to be a creative/flexible thinker, intellectual excellence, consistent involvement in own research and good publications record".

Modelling and trust building within the postgraduate supervision relationship are important and most students want to be supervised by a supervisor that they regard as an expert or someone that is their 'idol'. McPhail and Erwee (2000:79) explained that a postgraduate supervisor becomes a role model, providing academic advice and even assistance in gaining access to the profession of interest. For this reason it is important that postgraduate supervisors build a relationship of trust with their students.

2.6.3 Emotional attributes

- *Motivating people*

Leaders need to encourage, support and motivate their postgraduate students in achieving their goals (research goals and personal goals) by clarifying and simplifying the path or road that they should take (Cunningham & Cordeiro 2006:162; Gorton *et al.* 2007:13–14; Schermerhorn *et al.* 2008:249; Styles & Radloff 2001:98–99; Wisker *et al.* 2003:3). Lessing and Lessing (2004:74) agreed that motivation from postgraduate supervisors is important, because "due to a lack of experience and knowledge, students need advice and support when deciding about the form of their text".

People with a high need for achievement, who have a desire to achieve a dream or who have a set goal are intrinsically motivated (Robbins & De Cenzo

2001:276). Coaldrake (1999:3) also mentioned that many academics remain intrinsically motivated by their work. For a leader to be a motivator, that motivation must be part of his/her existence and comes from within (Covey 1999:124).

Green (1996:2) suggested that postgraduate supervisors could organise informal and group discussions with students to provide support and motivation. The ASSAf (2010:76) report expressed concern that postgraduate supervisors may show a lack of interest towards students' feelings of loneliness, especially when there is little interaction with peers and other academics, and this could also lead to a lack of motivation. An essential step in postgraduate supervision is for the supervisor to facilitate and motivate the student's progress in terms of academic growth (Hean & Matthews 2007:2; Ngcongo 2001:55).

According to Covey (1999:124), leaders need to act on the awareness of their feelings, opinions and perceptions with modesty, because they are the initiators that will motivate individuals. Leaders should take the time to motivate and should be prepared and willing to work towards a specified goal (Dubrin 2004:14; Mosley *et al.* 2008:182). Bitzer (2010:32) commented that "research supervisors are educating, motivating and leading postgraduate students".

The motivation of postgraduate students relates to the passion that an individual needs for research projects. Motivation is not just something that comes automatically, but is something that one has to work at. Postgraduate supervisors have to make sure that when they motivate their students, it sounds truthful. To motivate a postgraduate student, supervisors need to know exactly what the problem is or which aspect needs improvement. Consistent rules and procedures are also identified as "crucial in the motivation of a strong and reliable relationship for successful post-graduate supervision" (Hodza 2007:1159).

Motivation should be done with a good background of the postgraduate research process and with knowledge about the student. The ASSAf (2007:76) report emphasised the importance of the availability of postgraduate supervisors to students in terms of “time and access or communications”. The better the postgraduate supervisor knows the student, the sooner he/she will realise that the individual is in need of support in order to succeed in the research project. Postgraduate supervisors need to show motivation and passion as elements in their own life if they are going to be successful at motivating others. Another important aspect is the respect for different cultures within the postgraduate research environment.

- *Respect for different cultures*

One of the most important human projects at a university today is the requirement to adapt to a more diverse workforce with a diverse student population (Holtzhausen 2005:89; Malfroy 2005:165; Mosley *et al.* 2008:22). The diverse students bring their own cultural values and lifestyle preferences with them into a task (Robbins & De Cenzo 2001:42). “Culture refers to the totality of one’s values, norms, beliefs, etiquettes and dress” (Hodza 2007:1158). Hodges *et al.* (2006:56) explained the current workforce diversity as follows: “Part of that context is that there are now different student cohorts and different types of doctoral degrees bringing changes to the traditional dyadic and hierarchical model of supervisor. It is expected that in this new environment, supervisors will have to learn more from their students and that the relationship will merge in a much more equal relationship recognising the different expertise and interests of both parties in the supervisor-student relationship. Supervisors will have to accommodate a student – someone whose expertise may not only be more relevant to research in a particular situation, but also someone who is often older or more senior in their position than the university staff member involved as supervisor.”

For this reason, a postgraduate supervisor needs to redesign research programmes so that they are flexible and can accommodate these different cultural lifestyles, family needs and work commitments within the research environment (Robbins & De Cenzo 2001:42; Van der Westhuizen & De Wet 2003:186). Cultural differences might affect the expectations of postgraduate supervisors and students within the research environment (Wisker *et al.* 2003:5). When leaders are flexible about culture, they will support values, promote autonomy and creativity, and allow learning and risk-taking in order to accomplish new goals and strategies (Fry 2003:697).

In the research environment emphasis is placed on knowledge sharing, building of relationships, trust, feelings and awareness of cultural differences (Herbst *et al.* 2006:595). Wadee *et al.* (2010:16) explained that a gap has emerged in the South African higher education system of “conscious cultural identity among postgraduate students in higher education, since in most cases a single common norm is advocated and the culture-conscious postgraduate student is viewed as frivolous”. The ASSAf (2010:37) report also identified the important aspect of “transferable professional skills development – such as knowing how to present and teach complex knowledge to a diverse audience, how to write for multiple audiences, and how to manage time, people, projects and budgets”.

Bailey (2002:4, cited in Lessing & Lessing 2004:74) summarised the challenges facing universities as follows: “...postgraduate students come from different backgrounds and educational experiences, and bring with them a diversity of skills, expertise and motivations. The more heterogeneous the postgraduate student population, together with the different forms and quality of supervision within and across institutions, means that students have a variety of expectations and experiences of postgraduate supervision”. Kiley and Mullins (2005:245) explained that postgraduate students’ conceptions of research in comparison with that of the supervisor are informed by cultural influences. Nsibandé (2007:1117)

stated that postgraduate supervision also “exposes the student to the culture of research, ways of thinking and working in a particular field of interest and allows emotional growth”.

Another important aspect is the body language and gestures of different cultures that may vary from one culture to another. Due to the diverse backgrounds of postgraduate students it is important that a supervisor takes these into account and explains clearly what needs to be done by the student after a draft chapter is created, read and discussed. Hodza (2007:1159) described the importance of communication in cases of diverse backgrounds as follows: “Daily verbal and non-verbal communications from the supervisor, as well as written and verbal programme description, are two critical important forms of communication. Through written and verbal explanations of programme expectations, students learn what is expected of them during their interaction with their supervisors. Non-verbal communication such as gestures, eye movements and body placements also tells the students what is expected, condoned, reinforced or unwanted in the academic supervision process. It is important to emphasise that verbal and non-verbal communication is one of the most critical elements in the management of the student-supervisor relationships for successful post-graduate supervision.”

Postgraduate relationships are a critical element within the research environment. In addition, it is important to remember people’s cultural norms and interpersonal space. Li and Seale (2007:514) commented that obstruction may take place where there are cultural and linguistic differences between postgraduate supervisors and students if the communication process is not understandable.

2.6.4 Managerial competencies

- *Managing the research process and providing structure*

Postgraduate supervisors need to know how to plan, organise and control the research process and to develop the student within the research environment (Van der Westhuizen & De Wet 2003:190–191). Within postgraduate supervision, different administrative tasks will lead the focus on procedural responsibilities (educational tasks and activities) for supervisors within the research process and will assist in understanding how the student fits into the entire process (Pearson & Kayrooz 2004:100).

An effective postgraduate supervision process is crucial for supervisors, and the importance of their role within this knowledge sharing is one of the determining factors of success for students. The postgraduate supervisor as leader often has to act as the spokesperson, with the emphasis on informing, answering and inquiring from or reporting to students and groups about possibilities, capabilities, plans and activities within the research process (Dubrin 2004:14; Oosthuizen 2009:87). Bitzer (2010:26) commented that postgraduate supervision becomes “a matter of providing a high-quality research learning environment for students”.

Postgraduate supervisors create mutual respect between colleagues to allow matured learners the right and benefit to maintain momentum in their learning and in the research process within the supervision environment (Van der Westhuizen & De Wet 2003:191; Wisker *et al.* 2003:387). In addition, the roles of the postgraduate supervisor can be summarised as follows: Confidante, facilitator, guide, mentor, coach and co-learner, source of intellectual inspiration, resource manager, grant application writer, navigator of institutional tangles to steer the student between the administrative jungle of regulations, manager of change – from novice to experienced researcher, writing teacher and editor, career mentor

and networker (Bartlett & Mercer 2001:4; Kelly & Ling 2001, cited in Lessing & Lessing 2004:76).

This process entails topic selection and definition, research design and procedures, analysis, literature methods, write-up, feedback, encouragement and the personal relationship (Le Grange & Newmark 2002:52). Postgraduate supervisors provide the necessary information on the standard and quality of the research project (Earley & Weindling 2004:150; Mullins & Kiley 2002:370). Postgraduate supervisors need to be facilitators when students commence with the research process, because in most cases they are working with novice researchers who are uncertain about many aspects of the research process.

The postgraduate supervisor is the individual that will support the planning of the research process, because the postgraduate supervisor is the expert that knows how long it takes to complete tasks. This planning function will include seeking all available information, funds and resources to ensure that the research project will be successful. Another important function of the postgraduate supervisor is defining a specific and realistic goal and objectives through the development of a deliberate plan to integrate and co-ordinate all possible steps to complete the research project successfully.

For this reason, postgraduate supervisors are the central link between the university, administration, the department/unit/school and the student (Van der Westhuizen & De Wet 2003:187). Therefore postgraduate supervisors need to answer all the questions in terms of the supervision process from students before the final enrolment for a postgraduate research project. This interaction could be described as the relationship between the postgraduate supervisor and the student, whereby the student learns the finer details of the research environment from the more experienced supervisor (Van der Westhuizen & De Wet 2003:188).

Postgraduate students sometimes need information during the long and lonely supervision process and it is important that a supervisor provides suitable answers. Postgraduate supervisors involved in a positive relationship with their students would know if they need assistance and how to meet the specific need. According to Lessing and Lessing (2004:75) the postgraduate supervisor need to realise that “every research study is unique, as is the researcher” and therefore the supervising style will be determined for each research process. An important objective of HEIs is to fulfil essential economic, social and cultural functions within the postgraduate research process (Zhao 2003:188) with the developing of effective leadership skills.

- *Developing leadership skills in the postgraduate supervision environment*

Leadership involves certain requirements and skills (Sternberg 2005:29). The significance of effective leadership in postgraduate supervision and management is widely acknowledged in the 21st century and vital for successful progression of universities (Bush 2008:xi; Dyason *et al.* 2010:52-53). Postgraduate supervision is a gradual developmental and complex academic project that fosters and enhances the interpersonal, learning, research and communication skills of students to become independent researchers at the highest level (Bitzer 2007:1010; Manathunga 2007:207; Zhao 2003:5). Postgraduate research supervision is a knowledge-research conversion process with intense discourse of a written product of substantial length, with the reality that the supervisors have to act as leaders throughout the entire research process, and therefore research is “not simply a matter of coming to know, it is also a matter of coming to be” (Petersen 2007:476-477).

Postgraduate supervision is like any leadership situation in that it involves long working hours with various approaches towards a vision to facilitate a more diverse student population, cope with rapidly changing technology, adjust to

global challenges, improve quality and enhance ethical behaviour (Mosley *et al.* 2008:21–22; Ngcongco 2001:53; Robbins & De Cenzo 2001:16,300). “A range of supervisor skills is required to assist the student to be successful in the completion of a post-graduate research project” (Lategan 2009:160). Lategan (2009:160–161) explained postgraduate skills as follows: “These skills are of a personal, scientific and partnership nature. Each of these classifications has a specific direction. The personal skill means what the supervisor has to do to act as a supervisor (one can refer to this as licensing). Scientific skills refer to what the supervisor should know about the science of supervision (which is not the same as the science of one’s professional field of study). Partnership skills direct the relationship between the supervisor and post-graduate student. This relationship entails professional behaviour, leadership and mentorship. The identification of these skills already indicates that supervision cannot happen by accident. The supervisor should be trained as a supervisor. This is one of the academic development skills of academics that very little attention is paid to.”

Because postgraduate supervisors are mentors or coaches, they have to support students to acquire formal research knowledge and technical skills, values and ethics relating to the research discipline (Van der Westhuizen & De Wet 2003:188). “Higher education is classified as a service product with the primary outputs being the mental development, knowledge, skills and graduate outcomes” (Dann 2008:335). “It certainly demands from the supervisor, in addition to the regular supervisor skills, extensive skills in diplomacy, an in-depth knowledge of the sponsor organisation, a backbone to insist on satisfaction of university needs, not just sponsor needs, and integrity to maintain the high research principles that research institutes insist or should insist upon” (Buttery *et al.* 2005:15).

It is clear that postgraduate supervision of students does not only imply “a scientific approach to the process, but also guidance and skills on the side of the supervisors” (Lessing & Lessing 2004:79). Botha (2010:62) commented that

emotional skills have not generally appeared in work on research supervision and they can thus be regarded as emerging research supervision skills. The postgraduate supervisor's "characteristics and attitude is reflected in approachability and friendliness, being supportive and positive, being open-minded and prepared to acknowledge error, being organised, thoroughly stimulating and conveying enthusiasm" (Buttery *et al.* 2005:9).

Effective skills are an integral part of the postgraduate research process. Bak (2005:39) explained that understanding the supervision process and knowing how to make judgements about the academic worth of a thesis are skills that take time to develop. Unfortunately, the postgraduate supervisor needs to facilitate a large part of the research process for the student, because the student usually does not have the knowledge and experience to design an accurate schedule for completing a literature study or compiling a questionnaire. Postgraduate supervisors should ensure that they provide emotional support and encouragement to students during the entire research process, as students often feel defeated close to the end of the project and this is when supervisors need to provide support and motivation. Postgraduate supervisors provide the setting of important challenges and the strategising of projects.

- *Strategising for the future and setting challenges*

A crucial requirement for postgraduate supervisors is to be up-to-date with research methods and to have an adequate knowledge of the institutional regulations that govern research degrees (Taylor 2006:3). The supervisor should gradually guide and facilitate the student into becoming "an independent researcher through empathetic dialogue and modelling appropriate disciplinary-based research behaviour" (Manathunga 2007:207).

With the interaction and socialisation between the parties, the postgraduate supervisor will also be the critic of the research project and will provide emotional support and assistance for broader and future research development (Manathunga 2007:207; Van der Westhuizen & De Wet 2003:187). The postgraduate supervision relationship depends on collaboration between parties that leads to joint ownership of the research project (Van der Westhuizen & De Wet 2003:191).

Wisker *et al.* (2003:387) emphasised the importance of a collaboration process and interaction with colleagues in order to empower postgraduate students so that they maintain momentum and responsibility within their own research project. Empowerment works when postgraduate supervisors align the planned goals with the academic research project. Through the fostering of inventiveness and responsibility in a research project, a leader may empower a postgraduate student (Adair 2009a:21–22; Dubrin 2004:201; Wisker *et al.* 2003:4). Postgraduate students who take responsibility for their academic research projects may move positively towards the planned goal (Adair 2009a:21–22; Dubrin 2004:201; Wisker *et al.* 2003:4).

According to Hodza (2007:1163) the postgraduate supervisor “relinquishes the role of critic to assume the role of co-creator of knowledge”. It is important to remember that when a postgraduate supervisor acts as the critic, this feedback and information need to be given in a constructive way and that the comments and remarks should always be inspiring and never degrading. According to Li and Seale (2007:512) constructive criticism is “necessary if good work is to be produced, since this assists students thinking analytically and moving on in their development”. Postgraduate supervisors need to ensure that the student can still see the big picture and realise what needs to be done to reach the intended goal.

- *Making decisions or judgements in the postgraduate research process*

Leadership within the postgraduate supervision environment is about the empowering of postgraduate students so that they engage and contribute in decision-making and change processes in their research project (Canfield 2005:29). Another important aspect within the postgraduate supervision environment is that individuals such as students are more likely to accept and implement decisions in which they have participated (Armstrong 2004:560; Bush 2008:14; Mainhard *et al.* 2009:360). Dann (2008:336) explained that students at the postgraduate level are more likely required to engage in mental input through active learning, methods of enquiry and the creation of an academic identity.

Freire (1970, cited in Rossatto 2008:154) believed that one needs to become “an agent of change and not a passive adaptation to the world, an agent of decision-making, of emancipation and of ethics”. This is exactly what leaders in postgraduate supervision need to be – they have to believe that they can become masters of change. The postgraduate supervisor needs to act as a strategic leader that is in charge of the entire process, such as strategic planning and setting the direction of the research process for the student (Adair 2009b:33; Dubrin 2004:15). Postgraduate supervisors must be strategists and change masters within the higher education system. In order for postgraduate supervisors to obtain the research objectives, they have to know how to manage or strategise the student’s research project into the designated route (Van der Westhuizen & De Wet 2003:190), because in the end, they are measured by their ability to choose the right goals to reach a specific vision allowed within a definite timeframe surrounded by the given parameters of standards and quality within the postgraduate supervision process (Manning 2007:14; Vilkinas 2002:130).

Knapper (2006:3) commented that the acceptance of a clear vision for learning requires communication and decision-making that will enhance effective changes in teaching and curricula to accomplish shared goals. Planning and decision-making increase the individual's self-esteem and makes the research work more interesting (Cunningham & Cordeiro 2006:162; Gorton *et al.* 2007:13–14; Schermerhorn *et al.* 2008:249). This could be done with the help of knowledgeable postgraduate supervisors that adapt to the ever-changing research environment and enrich themselves with workshops, seminars and reading new articles in their field of interest.

The importance of supportive leadership can never be underestimated, because this is one of the key reasons for postgraduate students achieving success in their studies. All postgraduate supervisors know that no two research studies are the same. In fact, every process is almost like a new adventure and learning curve for the postgraduate supervisor to ensure that they provide the best assistance, negotiation, vision, leadership and decision-making to the student.

- *Recommending a vision*

Rowley (2006:1250) described vision as wisdom and leadership that are involved in the formulation of a plan that is executed within the context of the organisation (university) and which can be implemented within a social context. In addition, leadership seeks adaptive and constructive change when needed (Charan 2008:46; Cunningham & Cordeiro 2006:155; Gorton *et al.* 2007:76). Equally important is that the leader provides the big picture, with ideas and suggestions from an experienced viewpoint (Adair 2009a:21–22; Dubrin 2004:201–202).

Leaders have the skill to envisage a complete picture of the research project and therefore need to concentrate on continuous research growth and the fostering of a sense of ownership of the end product (Bush 2008:12–13; Gorton *et al.*

2007:15; Kandlbinder 2000:3; Mackinnon 2004:400; Sambrook *et al.* 2008:73). It is important to remember that development and training opportunities in HEIs are one of the best strategies that could empower the postgraduate supervisor within the supervision environment and promote such growth (Van der Westhuizen & De Wet 2003:188).

Postgraduate supervisors that are leaders within the postgraduate supervision process will develop a vision – a view of the future that will excite and convert potential students. “This vision becomes the core driver and it provides the leader and the followers with a conceptual map and compass of the objectives that need to be achieved to transform the organisation” (Du Plessis 2009:140). Therefore, one of the core functions of a leader is to develop knowledge and skills in their own life and in the lives of postgraduate students (Dubrin 2004:82; Manathunga 2005:226). Postgraduate supervisors need to develop a coalition of students who will commit themselves to achieving the planned vision (Dubrin 2004:82; Manathunga 2005:226). Postgraduate supervisors need to buy into a student’s vision and must help to set a realistic plan on the table. This vision needs to be kept alive by the postgraduate supervisor through continuous encouragement and professional knowledge of the field of choice. In the creation of a relationship, leaders’ agreeableness, sociability and the building of a vision improve their interpersonal relationships (Dubrin 2004:82; Manathunga 2005:226).

A leader in postgraduate supervision may change the status quo by appealing to postgraduate students’ values and their sense of higher purpose, reframing issues (goals) so that they align with the leader’s vision (Dalglish 2009:5). Due to this clear and vivid picture, proactive people (such as postgraduate supervisors) assess their capacity to determine their own destiny and to become what they want to be and leave a positive legacy behind for students (Adair 2009a:21–22; Covey 1999:269). Therefore, postgraduate supervisors need to be proactive leaders who have the courage to reflect on their own supervision and use

opportunities to improve their own supervision practices. The proactive postgraduate supervisor will also transform students to accept challenges and difficulties with an open mind.

The transformation process could be affected by the postgraduate supervisor through the introduction of conferences or the latest information in academic journals to the students. Postgraduate students could use this opportunity to engage with peers within the subject field and be encouraged to write an academic article about their research project. Postgraduate students need to acquire adequate knowledge to reach success in his or her research project.

- *Acquiring adequate knowledge*

One of the key responsibilities of leaders is to use their knowledge and expertise to guide postgraduate students regarding the steps that will improve their performance, with the necessary feedback to achieve success (Dubrin 2004:14; Mouton 2005:18; Wadee *et al.* 2010:28). Postgraduate supervisors should have first-class research knowledge and skills within their own research field, and they need to be good managers, innovative and creative problem-solvers, resource-oriented, decisive, dependable and technical experts (Vilkinas 2002:129). Zhao (2001:6) explained that postgraduate supervision is the transference of knowledge creation to a student, who will develop new knowledge and insights through an integrating, synthesising and valuing process. McPhail and Erwee (2000:79) stated that mentors or postgraduate supervisors provide their protégés with career-enhancing functions such as knowledge of the organisation or profession by explaining the following:

- “The politics of the organisation or profession;
- The norms and standards of the organisation or profession;
- The skills and competencies necessary for succession to the next step;

- The paths to advancement;
- The acceptable methods for gaining visibility; and
- The stumbling blocks and failure patterns.”

Lategan (2009:161) stated that postgraduate supervision is “a very specialised way of knowledge transmission (teaching). If you are new to supervision then you need to be trained”. The second aspect is that even if a postgraduate supervisor has “assisted many students to complete their post-graduate studies successfully he/she still needs continuous training to be well informed of the changing research environment and new practices associated with supervision” (Lategan 2009:161).

The continuous improvement in technology may force leaders to keep in touch with changes that can potentially improve effectiveness and the training and development of postgraduate students (Mosley *et al.* 2008:23). Just as computer skills have become an essential employee requirement in many jobs, it has also become a prerequisite for most leaders (Mosley *et al.* 2008:154). The ASSAf (2010:77) report referred to the need for postgraduate supervisors to be computer literate. It is important that postgraduate supervisors support students technically within the research environment in order to take action on challenges within the research process.

As innovations in computer and other communication technologies open up newly required education approaches, training and skills for individuals, they also open up new communication technologies for leaders (Mosley *et al.* 2008:154). Through the linking of computers, telephones and fax machines, leaders can obtain complete information quicker than ever before. With the incorporation of this new computer and communication technologies, leaders can formulate better plans, make faster decisions, more clearly define the goals that postgraduate

students need to achieve, and monitor work activities as they occur (Robbins & De Cenzo 2001:40).

Through the introduction of technological advancements, postgraduate supervisors are now able to supervise students in remote places and ensure that their performance objectives are being met (Robbins & De Cenzo 2001:40). Computers are dramatically increasing postgraduate supervisors' communication options and academic workload and allow individuals to communicate more effectively (Albion 2006:1; Robbins & De Cenzo 2001:334). "Communication is at the core of relationships and this takes a variety of forms, with email increasingly the dominant form across supervision teams, particularly where there is cross-faculty collaboration" (Watts 2010:337). Universities have the opportunity to break the boundaries of nation-hood, ethnicity and culture and to join a world-wide community. The demand for internationalisation with e-learning and e-teaching poses a major challenge to HEIs to emerge and grow their knowledge and services (Zhao 2003:188).

The ASSAf (2010:38) report stated that the development of a country's postgraduate education system is "beneficial for knowledge production but has economic and development implications too". In the beginning, the postgraduate supervisor will act as guide and director for the student by providing a theoretical model with methods and by setting goals and deadlines for the research process (Van der Westhuizen & De Wet 2003:188). However, most postgraduate supervisors "see themselves as providing students with much more than research skills and an amount of subject knowledge; there is a strong emphasis on developing students as independent academics and peers" (ASSAf 2010:93). According to Buttery *et al.* (2005:19) knowledge creation is seen in the postgraduate supervision process as follows: "...in the specific area of research, and whilst this is undoubtedly valuable at the early stages of the research such as the literature search, and acknowledged as such by students, probably equally or

even more valuable is a knowledge of research paradigms, epistemology, ontology, human nature, motivation, personality and student value system and learning needs, as clearly, a student who fulfils the requirements of a PhD would invariably overtake the supervisor in regard to the subject matter at some stage of the thesis.”

Nsibande (2007:1118) stated that it is crucial for a postgraduate supervisor to “give meaningful guidance in terms of accessing systematic ways of working in the field, what counts as knowledge and also general advice on the relevant literature that would give depth to student’s work”. Hodza (2007:1163) mentioned that “knowledge generation can be achieved when supervision becomes a process of action learning. Action learning is simply a self reflective process undertaken by a student in order to improve their own practices, their understanding of these practices and the situations in which these practices are carried out.”

The ever-changing research and technology environment creates new opportunities for leaders and postgraduate students in South Africa. An important aspect currently in all universities is positive collaboration between different academics or postgraduate supervisors and their disciplines. Watts (2010:335) noted that the growing trend is towards being “interdisciplinary as part of the twenty-first century knowledge economy and also as recognition that it is unlikely that a single supervisor will have the full range of knowledge and skills to support complex doctoral work”. Currently, more and more postgraduate students seek to enrol for postgraduate studies that are based on interdisciplinary qualifications or even transdisciplinary qualifications, and this new trend forces supervisors to work in partnership with other disciplines. This could lead to new knowledge creation for all parties involved.

Postgraduate supervisors need to use advice, knowledge and passion to empower students to engage in decision-making in their own research project. The empirical evidence from the ASSAf (2010:36) report suggests that not only the supply of highly skilled people, but also how widely academic knowledge is disseminated, has an influence on the economic and social development of a nation.

- *Exerting authority*

A wide variety of perspectives have been proposed as to what constitutes quality in HEIs. Some researchers view quality in HEIs in terms of the following three elements: (1) quality as value, (2) quality as fit for the purpose of the institution, and (3) quality from the expectations of the stakeholders' needs. However, the most important element of quality lies in continuous improvement (Zhao 2003:193). Lategan (2009:162) stated that in order to be an academic, one needs to stay abreast of one's field of study. "This claim can be categorized as the professional commitment to one's career" (Lategan 2009:162). One way to accomplish continuous improvement of quality is not being satisfied with the status quo.

Buttery *et al.* (2005:23) said the following with regard to quality in HEIs: "We need to remember that quality of postgraduate study is not purely a question of supervision, methodology and motivation but hinges also, but not exclusively, on institutional admission procedures and policies, faculty/school administration policies as well as assistance and infra-structure that is provided by faculty/school to supervisors and students, including financial assistance, access to child care, pastoral care, computing, library, office space, phone access, access to secretarial support, provisions of research seminars and presentations, funding for library searches, conferences, travel, fieldwork, photocopying, and opportunities for casual work within the school."

Van der Westhuizen and De Wet (2003:185–186) stated that there is considerable concern about the quality of postgraduate supervision and the high percentage of students that terminate their studies, and they believe that the changes in the research environment could be one of the contributors to this statement. Postgraduate supervisors advise and guide students to achieve a scientific, professional or personal goal with the option to learn how to execute a suitable research project against certain standards and qualities (Aspland, Hill & Chapman 2002:8; Buttery *et al.* 2005:9; Zhao 2001:2–3).

Freire (1936, cited in Mayo 2007:537) recognised the “possibilities for a critical consciousness in a learning setting where the learners are encouraged to participate through dialogue” and this is exactly what is needed in the postgraduate research environment. Freire (1936, cited in Mayo 2007:537) went on to speak about the competent teacher and student as “never on an equal footing and one must distinguish between having authority (bestowed on the teacher by the student who recognises the teacher’s competence in the area and as a pedagogue and has faith in the teacher) and being authoritarian”.

Leaders know that quality begins with accurate and timely feedback about performance and with an understanding of the needs and expectations of the research community and the stakeholders (Adair 2009a:21–22; Covey 1999:250). Dann (2008:334) explained that the academic research supervisor can benefit from the use of service delivery quality systems, which aid in supervision design, the understanding of student needs and expectations, and the addressing of gaps between what the student perceives and what the supervisor believes is occurring in the supervision arrangement. How does a postgraduate leader achieve a reputation for always meeting or exceeding students’ expectations? Postgraduate leaders need certain personality qualities, such as self-motivation and persistence, which ensure that they can influence the development, quality and growth of the student within the research project (Van der Westhuizen & De Wet

2003:186). Effective postgraduate supervision creates the right conditions for excellent scholarship within a research environment (Mackinnon 2004:397).

The primary goal in research supervision is to enhance the quality of research education so as to present postgraduate students with a positive research learning experience (Zhao 2003:193). The support that leaders in postgraduate supervision need to receive from the university forms part of the quality assurance mechanisms to ensure that correct procedures and criteria are used to measure performance and fairness in assessment during the supervision process and the evaluation of research studies (Dyason *et al.* 2010:59).

People respect a leader with high standards who will not compromise on standards, who is tough but fair in decisions and who is a leader who is willing to admit to his/her own limitations (Adair 2009a:8,32). Pearson and Brew (2002:1) highlighted the quality of research education by “measuring timely completion (efficient use of government money), student satisfaction, adequacy of resources and attention to the effectiveness of supervision/supervisors”. The postgraduate supervisor needs to ensure that the required scientific quality is achieved in order for the student to have the necessary opportunities to pass quality control (Mouton 2005:17).

Andrew and McKenzie (2001:2), Mackinnon (2004:396) and Rau (2008:1) stated that the role of the postgraduate relationship between parties is important for the quality of supervision. According to Lategan (2009:162), “Quality is important in all aspects of postgraduate education. Quality is defined in this context as fitness for purpose. The question that needs to be asked repeatedly is if postgraduate education can deliver a student for the world of work who is able to identify problems to solve the problem and then to manage the solution.”

Postgraduate supervisors need to ensure that the correct procedures and satisfactory academic standards are in place to ensure the quality of the supervision process. Furthermore, it is important that not only the quality of the postgraduate supervision process, but also the student that receives supervision, is inspected. An important verification for all universities and departments regarding quality is when a postgraduate student returns for another qualification. It is important that postgraduate supervisors ensure that their quality is maintained continuously.

- *Accessibility of research funding*

Postgraduate supervisors have a definite role to play in providing support in the accessing of resources (Lessing & Lessing 2004:81). Pearson (1999:282, cited in Bitzer 2010:26) also suggested that the accessibility of resources is essential to conduct and support high-quality postgraduate research. Equally important is the fact that postgraduate supervisors are leaders in the sense that they are the experts in their field of knowledge and know the resources that are needed for a research project (Van der Westhuizen & De Wet 2003:191). Dann (2008:337) viewed it as the “willingness to assist the customer by providing prompt service, fast responses and reacting to consumer questions and requests”.

NPHE (2001:48, cited in Jansen 2001:7) described the state of research funding in South Africa as follows: “There is no other third world country that has provided more scholarship support for postgraduate students, through bodies such as the National Research Foundation (formerly the Foundation for Research Development and the Centre for Science Development); through international foundations such as Mellon, Rockefeller and Spencer; through the Council for Scientific and Industrial Research (CSIR); through special overseas university fellowships managed by the Fulbright Commission and the Educational Opportunities Council; and through the institutions themselves. There is no other

African country that continues to have such a plethora of funding opportunities for postgraduate scholars.”

“To bring about and sustain changed practice there must be adequate support, including the providing of time and resources, and leaders often play a major role in obtaining such support” (Knapper 2006:3). This understanding encourages self-confidence and pride among postgraduate students (Van der Westhuizen & De Wet 2003:188). “Research demands are increasing, because of the need to improve postgraduate supervision, to publish or patent, to establish links with industry, and to prepare, submit or review grant applications” (Coaldrake 1999:4). Knapper (2006:1) noted that “it is true that good teaching and good research go hand in hand” in the sense that faculties with distinguished research accomplishments and publications may receive grants.

Nearly every leader in any HEI has to be a negotiator who has to negotiate with other people for the required resources in the research environment (Dubrin 2004:14; Oosthuizen 2009:87; Schermerhorn *et al.* 2008:14). Vilkinas (2002:132) suggested that postgraduate supervisors need strong negotiation skills and the ability to influence decision-makers. “Doctoral students experience work commitments, problems with access to facilities and resources, financial or funding problems, and issues with supervision as the four main obstacles to on-time completion (ASSAf 2010:76). Therefore it is important that the postgraduate supervisor has the capacity to acquire needed resources, which requires diplomacy, persistence and excellent communication skills (Vilkinas 2002:132).

Postgraduate supervisors are the key individuals that could assist students to acquire much-needed resources for their research project. Currently in South Africa there are various funds and grants available to postgraduate students for which they can apply. The postgraduate supervisor can provide positive

supportive information about the research project and why the resources are needed and deserved by the student.

- *Acquiring technical skills and techniques*

Acquiring the necessary technical competence is an important skill for leaders due to the fact that they have to support postgraduate students in solving technical problems (Dubrin 2004:15; Robbins & De Cenzo 2001:18). Hodza (2007:1161) explained that “the role of the supervisor is to help the student shape the topic and research problem so that it is both technically and academically sound”. Postgraduate supervision has the ability to link the core activities of universities; it is a “special kind of teaching (labelled as small-group education, one-to-one education, powerful education), research discovery of new knowledge and the application of the newly gained knowledge and technology transfer” (Lategan 2009:156).

Postgraduate supervisors will support students to become academics with various skills, among them “learning to supervise, to present papers at conferences, and to play the academic game, which means not only how to publish but also what to publish and where it is worthwhile publishing” (Herman 2012:7). Furthermore, postgraduate students “need to possess the necessary life skills in order to compete successfully in the academic world. These include speaking and writing in English, developing computer skills, travelling abroad independently, and presenting themselves confidently” (Herman 2012:7). An important aspect is that postgraduate supervisors need to explain their reasons for influencing students’ views and technical skills in the research project. A good explanation with the necessary emotional support will ensure that the postgraduate student does the work with new enthusiasm and reasoning.

Backhouse (2010:2) noted that the best patterns and techniques “lie in the details of supervision arrangements; the nature and focus of structured activities, including the use of cohorts; the degree to which candidates have opportunities to collaborate and interact regarding their work, and differences in the nature of knowledge and knowledge generation in the disciplines”. An important aspect in support of these techniques is to make sure that the discussed information is understood and to convey the information in a written format to the postgraduate student when needed. This opportunity would create more administrative work for the postgraduate supervisor, but it could help ensure that any misunderstanding is resolved.

Lategan (2009:161) explained that “a range of supervisory techniques were formulated to assist the supervisor in guiding the post-graduate student but also to prepare him/herself for the demands of the supervisor role”. Postgraduate supervisors “should acquaint themselves with the applicable research methodology to be able to guide the student through the process” (Lessing & Lessing 2004:76).

Lessing and Lessing (2004:76) proposed the following techniques for the supervisor to use during the supervision process:

- “Significant effort and time spent at the beginning of the research. This is done in assisting the student to select a research topic and design.
- Formulate a research question.
- Ensure that the topic selected does indeed present a researchable problem; have a clear understanding of the field in which the problem occurs and of the problem itself.
- Understand the importance of the research design since it gives structure to the research and provides guidelines for the supervision.
- Divide the research into different phases.
- Attend to administrative aspects by entering into a contract.”

Lessing & Schulze (2002:140) identified the following forms of interaction that the supervisor could use to assist the student during the supervision process:

- “Holding of regular meetings to give guidance and keeping of minutes;
- Requiring progress reports;
- Specification of research-task and performance standards;
- Determining deadlines and feedback, and
- Holding workshops on research and reading papers and publications.”

It is suggested that the techniques and technical skills used by the supervisor in the postgraduate research process are important aspects, because the supervisor is the expert in the specific research discipline and knows what is needed. When postgraduate students have an interest in researching a specific discipline, they usually do not know what is achievable and what is not, and therefore supervisors are responsible for ensuring that students take calculated risks while relying on the necessary techniques and skills within the research process. Positive advice on techniques and important technical skills in terms of each step within the postgraduate supervision process will provide a much friendlier and supportive environment for a novice or first-generation researcher.

2.7 SUMMATIVE SYNTHESIS OF THE DIFFERENT DIMENSIONS OF POSTGRADUATE SUPERVISION

Figure 2.4 explains the importance of leadership requirements within the postgraduate supervisory environment from the view of the leadership theories. The figure explains many features and qualities that are important and which need to be fulfilled by a postgraduate supervisor within the overall research process. With the blending and synthesis of the different requirements for leading academic and personal relationships successfully, the supervisor as leader has to investigate the four interconnected circles that indicate the following important aspects within the leadership model.

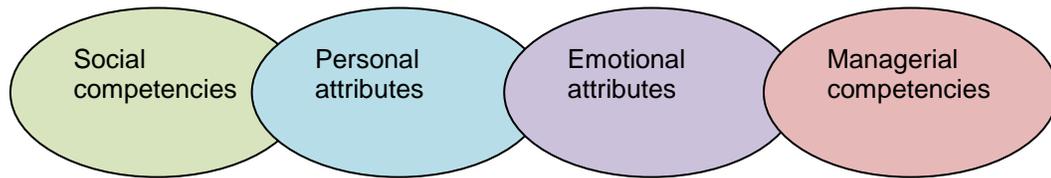


Figure 2.4: Dimensions of leadership in postgraduate supervision

Quality postgraduate supervision is only possible with the necessary passion and enthusiasm (see 2.6.1) to influence other people. The influencing element of the postgraduate supervision process may change according to the situation and the student. The elements that could form part of the influencing process are coaching (see 2.5.1), guiding (see 2.5.2), managing (see 2.5.3) and mentoring (see 2.5.4). The creation of an effective relationship in the postgraduate supervision process could be done through effective communication skills (see 2.6.1) that ensure clear instructions with the necessary constructive feedback. Another important aspect of any postgraduate supervision process is that all postgraduate research needs to be directed with ethical guidelines and values (see 2.6.1).

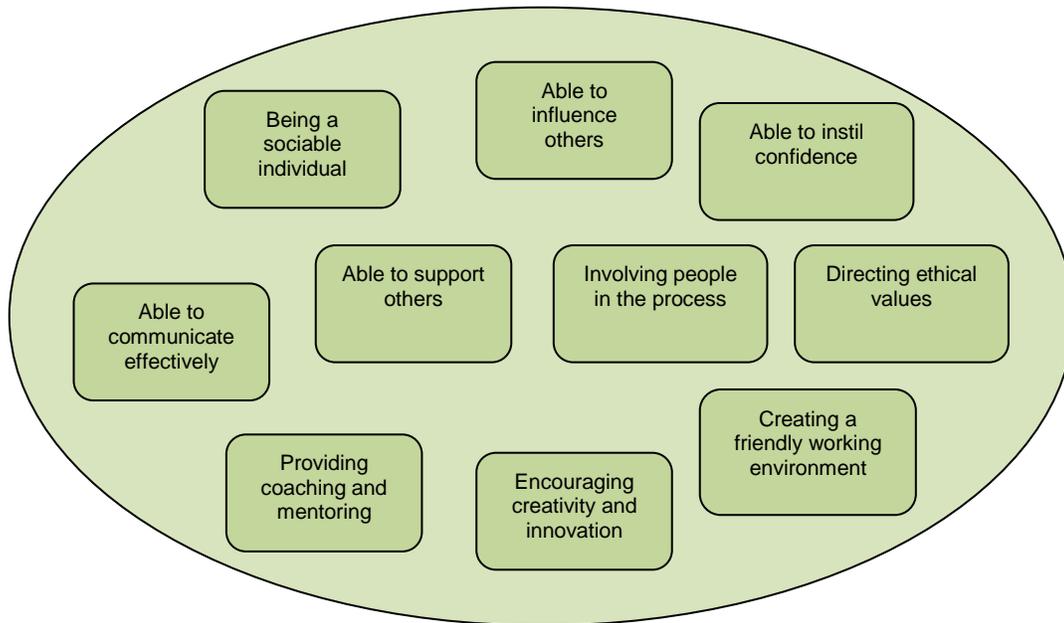


Figure 2.5: Social competencies of the synthesis

The second important element in the postgraduate supervision process is the willingness to commit with others to achieve success. This could only happen when the postgraduate supervisor remains a researcher in his or her own field of discipline and stays abreast of all new developments (see 2.6.4). Postgraduate supervisors need to facilitate and address problems and challenges (see 2.6.4) throughout the research process with all parties involved. Honesty and trustworthiness (see 2.6.2) between individuals is only possible in a friendly, open and supportive environment. Empowerment (see 2.6.4) of students will take place when they receive the support that is needed and when they are part of the decision-making process.

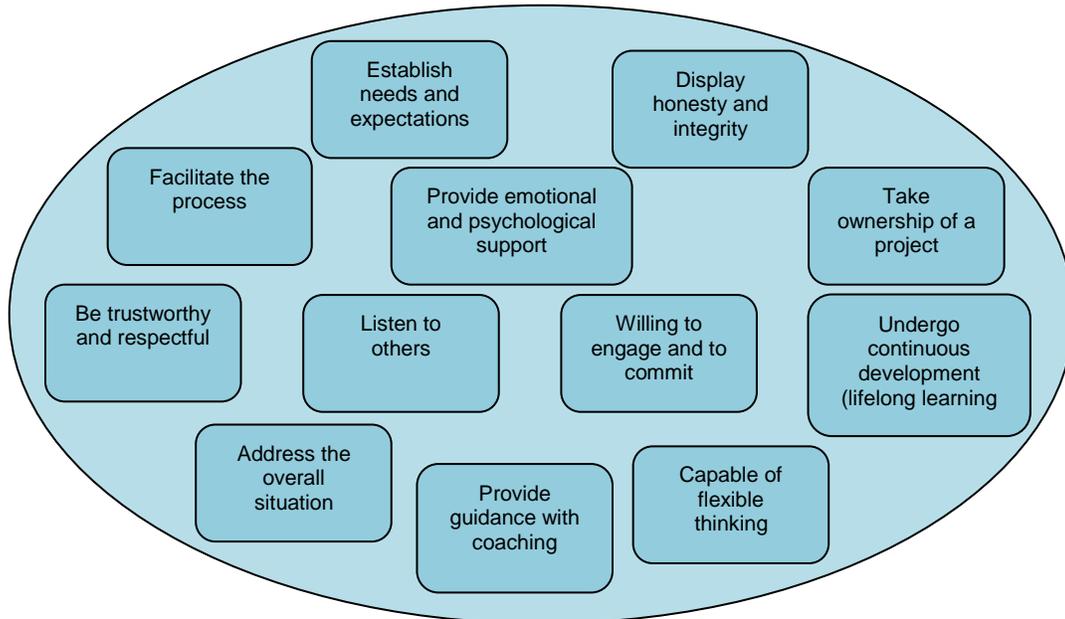


Figure 2.6: Personal attributes of the synthesis

The third important element is enthusiasm (see 2.6.1) from both parties during the research process. Postgraduate supervisors need to motivate (see 2.6.3) students throughout the research process, which means that the supervisor must be intrinsically motivated and self-confident. In light of the importance of the communication and relationship-building process, postgraduate supervisors to remember the diverse student population (see 2.6.3) that is active in research and that each of them will connect information to their view or the situation.

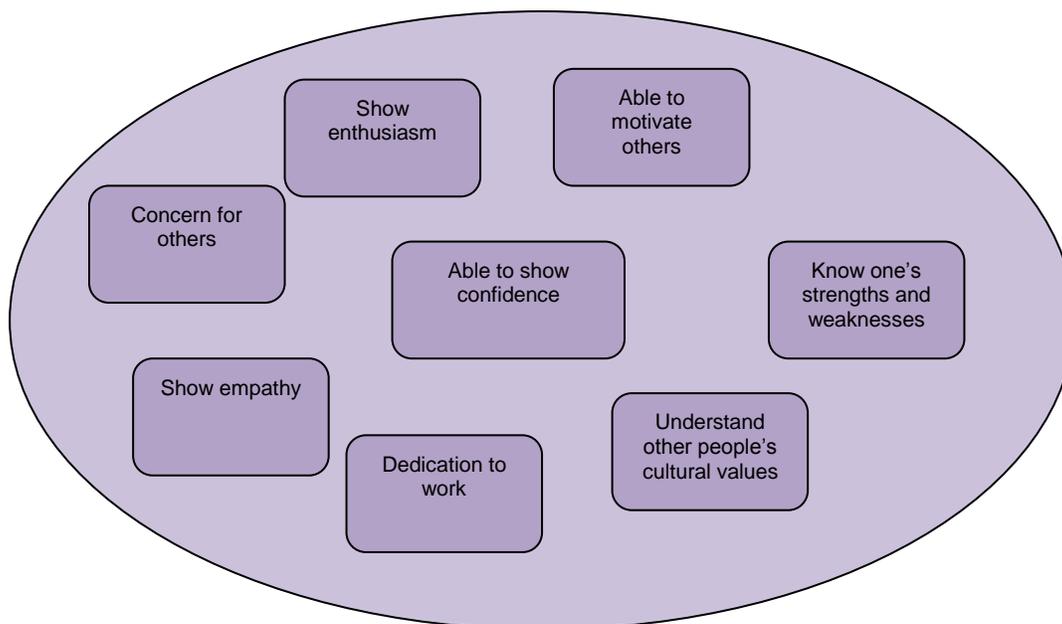


Figure 2.7: Emotional attributes of the synthesis

The fourth element in the postgraduate supervision is the provision of a structure, as well as judgement or feasibility in the research process. This step can only be achieved if a route is established to achieve a set goal. Postgraduate supervisors need to provide the vision (see 2.6.4) with the necessary strategising and planning (see 2.6.4) in the research process. This will include the negotiation of the required resources (see 2.6.4) for postgraduate students within the research environment. This influencing process will only be successful when a sound relationship (see 2.6.1) is maintained between the parties throughout the postgraduate research process. The building of relationships involves a high degree of team spirit (see 2.6.1). Postgraduate supervisors need to influence students with their techniques and technical skills (see 2.6.4) by providing the appropriate amount of knowledge (see 2.6.4) at specific times. Therefore postgraduate supervisors need the all-important element of quality (see 2.6.4) within the supervision process. Postgraduate supervisors need to develop skills (see 2.6.4) and the acceptance of responsibility for the research project from a

student that will allow new creative ideas and entrepreneurship (see 2.6.1) in the field of interest.

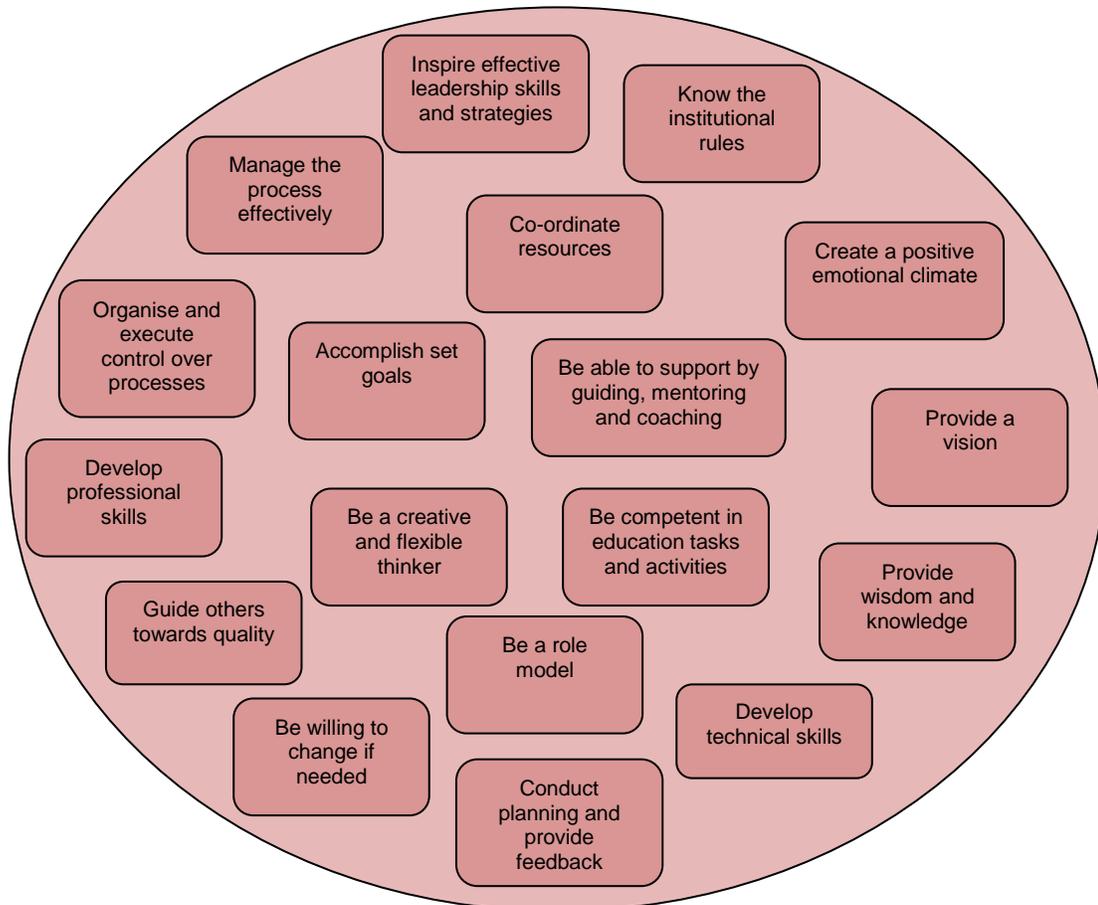


Figure 2.8: Managerial competencies of the synthesis

As this synthesis aligns with Figure 2.3, another important feature that came to the forefront in this chapter is that the different requirements in leadership could require postgraduate supervisors to include the four competences (namely spiritual, emotional, mental and physical) that a leader may use to develop into a confident individual with an own voice.

2.8 CONCLUSION

In this chapter, leadership was discussed in general and in the context of postgraduate supervision. One could ask whether a postgraduate leader is born or made and whether one could acquire the necessary skills, roles, attributes and requirements to be a leader of excellence in supervision. The chapter discussed the competences that a postgraduate leader needs in order to be an effective leader with the essential requirements and combination of characteristics and functions to flourish with excellence in the academic research world in a South African UoT. It is the responsibility of postgraduate supervisors to know the different roles they may play and skills they must possess during a research project so as to assist the student to achieve success. In addition, the leader must concentrate on the right planning, quality, goals and vision to provide direction for postgraduate students to achieve such success in their academic research projects. The need for postgraduate supervisors to keep up with advances in technology was also discussed. Unfortunately, there is no easy way to acquire all the capabilities that are required for good leadership, but postgraduate supervisors could use various sources and information to assist them, with technology being an important source.

This chapter emphasised the importance of recognising people's worth and potential and allowing them to see it in themselves and to believe in themselves. Therefore, it is the responsibility of the leader to communicate and motivate postgraduate students to follow a vision and goal until they develop into leaders in their field of interest. What is needed at this stage in South African UoTs is good leaders and postgraduate supervisors who know where they are going and who are intrinsically motivated within the research process and who can direct their students to achieve success.

Covey (2004:5) summarised leadership as “the voice of the human spirit – full of hope and intelligence, resilient by nature, boundless in its potential to serve the common good. This voice also encompasses the soul of organisations that will survive, thrive and profoundly impact the future of the world.”

The above quote provides information about a leader’s capabilities in general as in the postgraduate supervision environment. Students tend to follow a passionate postgraduate supervisor based on their supervision practices such as energetic actions, knowledge-based support (competence) and honest motivation. Postgraduate supervisors are what make a university – they are the individuals that provide the legacy for the future. The application of the leadership model will be discussed in Chapter 6.

In Chapter 3 the focus is on the research design and methodology employed in the empirical investigation. The empirical investigation built directly on the literature review by focusing on leadership as discussed in this chapter, through the use of a questionnaire survey among postgraduate supervisors in South African UoTs.

CHAPTER 3

RESEARCH DESIGN

3.1 INTRODUCTION

Since South Africa's transformation to democracy in 1994, all HEIs have undergone dramatic changes. The complexity and challenges of postgraduate supervision in the higher education sector in South Africa have changed profoundly over the past decade because of changes in higher education such as policies, research funding pressures and demands for higher pass rates, enrolments and outputs (Buttery *et al.* 2005:8; CHE/HEQC 2004:6; Du Pré 2009:30; Erasmus & Kapp 1998:111; Hodza 2007:1156; Lee 2008:682; Mapasela & Wilkinson 2005:1239; Rau 2008:3; Van der Westhuizen & De Wet 2003:185; Vilkinas 2002:129).

Concerns have been raised about leadership and personal relationships in postgraduate supervision in a higher education environment. The complexities related to leadership in the postgraduate supervision milieu were addressed in Chapter 2, which also described the different roles and skills that are needed from a postgraduate supervisor to support and guide the student in the research environment. Central to the chapter are the responsibilities of the supervisor and the institution in the postgraduate supervision process.

As the research approach in this study was of a pragmatic-rational nature, the research methods and procedures constituted a mixed-method design consisting of both quantitative and qualitative methods. Onwuegbuzie and Leech (2005a, cited in Leech, Dellinger, Brannagan & Tanaka 2010:18) explained that "pragmatism can be defined as research using both qualitative and quantitative

methods and mixing the two methods when beneficial". Fouché and Delport (2011:66) explained that "mixed methods research builds on both quantitative and qualitative approaches". In this study the quantitative and qualitative methods complement each other and allow for a more complete and in-depth understanding and analysis of the complex leadership phenomenon in postgraduate supervision. In terms of the pragmatic-rational nature of this study, "pragmatists believe that the truth is 'what works' best for understanding a particular research problem" (Ivankova *et al.* 2007:263). Ivankova *et al.* (2007:263) explained it as follows: "A major argument of pragmatism is that quantitative and qualitative methods are compatible, that is, both approaches have enough similarities in fundamental values to allow their combination within a single study. Thus, in a mixed methods study both numerical and text data are collected and analysed to address different aspects of the same general research problem and provide its more complete understanding."

The chapter presents the research design and methodology in terms of the research paradigm, sampling, ethics, reliability, validity, instruments and analysis of data. Knowledge gained through the literature review and in this empirical study was then used to provide possible solutions and recommendations and to inform the development of a leadership model for novice and experienced postgraduate supervisors in South African UoTs.

As mentioned earlier, limited research has been conducted in this specific leadership area focusing on postgraduate supervision, and the findings of this study can make a valuable contribution to this field of study. However, the findings were not collected with the purpose of being generalised to all universities in South Africa, but rather to contribute to the development of a leadership model that can be applied by postgraduate supervisors in all disciplines in order to enhance capacity.

3.2 RESEARCH DESIGN AND METHODOLOGY

The following schematic illustration explains the research design and methodology used in the study and can be used as a “map” of the envisaged approach, presented here with additional details to inform the design.

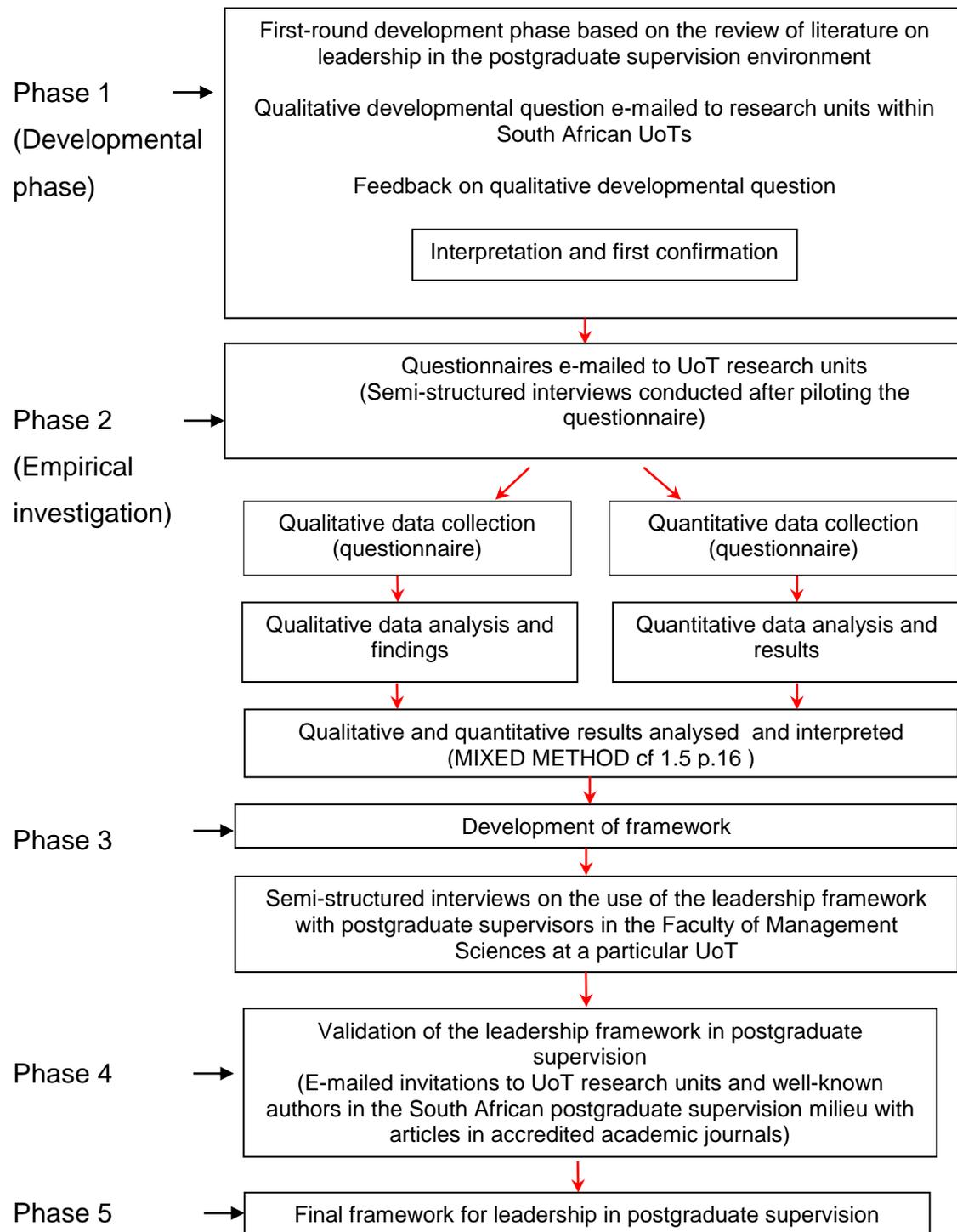


Figure 3.1: Schematic illustration of mixed-method research design

3.2.1 Research methodology

A research methodology “considers and explains the logic behind research methods and techniques” (Welman *et al.* 2011:2). McMillan and Schumacher (2010:8) explained that the research methodology is systematic and purposeful and the research is planned in terms of the way in which the data is collected and analysed to investigate a specific research problem. Saunders, Lewis and Thornhill (2003:2) described research methodology as the theory of how research should be undertaken. Henning, Van Rensburg and Smit (2007:36) explained that research methodology refers to “the coherent group of methods that complement one another and that have the ‘goodness of fit’ to deliver data and findings that will reflect the research question and suit the research purpose”. Lues and Lategan (2006:11) viewed research methodology as “a set of scientific actions, techniques and instruments used to execute the research project by addressing the research problem and meeting the stated aim and objectives of the project”. The philosophy, methods and design are subsequently discussed.

The study aimed to explore the academic and personal relationship between a postgraduate supervisor and a student from a mixed-method mode of inquiry by applying both quantitative and qualitative research methods to investigate the research problem. This mode of inquiry enabled the researcher to combine elements from two different research methodologies for the purpose of understanding and corroborating the research problems. The research opted for a mixed-method mode of inquiry, as it had the potential to yield more comprehensive evidence for investigating the research problems, than either only quantitative or qualitative research would do.

3.2.1.1 *Pragmatism as underpinning paradigm*

James (2000, cited in Pansiri 2005:196) explained that the term 'pragmatism' is derived from the Greek word *pragma*, which means action, and from which the words 'practice' and 'practical' come. Rorty (1991:27, cited in Pansiri 2005:196) explained that pragmatism means "to relieve and benefit the condition of man" – to make us "happier by enabling us to cope more successfully with the physical environment and with each other". The latter definition provides the best reason for using pragmatism in this study, because the research question is about how postgraduate supervisors cope and what leadership skills and roles allow them to succeed within their academic and personal relationships with students within the physical supervision environment.

The dominant paradigm underpinning mixed-method research is pragmatism, as it states that the current meaning of a phenomenon is dictated by the research questions to be addressed (Teddlie & Tashakkori 2003:270). Hanson, Creswell, Clark, Petska and Creswell (2005:52) stated that a pragmatist believes that regardless of the circumstances, a variety of methods (yielding both quantitative and qualitative data) may be used in a single study and that "the research questions should be of primary importance, more important than either the method or the theoretical lens or paradigm that underlies the methods". Migiro and Magangi (2011:3758) explained that pragmatism includes both methods (quantitative and qualitative) in a single study regardless of the circumstances. "Pragmatism has been considered the most appropriate foundation for justifying the combination of different methods within one study" (Datta 1994; Howe 1988, cited in Migiro & Magangi 2011:2559).

According to Johnson *et al.* (2007:113), mixed-method research is "an approach to knowledge (theory and practice) that attempts to consider multiple viewpoints, perspectives, positions and standpoints (always including the standpoints of

qualitative and quantitative research)". Pansiri (2005:191) explained that "pragmatism has been hailed as the foundation of mixed-methods and, depending on the nature of research, it can be adopted to yield better outcomes". Rocco, Bliss, Gallagher and Pérez-Prado (2003:21) stated that the pragmatic position would make use of the best possible techniques and procedures available for the specific research problem.

The motivation behind the use of this approach was to apply different methods to gain insight and a comprehensive understanding of the leadership element in academic and personal relationships in the postgraduate supervision milieu.

3.2.1.2 Mixed-method approach

As an extension of 1.5 the exploration of the social phenomenon of the supervision relationship and leadership will be conducted by means of a mixed-method mode of inquiry by applying both quantitative and qualitative research methods. In this study, mixed-method design included at least one quantitative investigations designed to collect data in terms of numbers, and three qualitative investigations to collect data by means of natural language (Green, Caracelli & Graham 1989:256).

McMillan and Schumacher (2010:11) defined these terms as follows: "At one level, they refer to distinctions about the nature of knowledge: how one understands the world and the ultimate purpose of the research. On another level, the terms refer to research methods – how data are collected and analyzed – and the types of generalizations and representations derived from the data." Onwuegbuzie and Leech (2006:474) viewed mixed-method research as the involvement, analysis and interpretation of quantitative and qualitative data in a single study or in a series of studies that investigate the same underlying phenomenon. Johnson, Onwuegbuzie and Turner (2007:113) explained that

mixed-method research “is not new, it is a new movement, or discourse, or research paradigm (with a growing number of members) that has arisen in response to the current of quantitative research and qualitative research”.

Johnson *et al.* (2007:113) explained that a mixed-method research design is somewhere between the positivistic and interpretive extremes of quantitative and qualitative research. This study used a mixed-method approach to get a better understanding of the leadership phenomenon and performance in the postgraduate supervision environment. Johnson *et al.* (2007:118) stated that it is important to “view the word ‘methods’ in a broader interpretation. Mixed methods allows inclusion of issues and strategies surrounding methods of data collection (e.g. questionnaires, interviews, observations), methods of research (e.g. experiments, ethnography), and related philosophical issues (e.g. ontology, epistemology, axiology)”. Blakie (2010:8, cited in Harrits 2011:151) defined the term ‘method’ as “procedures and activities for selecting, collecting, organizing and analyzing data”. The researcher opted for a mixed-method mode of enquiry, as it had the potential to yield more comprehensive evidence for investigating the research problem than either quantitative or qualitative research.

Curral (cited in Johnson *et al.* 2007:119) explained that mixed-method research involves the sequential or simultaneous use of both quantitative and qualitative data collection and/or data analysis techniques. Creswell (cited in Johnson *et al.* 2007:119) stated that mixed-method research is “a research design (or methodology) in which the researcher collects, analyzes and mixes (integrates or connects) both quantitative and qualitative data in a single study or a multiphase program of inquiry”. Migiro and Magangi (2011:3759) explained that mixed-method research includes quantitative and qualitative methods that complement each other, with the results from the one method being used to elaborate on the results from the other. The researcher used both approaches to get a better understanding of the leadership phenomenon in postgraduate supervision,

because it would offer the promise of bridging across both traditions (Haverkamp, Morrow & Ponterotto 2005, cited in Castro, Kellison, Boyd & Kopak 2010:342).

This mode of inquiry enabled the researcher to analysis qualitative data, which played an important role in the interpretation, clarification, description and validation of quantitative results within this research study. Rossman and Wilson (1985, cited in Johnson *et al.* 2007:115) stated that the combination of qualitative and quantitative methods enables the researcher to develop an analysis in order to provide richer data and information. Currel and Towler (2003, cited in Pansiri 2005:193) argued that a mixed-method approach can serve a mutual purpose, because “the relative strengths of qualitative and quantitative methods enable management and organisational researchers to address important questions at different stages of a research inquiry, thereby enhancing and enriching current knowledge by ‘filling in the gaps’ that studies adopting a singular approach are unable to do”.

A mixed-method approach is determined by the research problem and the researcher (Hanson *et al.* 2005:225). A constructivist approach (Charmaz & Mitchell 1996: 287) was also applied to construct a model for leading the postgraduate supervision process.

3.2.2 Research design

Welman, Kruger and Mitchell (2005:52) viewed the research design as “the plan according to which we obtain research respondents/participants (subjects) and collect information from them”. Leedy and Ormrod (2005:85) explained the research design as providing the overall structure for the procedures that the researcher follows, the data that the researcher collects, and the analysis performance of the data by the researcher.

In the second phase of the study (after the literature review) a questionnaire containing both open and closed questions was used. In this study it was necessary to examine postgraduate supervisors' views on the complexity of leadership in postgraduate supervision. In doing so, the researcher had to inform UoT registrars and research units about the intended study and invite them to participate (see Appendix C), with a request for permission to conduct the research within the UoT. The research units then requested an official ethical clearance letter from the research institution (see Appendix A), as well as the questionnaire and the acceptance of the researcher's protocol. Each unit then had to obtain official clearance from their own institution. Thereafter the researcher received the official clearance documents from the UoTs, confirming that the letter and questionnaire had been distributed to the respondents/participants through an e-mail invitation (see Appendix D).

Phase 2 of the study entailed the analysis of the questionnaire and the compilation of the results. With the mixed-method approach, quantitative and qualitative methods complement each other and allow for a more complete analysis of the research question (Ivankova *et al.* 2007:261). The mixed-method approach was chosen for the following reasons: Firstly, to allow the respondents/participants to elaborate on quantitative results with subsequent qualitative data; secondly, to use the qualitative data to develop a leadership model to be evaluated by South African UoTs; and thirdly, to compare the quantitative and qualitative data sets to produce well-validated conclusions (Ivankova *et al.* 2007:261). Another important aspect of the mixed-method approach was that the researcher could show "the result (quantitative) and explain why it was obtained (qualitative)" (McMillan & Schumacher 2010:25).

Phase 3 comprised the development and formative evaluation of the leadership model in postgraduate supervision by a team of experts (explained in detail in Chapter 6).

- The first group included novice and experienced postgraduate supervisors in the Faculty of Management Sciences in a specific UoT in South Africa, who evaluated the leadership model. The was selected for this purpose, and postgraduate supervisors were interviewed with regard to the development of the leadership model in order to ascertain their view about the possibility and use of such a leadership model for a novice supervisor within the postgraduate research environment.
- The second group consisted of experts identified by each UoT research unit to evaluate the leadership model and provide recommendations to the researcher.
- The third and last group consisted of well-known South African authors who had published articles in accredited journals on the postgraduate supervision field. The authors received an e-mailed invitation to participate in the evaluation of the leadership model and to provide their comments on the model.

The mixed methods approach was experienced as being a systematic and orderly approach to the collection of data from respondents/participants at various UoTs in the country, as recommended by Jankowics (2005:220).

3.2.3 Developmental phase

The developmental phase entailed posing questions that one intended to use in the empirical work to a small number of individuals (Jankowics 2005:250; Zikmund 2003:63). In this study, research units of UoTs were invited to participate in the developmental phase. Each research unit selected its own expert postgraduate supervisor to provide an answer to the qualitative developmental question: “How would you define leadership in the postgraduate supervision environment?”

The developmental phase ensured that the researcher addressed the research question; that the technique, namely an invitation, was in an appropriate format, and that the research question was understood by the participants (see Appendix B). This research question was distributed via a e-mail to the research units of each UoT during November 2010, with participants given until the end of January 2011 to provide an answer. Data of this developmental questions was reported in chapter 1 (see 1.2) and chapter 4 (4.6.1).

3.2.4 Questionnaire

Wisker (2001:142–143) identified the questionnaire as an effective method of collecting data from respondents/participants. Delport (2005:166) defined a questionnaire as a set of questions on a form that is completed by the respondent in respect of a research process. McMillan and Schumacher (2010:195) viewed the use of a questionnaire as relatively economical, because “it has the same questions for all subjects and can ensure anonymity.” Saunders *et al.* (2003:281) explained that the questionnaire is one of the most widely used survey data-collection techniques, because each person (respondent/participant) is asked to respond to the same set of questions and it therefore provides an efficient way of collecting responses from respondents/participants. The main reason for using a questionnaire in this study was to engage a number of UoTs to participate in the establishment of a model on the leadership element in the postgraduate supervision environment (see Appendix D).

Onwuegbuzie and Leech (2006:478) explained that the questionnaire in a study has several roles, namely to support the researcher in organising the research and “giving it relevance, direction and coherence, thereby helping to keep the researcher focused during the course of the investigation”. The questionnaire that was used to gather information from each respondent during the data-collection

process by means of closed-ended and open-ended questions, and the anonymity of the respondents/participants was guaranteed.

The advantages of closed-ended questions is that respondents understand the meaning of the questions better and responses can consequently be compared with one another. A definite disadvantage of making use of closed-ended questions is that it could be frustrating to the respondents if their desired answer is not an option (Delpont 2005:174–175). The research questions in this study formed a descriptive category, because they simply sought to quantify the responses of respondents (Onwuegbuzie & Leech 2006:478) by means of a Likert scale.

The qualitative questions in this study tended to seek, discover, explore a process or describe an experience (Onwuegbuzie & Leech 2006:482), namely the postgraduate supervision process. The advantage of using open-ended questions in the questionnaire was that they allowed participants “to answer in their own words and to express any ideas they think apply to the question” (Struwig & Stead 2001:92). Open-ended questions in this research provided further clarification for the researcher and these questions influenced the participants less than the closed-ended questions (Struwig & Stead 2001:92). These open-ended questions allowed the researcher to compare the voices of key informants selected from the overall set of research participants (Onwuegbuzie & Leech 2006:483). The researcher also provided an open space at the end of the questionnaire for additional comments. The researcher sought to guarantee that the data gained from each question would offer suitable information that could support a better understanding of the research question (also cf. 1.5 on p.16). The existing theories on the issues at stake (chapter 2) were used as foundation for informing the construction of the questionnaire.

Care was taken to ensure that the questionnaire was user-friendly for the respondents/participants. Maree and Pietersen (2007:158–159) explained that it is important to pay attention to the design of a questionnaire, namely the appearance, the question sequence, the wording of the questions and the response categories. Therefore, the questionnaire was created as a Microsoft Word document and was grouped into four sections, namely Section A (Biographical information), Section B (Supervision practices), Section C (Leadership requirements in postgraduate supervision), in compliance with the research questions, and Section D (Competencies and development), also in compliance with the research questions.

During the second phase, the researcher first conducted a semi-structured interview with three experienced postgraduate supervisors within one specific UoT about the questionnaire to ascertain the validity of the data-collection instrument. Each postgraduate supervisor was first asked to analyse the questionnaire and then to complete the questionnaire. They were timed to determine how long it took them to complete the task. The average time taken to complete the entire questionnaire was between 20 and 25 minutes. The researcher encouraged each postgraduate supervisor to focus on the presentation, layout, style, wording and content of each question, and they collectively provided useful recommendations in the semi-structured interviews, after which the questionnaire was further adapted before being distributed.

An invitation was then e-mailed to the research unit and registrar of each UoT in early May 2011 (see Appendix C), accompanied by supporting documents. Each UoT did their own ethical approval on the questionnaire and then distributed the invitation and questionnaire to their own respondents/participants, with two months for completion. The researcher was not given any information about the postgraduate supervisors. Additionally, each UoT asked for a summarised report at the end of the study, which the researcher was willing to provide.

The researcher had to ensure that the findings were informative for the reader of this research (Jankowics 2005:250). By obtaining valuable responses, the researcher ensured that the data gathered was reliable and valid and that the design of the questionnaire motivated the respondents/participants to co-operate in this research investigation. In addition, a passionate postgraduate supervisor would be interested in the research question.

3.2.5 Sampling

Saunders *et al.* (2003:150) explained sampling as follows: "Sampling techniques provide a range of methods that enable you to reduce the amount of data you need to collect by considering only data from a subgroup rather than all possible cases or elements." Fischer (2004:159) explained that a sample size "is to obtain a result that is representative of the whole population without going to the trouble of asking everyone". Strydom (2005:193) defined a sample as any portion of a population or universe that is representative of that population or universe. The sample of respondents/participants for the research process consisted of postgraduate supervisors working in UoTs in South Africa. Jankowics (2005:209) suggested that one has to ask how many people a study should have in its sample and that the answer to will vary depending on the research questions asked.

Castro *et al.* (2010:343) explained that with a qualitative study, the focus is on the depth of the analysis with a small sample of respondents/participants, as in this study. Since purposive sampling was chosen for this study, the researcher contacted the registrar and director of the research office of each UoT (see phase 2). The researcher's approach was to gather information from relevant people such as postgraduate supervisors within UoTs. Onwuegbuzie and Collins (2007:287) explained that if the goal is to gain insight into a phenomenon such as leadership in academic and personal relationships within postgraduate

supervision practices, then purposeful sampling to select individuals and groups is important to maximise the understanding of the underlying phenomenon. With mixed-method research, a smaller and more manageable sample size is favoured for a more in-depth qualitative analysis, but for quantitative research a larger sample size may provide better statistical analysis. Dreher (2004, cited in Castro *et al.* 2010:343) favoured a smaller sample size of eight to 20, which from a quantitative perspective is antithetical to obtaining sufficient information.

In May 2011, an e-mailed questionnaire survey regarding leadership in postgraduate supervision was administered to respondents/participants of the survey (see phase 2). This was done to obtain a holistic view from respondents/participants on leadership in postgraduate supervision within South African UoTs.

Despite the fact that seven UoTs were invited, only four participated. One UoT failed to respond to the invitation, while another informed the researcher that it does not offer postgraduate programmes and yet another would only be able to participate at a much later stage due to current problems at the institution. Participation in the survey was voluntary and anonymous. It is important to remember that the researcher had no control over the distribution of the questionnaires, as each UoT's research unit distributed the questionnaires to its own postgraduate supervisors. Therefore, there is no actual reflection of how many questionnaires were sent out by the research unit of each UoT – posing a limitation to the generalizability of the data as the researcher could not determine the total and current status of postgraduate supervisors with enrolled students at the participating UoT's, meaning that the chi-square test for independence could not be performed. Furthermore, no statistical differences could be identified between male and female respondents/participants or between respondents/participants who had been supervising students for a long period of time and new or young postgraduate supervisors. However, this phase of data

gathering was followed up with qualitative interviews, which enhanced the richness of the data.

An e-mail invitation with an information (cover) letter approved by each UoT's ethical office was sent to postgraduate supervisors (see Appendix D) by each UoT's research unit. The research units informed the researchers that invitations were being distributed to postgraduate supervisors with enrolled students. An important aspect of any questionnaire is that the cover letter must convince the respondents/participants of the importance of the research project and why it is necessary for them to answer the questionnaire.

The researcher personalised the cover letter by stating the aim and purpose of the research and the questionnaire. The letter furthermore identified the researcher, the HEI and the postgraduate supervisor involved in the research project. The letter also suggested to the respondents/participants how long it would take them to complete the questionnaire and they were informed that they could withdraw from completing the questionnaire at any time if they did not feel comfortable. The researcher promised that the identity of the respondent and the institution would not be revealed and would remain confidential. Lastly, the researcher provided the date and e-mail information to ensure that the questionnaires would be returned and to persuade the respondents/participants of the importance of the contribution to the study, as suggested by Salkind (2009:145).

One of the disadvantages of this *convenience* sampling was that the researcher could not guarantee a representative sample (Fischer 2004:159). The respondents/participants were under no obligation to fill out the questionnaire.

A total of 47 completed questionnaires were received from four UoTs in South Africa. The response rates from the four participating UoTs were as follows: UoT A (n = 4) UoT B (n = 8), UoT C (n = 31) and UoT D (n = 4). Despite

the low number of responses, the demographics and the various disciplines of the respondents/participants were good and the 47 respondents/participants can be regarded as a fairly representative sample of the UoT component in South Africa. Sale *et al.* (2002:45) explained that the emphasis of qualitative research is on process and meaning, and the sample size is not meant to represent large populations. Small, purposeful samples of articulate participants are used because they can provide important information, as in this study about leadership in academic and personal relationships within the postgraduate supervision milieu in a South African UoT.

In phase 3 did the researcher invite one specific Faculty of Management Sciences in South Africa's postgraduate supervisors to take part in a semi-structured interview process. Ten postgraduate supervisors were invited and all ten was availability for the semi-structured interview.

Phase 4 the researcher e-mailed an invitations to UoT's research units and they decided to appoint an individual to evaluate the leadership framework. The last evaluation process was to invite well-known authors in the South African environment to evaluate the leadership framework.

3.2.6 Validity

According to Venkatesh, Brown and Bala (2012–2013:15) inference quality in mixed-method research represents the accuracy of inductively and deductively derived conclusions, and it is an umbrella term that includes various types of validity. Inference quality in mixed-method design is defined as “a researcher's construction of the relationships among people, events and variables, as well as his or her construction of respondents' perceptions, behaviour and feelings and how these relate to each other in coherent and systematic manner (Tashakkori & Teddlie 2003:692, cited in Venkatesh *et al.* 2012–2013:15).

Delpont (2005:160) and Zikmund (2003:301) defined validity as a twofold concept: that the instrument actually measures the concept in question and that the concept is measured accurately (Zikmund 2003:302). According to Babbie and Mouton (2006:122), validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration.

Furthermore, the researcher established trustworthiness by applying an array of methods in qualitative research. Enhancing the trustworthiness of the qualitative data is that the responses of the participants were quoted to guard against bias and perspectives that the researcher might have when analysing. The researcher made sure that she measure what the study intended to measure, namely postgraduate supervisors view and experiences in the supervision process about their leadership roles and skills.

This research study obtained data from respondents/participants working with currently enrolled postgraduate students in a discipline in a UoT. The information received from respondents is valid, because the quantitative data corresponds to how actions are taking place in the postgraduate supervision environment according to the respondents. The validity was also enhanced by the fact that the respondents were representatives of the supervisory component of UoTs in South Africa. Respondents/participants provide truthfull facts about their current situations and experiences in the postgraduate supervision environment that allowed for confidence in the results. The methods and techniques included leaving an audit trail, weighting the evidence, checking for researcher effects, obtaining feedback from respondents, clarifying researcher bias, and thick description (Creswell 1998, cited in Onwuegbuzie & Leech 2005:380). The researcher also made sure that an audit trail is available about the whole data process.

3.2.7 Reliability and dependability

Delpont (2005:162–163) defined reliability of a measurement procedure as the stability or consistency of the measurement. This means that if the same variable is measured under the same conditions, a reliable measurement procedure will produce identical (or nearly identical) measurements, as suggested by Salkind (2009:110). Zikmund (2003:300) suggested that reliability is “the degree to which measures are free from error and therefore yield consistent results”. Reliability is a matter of whether a particular technique, applied repeatedly to the same object would yield the same result each time (Babbie & Mouton 2006:119; Leedy & Ormrod 2010:29).

In order to increase the reliability of the questionnaire in this study, the researcher ensured that the questions reflected the information that emerged from the literature chapters and that the questions that were asked corresponded to knowledge that respondents/participants were likely to have within the postgraduate supervision process and environment, as suggested by Babbie and Mouton (2006:121). Further can the same questions that were posed to the postgraduate supervisors provide more or less the same answer if the been asked at a later stage, because they provide their view and experience within their field of supervision, this data could be replicable. Another important aspect of this studies reliability is that it supported the researcher to understand the leadership situation that occurs within the postgraduate supervision environment.

The mixed-method approach provides better reliability, because it combines quantitative and qualitative methods that address the research question better than with a single method. The first important viewpoint is that the mixed-method approach shares the same goal of understanding the world in which we work (Sale *et al.* 2002:46), namely postgraduate supervision. Secondly, the combination commits to the understanding and improving of the human condition

(Sale *et al.* 2002:46). In this study did the researcher piloted the questionnaire and followed it up with interviews.

“Dependability in mixed methods research refers to the degree to which the reader can be convinced that the findings did indeed occur as the researcher says they did” (Durrheim & Wassenaar 2002:64, cited in Maree & Van der Westhuizen 2007:297). Schurink, Fouché and De Vos (2011:420) explained that dependability is when the researcher asks whether the research process was logical, well documented and audited. In order to increase the dependability of the questionnaire in this study, the researcher ensured that the questions corresponded with themes in the postgraduate supervision process and environment that would be known by respondents/participants. The dependability of the qualitative data was enhanced by the various forms of data collection: existing literature, developmental phase, questionnaire and semi-structured interviews with participants of a specific UoT. Further did the researcher made sure that all data and notes of the findings are preserved which could be verified by an independent person, the allows for an audit of the whole process.

3.2.8 Objectivity and conformability

McMillan and Schumacher (2010:8–9) explained objectivity as open-minded, unbiased, not subjective and quality of the data that is produced by procedures. The researcher strived to eliminate any bias that might take place and reveal an open-mindedness of all respondents'/participants' viewpoints during the study, due to the fact that all questionnaires was numbered when it was received.

Schurink *et al.* (2011:421) explained that conformability captures the traditional concept of objectivity and that the researcher has to be honest and truthful to provide evidence that corroborates the findings and interpretations from the study by means of an audit. In this study did the research provide all evidence that was

received from the participants/respondents, the evidence provided a good audit trail about the study. The results provided the researcher the opportunity to create a leadership framework for postgraduate supervision due to personal views and ideas about the supervision process which was later again evaluated by supervisors within the UoT research environment.

3.2.9 Transferability

According to Babbie and Mouton (2006:277), transferability refers to the extent to which the findings of a study can be applied in other contexts or with other respondents/participants. The researcher is convinced that the findings may be applied to other UoTs, because most UoTs started with an almost new postgraduate research environment, and the responses of the respondents/participants indicated that they may have more or less the same questions or challenges regarding leadership in the postgraduate supervision milieu.

Schurink *et al.* (2011:420) referred to whether the findings of the current research study can be transferred to another study. Many authors refer to the problems that may occur with the generalisation of a research study. The researcher is convinced that the findings may be applied to other UoTs, because most participants agreed to the same challenges that they encounter within a new postgraduate research environment.

3.3 DATA ANALYSIS

Kiessling and Harvey (2005:35) explained that “the distinction between data collection and data analysis may not be clear-cut” in mixed-method research. Potter (1996, cited in Kiessling & Harvey 2005:35) stated that “data analysis may be considered an organic whole that begins in the data-gathering stage and does not end until the writing is complete”.

Quantitative researchers usually follow rigid positivistic methods (although the tendency is that the social sciences regard these methods to fall within the post-positivism) to represent their observations of social phenomena in a simple, interpretable manner, using numbers, tables and graphs. Pansiri (2005:202) explained that data analysis “subsequently feeds back to both theory and industry through findings, implications and recommendations. Generating information and new ideas is the whole essence of the research and this is in line with pragmatism’s emphasis on applications – ‘what works’ – and solutions to problems.” It was important in this study to identify the highest means score of leadership practices according to the respondents’ experiences in the quantitative component, as this would allow the development or construction of a leadership model based on various forms, implications and recommendations of data.

The quantitative and qualitative data in this study was combined and it is important to remember that almost all researchers will make some form of generalisation when interpreting their data in the research process (Onwuegbuzie & Collins 2007:307). The quantitative questions were clustered in the questionnaire (see sections A, B and C) and the data (results) captured on computer by the researcher and analysed with the aid of the Excel program. For each question the 4-point Likert scale was counted, for example how many respondents chose the option ‘Strongly agree’. At the end of the quantitative

analysis, these statistics were combined with the qualitative analysis in order to answer the proposed research questions and compile a leadership model.

The researcher first analysed the quantitative (numeric) data and then the qualitative (words) data. The qualitative data supported and elaborated on the quantitative results obtained from respondents. “The rationale for this approach is that the quantitative data and their subsequent analysis provide a general understanding of the research problem. The qualitative data and their analysis refine and explain those statistical results by exploring participants’ views in more depth” (Creswell 2004; Rossman & Wilson 1985; Tashakkorie & Teddlie 1998, cited in Creswell & Clark 2010:104). Bazeley (2002:8) explained that numbers should be used where they help to answer questions and that data in the form of numbers provides inferences in the same way as data in the form of words.

Kiessling and Harvey (2005:35) explained that questions develop empirical data that involves and derives from the respondents’ experiences within a natural setting. The phenomena of interest rely on the interpretations, sense-making and ‘lived’ experiences of the respondents within the institutional setting. Yutachom (2004:5) stated that the qualitative approach incorporates more of a literary form of writing of text analysis and experience in the conducting of semi-structured interviews.

Leedy and Ormrod (2010:142) explained that the central task of analysis is to identify common themes in participants’ descriptions of their experiences. Bazeley (2002:8) explained that verbal comments should never be ignored. Therefore, it was important in the qualitative part of this study to identify statements that were related to the postgraduate supervision leadership element and to understand the experiences and views of participants.

In analysing the qualitative data the identification of themes was one of the most basic tasks in the study to identify the participants' responses and this allowed the researcher to "generate stories that 'give a voice' to the very people who stated them" (Castro *et al.* 2010:354). These themes were identified by the researcher after the data had been collected. The qualitative data was interpreted according to related themes or phrases behind the questions. Therefore the related data from the participants was placed together. This data analysis can be described as content analysis, because particular words, phrases or concepts were identified (Welman *et al.* 2005:221).

The data from the semi-structured interviews represented a growth phase for the improvement of the leadership model within the postgraduate supervision environment. The information from the semi-structured interviews is discussed in chapter 5.

3.4 RESEARCHER'S ROLE

"The roles that a researcher may take in relation to the people and the organisations they are researching will depend on whether they are a member of the organisation they are researching and on the research approach they have adopted" (Fischer 2004:51–52). The researcher's role is to obtain a broad and representative overview of a particular situation. Welman *et al.* (2005:191) explained that since researchers work with the human understanding of a specific phenomenon, they can "understand the circumstances of the object of study because they can picture themselves in the latter's shoes ("role-taking") – something that is expected" by "letting the object speak for itself". Babbie and Mouton (2006:296) explained that anything a researcher does or does not do will have some effect on what is being investigated, since "given the central place and role of the researcher (as observer, interpreter), it is acknowledged that the researcher is the most important 'instrument' in the research process". In this

study the researcher, who is a lecturer in Business Support Studies at a selected UoT sought to understand the leadership element in the postgraduate supervision process from the perspective of supervisors in South African UoTs in order to support first-generation researchers and supervisors.

3.5 ETHICAL CONSIDERATIONS

Ethical principles revolve around the following categories: whether there is harm to respondents/participants; whether there is a lack of informed consent; whether there is an invasion of privacy; and whether deception is involved (Bryman 2004:509; Fischer 2004:54; Leedy & Ormrod 2010:101; Wisker 2001:124–125). Fischer (2004:54) suggested that in the process of doing research, people should never be treated unfairly or badly. The researcher needed people, specifically postgraduate supervisors, to partake in the research study and required their collaboration as respondents/participants (Jankowics 2005:62). They therefore had to be treated with dignity (Salkind 2009:79), because the researcher was delving into their experiences (Wisker 2001:124–125). In this study the researcher needed to explain to the Ethical Board of the Faculty of Education of the institution in which this study is undertaken why respondents/participants above 60 years of age should also be involved. The main reason for this was that respondents/participants above 60 years of age could still actively contribute to the research process due to their valuable knowledge and experience and because UoTs may have respondents/participants who support the institution that evolved from a traditional HEI.

It was important to negotiate with UoTs to conduct the study and to reassure the respondents/participants of their right to privacy, confidentiality and anonymity if they were willing to partake in the research project (Fischer 2004:55; Salkind 2009:80–82). The researcher and the postgraduate supervisors had to complete forms ensuring ethical measures and confidentiality prior to approval for

participation. Therefore, none of the UoTs that participated in the research study are mentioned by their specific names, but have been allocated codes, i.e. UoT A, B, C or D. The respondents/participants that contributed to the research study were guaranteed confidentiality by limiting the number of people that handled the raw data to only the researcher. Some of the statistical aspects of the study were undertaken by an external individual (statistical program) who only received the information already allocated as UoT A, B, C or D. The rest of the data was handled by the researcher on the Microsoft Excel program.

3.6 OVERVIEW

This chapter provided an overview of the research design and methodology employed in this research study on leadership in postgraduate supervision. The mixed-method approach provided information on postgraduate supervisors in UoTs, as it reflected their experiences and their willingness to support postgraduate students, and gave valuable insights into the real understanding and opinions of postgraduate supervisors as academics, researchers and leaders.

The next chapter focuses on the research results obtained from the mixed-method approach.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1. INTRODUCTION

This chapter presents the analysis of the data collected for the study through quantitative and qualitative methods and procedures that were utilised in an effort to answer the research questions (see 1.2). The researcher provides a brief overview of leadership in postgraduate supervision at UoTs in South Africa. This is done in order to orientate the reader to the context of the data analysis and the interpretation thereof. The main purpose of this investigation and this interpretation is to reach conclusions that are based on respondents'/participants' experiences and views about postgraduate supervision and to launch the development of a supervisory leadership model for supervisors within UoTs in South Africa. In drafting the proposed model it was important to look at leadership at UoTs in South Africa from an investigative point of view.

Postgraduate supervision and leadership were investigated by means of a literature study. The practices, concerns and views of postgraduate supervisors within the supervision environment provided reliable data. This data was gathered during phases 1 and 2 of the research project (see Figure 3.1). The researcher deemed it necessary to first conduct a developmental question to evaluate the suitability and the conceptualisation of leadership in postgraduate supervision (see Phase 1 in Figure 3.1). Secondly, a questionnaire survey was done regarding leadership based on four intelligences and the development opportunities within the postgraduate supervision environment in a UoT in South Africa (see Phase 2 in Figure 3.1).

Limited research has been conducted in this specific leadership area focusing on postgraduate supervision, and the findings of this study can make a valuable contribution to this field of study. However, the findings were not collected with the purpose of being generalised to all universities in South Africa, but rather to contribute to the development of leadership in UoTs in the postgraduate supervision milieu that may be applied by supervisors in all disciplines.

As the research approach in this study was of a pragmatic-rational nature the research methods and procedures that were used in this research constituted a mixed-method design consisting of quantitative and qualitative methods. This chapter reports on the results of phases 1 and 2 of the empirical investigation. The mixed-method design enabled the researcher to validate and balance the quantitative and qualitative results of the different institutions with the findings of the survey. In some instances the researcher made use of tables, figures and charts to illustrate the findings.

4.2 DATA ANALYSIS AND INTERPRETATION

This part of the chapter presents the analysis of the data collected for the study through quantitative and qualitative methods and procedures that were utilised in an effort to answer the research questions (see 1.2). The main purpose of the investigation and the interpretation of the quantitative data are to reach conclusions that are based on respondents' experiences and views about postgraduate supervision and to launch the development of a supervisory leadership model to support novice supervisors in their academic and personal relationships within the supervision process in South African UoTs. Both quantitative and qualitative data are discussed and construed to understand the academic and personal relationship within the postgraduate supervision process.

A questionnaire survey was done regarding leadership practices within the postgraduate supervision environment, based on four intelligences (physical, emotional, mental and spiritual) within the postgraduate research environment in a UoT in South Africa (see Phase 2 in Figure 3.1).

4.2.1 Analysis of quantitative data

With the request to participate, each UoT was informed that it would not be identified (see Appendices C and D) and therefore the researcher focused on the responses of the group of UoTs under investigation. The quantitative data analysis is discussed and displayed in tables, figures and charts. Discussions and interpretations of findings are in percentages with two decimal points, and some reflect absolute numbers within the charts. Firstly, the key aspects pertaining to postgraduate supervisors' supervision practices, preferences, leadership and perceptions are discussed. The respondents' views regarding leadership and intelligences are presented in the quantitative data analysis.

The reporting of the results in the quantitative component of this leadership questionnaire is presented in a simplified graphical and table format, with the rationale being that the visual representation contributes to the ease of interpretation by the reader of the respondents' views and explanations of postgraduate supervision, making the large amount of data more comprehensible. The table format in the analysing of the quantitative component in this chapter symbolises the "arithmetical average of a set of scores and is denoted by \bar{X} . The mean is computed by adding a list of scores and then dividing the total by the number of scores" (Welman *et al.* 2011:233). This provides valuable and functional information about the scores in question. The researcher is of the opinion that the presentation and interpretation are adequate for the purposes of this survey.

The quantitative data gathered during the investigation was statistically analysed by means of a computer program (Excel), but this merely delivered descriptive statistics and did not yield any significant differences or correlations. The data is thus presented in a descriptive and interpretative manner. Ultimately, the survey aimed at contributing to the creation of a leadership model for postgraduate supervisors within UoTs in South Africa.

4.2.2 Analysis and interpretation of qualitative data

This section of the chapter presents the analysis of the data collected for the study through qualitative methods and procedures that were utilised in an effort to answer the research questions (see 1.2). The main purpose of this investigation and this interpretation was to reach conclusions that are based on participants' experiences and views about postgraduate supervision and to launch the development of a supervisory leadership model to support novice supervisors within UoTs in South Africa in the research environment. In drafting the proposed model it was important to look at leadership at UoTs in South Africa from an investigative point of view.

Postgraduate supervision, leadership and the intelligences (PQ, EQ, IQ and SQ) were investigated by means of a literature study. The practices, concerns and views of postgraduate supervisors within the supervision environment provided good and reliable data. This data was obtained during the overall research project (see Figure 3.1). The researcher deemed it necessary to first conduct a qualitative developmental phase to evaluate the suitability and conceptualisation of leadership in postgraduate supervision (see Phase 1 in Figure 3.1). Secondly, a questionnaire survey was done regarding the competencies and development opportunities within the postgraduate research environment in a UoT in South Africa (see Phase 2 in Figure 3.1).

This chapter reports on the results of phases 1 and 2 of the investigation. The mixed-method design enabled the researcher to validate, compare and balance the quantitative and qualitative results of the different institutions with the findings of the survey. The aim of these questions was to obtain more in-depth and interpretative information regarding the participants' opinions, views and experiences with regard to leadership with the intelligences in the postgraduate supervision environment. An investigative view was used to group together similar views and themes to obtain better insight from the participants to acquire an understanding of their responses.

4.3 BIOGRAPHIC AND DEMOGRAPHIC INFORMATION

As mentioned previously, it was not possible to determine the number of questionnaires that were distributed, but to compensate for this limitation an overview of the respondents is presented to provide an overview of the sample. Because the UoTs distributed the questionnaires, there is no actual true reflection of how many questionnaires were sent out. Therefore, the chi-square test for independence could not be performed. Furthermore, no formal difference could be identified between male and female respondents or between respondents that had been supervising for a long time and new or young postgraduate supervisors.

4.3.1 Gender

The respondents were asked to indicate their gender status in Question 2, with Figure 4.1 illustrating the results. In total, 55.32% of the respondents were male and 44.68% female. The male (26) and female (21) distribution compares almost evenly in the research study.

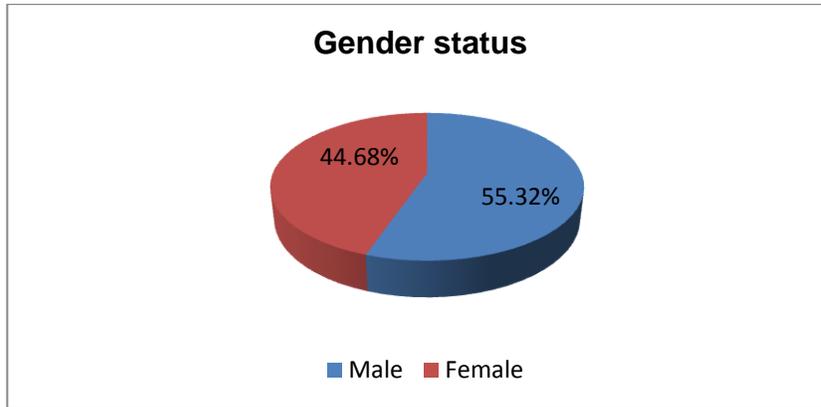


Figure 4.1: Dissemination of gender status

4.3.2 Education level

The respondents were asked to indicate their highest level of education in Question 4, with Figure 4.2 illustrating the results of the male respondents and Figure 4.3 the female respondents. The educational levels of both males and females were satisfactory, as this indicates that UoTs in South Africa are improving the component of their postgraduate supervisors due to academics that may be willing to enhance their own qualifications. Figure 4.2 indicates that 42.31% of the male respondents had completed a master's degree and 57.69% a doctoral degree.

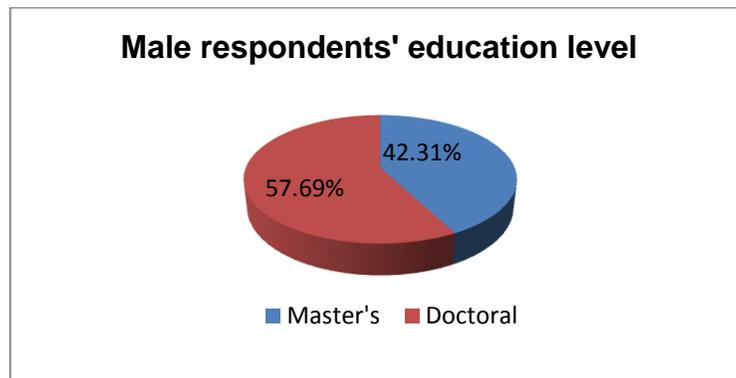


Figure 4.2: Education level of male respondents

Figure 4.2 provides the female respondents' results, showing that 38.10% had completed a master's degree and 61.90% a doctoral degree.

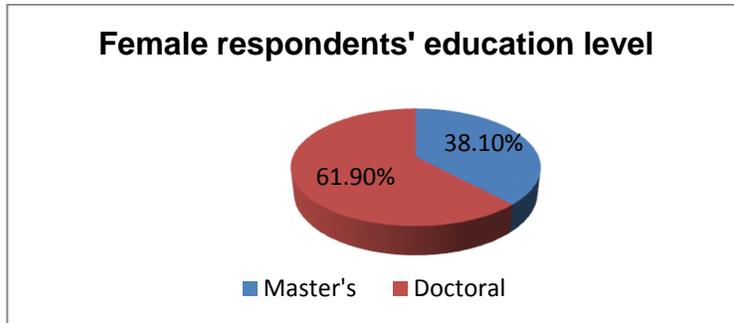


Figure 4.3: Education level of female respondents

Summary of the above views:

The larger part of the respondents had PhD's in both the gender groups, implying that there is a substantial base of expertise among the men and the women on the staff. With a well-qualified staff component the UoTs can deliver more postgraduate students. This substantiates the value of the study to guide postgraduate supervisors and institutions in developing their existing capacity optimally.

4.3.3 Age

Question 3 asked respondents to indicate their age, with Figure 4.4 providing the male responses and Figure 4.5 the female responses.

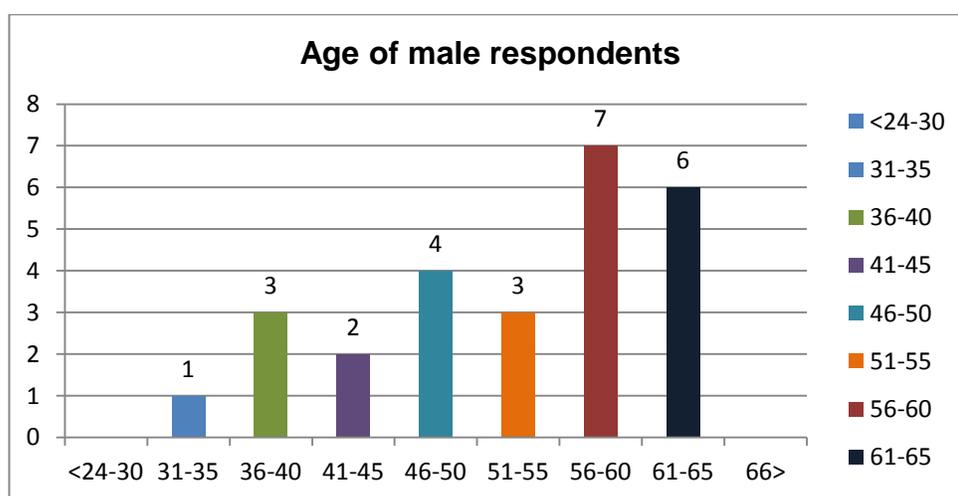


Figure 4.4: Age dissemination of male respondents

The majority of the male respondents (26.92%) were between 56 and 60 years of age, with 23.08% being between 61 and 65 years of age and 8.51% between 46 and 50 years of age. With the ethical clearance process, the researcher needed to indicate why respondents older than 60 years were used. It is important to recognise that this group may represent experienced and matured respondents in the postgraduate research environment. The young and upcoming respondents (11.54%) were between 36 and 40 years of age. Of the respondents, 11.54% were between 51 and 55 years of age and only one respondent (3.85%) was in the 31 to 35 age category. The rest of the respondents were in the age category of 41 to 45 years (7.69%).

Figure 4.5 illustrates the female respondents' ages. The majority of the female respondents (23.81%) were between 51 and 55 years of age. A high representation of the respondents (42.86%) was between 31 and 45 years of age.

Only 2.13% were in the group of young and upcoming postgraduate supervisors in the age group 24 to 30 years. A high percentage of the female respondents (19.05%) were in the age group of 46 to 50 years of age, while the age group of the female component between the ages of 56 and 60 years contained only two respondents (9.52%).

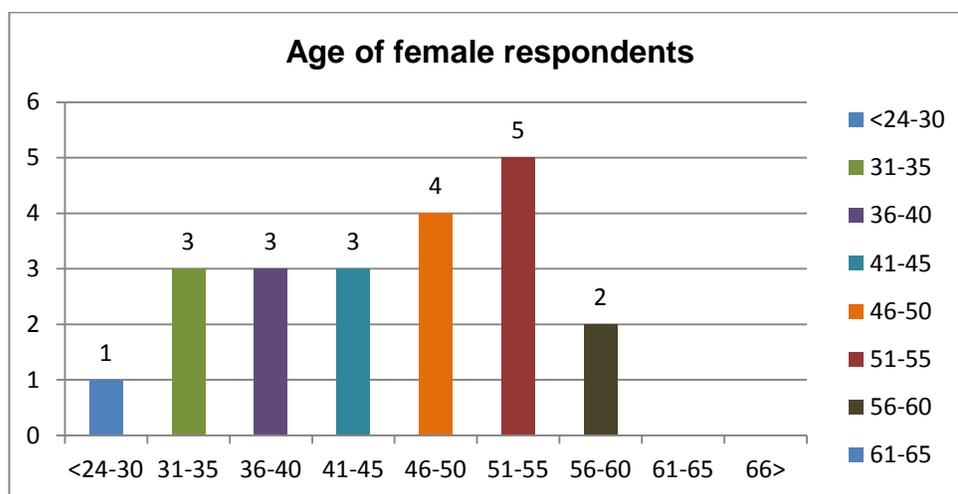


Figure 4.5: Age dissemination of female respondents

Summary of the above views:

The larger part of the male respondents was between the 56 and 65 years of age, implying that there is a substantial base of older postgraduate supervisors currently supporting students in UoTs in the research environment. In the younger age component between 31 to 35 years was only one individual, which indicate that UoTs need to develop their younger postgraduate supervision component.

With the female respondents were the larger part between 51 and 55 years of age and a high representation of the respondents was between 31 and 45 years of age. Again the younger and upcoming postgraduate supervisors in the age group of 24 to 30 years need to be developed.

4.3.4 Disciplines

Question 5 asked the respondents to indicate their discipline, with Figure 4.6 providing a summary. The list of discipline was compiled from the current programmes offered by UoTs in South Africa. The wide range of disciplines (27) can be regarded as a fairly representative sample from the 47 respondents that answered the questionnaire within the four UoTs in South Africa.

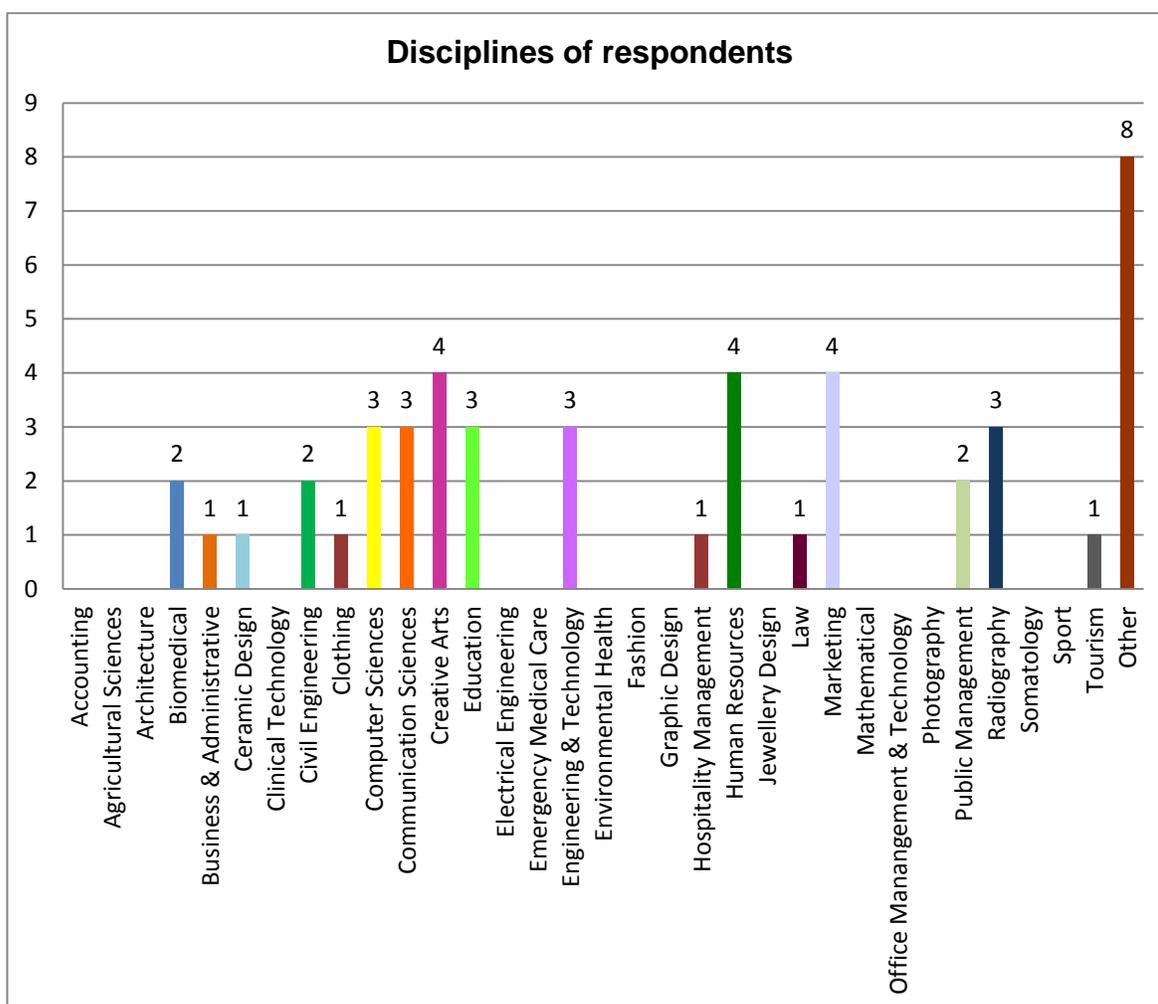


Figure 4.6: Distribution of respondents' disciplines

The respondents that marked other disciplines (17.02%) included subject fields such as labour economics, entrepreneurship, biotechnology, homoeopathy, fine arts, chiropractics, management, health and textile engineering of technology.

A wide range of disciplines was indicated by the respondents as their field of expertise, as presented in Table 4.1. The sample represents a snapshot of the postgraduate supervisors at South African UoTs in terms of gender, education level, age and academic discipline.

Table 4.1: Respondents' disciplines

Biomedical	4.26%
Business and Administrative	2.13%
Ceramic Design	2.13%
Civil Engineering	4.26%
Clothing	2.13%
Computer Sciences	6.38%
Communication Sciences	6.38%
Creative Arts	8.51%
Education	6.38%
Engineering and Technology	6.38%
Hospitality Management	2.13%
Human Resources	8.51%
Law	2.13%
Marketing	8.51%
Public Management	4.26%
Radiography	6.38%
Tourism	2.13%
Other: labour economics entrepreneurship biotechnology homoeopathy fine arts chiropractics management health textile engineering of technology	17.02%

Summary of the above views:

The sample size of the research study was small, but it represents a large part of the UoT discipline component, namely 27 different disciplines. The diversity of disciplines provide a good representative sample of the UoT component in the postgraduate supervision environment.

4.3.5 Involvement in postgraduate supervision

Question 6 asked participants to state how long they had been involved in postgraduate supervision. Forty-four participants responded to the question as follows:

One participant indicated that he/she was embarking on the postgraduate supervision process for the first time. Other participants indicated that they had been part of the postgraduate supervision process for a period ranging from one year to 12 years. The longest involvement of a participant in the supervision process was 25 years.

Question 62 asked participants to indicate their personal reasons for involvement in postgraduate supervision, and 42 respondents answered.

Some participants explained that they did not understand the question and therefore could not provide the researcher with an answer, while a few participants did not provide any comment. Other participants stated that they were involved in postgraduate supervision for different reasons.

The statements of the participants are grouped together according to themes or words and the researcher provides a summary at the beginning of each groups responses.

The first group of participants stated that postgraduate supervision was merely part of their role as an academic to supervise students. This indicated that they viewed the whole postgraduate supervision process only as part of their job and some of them indicated that they had been appointed to supervisor students, so it was not a choice for them. This is an alarming aspect, because an important part of the postgraduate supervision process is a passion for research and the provision of the necessary research knowledge to a new student that will enhance a lifelong learning approach. Another concern for the researcher is that a large group of participants stated that they were only involved in postgraduate supervision because it was part of their job and they derived no satisfaction from the process.

- ☛ As Head of Department I am obliged to be involved in postgraduate supervision.
- ☛ Part of my duties as academic personnel member.
- ☛ Part of my functions at the university is to provide study guidance to postgraduate students.
- ☛ Work-obligated.
- ☛ It's expected from academics that hold a PhD degree.
- ☛ Member of university staff, engage in faculty research activities.
- ☛ I was only appointed as co-supervisor for two M-Tech studies.
- ☛ I supervised a number of students on bachelors, masters and doctorate level, either as co-supervisor or supervisor.
- ☛ I am the lecturer for research methodology for students and help master-students with the model of their protocols.
- ☛ I am involved with the students from the B-Tech level, where I am responsible for the research project that is part of the degree (entails selection of research topic, research proposal, and active participation, preparation of a mini-dissertations and presentation to selected panel) all the way to M-Tech students doing a dissertation on a research project.

- ☛ Currently not active in supervision on postgraduate level, but on B-Tech level for project students.
- ☛ There are not enough supervisors in a specific field and the development of students is critical in this field.
- ☛ Requirement for our students in order to practice.

A summary of the second group of participants provide the following reasons why they were involved in postgraduate supervision. This group indicated that they enjoyed postgraduate supervision and that the creation of knowledge was an important part of their supervision practices and a stimulating activity for them as academics. The statements also indicated these participants' willingness to keep up-to-date in their disciplines and that research and that they had a passion for postgraduate supervision them. It can be concluded that only a few of the participants that provided an answer to the question were enjoying or deriving satisfaction from being part of the postgraduate supervision process. A UoT needs academic staff with this outlook in their discipline and in the postgraduate research environment to enhance and grow scholars in their disciplines and for the working world.

- ☛ My qualifications and experience afford me the opportunity to participate in supervisory practices.
- ☛ There is a constant need for new knowledge creation, especially at UoTs that specialise in applied research. We therefore need to provide guidance to postgraduate students in compelling research that is of value to society and business and industry.
- ☛ To enhance the knowledge bank of the specific discipline and to develop (young) researchers.
- ☛ This is a way to transfer knowledge to other junior researchers and to keep my-self-motivated to read and update my knowledge.

- ☛ To keep abreast of developments within my discipline. To provide mentorship for young and emerging researchers. To contribute to problem-solving on current issues. Personal and professional development.
- ☛ Good training in postgraduate supervision. Interest in research and changing other people's lives. Advancement of academic career.
- ☛ I am one of the highest-qualified staff members in the department, with a passion for research. I also serve on the Faculty Research Committee, and part of my job description includes research involvement. Moreover, I love to work with postgraduate students.
- ☛ In our programme we graduate approximately 35 masters per year, therefore we need to supervise a minimum of four students per year. I also enjoy it.
- ☛ I enjoy the intellectual and creative stimulation and challenges of working with students at master's level
- ☛ I love research and working on new ideas with novice researchers
- ☛ Part of my job. Also gives me pleasure in seeing students graduate. Thirdly, provides research/info for publishing papers.
- ☛ It is rewarding to see the results
- ☛ Interested in research.

All UoTs would want the second group of participants to be active part in their postgraduate research environment, because they represented a positive attitude.

4.3.6 Graduated postgraduate students in UoTs

Question 7 in the questionnaire asked participants to indicate how many postgraduate students had graduated under their supervision. The responses to this question indicate that UoTs are fairly young in the postgraduate research process. The results from 47 participants confirm this statement. The participants indicated that they had supervised and co-supervised up to 325 postgraduate students successfully for master's qualifications and only 35 for doctoral

qualifications. These answers support the picture of young institutions in the doctoral research component of postgraduate qualifications (see Figure 1.2 and Figure 1.3).

4.3.7 Current supervising postgraduate students in UoTs

Question 8 in the questionnaire related to the progress being made by UoTs in terms of improving the postgraduate supervision component, with 47 participants answering this question. The participants indicated that for the 2011-2012 period they had supervised and co-supervised up to 158 postgraduate students for master's qualifications and 42 for doctoral qualifications. These responses provide a picture of the growth in research at young and upcoming UoT institutions in South Africa, but also indicated that UoTs still have a long a difficult road ahead to improve their doctoral qualifications.

4.4 RANKING THE QUANTITATIVE FINDINGS

The following tables provide the mean and rankings according to the respondents' responses in the quantitative questions of the questionnaire. The tables have been created according to the number sequence in the questionnaire. The area of competency or attributes level indicates in which category the question is discussed: M = managerial competencies; E = emotional attributes; S = social competencies and P = personal attributes. The second table provides the highest mean score from the 61 quantitative questions in the questionnaire. The social, personal, emotional and managerial categories are interwoven in the questions and indicate the importance of achieving success in the postgraduate supervision milieu. The importance of a specific category is highlighted in a question where necessary. The qualitative perspective is also added where necessary to support the quantitative findings and to provide a better explanation of the postgraduate supervisors' views and experiences in the postgraduate supervision milieu.

Table 4.2: Summary of rankings and mean scores of quantitative findings

No.	Question	Area of competency or attributes	1	2	3	4	Total	N	Mean	Rank
11.	Leader is born (a product of our genes).	M	3	22	14	5	109	44	2.48	33
12.	Postgraduate supervisors need to act as a leader in the supervision process.	M		5	20	21	154	46	3.35	14
13.	Postgraduate supervisors need to act as the manager in the supervision process.	M	1	11	19	15	140	46	3.04	26
14.	Postgraduate supervisors need to act as the mentor/coach with passion in the supervision process.	M		3	13	30	165	46	3.59	3
15.	Postgraduate supervisors need to use his/her knowledge and expertise to generate plans in a research process.	M		7	15	25	159	47	3.38	13
16.	Postgraduate supervisors need to share credits and accolades with his/her student.	M		15	16	16	142	47	3.02	27
17.	Postgraduate supervisors need to be responsible and ensure that students understand the institutional rules and requirements.	M	1	13	11	22	148	47	3.15	23
18.	Postgraduate supervisors need to create an environment where students grow and develop to take ownership of the research project.	M		3	13	30	165	46	3.59	3
19.	Postgraduate supervisors need to show and foster respect for students' culture.	E		4	12	29	160	45	3.56	4
20.	Postgraduate supervisors need to be sensitive to students' needs and expectations.	P		5	17	24	157	46	3.41	11
21.	Postgraduate supervisors need to encourage students to care for and understand each other through team-work.	E		6	15	25	157	46	3.41	11
22.	Postgraduate supervisors need to motivate students.	E		1	16	29	166	46	3.61	2
23.	Postgraduate supervisors need to be willing to fulfil students' expectations (hopes, dreams and needs).	E	1	13	20	10	127	44	2.89	29
24.	Postgraduate supervisors need to defend a research project that he/she believes in.	M		2	11	33	169	46	3.67	1
25.	Postgraduate supervisors need to inspire trust.	P		3	12	31	166	46	3.61	2
26.	Postgraduate supervisors need to act as a negotiator to obtain needed funds, facilities and equipment.	M	2	13	21	10	131	46	2.85	30
27.	Postgraduate supervisors need to provide timely feedback in the supervision process.	S			20	25	160	45	3.56	4
28.	Postgraduate supervisors need to act as a strategic leader.	M		2	27	16	149	45	3.31	16
29.	Postgraduate supervisors need to build team relations ("community of champions").	P	2	16	16	10	122	44	2.77	32
30.	Postgraduate supervisors need to articulate a compelling vision in terms of the envisaged outcomes of the study.	M		10	22	13	138	45	3.07	25
31.	Postgraduate supervisors need to communicate well in spoken word.	S		2	28	16	152	46	3.30	17
32.	Postgraduate supervisors need to provide constructive feedback.	S	1	1	18	26	161	46	3.50	7
33.	Postgraduate supervisors need to be able to understand his/her own emotions and the emotions of others.	P		8	25	13	143	46	3.11	24
34.	Postgraduate supervisors need to know that dedication is essential in a research project.	P		3	15	28	163	46	3.54	6
35.	Postgraduate supervisors need to encourage lifelong learning.	M		7	19	20	151	46	3.28	18
36.	Postgraduate supervisors need to be confident in his/her work.	E		1	22	23	160	46	3.48	8

Table 4.2: Continue

No	Question	Area of competency or attributes	1	2	3	4	Total	N	Mean	Rank
37.	Postgraduate supervisors need to take responsibility for leading a balanced, artistically and creative lifestyle.	P	5	13	19	9	124	46	2.70	33
38.	Postgraduate supervisors need to connect with students to challenge his/her conventional thinking.	P		2	23	20	153	45	3.40	12
39.	Postgraduate supervisors need to know that experience should improve relationships with students.	S	2	2	20	21	150	45	3.33	15
40.	Postgraduate supervisors need to live out his/her own passions in life.	E	2	10	20	14	138	43	3.21	22
41.	Postgraduate supervisors need to focus on the physical and emotional energy for themselves.	P	1	7	22	16	145	46	3.15	23
42.	Postgraduate supervisors need to know that spiritual intelligence is essential for a supervisor to connect with their inner-self.	P	2	7	28	8	132	45	2.93	28
43.	Postgraduate supervisors need to have foresight into future planning at postgraduate level.	M		2	16	26	156	44	3.55	5
44.	Postgraduate supervisors need to take care of his/her wellbeing.	P	1	11	17	14	130	43	3.02	27
45.	Postgraduate supervisors need to be up-to-date with changes in the academic and business world.	P		4	17	25	159	46	3.46	9
46.	Postgraduate supervisors need to play the role of innovator to suggest new ideas in the research process.	S		6	22	18	150	46	3.26	19
47.	Postgraduate supervisors need to be able to evaluate the viability of a research project.	M			19	27	165	46	3.59	3
48.	Postgraduate supervisors need to be flexible and allow students to set ideas and plans through his/her guidance.	M	10	19	14	3	102	46	2.22	35
49.	Postgraduate supervisors need to be the critic in the research process.	P		3	15	28	163	46	3.54	6
50.	Postgraduate supervisors need to act as a pro-active leader in the research environment.	M		3	26	17	152	46	3.30	17
51.	Postgraduate supervisors need to be a good role model in the academic environment.	M		2	21	23	159	46	3.46	9
52.	Postgraduate supervisors need to be co-responsible for planning the entire research process.	M	4	17	23	2	115	46	2.50	34
53.	Postgraduate supervisors need to be co-responsible for setting time schedules for research goals.	M	4	17	23	2	115	46	2.50	34
54.	Postgraduate supervisors need to promote good values in the interest of a student.	S		2	11	33	169	46	3.67	1
55.	It is necessary for postgraduate supervisors to collaborate with his/her students to create new decisions.	S		5	26	15	148	46	3.22	21
56.	It is necessary for postgraduate supervisors to empower students with his/her learning and teaching practices.	P		2	26	18	154	46	3.35	14
57.	It is necessary for postgraduate supervisors to set ethical guidelines.	S		1	24	20	154	45	3.42	10

Table 4.2: Continue

No	Question	Area of competency or attributes	1	2	3	4	Total	N	Mean	Rank
58.	It is necessary for postgraduate supervisors to establish sound interpersonal relationships.	S		2	14	30	166	46	3.61	2
59.	It is necessary for postgraduate supervisors to act as the spokesperson to inform, answer, inquire or report back to students about vision, capabilities, plans and activities.	P		7	20	19	150	46	3.26	19
60.	It is necessary for postgraduate supervisors to be an academic technical supporter of their students.	M		9	17	20	149	46	3.24	20
61.	It is necessary for postgraduate supervisors to be responsible towards themselves by taking recovery sessions.	E	1	10	19	13	130	46	2.83	31

Table 4.3 provides a summary of the 10 highest mean scores of the quantitative questions in the questionnaire.

Table 4.3: Summary of highest mean scores

1.	Postgraduate supervisors need to defend a research project that he/she believes in.	3.67
1.	Postgraduate supervisors need to promote good values in the interest of a student.	3.67
2.	Postgraduate supervisors need to motivate students.	3.61
2.	Postgraduate supervisors need to inspire trust.	3.61
2.	It is necessary for postgraduate supervisors to establish sound interpersonal relationships.	3.61
3.	Postgraduate supervisors need to act as the mentor/coach with passion in the supervision process.	3.59
3.	Postgraduate supervisors need to create an environment where students grow and develop to take ownership of the research project.	3.59
3.	Postgraduate supervisors need to be able to evaluate the viability of a research project.	3.59
4.	Postgraduate supervisors need to show and foster respect for students' culture.	3.56
4.	Postgraduate supervisors need to provide timely feedback in the supervision process.	3.56
5.	Postgraduate supervisors need to have foresight into future planning at postgraduate level.	3.55
6.	Postgraduate supervisors need to know that dedication is essential in a research project.	3.54
6.	Postgraduate supervisors need to be the critic in the research process.	3.54
7.	Postgraduate supervisors need to provide constructive feedback.	3.50
8.	Postgraduate supervisors need to be confident in his/her work.	3.48
9.	Postgraduate supervisors need to be up-to-date with changes in the academic and business world.	3.46
9.	Postgraduate supervisors need to be a good role model in the academic environment.	3.46
10.	It is necessary for postgraduate supervisors to set ethical guidelines.	3.42

Summary of the above views:

The number one mean and ranking is to defend a research project and to promote good values ($\bar{X}=3.67$). Motivation of students within a sound interpersonal relationship that promotes and inspires trust is in second place ($\bar{X}=3.61$) with mentoring and coaching, the creation of an environment to grow and viability of a research project in the third place ($\bar{X}=3.59$).

4.5 VIEWS AND PERCEPTIONS OF LEADERSHIP IN THE POSTGRADUATE SUPERVISION PROCESS

The questionnaire was based on the various dimensions that emerged from the literature overviews in chapters 2 and 6. As indicated in chapter 6, there are similarities and overlaps in the required leadership capabilities and the intelligences of Covey's model. Because of the interrelatedness of the various dimensions, it is not possible to separate them when reporting the data. However, the headings indicate the dimensions to be dealt with. The appropriate qualitative questions are included with some quantitative questions to indicate the reasons for involvement and the participants' history in postgraduate supervision.

Building and maintaining relationships are important elements of effective leadership, and Figure 4.7 indicates that relationships form an important part of the social competencies and management attributes. It was therefore necessary to explore how postgraduate supervisors view this relationship.

4.5.1 Relationship with postgraduate students

The respondents were asked to indicate the type of relationships they experienced most often with their postgraduate students in the academic environment. Question 9 allowed respondents to choose more than one option to describe their relationship with students. Forty-six respondents answered the question, with Figure 4.7 showing that they largely agreed on what they regarded as important in terms of relationships in the postgraduate supervision environment.

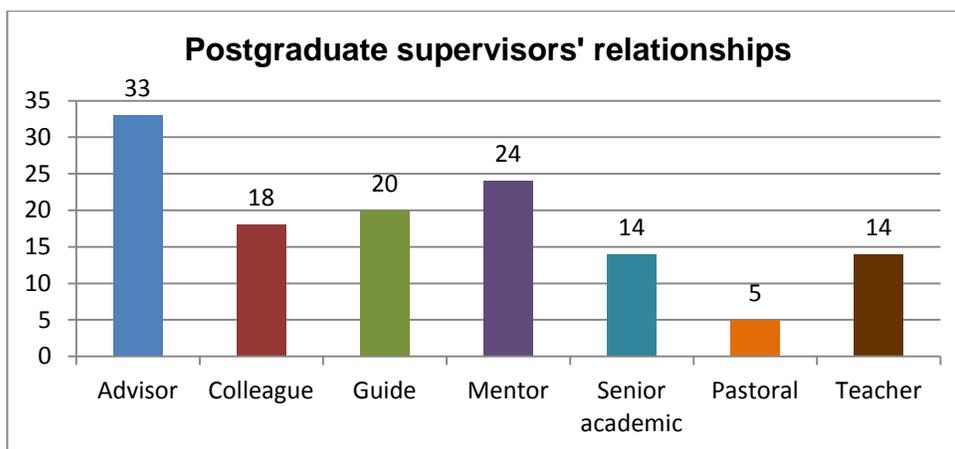


Figure 4.7: Relationships in postgraduate supervision

Figure 4.7 indicates that the respondents viewed their relationship in the supervision process mainly as advisory in nature. The respondents mostly experienced the relationship as one of advisor (71.74%), followed by mentor (52.17%), guide (43.48%), colleague (39.13%) senior academic and teacher as equal (30.43%), and lastly pastoral (10.87%). The relationship as colleague and senior academic presents valuable information, because this informed the researcher that many academics may be busy improving their own educational level or supervising others, and this would enhance the postgraduate supervision component within UoTs.

4.5.2 Leadership requirements

The study enabled the researcher to comprehend the extent of the respondents' perceptions and views in terms of the various dimensions of leadership requirements and the influence thereof in postgraduate supervision. Question 11 asked respondents for their view of a leader in general and in the postgraduate supervision process. The chart indicates the respondents' views on whether a leader is born (and thus a product of our genes).

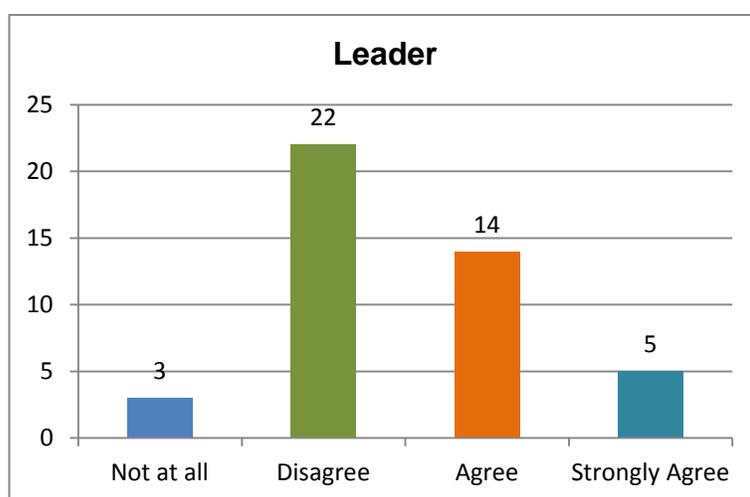


Figure 4.8: Leadership in postgraduate supervision

As shown in Figure 4.8, 44 respondents (50%) indicated that they disagreed with the statement of leaders being born and 31.82% of the respondents agreed with this statement. Leaders need to adapt to an ever-changing postgraduate research environment and projects with a diverse student population year after year. Table 4.2 indicate the means ($\bar{X}=2.48$) of this question.

Leadership in terms of postgraduate supervision also refers to actions such as mentoring, leading and managing. Postgraduate supervisors have to act in various capacities during a postgraduate research project. Questions 12, 13 and 14 asked respondents to indicate the importance of each activity. The

combination of these questions introduces the importance of a healthy understanding of the management competencies. Figure 4.9 shows the capacities in the postgraduate supervision process.

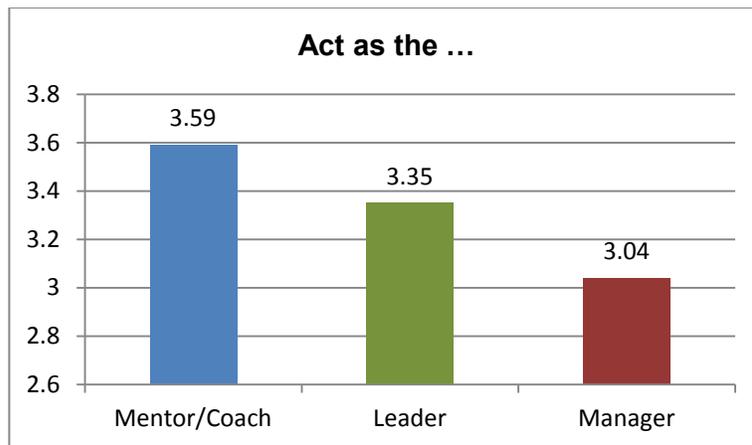


Figure 4.9: Different capacities of postgraduate supervisors in postgraduate supervision

Forty-six respondents indicated the importance of the mentor/coach capacity in the postgraduate research process (Question 14) as strongly agree (65.22%) and agree (28.26%). For the developmental leadership question (see Table 4.4) 13.95% of respondents identified mentoring and coaching as important.

Forty-six respondents strongly agreed (45.65%) and agreed (43.48%) on the importance of being a leader (Question 12) in the postgraduate supervision process. In the development leadership question their responses were different, because they indicated the importance of leadership as not so high. Forty-six respondents viewed the capacity of manager in the postgraduate research process (Question 13) as important with (41.30% agreed and 32.61% strongly agreed).

Table 4.2 indicate the means and ranking, with the mentor/coach capacity ($\bar{X}=3.59$) being the highest ranking and the manager capacity ($\bar{X}=3.04$) the lowest ranking activity in the postgraduate supervision process.

4.5.3 Confidence in leadership abilities in the postgraduate supervision process

Questions 15 and 21 were combined in light of the importance of postgraduate supervisors having confidence in their leadership abilities in the supervision process. This includes emotional attributes and social competencies, because postgraduate supervisors need to feel comfortable with their leadership skills in the postgraduate supervision environment.

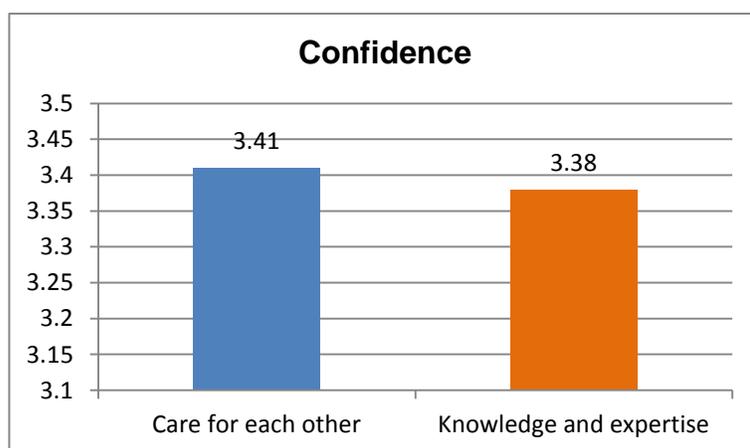


Figure 4.10: Postgraduate supervisors' confidence in leadership abilities

Forty-seven respondents marked the importance of confidence in their knowledge and expertise to generate plans (Question 15) as "strongly agree" (53.19%) and "agree" (31.91%). Question 21 asked respondents whether it is important for postgraduate supervisors to encourage students to care for and understand one another through teamwork in the postgraduate supervision process. Forty-six respondents replied that they strongly agreed (54.35%) and agreed (32.61%) that this was important.

Table 4.2 indicate the means and rankings of the importance of caring for one another ($\bar{X}=3.41$) in the postgraduate supervision process. The lower ranking was assigned to the importance of knowledge and expertise ($\bar{X}=3.38$) in the postgraduate supervision process.

4.6 ANALYSIS OF DEVELOPMENTAL QUESTION

The purpose of the developmental phase was to explore “an area that has not been studied and in which a researcher wants to develop initial ideas” (Struwig & Stead 2001:7). Within this study the researcher investigated the leadership element in postgraduate supervision. As mentioned earlier, leadership is a term that is known, but which is not often used in postgraduate supervision (see 1.2). Therefore, in the developmental phase, the researcher asked a single question of the research units within South African UoTs, namely to provide a definition for leadership in postgraduate supervision. A developmental phase can assemble excellent information from a small sample (Struwig & Stead 2001:7). The invitation letter was distributed to five UoTs in South Africa, and four UoTs provided an explanation of their views on leadership in the postgraduate supervision environment.

4.6.1 Results of the definition of leadership

With regard to the results of the developmental phase, the invitation to research units is discussed first, followed by the responses to the same question asked in the questionnaire. Six participants responded to the developmental question and 43 participants to question 63 in the questionnaire in phase 2, namely “*How would you define leadership in postgraduate supervision?*”

Participant 1: My comments on postgraduate supervision leadership within the postgraduate supervision environment – drawn from my experience in this field

since 1997. I supervised 31 postgraduate projects. I see the role of the leader in postgraduate supervision as critical to the success of the enterprise. The leader in postgraduate supervision needs to be SIMULTANEOUSLY ... (not in any order of priority!).

- A champion of scholarship who is deeply and widely knowledgeable about knowledge/s.
- A champion of social justice, who is deeply and widely knowledgeable about people, their values and motivation.
- A champion of scholarly courage: a wise, responsible and scholarly entrepreneur!
- A practicing supervisor.
- Experienced as a supervisor of a variety of successful candidates, in terms of age, gender, nationality, language, culture, background, occupation, socio-economic factors, marital status, health, inter alia.
- Experienced as a supervisor of mono-, inter-, multi-, cross-, and trans-disciplinary projects in his or her field.
- Informed about supervision of a variety of topics, not only in his or her specific field.
- Well-informed about international, national and institutional imperatives and innovation.
- Well-informed about the rules and regulations regulating the practice in his or her institution, and country, and the availability of funding, and how to access it.

Participant 2: For me being a good supervisor and leader involves the following:

- Being approachable, responsive and supportive.
- Providing direction and guidance on the relevant literature that the student must read, both in the chosen area of focus and in theory generally.
- Giving carefully-considered feedback to the student on the work submitted.

- Encouraging independent thinking, creativity and innovation on the part of the student.
- Leading by example by sharing your own research projects with your student.

Participant 3: Act as a leader in the supervision process and provide the student with research leadership and management skills.

Participant 4: Postgraduate supervision leadership is according to my understanding the leadership (could involve technical aspects, methodological issues, literature support, budgeting for the project, academic writing) provided to postgraduate students. The leadership should be provided by the supervisor and he/she should for this reason be informed about these issues.

Participant 5: In my opinion postgraduate supervision leadership, in the context of a higher education institution, is the facilitation of effective postgraduate supervision. In other words, a person in a position of authority or a directorate or an institutional committee should take the responsibility of creating a system that will enable or empower supervisors to provide the necessary standard of supervision to the postgraduate students who entrusted to them. Such a “leader” (or the committee of which he/she is the chairperson or the directorate for which he/she is responsible) shall create procedures that will ensure effective postgraduate supervision. The leadership will also monitor the success of he procedures that have been put in place.

Effective postgraduate supervision entails that postgraduate research candidates registering at higher education institutions are given the opportunity to develop their research potential to the best of their ability during their enrolment, under the guidance of an experienced supervisor or panel of supervisors. The candidates

should also be assisted to complete their course requirements within the time period laid down by the institution.

Effective postgraduate supervision can be ensured by *inter alia* developing the capacity of the supervisor. In the process staff members (and the postgraduate candidate) should be led to know what is expected of them and to understand the following:

- The roles and responsibilities of the supervisors.
- The roles and responsibilities of the postgraduate candidate.
- The student's expectations of the supervisor.
- That a positive relationship should exist between the supervisor and the postgraduate candidate, and how this can be ensured/promoted.
- The stages and contents of the supervision process in a postgraduate study.
- The procedures and processes necessary for postgraduate study at the tertiary institution.
- The difference between a postgraduate study at honours (BTech), master's and doctoral level.

Postgraduate supervision leadership will also ensure:

- That supervisors have the time to fulfil their supervisory roles;
- That supervisors have the necessary qualifications, expertise and supervisory experience and are in a position to obtain running funds for the project and bursary funds for the student;
- That postgraduate candidates have the necessary infrastructure and support systems to successfully further their studies, including academic library facilities, computer facilities with internet access, access to statistical software and/or statisticians, postgraduate seating facilities, postgraduate laboratories and analytical equipment in the case of natural sciences and engineering candidates; and

- That the institution has the capacity to deal with ethical issues in research and matters of intellectual property relating to research outcomes.

Participant 6: Postgraduate supervision is the process whereby postgraduate students are promoted and assisted during their master's or doctoral studies through professional academic guidance by supervisors acting as mentors, coaches and facilitators of the postgraduate research projects.

Postgraduate supervision leadership therefore refers to the conceptualisation of the postgraduate supervision process, the theories and practices related to it. A leader in postgraduate supervision therefore would be a person who has mastered the skill of promoting postgraduate students based on existing theories and tested practical activities.

Responses from 43 participants to the same question in the questionnaire:

Responses provide the participants' views about the importance of leadership in the postgraduate supervision process.

- ☛ To act as adviser, mentor and to show constant interest in the research project.
- ☛ Leadership needs to be provided to the student in terms of planning the study, how/where to collect information, guidance and motivation.
- ☛ The supervisor must direct the student to the final outcome, but it is not the supervisor that must reach the outcome it is the students' responsibility. I will compare the supervisor to a GPS. Establishing the best route to the destination. Indicating speed traps and giving direction to reach the destination (outcomes).
- ☛ Guidance in the process of scientific research
- ☛ In-depth knowledge of topic. Willingness to learn/do own research regarding topic. Willingness/openness to assist candidate. Availability to the student.

- Supervisor must work systematically through the research process and he/she must give tasks to the student with due dates, for research are mostly a new experience to students and they get de-motivated quickly.
- Mentor and facilitator, with passion, dedicated, results-oriented, coupled with patience, tolerance and also willing to learn.
- Exercise positive influence over the activities of the student, guidance, help student to keep focus.
- Initiating timetable for meetings. Introduction to structure of proposal and thesis. Introduction to required general reading, e.g. on paradigms. Developing a culture of objectivity and evidence based analysis. Reading implications from research findings.
- Important to help and to keep the momentum.
- It should be moderate as student must have flexibility.
- Make sure that the student knows where he/she is going by keeping him/her focused on the topic and the subject matter.
- Guide/mentor the student to create a thesis that is of acceptable academic standard with regards to structure, academic writing, research, technical aspects, etc.
- Guiding students to take responsibility for their own work.
- Thinking out of the box and providing the support the student requires on an individual basis, not a blanket approach of "one size fits all".
- Being able to guide the student through the process encouraging them when necessary and being firm when necessary, having sufficient knowledge of the research process as well as the area of investigation.
- Leadership is providing adequate guidance to a student by pointing him/her into the right direction, especially at the start of the research process.
- Academic leadership with the emphasis on real supervision.
- One should not be too dominant or pushy with students and let them develop their own personalities and intellectual capabilities.

- ☛ Leadership is embodied in honesty, integrity, openness to change/discussion debate. Mentorship (life, academic & research related). Supporter/encourages of student achievements.
- ☛ Not sure. Never thought about it because it is not the supervisor's job to lead the student.
- ☛ Being able to get a student to be as excited as a topic as myself and then passionately pursue it him/herself as it has been his/her very own idea.
- ☛ Guiding, advising and mentoring the students in their quests to find answers to their research question. Also encouraging them when they appear to falter. Not doing their work for them and not instructing them in minute detail on how to do their work. Definitely not writing their academic work.

Conclusions about the leadership question in the developmental phase and in the questionnaire: In the developmental phase, most participants agreed that a postgraduate supervisor is the academic leader in the research process, whereas in the questionnaire, the view was not the same according to participants. In the developmental phase, few participants felt that dedication and passion are important in the postgraduate research process, whereas a higher component of the participants in the questionnaire agreed with this statement.

Forty-three participants' views on leadership in postgraduate supervision can be defined as follows: In the questionnaire, a high component of the participants proposed that a postgraduate supervisor is a guide, while some of the participants in the developmental question agreed with this statement. The motivation of a postgraduate student was viewed by the participants in the questionnaire as an important activity.

Summary of the above views:

Leadership in postgraduate supervision is the process whereby students are promoted and assisted during their master's or doctoral studies through professional academic guidance by supervisors acting as mentors, coaches and facilitators in the research project. The postgraduate supervisor has to perform different roles, functions and activities throughout the supervision process.

4.7 COMMUNICATION PRACTICES IN THE POSTGRADUATE SUPERVISION ENVIRONMENT

Now that there is clarity on what postgraduate supervisors perceive to be most important in terms of relationships and confidence, it is necessary to follow up on what those respondents regard as the most effective communication practices in the postgraduate supervision environment (see Figure 2.2 & 2.5). An important element in leadership is an active and positive communication process within the social and management competencies. Questions 27, 31 and 32 are combined, because they assessed the importance of communication skills in the leadership domain.

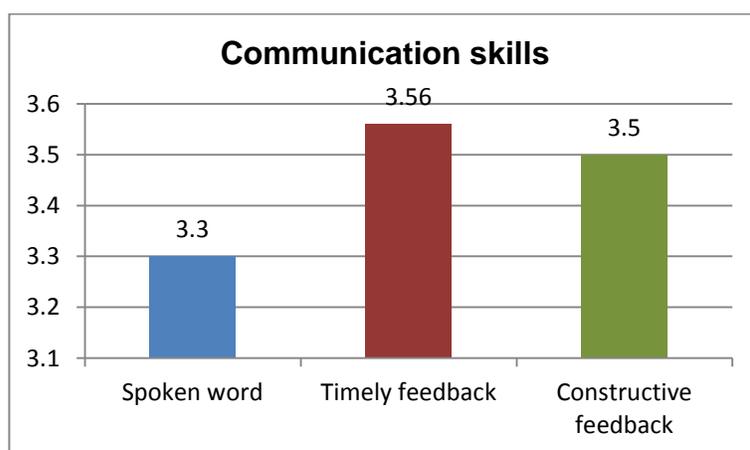


Figure 4.11: Communication skills in postgraduate supervision

Communication skills are an element relating to the passion of postgraduate supervisors. Forty-six respondents agreed (60.87%) and strongly agreed (34.78%) that their spoken skills (Question 31) are effective. Question 10 in the questionnaire asked respondents to indicate the most frequent way in which postgraduate student contact is initiated. Respondents indicated that they worked on an agreed schedule and from postgraduate students' requests for meetings.

Question 27 and 32 assessed the importance of the feedback process in the leadership environment. The feedback process in the postgraduate supervision environment is one of the most important elements for students. This is also an important aspect for postgraduate supervisors, because it includes the social and management competencies together with leadership skills in the supervision process.

Forty-five respondents indicated that the important ingredient of the feedback process is that it needs to be well-timed in the postgraduate supervision process (Question 27) and respondents agreed (44.44%) and strongly agreed (55.56%) that they give feedback to students in a timely manner. Forty-six respondents indicated that the important ingredient of the feedback process is that it needs to be constructive (Question 32) and respondents agreed (39.13%) and strongly agreed (56.52%) that their feedback is constructive and positive in the research process. A qualitative view on constructive feedback is discussed below.

The means and the ranking indicate that respondents' views are high regarding timely feedback ($\bar{X}=3.56$) to postgraduate students. The feedback process is an element that relates to the passion and dedication of postgraduate supervisors in the research project. The spoken word mean and ranking ($\bar{X}=3.30$) indicate that respondents' views are lower regarding this communication skill in the postgraduate research process.

4.7.1 Constructive feedback practices

An important element in the postgraduate supervision environment is the communication process. Question 65 asked participants to provide examples of constructive feedback to postgraduate students.

It is important information for a postgraduate supervisor to assist the student to understand the all-important golden thread and cohesiveness needed in a research project. Many respondents highlighted the importance of not criticising a postgraduate students work, but rather recommending a better way of writing the chapter. Another important aspect concerning constructive feedback is to provide written notes on draft chapters with a face-to-face feedback meeting. Postgraduate supervisors need to discuss and provide reasons for their recommendations so that students can understand the reasoning behind the feedback. The respondents indicated that providing positive feedback always entails giving two constructive points for every destructive point. Another important aspect is to allow postgraduate students to formulate their own ideas in the beginning so that they take ownership for the research project – the supervisor can add constructive feedback later. All feedback must be done in a professional manner by an expert advisor. The respondents agreed that guidance must be provided that will motivate postgraduate students, which will ensure that growth occurs and that the constructive feedback will support the students' knowledge and confidence. The respondents also mentioned that it is important to be informed about the latest developments in their field of expertise and that it is vital to keep postgraduate students informed. Another important feedback aspect is to inform postgraduate students when they need to consult more resources and to advise them on important and new resources to gain a better understanding of the research topic. The respondents agreed that they often have to remind postgraduate students about the original research problem and aims, because students tend to make the research project too broad.

4.7.2 Sharing credits and accolades

Question 16 asked respondents to indicate how they share the credits and accolades of success with their postgraduate students.

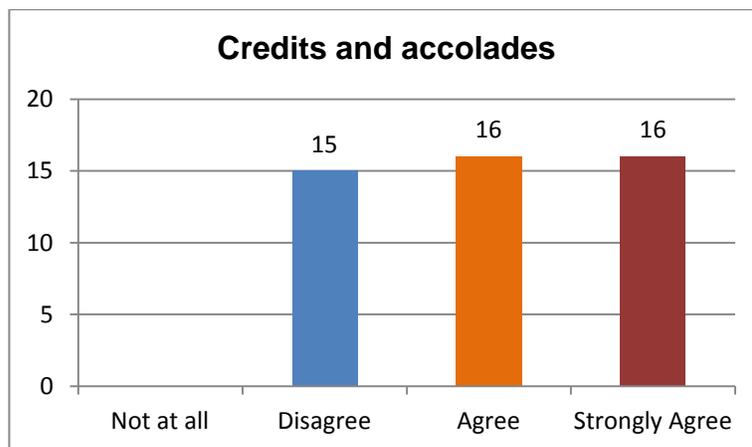


Figure 4.12: Credits and accolades in postgraduate supervision

Figure 4.12 illustrates the forty-seven respondents' answers to the question. An equal percentage of respondents agreed and strongly agreed (34.04%) that credits must be shared with postgraduate students and 31.91% disagreed with this statement.

Question 64, in the qualitative section of the questionnaire asked participants to indicate how they share the credits and accolades of success with their postgraduate students.

- ☛ The participants indicated the importance of inspiring postgraduate students during the research process to publish their new research information.
- ☛ Participants explained that occasionally, postgraduate students are not interested in the opportunity to publish an article, which leaves supervisors with a negative feeling after their long and hard work.

- Success is important for both parties and therefore it is good to provide the opportunity for postgraduate students to attend national or international conferences when they are enrolled as students.
- Lastly, the participants explained that future postgraduate students had been referred to them by previous students, which is good credit for a supervisor, and some also mentioned receiving thank-you notes at the end of the research process.

4.8 INSTITUTIONAL AND RELATIONSHIP REQUIREMENTS IN POSTGRADUATE SUPERVISION

Now that there is clarity on what postgraduate supervisors perceive as the best communications skills in the postgraduate supervision process, it is necessary to follow up on what those respondents regard as the institutional and relationship requirement areas that need to be covered in the postgraduate supervision process and which form part of the management and the social competencies. Figure 4.13 shows the institutional requirements needed and Figure 4.14 indicates the relationship requirements for postgraduate supervisors in the supervision process.

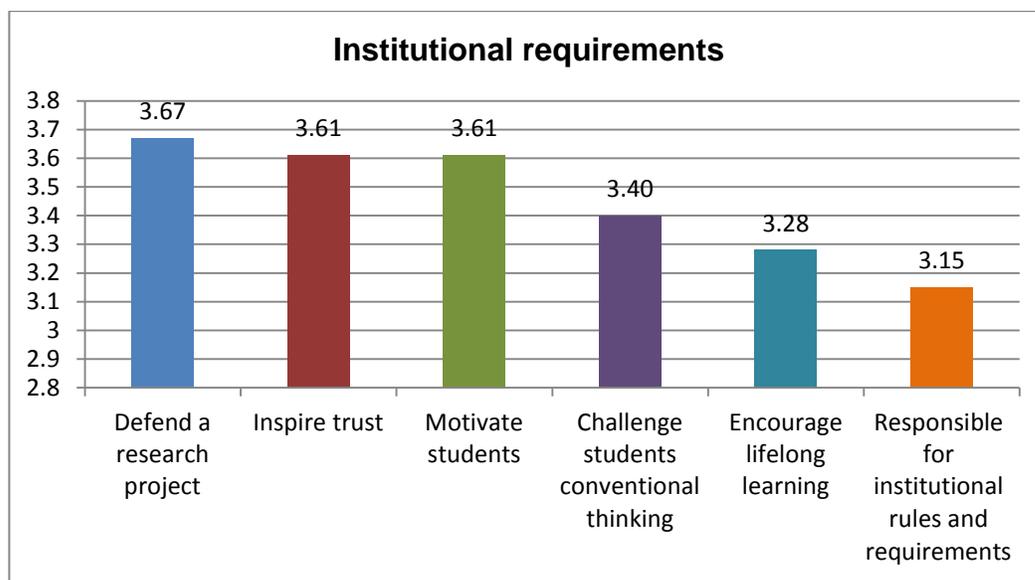


Figure 4.13: Institutional requirements in postgraduate supervision

Question 24 asked respondents whether they would defend a research project in which they believe. Forty-six respondents replied that they strongly agreed (71.74%) and agreed (23.91%) that they would defend a research project. This represents the management competencies working with the personal attributes, which inform an individual what is right and what is wrong in a postgraduate research process. This could also be related to spiritual intelligence. Forty-six respondents replied that they strongly agreed (67.39%) and agreed (26.09%) that they should inspire trust among their postgraduate students (Question 25).

Question 22 asked respondents whether they motivate their postgraduate students in the supervision process. Forty-six respondents replied that they strongly agreed (63.04%) and agreed (34.78%) that they motivate their postgraduate students. In the developmental question the respondents indicated that motivation constituted a large part of their postgraduate supervision task, which includes the emotional attributes of an individual.

Why is it so important that postgraduate supervisors challenge the conventional thinking of a student (Question 38)? The answer is because this is the main key for the development of critical thinking skills of postgraduate students in the personal attribute element. Postgraduate supervisors need to probe their students to broaden their thinking skills. Forty-five respondents answered that they agreed (51.11%) and strongly agreed (44.44%) on the importance of challenging the thinking process of postgraduate students.

On the question regarding an attitude of lifelong learning (Question 35), 46 respondents answered that they strongly agreed (43.48%) and agreed (41.30%) with this question. Forty-seven respondents strongly agreed (46.81%) and agreed (23.40%) that they needed to explain the institutional rules and requirements (Question 17) to postgraduate students and 27.66% disagreed with this statement. Lifelong learning plays an important role in the management competencies of a person.

Table 4.2 indicates the means and ranking, i.e. that the defending of a research project ($\bar{X}=3.67$) has the highest ranking according to the respondents, with the responsibility for institutional rules and requirements ($\bar{X}=3.15$) ranked the lowest in the postgraduate supervision process.

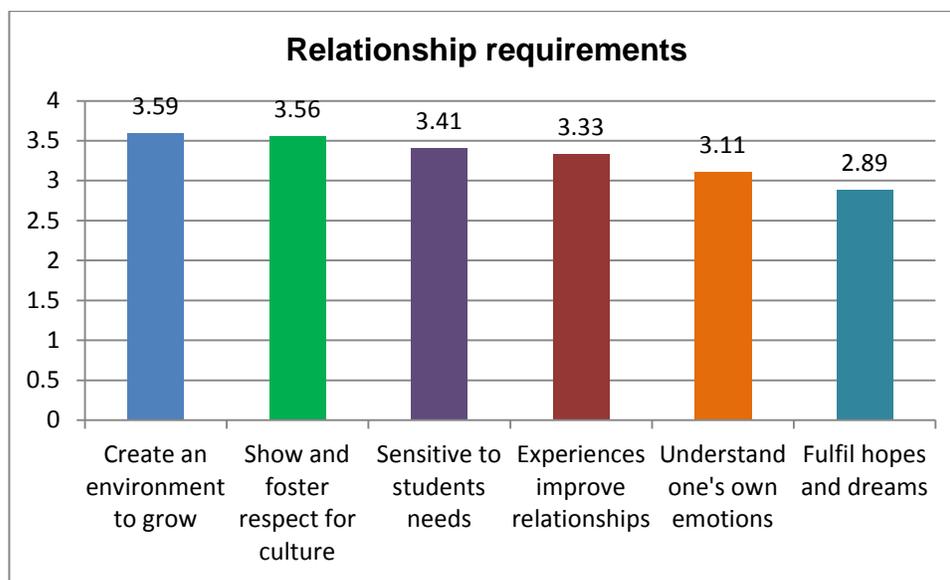


Figure 4.14: Relationship requirements in postgraduate supervision

Forty-six respondents in Question 18 agreed (28.26%) and strongly agreed (65.22%) on the importance of creating an environment in which postgraduate students feel comfortable and which allows them to grow and to take ownership of their work. In Question 19, 45 respondents indicated that they strongly agreed (64.44%) and agreed (26.67%) on the importance of showing respect for other people and their cultural background. Question 18 play an important role in the social competencies and management attributes of the postgraduate supervision process and Question 19 is important in the emotional attributes of the supervision process.

Question 20 asked the respondents whether they are sensitive to the needs and expectations of postgraduate students in the supervision process, and 46 responses were received pointing to this being an important aspect in terms of personal attributes in the supervision process. The respondents strongly agreed (52.17%) and agreed (36.96%) that they were sensitive to their students' needs and expectations.

Question 39 asked if experience from a postgraduate supervisor may improve the supervision relationship. This is also connected to a postgraduate supervisor's social competency, which matures over time. The answers from 45 respondents varied between strongly agree (46.67%) and agree (44.44%). Question 33 asked the respondents whether it is necessary to understand your own emotions and the emotions of other individuals. Forty-six respondents agreed (54.35%) and strongly agreed (28.26%) that it is important and 17.39% disagreed with this statement.

Question 23 asked whether postgraduate supervisors are willing to fulfil their postgraduate students' hopes and dreams and 44 respondents answered the question. The respondents indicated that they agreed (45.45%) and strongly agreed (22.73%) on the need to assist in this action, whereby 29.55% disagreed with this statement. This question can be viewed as part of the personal and social aspect in the postgraduate supervision process and as the management aspect where it may be viewed as only a work element.

Questions 20 and 23 received different answers in terms of the expectations of postgraduate students and what is important to them in the supervision process. Students need to know that supervisors will be sensitive to their needs and supportive of their dreams.

Table 4.2 indicate the means and ranking, with the creation of an environment where students can grow ($\bar{X}=3.59$) having the highest ranking according to the respondents, with the responsibility of fulfilling the hopes and dreams of students ($\bar{X}=2.89$) ranked the lowest in the postgraduate supervision process.

The following qualitative question is included to inform the importance of a lifelong learning process in the postgraduate supervision environment and a supervisor's field of discipline.

4.8.1 Continuous development in postgraduate supervision

Question 70 asked the participants to explain their view or experience of continuous development and 41 participants replied.

- ☛ Development is needed for novice supervisors. Experienced supervisors also need some form of development to ensure that they stay abreast of new developments in the research field.
- ☛ Yes, the supervisor or promoter should strive towards own development, e.g. requiring knowledge from industry on a continuous basis, sharpening own knowledge with regard to academic writing.
- ☛ Continuous development in the growth of the research which is being conducted as well as continuous personal development as a supervisor and a researcher.
- ☛ As a supervisor you realise that it is impossible to know everything, but because you can read and write, anything can be discovered and used or applied.
- ☛ Yes – in order to be able to lead or be a role-model, your cup must stay full.
- ☛ If supervisors do not stay abreast of the latest development in their field of study (sometimes even on a daily basis), then they will not be able to provide the guidance the students deserve and will not be able to ensure that the research is recent and of a high quality.
- ☛ By setting a detailed working schedule on the onset and constantly allowing for the flexibility to realistically review it.
- ☛ In the IT industry changes occurs daily and it is important to keep up to date with the latest developments and trends. In order to ensure that projects are viable it is essential for the supervisor to keep up to date with the happenings of industry and indirectly with the supervision processes.
- ☛ To keep track of changes in methodologies, strategies, issues, controversies and promote quality of product.

- ☛ Each research project has its own challenges and by reading a lot and asking other supervisors the supervisor will continuously develop.
- ☛ In-depth knowledge of topic. Willingness to learn/do own research regarding topic. Willingness/openness to assist candidate. Availability to student.
- ☛ Growing understanding of the state of knowledge of the field at different time periods. Contribution to the refinement of techniques and the research process. Growing capacity to publish, mentor and engage on research issues. Horizontal and vertical growth within the field. Expanding network and recognition as a leader.
- ☛ Students will at some stage obtain information new to you as supervisor. It is important that the new theories be studied and short course programmes be attended to stay abreast of new developments.
- ☛ Research should never be put in a box or one specific model. The field is so wide open that one could almost say 'anything goes'. Still, there are good practice research guidelines. Supervisors should be life-long learners on the topic of research so as to be able to guide individual students to discover their own 'story' and way of expressing that story in their thesis.
- ☛ It is a learning process and also a very dynamic one, stay a researcher.

Summary of the above views:

Most participants believe that to maintain best practices in the postgraduate supervision process, one needs to develop continuously and that development is vital for supervisors (novice and experienced) through continued supervision of students, workshops and reading. The best way to do this is to stay a lifelong learner and researcher. Most participants agreed with the statement that continuous development is important.

4.9 MENTAL AND EMOTIONAL CAPABILITIES OF POSTGRADUATE SUPERVISORS

The questions were combined due to the importance of the mental capabilities that postgraduate supervisors need in the supervision environment. These questions emphasise the importance of the harmony of intelligences with one another. Figure 4.15 indicated the importance of mental and emotional capabilities.

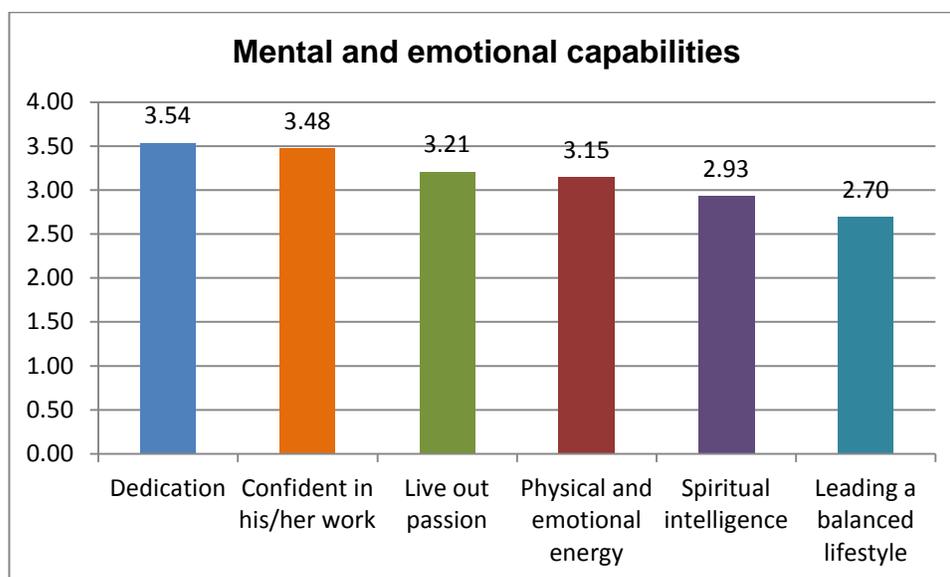


Figure 4.15: Importance of mental and emotional capabilities in postgraduate supervision

Dedication (Question 34) is essential in the postgraduate supervision process and this is only possible if a supervisor is self-motivated, which may form part of the social competency. Forty-six respondents strongly agreed (60.87%) that dedication is important. Question 36 asked if confidence in a postgraduate supervisor's work is important and 46 respondents agreed (47.83%) and strongly agreed (50%) that it is important and plays an important role in the emotional attributes and social competence of an individual.

When people live out their passion in life (Question 40), they are indicating to the outside world that they enjoy what they are doing. Forty-six respondents agreed (43.48%) and strongly agreed (30.43%) that this is important for postgraduate supervisors.

Question 41 asked the respondents about the importance of a postgraduate supervisor's emotional and physical energy. Forty-six respondents agreed (47.83%) and strongly agreed (34.78%) that this is important in the postgraduate supervisor's work.

Question 42 asked whether spiritual intelligence is important for postgraduate supervisors to connect with their inner-self. Forty-five respondents agreed (62.22%) and strongly agreed (17.78%) that it is important. The respondents were asked about the importance of planning a balanced lifestyle (Question 37). Forty-six respondents agreed (41.30%) that it is important and 28.26% disagreed with this statement.

Table 4.2 indicates the means and ranking, with dedication ($\bar{X}=3.54$) of high importance and the leading of a balanced lifestyle ($\bar{X}=2.70$) ranked the lowest in the postgraduate supervision process.

4.9.1 Definition of spiritual intelligence (SQ) in postgraduate supervision

Question 66 asked the participants to provide a definition for SQ and 35 participants answered. Two participants could not see the link between SQ and the postgraduate supervision process. The participants answered as follows:

- ☛ To be able to work according to personal/individual standards at an ethical level.

- ☛ Conscience applies when you aim to always act within the limits of ethical norms and values. Never fiddle with results to make the outcome of a study look the way you want it to look.
- ☛ To act in a manner that reflects non-biased research with strong ethical considerations.
- ☛ The ability to demonstrate ethical academic processes in the development of the research project.
- ☛ Adherence to ethics, scientific methods of research.
- ☛ Must have moral/ethical responsibility towards research.
- ☛ Being able to see what is possible based on moral and ethical values. Being able to back down if the situation calls for it without any recriminations. Standing up for your belief whilst at the same time having the finger on the pulse of society in general and understanding their concerns on the issue.
- ☛ Spiritual intelligence implies a moral conscience (knowingness) based on the ability to distinguish between that which is ethically right or wrong.
- ☛ Awareness of morality and what is right and wrong in research.
- ☛ The moral sense underlying a discovery for positive advancement of society, i.e. the ethics of research – Role model of integrity.
- ☛ The need to practice integrity and wanting to make a positive contribution to society through research.
- ☛ Conscience is the small inner voice that reminds you to be ethical, i.e. not to do things that you would be ashamed of if someone else finds out about it. There are a number of ethical guidelines known that supervisors should adhere to – every supervisor should know and follow these guidelines.

In conclusion the first group stated that SQ implies a moral conscience (knowingness) based on the ability to distinguish between what is ethically right or wrong in the postgraduate supervision process. Therefore, the participants believe that every postgraduate supervisor needs to realise what supervision means to every student in the supervision process and to be in touch with who

you are, what you believe in and to live out your dreams. A contribution is made in this sense by the postgraduate supervisor to provide knowledge, skills, values and attitudes that will empower students in the research process. Honesty plays an important role in the postgraduate research process. The following answers were received from participants.

- ☛ The supervisor must be able to also guide through previous experiences, whether it is personal life experiences or practical work experiences.
- ☛ Spiritual intelligence is affiliated with endurance during the research process.
- ☛ It is a connection between a person's IQ and EQ. The supervisor must not only have knowledge of research but must be able to work out problems and relate it to the real world. It includes perceptions and cognitions.
- ☛ Being in touch with who you are, what you believe in and to live your dreams.
- ☛ Not to feel guilty about any guidance that you have offered.
- ☛ Spiritual intelligence – this is required to manage pastoral issues in the research process. To address, refer or counsel the students.
- ☛ As a Christian to me this means being Christ-like.
- ☛ I pray regularly for my students – rarely with them, only when asked. I pray that their needs be met, that they be diligent, that they have a desire to complete their studies. God guides me in dealing with them. All they know is the outcome – not how I achieve it. Again, many great supervisors have different systems. To me, even the work that I do, the way I train the students, the way I deal with them, is a work unto God. They have been entrusted to my care by Him, and He leads me in leading them to where He wants them to be. Life on earth is short, there is an eternal life ahead of me, and all I do here is practice for the life lived there.

In conclusion participants mentioned that the motivation and guiding of postgraduate students within the research process and the contribution that a postgraduate supervisor makes to the life of the student is important. The importance of sharing valid information with the postgraduate student will provide the necessary support that a student knows what to expect from the long and daunting time in their life. The same participants indicate that the whole postgraduate research process is also a relationship with him or her as a Christian and with the student to provide the best support for the student. Participants' answered as follows:

4.9.2 Definition of passion or emotional intelligence (EQ) in postgraduate supervision

Question 69 asked participants to provide a definition of their passion in the postgraduate supervision process and only 39 participants responded to the question. Participants reacted as follows:

- ☛ Be open and friendly although you do not sometimes feel like it. Do not show your frustration.
- ☛ Not only to cope with emotional intelligence but also to develop that area of action. Put yourself in the student's place/position.
- ☛ Interest in topic, student and success of the project.
- ☛ Retain insight into the students' research process. Preparedness for the difficulties.
- ☛ Control your emotions when working with student. Respect student's view point. Don't let setbacks get you under. See the potential in the student.
- ☛ Knowing the difference between a student struggling to cope due to circumstances and those who lack interests in the topic/study and is just passing time – waiting for the next opportunity to move on.

- ☛ Ability to foster a sense of self belief in students in realising their full academic potential. Patience in developing the postgraduate project from proposal to dissertation and exhibition.
- ☛ The ability to get the best out of someone without coming across as arrogant.

In conclusion the first group of participants stated the importance of recognising postgraduate students' needs. The participants state the importance of empathising with the postgraduate student and remembering how important it is to stand in the shoes of the student in this new and uncertain research environment. Another important point that was touched on by participants was that the postgraduate supervisor needs to be interested in the topic of the students because that will provide the necessary support and motivation from the supervisor to the student. A second important aspect is that a postgraduate supervisor must remember that each student is unique and that each student will differ from another student and that you need to see the potential in each of your students during the postgraduate research process. Lastly, participants stated that it is important to know your postgraduate students and to ensure that you will bring out the best in the student and to show self-belief in the student and the whole postgraduate research process. The following answers were received from participants.

- ☛ If you are passionate about your subject it will be contagious. Passion will motivate the student and yourself.
- ☛ The level of passion that is present in a person will be reflected in the attitude and way a research project is conducted or supervision given.
- ☛ Without passion and enthusiasm you can forget of achieving your set goal successfully, on time and with much satisfaction.
- ☛ A person with passion will do his/her utmost to ensure the success of the candidate.

- Once you have become deeply involved and truly understand the need to move from the known to unknown there is a passion to make this work and succeed.
- Passion is a powerful motivator towards the achievement of success. I would therefore say that you should have passion for the profession in which you supervise to be a successful supervisor.
- My discipline has a lot to do with passion. What links me to my postgraduate students is the passion we share. This makes the job of directing that passion and presenting it within the academic research environment both challenging and rewarding.
- When the student comes to you in tears and full of frustration the passion of the supervisor will help the student see through the hard times. Passion is about wanting to know the answers.

In conclusion these participants stated positive reasons for their passionate involvement. Participants agreed that internal motivation is important, because without it you would not enjoy the postgraduate research process and when you have internal motivation your passion will be contagious to your student. Passion is one of the most important ingredients in the postgraduate supervision environment to ensure success for students. This will provide the student with a lifelong approach to life and passion is contagious, which may form part of the students' outlook in life. The last and positive reaction from participants.

- An absolute love for what you doing and experiencing the fulfilment of the project when it is finished.
- An attitude that reflects loving what you are doing in such a way that it is irresistible to the students and contagious to your colleagues.
- The joy of success in problem solving. Pre-occupation with positive impacts of research outputs. Pleasure resulting from peer recognition and accolade.

- ☛ Being aware and satisfied with your life, learning, strengths and weaknesses. Improving on these aspects where possible.
- ☛ Persistence with excitement.
- ☛ Emotional intelligence is the ability to identify, assess and control the emotions of oneself and the student during the process of postgraduate supervision.
- ☛ The supervisor should be able to contain negative feelings, should it be experienced. Understand non-verbal communication. Balance feelings with reason, logic and reality. Is not motivated by power, fame or approval. Is emotionally resilient and is interested in the student's feelings.
- ☛ Emotional intelligence is about the management of your feelings, emotions and to take other people into consideration. In the context of supervision it is to understand a student's feelings when he/she has to rewrite and rewrite a chapter again and again, but still be able to motivate the student and to explain that scientific writing and research is a learning process.
- ☛ Being able to put information forward in a visionary and passionate manner which lights the fire in researchers.

The last participants indicated that confidence and interest in the subject field could be contagious to postgraduate students and could provide a high level of satisfaction for both parties. The participants also indicated that it is important that postgraduate supervisors are aware of their own life's satisfactions, own learning skills, strengths and weaknesses and also when own improvement is necessary. The participants felt that it is important to be patient, open-minded and friendly throughout the entire supervision process, and that this will be easy if you remember your own studies and dreams. Lastly, the participants emphasised the importance of understanding non-verbal communication and the balancing of feelings with reason, logic and reality. When a postgraduate supervisor shows a love for what they are doing, it provides the student with a secure feeling that the long and daunting process will be reached at the end with positive success.

The discussion on the definition of the intelligences is concluded with two quotes from participants:

“Do unto others as you would have them do unto you. Never ask anyone to do something that you have not done or are willing to do.”

“Every action is judged by its intention (Prophet Muhammad – Peace be upon him).”

4.9.3 Passion for the subject field in postgraduate supervision

Question 72 asked the participants to explain their view or experience of postgraduate supervisors' passion about reading articles, books and journals in their subject fields and 42 responded. Participants commented as follows:

- ☛ If supervisors do not read articles, books and journals about their subject field then they will not be able to impart new and up-to-date information to the students in their subject field. If supervisors are not passionate about reading up on the subject then they become stagnant and not of much use as a supervisor.
- ☛ This is necessary to be able to provide the necessary guidance to students.
- ☛ It is important, as we are the one guiding students to read new materials to evaluate their studies.
- ☛ This should be the case, but because of heavy academic workloads (overpopulated classes) this is not always the case.
- ☛ Most supervisors are (and should be) however, over-full schedules are having a negative effect on time to read.
- ☛ I read as much current literature in my field as possible within the time constraints of teaching, administration, etc. I also spend time going to exhibitions and related activities in my field. I am currently registered as a

doctoral student and this ensures that I keep up to date with current research in my field.

- ☛ True, but most postgraduate supervisors have a primary job, which in most cases is not supervision. It is thus difficult to find time in a busy schedule to engage in reading as often as they would like to.
- ☛ They must develop their knowledge as it is a known fact that knowledge changes at a very fast rate – in-depth knowledge of topic.
- ☛ This is part of keeping up to date with current research and to find inspiration for new research projects.
- ☛ As supervisor we need to stay abreast of the latest technology/developments in our field of expertise.
- ☛ You have to stay in touch with literature to be an example for your student.
- ☛ In my case I love to read about the field and know what is going on.
- ☛ Subject field magazines and journals are available. The opportunity to order new related books is also a reality.
- ☛ We receive regular inputs from our library, and external bodies providing new and up-to-date information. Our internet has been upgraded to more than double that it was and this is available to all postgraduates.
- ☛ Regular contribution to and membership of journals. Participation on the board of editors. Purchasing of books and creation of personal library. Regular use of library books. Reviewer of books and articles.
- ☛ Especially in my field of study, there is constant change in the environment that influences the field of study, such as the political, legislative, technological and economic environments. Therefore you have to read on a daily basis to stay abreast of the latest developments.
- ☛ Have to read to make sure that the information that is used by the student is relevant.
- ☛ I always have more than one article alongside my bed, for before-going-to-bed reading material.

- ☛ I read widely in my discipline through books, journals articles and the internet.
- ☛ Part of the research process.
- ☛ Well they should be otherwise what's the point of supervision.
- ☛ Supervisors should be passionate about reading, improving and being the expert in their niche area.
- ☛ Any good scholar will keep abreast of the latest info.

The participants believed that any good scholar will keep abreast of the latest information. Subscription in their subject field is a positive step. The reading of new articles and information is necessary to be able to provide the best guidance to a postgraduate student. A negative feeling from participants is that the current academic workload is too high and that their time for reading is limited.

4.10 MENTAL CAPABILITIES AND VISION IN POSTGRADUATE SUPERVISION

Management capabilities include vision and team building as important aspects for success. Figure 4.16 shows the importance of mental capabilities with vision in team building within the postgraduate supervision environment.

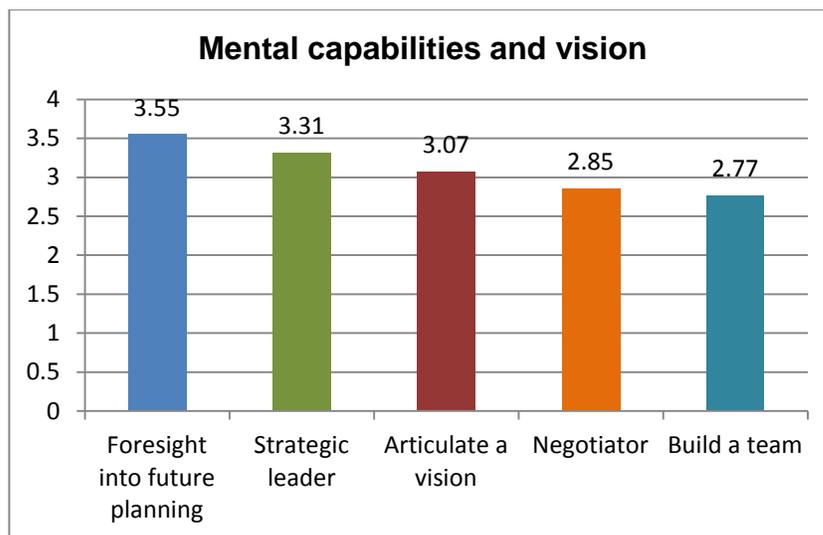


Figure 4.16: Mental capabilities and vision in postgraduate supervision

Question 43 emphasised the importance of foresight into future planning at postgraduate level. Forty-four respondents agreed (36.36%) and strongly agreed (59.09%) that they do so.

Forty-five respondents agreed (60%) and strongly agreed (35.56%) that they act as strategic leaders (Question 28). Question 30 asked about the importance of articulating a compelling vision to ensure that the postgraduate student wants to be part of that vision. Forty-five respondents agreed (48.89%) and strongly agreed (28.89%) that this is a skill that they use.

In Question 26, 46 respondents agreed (45.65%) and strongly agreed (21.74%) that it is important to be a negotiator, while 28.26% disagreed with this statement.

It is important for postgraduate students to be comfortable in a team, because they need to show empathy with their team members and need to encourage one another within the supervision process. Postgraduate supervisors also have to be comfortable in a team, due to the many different supervision projects, whether inter- or trans-disciplinary, between departments within a university. Teamwork is an important aspect in the postgraduate supervision environment. The postgraduate supervisor is the person responsible for encouraging postgraduate students to care for one another in a team. Question 29 asked the respondents whether they create a team or a community of champions, to which 44 respondents agreed (36.36%) and strongly agreed (22.73%) and 36.36% disagreed. Two (4.55%) respondents indicated that they had never created a team of champions.

The means and ranking (see Table 4.2) indicate that the foresight into future planning ($\bar{X}=3.55$) is regarded as the most important activity and the creation of a team the least important ($\bar{X}=2.77$).

4.10.1 Definition of vision or mental intelligence (IQ) in postgraduate supervision

Question 67 asked the participants to define IQ within the postgraduate supervision environment. Only 36 participants provided a definition and one participant felt that this was not a good question, because intelligence could not exist without IQ. Another participant explained that the definition of Covey is the best answer to the question and that he or she could not provide a better definition. The participants answered as follows:

- 🧠 Research process is like any other process in terms of housing a vision which should be accomplished [...] at the end of the process.
- 🧠 The research project should be visualised from beginning to end. From the planning phase (proposal) to the submission of the final document should be seen as one combined aspect where one section builds upon another.
- 🧠 Vision is needed to ensure that a research project stays on track and if needed that changes are applied. The mental ability of supervisor is vital to provide effective supervision.
- 🧠 The supervisor should be able to have a vision of how the research will achieve its objectives in terms of the outcomes and the contribution to the field of study.
- 🧠 Vision is about the future results – mental intelligence is about the applying of your theoretical knowledge and experience and know-how concerning a specific topic including your experience of the research process.
- 🧠 Create a realistic, credible project; predict the outcome of the research project and even possible pitfalls – Vision is being able to 'construct' the end goal.
- 🧠 To know what can change in the future and to plan to adapt to the changes.
- 🧠 To focus on the contribution of the final results from the research to the profession as a whole. Therefore the supervisor should practice at all time noble practices to ensure a worthy contribution to the knowledge base.
- 🧠 An ability to see the potential of a project and to drive the project to fulfilment.
- 🧠 Within the institution that you function there are visions and aspirations that you must be aware of. These become the guidelines for your work, your ability to match your research with the opportunities and challenges in such a way that it becomes exciting, challenging worthy of support.
- 🧠 In my field the development of an individual artistic vision is essential. As a supervisor it is my role to nurture that vision and to guide the students in

reflecting on and presenting their vision within the academic research context.

- The appropriate mental intelligence to guide student in professional manner from scientific problem to successful execution of implementing solution thereof.
- Mental intelligence is that which the supervisor utilises to avoid research pitfalls. Manage the student and research process. Identify problems ahead of time. Negotiate around them for the student and be pro-active.
- Being able to visualise or understand where the research will lead or not. Mentally being able to assess vital information and to process it constructively. Also being able to assess if students are capable of doing the work requested of them. Being able to call it a day if realising students might not be able to perform the task they initially said they would be able to.
- Keeping abreast of research trends within the discipline. Constantly updating individuals' knowledge base – Worrying about success and quality of contribution of a research project.
- Link research activities – do not treat separately. Keep on going, results and improving.
- Anticipation and awareness of possible problems and changes which student may face.
- To foresee stumbling blocks and opportunities for the duration of the project.

These participants agreed that vision is needed to ensure that a postgraduate research project stays on the desired route and if needed that change are suggested for possible stumbling blocks. Vision is a building opportunity. Participants felt that vision is an important part of the future of the research project and that realistic outcomes must be set in place. It is important that postgraduate supervisors guide the path for students and provide the bigger picture that needs to be achieved with the correct goals and contributions. Lastly, it is important to

focus on the contribution of the final results of the postgraduate research project to the profession as a whole. The following participants answered as follows:

- The supervisor must try to understand the student's abstract thoughts. You must communicate well, help students to plan and help them to solve problems.
- Understanding the thinking processes of your candidate; providing strategic directing to candidate, knowledge of how academic knowledge is conceptualised.
- Work to lift the student on your shoulders so that he/she can reach and see further.
- The supervisor should keep the student motivated, with the end goal in mind.
- The student must find a topic s/he likes. There are always ups and downs during the research period and students need to contact the supervisor immediately when the "down" spiral starts. It is important that the supervisor "pick up" the student emotionally to ensure that the student balances the holistic approach to the research.
- Having the ability to define what is possible in terms of the student's potential and the scope of the research project.
- Set goals and achieve them by finding the right student for the project.

In summary these participants stated the importance according to the postgraduate student. Participants agreed that the ability to define what is possible in terms of postgraduate students' potential with good communication skills and negotiation skills for the accomplishment of the research project is an important characteristic. The participants emphasised the importance of keeping abreast of research trends within their subject discipline and constantly updating their own knowledge base. Therefore, the postgraduate supervisor's practise should at all times be a noble practise to ensure that a worthy contribution is

made to the knowledge base. Lastly postgraduate supervisors need to keep students motivated by lifting them sometimes on their shoulders that they can see the bigger picture and the future that is possible.

4.11 QUALITY GUIDANCE IN THE POSTGRADUATE SUPERVISION ENVIRONMENT

These responses indicated that respondents agreed that postgraduate students receive quality guidance in the postgraduate supervision environment. Figure 4.17 indicates the responses and Figure 4.18 reflects the different roles respondents play during the guidance process in the postgraduate supervision process.

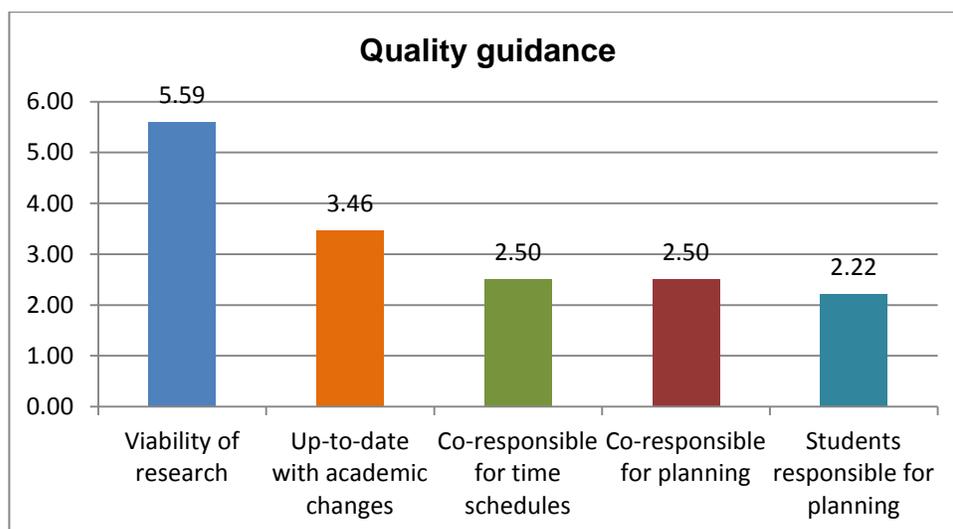


Figure 4.17: Quality guidance in postgraduate supervision

It is important to ensure that before postgraduate students begin with their research project, the entire research project will be viable (Question 47). Forty-six respondents strongly agreed (58.70%) and agreed (41.30%) that this evaluation is done by them. Question 45 asked the respondents whether they are up-to-date

with changes in the academic and business world and 46 respondents agreed (36.96%) and strongly agreed (54.35%) that they are up-to-date with changes.

Questions 52 and 53 concerned the setting of time schedules and the planning for the achievement of research goals. Forty-six respondents agreed (50%) that this does occur and 36.96% disagreed that this is taking place in the postgraduate research process. A concerning factor is that some respondents (8.70%) stated that this task is never done by them.

Question 48 asked respondents whether they are flexible in the postgraduate supervision process and if they allow postgraduate students to set ideas and plans through their guidance. Forty-six respondents agreed (30.43%) that they allow the postgraduate student to plan the entire postgraduate research process and 41.30% disagreed (41.30%) with this statement. A concern is that 10 respondents (21.74%) indicated that they never assisted or guided postgraduate students with the planning phase. Discussions in the study confirmed that a large number of postgraduate students do not complete their studies, and the aspect of planning the process is a very important one to consider, as the supervisor is the expert in the research process. In the developmental question, the guidance element achieved a good response. The aim of guidance in this context is to guide postgraduate students to set their own plans in the research process.

Table 4.2 indicates the means and ranking in terms of the viability principles of a research process ($\bar{X}=3.59$), with the lowest ranking assigned to the support of a postgraduate student to do planning ($\bar{X}=2.22$) in the supervision process.



Figure 4.18: Roles played during quality guidance in postgraduate supervision

Question 54 asked the respondents whether they promote good values in the interest of the postgraduate student within the supervision process. In response, 46 strongly agreed (71.74%) and agreed (23.91%) with this statement. In Question 49, 46 respondents strongly agreed (60.87%) and agreed (32.61%) that they need to be the critic in the research process.

Question 51 aimed to determine whether the respondents are good role models in the academic environment. To this question, 46 respondents replied that they strongly agreed (50%) and agreed (45.65%) that they are good role models in the postgraduate supervision environment. Question 50 asked the respondents whether they are proactive leaders in the postgraduate research environment. Forty-six respondents agreed (56.52%) and strongly agreed (36.96%) that they are proactive leaders in the postgraduate supervision process.

Question 46 asked the respondents whether they play the role of innovator to suggest new ideas in the postgraduate research process. To this question, 46 respondents agreed (47.83%) and strongly agreed (39.13%) that they play the role of innovator in the research process.

Table 4.2 indicates the means and ranking of the respondents' views on the promotion of good values ($\bar{X}=3.67$) as the most important activity whereas the role of innovator ($\bar{X}=3.26$) is regarded as the least important in the supervision process.

The next qualitative question is included because it forms part of the quality of postgraduate supervision and the development of supervisors within their field of discipline and the importance of being a role model for students.

4.11.1 Internal support from universities for staff development in postgraduate supervision leadership practices

Question 71 asked the participants to explain their view or experience of the internal support from their universities for staff development in postgraduate supervision and 43 participants replied. The following information was provided by participants:

- ☛ On-the-job training in an institution of higher learning or similar training at external institutions.
- ☛ My university has an internal training and development programme for all staff. If external training is required this is carried out upon request. It also has an office for postgraduate studies to aid students and supervisors.
- ☛ Supervisors are allowed to attend workshops on supervision on a yearly basis. Novice supervisors are appointed as co-supervisors to learn from the experienced supervisors.
- ☛ The University has regular sessions, schools where supervisors are brought together and exposed to external speakers, views and workshops.
- ☛ No specific leadership training courses provided by my university for supervisors – workshops only focus on research process, how to supervise.

- Providing funding to enable staff development (although it is not always the case).
- Currently little support/training is given to enable a supervisor (me) to get the necessary skills to provide a better service to a student. Any training at this stage is initiated by myself.
- Most universities do support internal staff development, as research is seen as an important 3rd-stream income for HEIs/
- Incentives for excellence in research supervision and publication. Sponsorships for conference attendance. Offering of research chairs and emeritus professorships. Using research and postgraduate supervision for vertical mobility.
- The university needs to put in place a process for the mentoring of future supervisors due to the imminent brain drain of experienced supervisors.
- Some universities do, others do not – but this is important in developing a research culture/agenda.

In conclusion, most of the participants agreed that their HEI supports internal staff development in postgraduate supervision practices or provide research workshops. An important aspect is that new and young academics in the postgraduate research environment need more and appropriate guidance and training to support them. The appointment of co-supervisors enhances the process of learning from a more experienced postgraduate supervisor. A last and very important aspect is that universities need to put in place a mentoring process for future postgraduate supervisors due to the imminent brain drain of experienced supervisors.

4.12 POSTGRADUATE SUPERVISORS' RESPONSIBILITY FOR THEIR OWN HEALTH

These questions relate to the wellbeing of postgraduate supervisors within a stressful research environment.

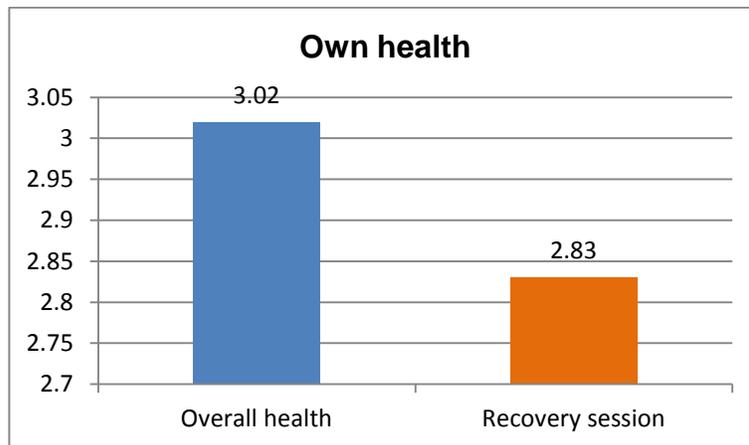


Figure 4.19: Own health in postgraduate supervision

Question 44 asked the respondents to indicate their happiness with their overall wellbeing. Forty-three respondents agreed (39.53%) and strongly agreed (32.56%) that they are satisfied with their overall health. Forty-three respondents responded to Question 61 regarding the necessity of recovery sessions. The respondents agreed (44.19%) and strongly agreed (30.23%) that this is an important action. A person's wellbeing forms an integral part of the postgraduate supervision process, because it will support the passion and willingness of an individual to start with a new project to support another individual to reach his or her dreams.

Table 4.2 indicates the means and ranking of the respondents' view of his or her overall wellbeing ($\bar{X}=3.02$) as the most important activity whereas the recovery session ($\bar{X}=2.83$) is a lower ranking in the supervision process.

4.12.1 Definition of discipline or physical intelligence (PQ) in postgraduate supervision

Question 68 asked the participants to provide a definition for PQ and 40 participants responded. One participant stated that this was not a good question. Another participant did not see how PQ could fit into the postgraduate research process. The participants answered as follows:

- ☛ Should be able to follow a structural work or work within set time lines.
- ☛ Make sure that the research moves at the planned pace. Keep time schedules.
- ☛ The supervisor needs to take control and lead a student up to a certain point and thereafter allow the student to take control of certain aspects of the project.
- ☛ To adhere to time frames set in advance and ethical pre-requisites for the entire research process.
- ☛ To be punctual in terms of timelines and correctness.
- ☛ Keeping to schedules/targets/workload distribution that is set by supervisors.
- ☛ Discipline – to complete work according to schedule.
- ☛ Discipline is the self-control to keep on doing what is expected of you – whether it be goals set by yourself or external expectancies set by the environment.
- ☛ By staying focused and keeping the students focus on working regularly.
- ☛ Staying up to date with everything in the academic world and implementing it.
- ☛ The supervisor must be able to take the theory and put it into practice in challenging situations both on a personal and a social level.
- ☛ Discipline – knowing what needs to be done and ensuring that it gets done even if things are changed to ensure the outcome.

- ☛ To manage your time effectively in order to function optimally both inside and outside the work environment.
- ☛ The ability of the supervisor to manage the students' project so that consistent progress is made over a period of time.
- ☛ It forms an integral part of the holistic approach to research and should be maintained.
- ☛ It plays a role in the sense that feedback must be given within a reasonable time despite heavy workload.
- ☛ The ability to stay within the agreed and ethically acceptable boundaries of research.
- ☛ Physical intelligence is time, space + physical resource in order to ensure that the student/research has the space and time to grow; to completion according to agreed timelines.
- ☛ Be motivated. Stay motivated. See to the research. Keep updates. Search for interested inventions.

These participants stated that it is important to take control of the postgraduate research process and to lead a student up to a certain point and thereafter allow the student to take ownership of the research project. Participants believed that a structural plan is important with planned dates and goals to be reached. One of the comments was that PQ is about time, space and physical resources in order to ensure that the postgraduate student and the research project have the room and time to develop and to grow successfully. Participants again mentioned the importance of motivation, commitment, timely feedback and being up-to-date with research methods within the research environment. These participants answered as follows:

- ☛ Both student and supervisor should look after their physical well-being.
- ☛ Physical intelligence is purposefully striving to uphold a healthy body in order to sustain a healthy mind.

- 🧠 A healthy body creates an endless opportunity for the mind.
- 🧠 Ensure that your lifestyle, your work and your interests are well aligned to manage the amount of teaching and learning, research and community involvement that you undertake. It is sometimes necessary to re-evaluate and to balance your activities.
- 🧠 A sustainable balance between personal health and lifestyle and the work to be done at all times.
- 🧠 If supervisors do not look after their physical intelligence, they will not be able to take the pressure in terms of quality supervision, especially when they have a number of post-graduate students and everyone wants the undivided attention of the supervisor.
- 🧠 Balance between work and play.
- 🧠 A healthy spirit contributes to a healthy body.
- 🧠 To have the stamina and dogged determination to continue along the path of the research and supervision although the task might seem insurmountable at the time. Being able to see the pinprick of light at the end of the tunnel.

These participants stated that PQ forms an integral part of your holistic approach in life and to research and that it should be well maintained. It is important that you ensure that your lifestyle, work and interests are well aligned to manage the teaching, learning, research and community involvement that you undertake. Lastly participants indicate that you need to have a balance in your life.

4.13 INFLUENCE IN THE POSTGRADUATE SUPERVISION ENVIRONMENT

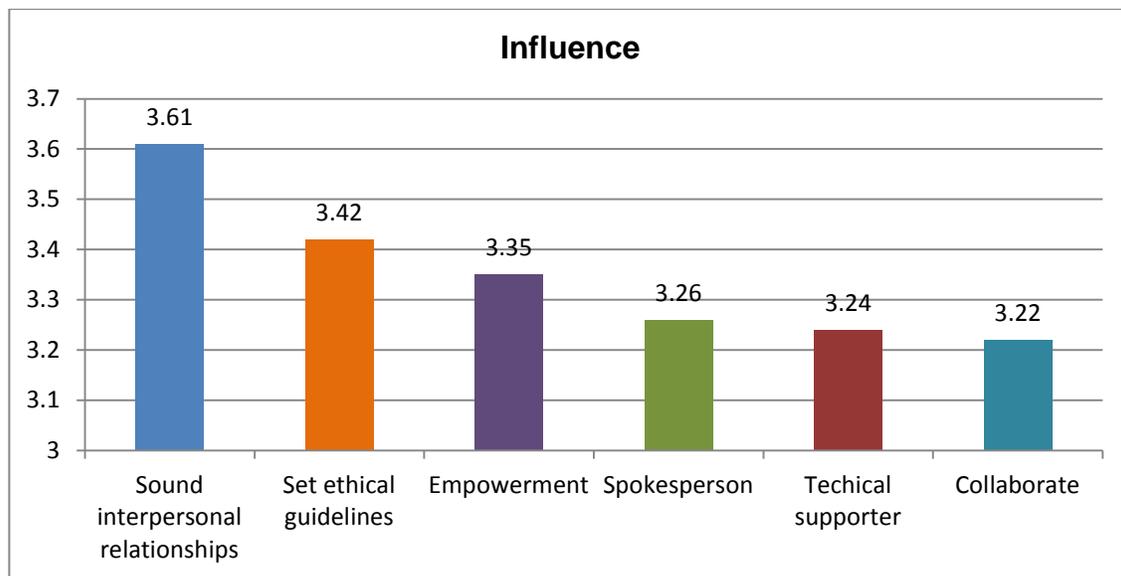


Figure 4.20: Influence in postgraduate supervision

Question 58 relates to the social and management competencies and the personal attributes of postgraduate supervisors and 46 respondents answered. The respondents strongly agreed (65.22%) and agreed (30.43%) on the importance of sound interpersonal competence for a positive relationship with a postgraduate student. Question 57 asked whether the respondents set ethical guidelines of what is expected within the postgraduate research context. Forty-five respondents indicated that they agreed (53.33%) and strongly agreed (44.44%) on the importance of a good moral sense in the postgraduate supervision process.

Question 56 asked whether the respondents empower postgraduate students with their learning and teaching practices. To this questions, 46 respondents agreed (56.52%) and strongly agreed (39.13%) with this statement. Question 55 asked whether respondents collaborate with postgraduate students when making

decisions. Forty-six respondents agreed (56.52%) and strongly agreed (32.61%) with this statement.

Regarding postgraduate supervisors as spokespersons (Question 59), 46 respondents agreed (43.48%) and strongly agreed (41.30%) with the statement and 15.22% disagreed (15.22%). When asked about supervisors providing assistance with technical aspects (Question 60), 46 respondents strongly agreed (43.48%) and agreed (36.96%) and 19.57% disagreed.

Table 4.2 indicates the means and ranking of the respondents' view of sound interpersonal relationships ($\bar{X}=3.61$) as the most important activity whereas the collaborating process ($\bar{X}=3.22$) is regarded as the least important in the supervision process.

4.13.1 Encouraging a network of fellow postgraduate students

The following qualitative question indicates the response on the collaboration process, which may include other departments or other universities. Question 73 asked the participants to explain their view of the encouragement of a network of fellow postgraduate students and 41 responded. The participants added this information to their answers:

- ☛ Most probably one of the most successful strategies to get students to enrich each other.
- ☛ This happens more on an informal basis where all M and PhD students come together bi-weekly to discuss research issues. This is not part of a credit-bearing module, but put in place to assist students to complete their studies.
- ☛ Similar interests and findings should be shared (ideally) by fellow students but this is not always (practically) possible.

- Use peer evaluation/presentation sessions to develop a research network that could assist with finding solutions.
- Peer review can encourage the creation of a research culture to encourage students to present and publish their work, keep them motivated and provide social and emotional support.
- It is simpler having a network of students interested in the same research topic and they provide peer assistance to each other.
- Group meetings and presentations. Exchange of articles and experiences amongst previous students. Collaborative research.
- Create a Facebook group.
- This is important, as students can share with others what they experience and start discussion groups.
- The department has a bi-weekly meeting of postgraduate students at which they present theory and practical work for discussion.
- We hold regular group meetings for our students to share their work and ideas.
- There is a lot of interaction within laboratories and projects are presented to all postgraduates doing research projects.
- Students can definitely learn from each other and the supervisor should encourage students to share their research experiences with each other.
- Supervisors should ensure that students attend forums, seminars, workshops and other subject-specific social events where they can interact with other researchers. This enables the students to become more at ease in the company of fellow academics and their peers.
- Keep abreast of latest developments by networking with other experts.
- Obviously, it motivates students and makes them marketable and that they are contributing in their respective areas.
- This is the ideal but I have not yet managed this – it is difficult for part-time students to become a 'community', mostly because they are busy with studies as well as work and doing their best to maintain a kind of a balance.

- ☛ It will be satisfactory if a supervisor can have a network of fellow students. Currently, it is not the case.
- ☛ Although it is encouraged to a certain extent, and contact details of other students are provided, most students prefer to work on their own. Most of them are also in full-time employment.
- ☛ In some disciplines a network is not easy to form, since postgraduate study is scarce.
- ☛ I tried to let my students work together but that is very difficult to achieve. Focusing on their different contents, but lots of times they have the same frustrations or experience the same problems.
- ☛ Limited to research niche areas. Students outside of these areas are pretty much left to their own defences.
- ☛ I am not part of this – there are opportunities for students to network.
- ☛ Not necessary the responsibility of the supervisor alone – the student also has to do this.

In conclusion some participants stated that it is not their responsibility to create or encourage a network of fellow postgraduate students, while other participants stated that this is one of the most successful strategies to get postgraduate students to enrich one another, but that it is not always (practically) possible. The creation of a network can support postgraduate students emotionally and mentally during the long and often lonely research process.

4.14 ADDITIONAL COMMENTS ON THE QUALITATIVE COMPONENT IN THE QUESTIONNAIRE

Additional comments from the participants about leadership in postgraduate supervision included the following:

- It is very important that postgraduate supervisors do not get stuck in 'template' research. This means that only one way of doing research is correct, and certain headings or sequences of chapters are necessary to make a study 'correct'. Research may be more fluid than this. Be open, be innovative when needed.
- Interaction with fellow postgraduate supervisors/co-supervisors should be encouraged in the interest of both the supervisor and the student, and to provide wider knowledge, frames of reference and support bases for students.
- It is important to identify a research methodology/design that is applicable to the postgraduate research and process thereof.
- Leadership is vital to be an effective postgraduate supervisor. Many skills/requirements need to be found in a good leader in the postgraduate supervision process.
- Research leadership is foremost a position that requires continuous self-improvement and updating. Without this postgraduate students are often short-changed in terms of their potential growth development.

- ☛ Leadership develops with time and experience. I believe that the best form of leadership is to set an example. This is why it is important for postgraduate supervisors to be involved in their own research and practice within their field.
- ☛ Some of the responses come from personal experience; others from what I feel should happen in the postgraduate supervision process.
- ☛ Universities of Technology have not been used to undertaking broad research within them. This is still new but in the short time that the gauntlet has been thrown down there has been an enormous effort put in to improve this. This is now happening.
- ☛ You have to be grounded in your discipline in order to be a good leader in supervising postgraduate studies. You must have a passion for research.

In conclusion it is good to recognise that postgraduate supervisor believe that leadership is something that can be develop and that passion is a vital element in the research environment.

4.15 INTEGRATION OF FINDINGS

The first competency that will be discussed is the **social** element in the postgraduate supervision environment. The view of the postgraduate supervisors was that they are more an advisor (71.74%) than a mentor (52.17%) in the supervision process. But with the mentor aspect they agree that the mentoring capability (65.22%) is very important within the research environment. In the developmental question they indicated that advisor and mentor is again important, but availability of an individual in the process is of utmost importance. With this they include the importance of a supportive environment (65.22%).

Effective communication skills are also an important social element and respondents agreed that their spoken word (60.87) is good and that most of the time they contact postgraduate students on an agreed schedule. Another importance aspect was the confidence and knowledge (53.19) of a postgraduate supervisor in the research process and they agree that passion needs to be part of the process.

Postgraduate supervisors agree that interpersonal relationships (65.22%) are important to motivate and guide postgraduate students into the designated route, which will guide someone to new innovations (47.83). Lastly they agreed that ethics (53.33%) and values (71.74) are of the utmost importance in the postgraduate research process to support the student in future decisions.

The second attribute is **personal**, which provide insight into the importance of guidance (43.48%) and coaching (65.22%) in the postgraduate supervision process. They also commented on the importance of allowing flexibility, honesty and trust (67.39%) in the process, which will support the hopes and dreams (45.45%) of a postgraduate student. Another important aspect is to allow critical thinking (51.11%) and the empowerment of ownership (65.22%) in the research project, supported by the acknowledgement of the needs and expectations (52.17%) of the postgraduate student.

Lastly the participants felt that lifelong development (43.48%) is important, because this allows a postgraduate supervisor to keep on track with the latest developments in his or her field of interest and provides in-depth knowledge to the individual.

Emotional attributes provide the all-important passion (43.48%) and shows that an individual enjoys what he or she is doing. Passion also allows an individual to show empathy for another human being, which will support the importance of

effective communication skills. Motivation (63.04%) also plays an important role along with dedication (60.87%) in the research process, which is possible if the individual has confidence (50%) in his or her capabilities. Within the emotional attributes it is important that individuals understand their own emotions (54.35%), which will support the understanding of other individuals' cultural diversity (64.44%).

Managerial competencies provide the importance of leadership skills. Many participants felt that a leader is not born (50%), but that they need to be a leader (45.65%) in the postgraduate supervision process. Furthermore they implied that the management function or capacity (41.30%) makes up a large part of their work in the postgraduate supervision process. Within this aspect they need to provide guidance in planning and to assist with knowledge and the scheduling of tasks and deadlines. Participants also indicated that they need to defend (71.74) the research project and inform postgraduate students about the rules and regulations (46.81%) of the entire process.

Another important aspect is the all-important feedback process that need to be well-timed (55.56%) and which improves with experience (46.67%) in the postgraduate supervision process. They also indicated the importance of being the strategic leader (60%) and the negotiator (46.65%) for needed resources during the research process. Another important part in the postgraduate supervision process is the development of a team (36.36%), but many participants disagreed on this being an important element in the postgraduate supervision process. This is an alarming fact due to the aspect that a postgraduate supervisor and a student already need to be part of a team to work coherently together to achieve success within the research process.

Also important is the creation of a vision (48.89%) in the postgraduate supervision process, because the postgraduate supervisor needs to set realistic goals and plans for the research process and provide the bigger picture and foresight (59.09%) with the structuring of the research project. Lastly is the all-important aspect that postgraduate supervisors need to be a role model (50%) for students so that they can leave a legace behind.

4.16 OVERVIEW

This chapter commenced with an overview of leadership in postgraduate supervision in order to contextualise the data analysis and interpretation. In this chapter, the interpretations of the findings were presented, reported and discussed. The discussion of the quantitative analysis of the questionnaire was followed by a discussion of the qualitative responses. Although the low response rate to the questionnaire survey at the UoTs is a serious limitation to the study, it still provided valuable data for this study. The interpretation of the data led to the identification and creation of a leadership model for postgraduate supervisors in UoTs in South Africa.

The next chapter will discuss the semi-structured interviews with the postgraduate supervisors in the Faculty of Management Sciences of a South African UoT.

CHAPTER 5

QUALITATIVE ANALYSIS OF AN UNIVERSITY OF TECHNOLOGY CASE

5.1. INTRODUCTION

Across South Africa and the world, HEIs are confronted with rapid changes and a growing number of students enrolled for postgraduate qualifications. Important information in the South African context is that many students that enrol for a postgraduate research qualification are first-generation students and researchers in the academic environment. Wadee *et al.* (2010:14) explained the dire need for delivering quality master's degrees and PhDs, namely that "high quality postgraduate education is of central importance to the creation of the ever more highly skilled workforce that is necessary if our country and continent is to flourish in an increasingly complex and competitive world".

Concerns have been raised in South Africa because the focus on postgraduate supervision was extended when former technikons were merged into UoTs and degree status was awarded to them (Du Pré 2010:7; Ogude & Motha 2001:59). This implied a major challenge for South African UoTs to develop a learning and teaching culture within a relatively new and young postgraduate research environment (Du Pré 2009:34; Bitzer 2007:1012), necessitating these institutions to pay attention to the improvement of supervision and research skills. Chapter two discussed the complexities related to leadership in the postgraduate supervision milieu that support the leadership skills and roles and chapter 6 emphasise the different competencies or intelligences. Chapter 6 presents the current available postgraduate models in the research environment, considering the implications of the roles played by the intelligences (physical, emotional,

mental and spiritual) in the postgraduate supervision process. Essential to both chapters are the responsibilities and leadership activities of the postgraduate supervisor within the supervision process.

The next findings discussed are the semi-structured interviews that were held with experienced and novice postgraduate supervisors within the Faculty of Management Sciences of a UoT in South Africa. The findings from the semi-structured interviews provide important information regarding the compilation of the postgraduate supervisors' leadership model for UoTs in South Africa.

5.2. SEMI-STRUCTURED INTERVIEWS AND INTERPRETATION

This section of the chapter presents the analysis of the data collected for the study through semi-structured interviews during Phase 3 of the investigation. The semi-structured interviews were held with experienced and novice postgraduate supervisors within the Faculty of Management Sciences of a UoT in South Africa during October 2012. The findings from the semi-structured interviews provide important information regarding the compilation of the postgraduate supervisors' leadership model for UoTs in South Africa.

The main purpose of this investigation and this interpretation is to reach conclusions that are based on participants' experiences and views about postgraduate supervision and to launch the development of a supervisory leadership model to support novice supervisors within UoTs in South Africa in the research environment. In drafting the proposed model it was important to look at leadership at UoTs in South Africa from an investigative point of view.

5.3. EVALUATION OF THE PROPOSED LEADERSHIP MODEL

This part of the chapter deals with the development and evaluation of a possible leadership model that originates from the literature chapters (see chapters 2) and the results of the data from the questionnaires (see chapter 4). The semi-structured interviews were used to explore the findings obtained from the quantitative and qualitative approach. This approach was considered important because of the relative novelty of the research topic (Johl *et al.* 2012:6373).

Figure 2.4 was offered to the participant after a date was scheduled for the interview. The semi-structured interviews were held by the researcher during one week in October 2012 with 10 participants. The participants were informed about the reasons for the semi-structured interview and the research study by the researcher. Participants were informed before the semi-structured interview that their participation was anonymous and their information would only be reflected as a group. The duration of each semi-structured interview was between 20 to 30 minutes depending on the questions and dialogue from the participant about the research study and the proposed information in the figure.

5.3.1. Social competencies

The social competences of the postgraduate supervisor play an important role in the relationship between the supervisor and the student. One participant stated that a postgraduate supervisor should be *“a people person who can interact with enthusiasm, interest and integrity in the supervision process, he or she is a leader.”*

It seemed as if the participants felt that they should play a mentoring role as they perceived supervision to be a positive facilitating process with ample communication skills needed. The participants made comments such as *“good communication between the supervisor and the student that directs the student towards his/her goal with motivation to keeps the person on track”*. Most participants emphasised the mentoring role of the mentor as *“supportive”* and if linked to the postgraduate supervisor’s responsibility as guide, it was said that supervisors *“need to pave the route for the postgraduate student in the research project”*. One participant mentioned that the postgraduate supervisor has to *“guide the student in terms of methodology, research structure and research techniques”*.

Communication was seen by two participants as a skill and regarded as *“crucial”* for the postgraduate supervision process. All participants indicated communication as a *“prime leadership quality”*. One participant felt that it actually touches all areas of this relationship, as communication is also necessary to provide emotional support. Two participants indicated *“the need of communication for feedback as well as effective planning”*.

At the core of sociability is the involvement of people. The participants particularly referred to the postgraduate supervisor and student as being a *“team”*. Fostering teamwork was seen by one participant as a valuable skill, while another four participants emphasised teamwork as an important leadership quality. When people become involved and feel part of a team they care for one another and support one another. Providing support was mentioned by five of the participants as indispensable within the postgraduate supervision process. One participant commented that *“supervisors need to provide adequate support because it is an essential element in the supervision process for success”*. Another participant explained the need to provide *“support to your student to achieve his/her best*

work and to ensure that the student finish in time even to work extra hours at night or over weekends”.

When the participants were asked about their views on where the parameters of support, it was clear that they felt that the postgraduate supervisor should merely guide the student and provide support too finally *“find their own way”*. Getting too involved in the work of the postgraduate student was regarded to be disempowering as *“it removes the final responsibility from the student”* and it *“stifles the students’ development”*. The participants agreed that the postgraduate supervisors often have to assist students to make choices and solve problems, but felt that such choices and problem solving activities should be done in such a way that the students start making their own choices in terms of their research and are able to defend their choices, they become more confident. The participants emphasised the importance of the postgraduate supervisor to instilling trust in their own competencies and abilities. One participant said that she had found that *“students, who do not believe in themselves, are doomed to fail”*.

From the interviews it became evident that the relationship between the postgraduate student and the supervisor – both human and academic – should be of such a nature that the student are constantly challenged to grow, but that *“a postgraduate supervisor create a safe environment who lead the student into a direction and it is important to motivate, give constructive feedback and to ensure that growth takes place”*. Within this environment the postgraduate supervisors can exert their influence to lead the student to be authentic, yet generate new knowledge and to persevere to eventually succeed. One participant said: *“The most difficult thing is to keep my students motivated to deliver quality work when they are nearing the end of their theses”*.

In terms of sociability, it is noteworthy to realise that most of the postgraduate supervisors did not like to socialise with their students at an informal level. Some said they might have coffee with their postgraduate students in their offices, but would not go to a “public place” or invite them to their home – even if it was to discuss the work. In following up this issue with the participants, one participant commented that *“one should not be too dominant or pushy with students and let them develop their own personalities and intellectual capabilities, but in their own time and place”*.

In viewing the views of the participants in terms of sociability in the relationship between the postgraduate supervisor and the student, the following elements seem to be valuable to supervisors in leading the process:

Postgraduate supervisors should pay attention to:

- Fostering open communication in terms of constructive feedback and motivating of the student;
- Establishing relations where the student experiences a team spirit;
- Enhancing the students’ confidence in themselves;
- Providing a safe environment for growth;
- Providing the necessary emotional support;
- Allowing empowerment within the whole research process;
- Remembering that in research, social relationships do have boundaries.

5.3.2. Personal attributes

The personal attributes of the postgraduate supervisor play an important role in the academic and personal relationship between the supervisor and the student. A participant stated that *“scholarship should always include a definite element of support, own believes and encouragement”* within the postgraduate supervision milieu.

It seemed as if the participants believed that they should play a facilitation role as they *“have a wealth of knowledge and skills in research management and this allows the ability to introduce a research portfolio and culture”* within a specific field of discipline. The participants made comments such as *“an individual cannot undertake postgraduate supervision without the whole discipline/department supporting a research project”*. Most participants emphasised the facilitation role of the postgraduate supervisor as the link to *“recruit the best students to become involved in a specific research or niche area of the discipline”*. One participant mentioned that this is one of the most important aspects of postgraduate supervision, *“without it the flame may flicker but never become a bright flame”* in the research environment.

Honesty and integrity was seen by participants as a skill and regarded as *“crucial”* for the postgraduate supervision process. All participants indicated honesty and integrity as a *“moral and ethical quality”*. Participants felt that it actually touches all areas of the academic and personal relationship in the postgraduate supervision process as it is also necessary to provide a general understanding of the research environment. One participant indicated *“do things the right way and be honest at all times”*. Another participant explained *“doing a project while keeping the trust of the student and respondents partaking in the project, being consistent and honest”*.

At the core of personal attributes are the needs and expectations of people. The participants mentioned that supervisors *“should realise that supervision provides meaning to his/her life and to that of the student”* and to *“analyse the feelings and well-being of the student to manage the process accordingly”*. Contribution should be encouraged, because postgraduate supervisors provide knowledge, skills, values and attitudes that will *“empower”* the student to be successful in his/her research endeavour. When people became involved in postgraduate supervision, they will share *“personal experiences and growth with students, so*

they do not fall into the same traps as what the supervisor did". Participants felt that it is very important that individuals can learn from other's experiences, *"although here it becomes very important to practise what you preach"*. One participant commented that *"supervisors should relive the research process together with student every opportunity there is"*. Another participant explained by *"starting to put you in his/her (students) shoes"*.

When the participants were asked about their views on support and engagement, it was clear that they felt that postgraduate supervisors should guide students. Participants felt that postgraduate supervisors should provide *"physical, emotional and intellectual support to keep students motivated"*. Another important aspect according to participants was that *"a leader/supervisor should be able to provide clear guidance and support on all related fields of supervision"*. Another important aspect according to participants was that a postgraduate supervisor *"should be professional and knowledgeable and the supervisor, not the student, should provide the pace"*. The participants agreed that both parties *"must set up a time schedule because the time management is important as the official engagement in the whole process"*.

From the interviews it became evident that the communication process between the postgraduate student and the supervisor is a key element in the human and academic aspect of the supervision research process. Participants felt that they should allow *"students to make mistakes, in order to learn"* because this will allow *"students to use his/her initiative so that individualism of the student's voice can be heard during the research process"*. Within this environment postgraduate supervision and leadership entails the action to be able to *"motivate, encourage and guide students"*, by *"providing constructive criticism and advice"* but also *"being able to listen and be attentive"* to the student's challenges and individually without imposing your own ideas.

In terms of personal attributes, it was noteworthy to realise that most of the postgraduate supervisors agreed that the *“relationship with the student must also be one of mutual respect, understanding and friendship”* and that flexibility must be available. One participant acknowledged that *“the student must have space to be creative. Accommodate the student’s opinion – it is his/her research project, not yours!”*

In viewing the views of the participants in terms of personal attributes in the postgraduate supervision process between the supervisor and the student, the following elements seems to be valuable to supervisors in leading the process:

Postgraduate supervisors should pay attention to:

- Promoting scholarship in their field of interest;
- Acting as the facilitator within the research environment;
- Providing honesty and integrity during the whole supervision process;
- Allowing an emotionally and intellectually supportive environment;
- Acknowledging the needs and expectations of students in the postgraduate supervision process;
- Ensuring listening skills in the communication process;
- Allowing flexibility and space for creative thinking;
- Having mutual respect and understanding within the research environment and as personal attributes.

5.3.3. Emotional attributes

The emotional attributes of the postgraduate supervisor play an important role in the academic and human relationship between the supervisor and the student. Participants believed that a postgraduate supervisor who is *“enthusiastic”* and *“passionate”* will be able to be *“creative, constantly questioning the work and come up with new and better ideas”*. Participants also agreed that *“if you enjoy*

working with people you will be able to support a plan to come successfully together". All participants agreed that *"one must be passionate, committed and resourceful"*.

It seemed as if the participants felt that they should play an enormous motivation role in the postgraduate supervision process. Participants agreed that if a *"supervisor does not have internal motivation and passion for his/her students' work, then the project may be successful, but it will not necessarily be enjoyable"*. Another participant felt that it is important *"to be friendly and motivate the student in order to boost their confidence"*. All participants emphasised the need to *"motivate students through example of being passionate about research and getting excited about their own research projects"*. Participants agreed that a postgraduate supervisor's responsibility is to be a *"hands on contact/informant"* and *"motivator"*. One participant mentioned that the postgraduate supervisor needs to *"encourage, providing of knowledge and the continuous motivation"* in the research process. Another participant felt that *"students must be motivated and driven"*.

Confidence was seen by participants as an important aspect within the postgraduate supervision process. All participants indicated that *"the progress of a student from being a scared, inexperienced researcher to that person who is confident with his/her end product provides the passion for starting the research supervision cycle"*. One participant felt that *"constantly reading articles about research methodology and your subject field of interest"* will enhance your own confidence. Two participants indicated *"learning from other people's experiences is the best way to learn"*. They believe it is important to attend workshops where supervisors share experiences that may improve confidence and some practices in your own field of discipline. At the core of emotional attributes is the confidence in own capabilities. Participants agreed that *"one needs to master the topic yourself and then guide your student to explore the topic systematically to from a*

theoretical model for the execution of the research". Another aspect identified by participants was the *"ability to guide students through the full research cycle within the limitations of your knowledge and expertise"*. Emotional attributes need to include confidence in one's work, such as *"doing what is right for the student, the institution and the discipline"*. When people are confident they will be more dedicated, *"believe in what they are doing and motivated"*. One participant commented that *"supervisors need to learn from every opportunity."*

When the participants were asked about their views on emotional attributes within the postgraduate supervision process, they commented that supervisors should *"be kind, helpful and honest"* in their academic and personal relationship with students. Participants also agreed that supervisors need to be able to comprehend the *"needs of the students"* and this can only happen when supervisors are aware of their *"own strong and weak points"*. The participants agreed that the postgraduate supervisors need to understand that each *"student is unique"* and that leadership need to be adapted to suit the student. From the interviews it became evident that the relationship between the postgraduate student and the supervisor – both human and academic – should be of such a nature that *"a postgraduate supervisor are able to empathise with students, understand students feelings, needs and expectations and be able to deal with them professionally"*. Participants agreed that supervisors should be able to deal with *"different types of students"*, accommodate and *"understand their historical, cultural and educational backgrounds"*.

An important emotional attribute is to know how to *"connect with other cultural thinking people and to understand where they come from with their ideas and not squash them if they do not coincide with your own point of view"*. It is important to look at the issue from a totally different angle and open a dialogue about it. *"This way all points of view come to the table without anybody feeling belittled."*

In viewing the views of the participants in terms of emotional attributes in the relationship between the postgraduate supervisor and the student, the following elements seem to be valuable to supervisors in leading the process:

Postgraduate supervisors should pay attention to:

- Being enthusiastic about a research project;
- Being intrinsically motivated and to provide the necessary motivation;
- Promoting confidence in yourself and in your field of discipline;
- Having empathy with students;
- Understanding different cultures and views of a situation;
- Fostering dedication in your work; and
- Recognising your own weaknesses in the research milieu.

5.3.4. Managerial competencies

The managerial competences of the postgraduate supervisor play an important role to *“guide”* the student to take the lead and initiative in the research process. Participants believed that postgraduate supervisors need to *“guide students by example and assist them to become leaders and to develop their own research niche area”*. Participants agreed that they need to create a friendly environment. One participant stated that *“the supervisor should establish a positive relationship with the student”*. Another participant stated that *“if a positive relationship does not exist, then the progress of the student will also suffer”*. Yet another stated that *“the supervisor should also lead by example and show interest in the research topic of the student”*.

It seemed as if the participants felt that they should play a management role, as they perceived postgraduate supervisors as having to *“manage students in a positive and orderly manner”* and be *“an example of what a research should be (staying up-to-date with new terminology and trends)”*. Participants also identified

the importance of leadership in managerial competencies. They felt that *“leadership is all about influencing behaviour – leadership in context of supervision is about influencing the behaviour of a postgraduate student.”* Another view was the *“development of scientific writing, knowledge about the topic, research skills so that students will be able to hand in a high standard scientific research project in the form of a dissertation or thesis”*. Participants felt that they *“need to do the best I can for students”*. One of the main elements was *“adequate knowledge about the rules and regulations with research projects”* and the *“acquiring of resources to encourage students to do their best”*. All participants indicated accomplishment of success as a *“prime leadership quality”*.

One participant felt that *“patience to develop the postgraduate project from proposal to dissertation”* is the *“best feeling”*. Two participants indicated *“the importance to provide constructive feedback during the research process as well as effective planning”* as important checkpoints to reach goals. One participant viewed success as follows: *“Success in this case is the drive to diligently motivate and guide the student to successful completion of the thesis – being aware of and taking into account a wide range of possible obstacles that the student may have to face.”*

At the *“core”* of managerial competencies is the development of people. The participants referred to continuous development, for example *“by staying in touch with best practices through the supervision of students, which is a continuous learning process; attending appropriate developmental workshops and seminars; relevant reading and execution or research projects”* and lastly *“examination of thesis or dissertations.”* Participants agreed that *“passion”* is important for research development. They view it as *“being curious to learn”* for both the supervisor and the student. One participant felt it is important to *“believe in what you do and striving to share that belief with others to inspire them.”* Another participant stated that he or she *“doesn’t want to be supervised by an outdated*

academic". Lastly participants agreed that *"supervisors should have a passion for their field of study, and that they want to keep up-to-date with trends and changes in their field of interest"*.

When the participants were asked about their views on vision in the postgraduate supervision process, many ideas were placed on the table. Participants felt that vision in a supervisor is the ability to see the *"bigger picture"*. An important aspect is to *"acknowledge the strengths and weaknesses of the students and based the vision thereon"*. One way is to provide *"blended guidance so as to be the mentor that will support the student to successfully complete the research"*. Another aspect is that supervisors must be *"knowledgeable about the quality and standard of every aspect of the thesis/research process"*. The participants agreed that postgraduate supervisors have to *"keep constantly the bigger picture in their mind so ensure that the project does not get stuck"*. They emphasised the need for the postgraduate supervisor to *"be confident"* about the research process and that it is *"relevant"* and can make a *"difference"*.

From the interviews it became evident that the management process needs training, guidance and support for novice or postgraduate supervisors in the research environment. Participants agreed that *"practical planning of due dates for submission of chapters; the information provided regarding changes in policies affecting the study; prompting the student regularly to keep to reasonable time-frames and the providing of constructive feedback."* Participants agreed that it is important for postgraduate supervisors to *"keep to deadlines and to stay focused on the execution of the study"*. In terms of managerial competencies, it was noteworthy to realise that most of the participants agreed that *"guidelines need to be from own experiences"*.

In view of the managerial competencies it is important that postgraduate supervisors *"devote time and energy to support students with a research project"*.

Another participant felt that *“commitment to your discipline and to work consistently and with great attention to detail”* is important within the research process. Another comment was that *“leadership is vital to be an effective postgraduate supervisor. Many skills/requirements need to be found in a good leader in the postgraduate supervision process.”*

In viewing the views of the participants in terms of managerial competencies in the relationship between the postgraduate supervisor and the student, the following elements seem to be valuable to supervisors in leading the process:

Postgraduate supervisors should pay attention to:

- Developing effective leadership skills;
- Establishing a management process that works;
- Knowing the institutional rules and providing assistance;
- Providing support with resources;
- Creating a positive environment and relationships;
- Allowing development and knowledge;
- Providing constructive feedback and keeping to time schedules;
- Providing a vision; and
- Including a high-quality aspect which is needed in the research process.

The semi-structured interviews provided valuable and interesting information to the researcher about the postgraduate supervision process and views on leadership within the research environment. Chapter 4 presents the results of phases 1 and 2 of the empirical investigation and the analysis of their relevance to the study with the semi-structured interviews in chapter 5. From the results obtained it became clear that postgraduate supervisors have different views and experiences of the supervision process in a UoT. The questionnaire survey contributes to and confirms the personal views and experiences of postgraduate supervisors within the supervision process. Despite some negative comments

from respondents regarding certain questions, the questionnaire still provided excellent data and information for the creation of a leadership model for postgraduate supervisors together with the semi-structured interviews within a specific UoT in South Africa. The integration of the findings will hence be discussed.

5.4. INTEGRATION OF FINDINGS

Table 5.1 provide an integration of the findings from chapter 4 and the semi-structured interviews in chapter 5. This information provides the basis for the development of the leadership model in postgraduate supervision in UoTs in South Africa.

Table 5.1: Integration of findings

	Chapter 4	Chapter 5
Social	Advisors & Mentor Availability Supportive environment Effective communication skills Confidence Knowledge Passion and emotional support Interpersonal relationships Motivation Guiding Ethics & Values	Open communication and constructive feedback Motivation Team relationship Confidence Safe environment for growth Emotional support; Empowerment
Personal	Guidance Coaching Flexibility Honesty & trust Support hopes and dreams Critical thinking Empowerment Acknowledge needs and expectations Life-long development In-depth knowledge	Scholarship Facilitator Honesty and integrity Emotionally and intellectually supportive environment Needs and expectations Listening skills Flexibility and space for creative thinking Mutual respect and understanding

Table 5.1: Continue

Emotional	Passion Empathy Communication skills Motivation Dedication Confidence Understand own emotions Respect for cultural diversity	Enthusiastic Intrinsically motivated Confidence Empathy Respect for other cultures Dedication Know own weaknesses
Managerial	Leadership skills Management function Guidance in planning Assist with knowledge Scheduling of tasks and deadlines Defend a research project Know rules and regulations Feedback process must be well-timed Strategic leader Negotiator for needed resources Development of a team Vision Realistic goals Provide the bigger picture Foresight in the research process Role model	Leadership skills Manage the process Know institutional rules Support with resources Create positive environment and relationships Development of knowledge Constructive feedback Keep to time schedules Vision High-quality

Currently, no official research leadership model for postgraduate supervision is available for novice supervisors. The purpose of this study was to present a supervisory leadership model within academic and personal relationships in the postgraduate supervision environment of UoTs in South Africa to grow leadership. The integration of the findings allows the researcher to create and develop a postgraduate leadership model for UoTs in South Africa.

In dealing with the purpose, the empirical investigation provided important background information. Chapter 2 gave an overview of the changing postgraduate supervision environment with the leadership requirements needed in a challenging higher education milieu. In Chapter 6, the intelligences that may influence on leadership in postgraduate supervision were identified and discussed. Chapters 4 reflected on the empirical investigations that were conducted. This part of the chapter presented the semi-structured interviews with postgraduate supervisors regarding the academic and human aspects of

relationships and leadership in the postgraduate supervision process. Chapter 6 provided the integration of the data for a proposed leadership model presented to specialists in postgraduate supervision and research units in UoTs in South Africa for evaluation and suggestions to refine the initial leadership model.

The researcher developed a model for novice and experienced leaders in postgraduate supervision with the use of the personal attributes, emotional attributes, social competencies and managerial competencies in enabling them to be effective leaders in the supervision process. But what exactly is a model? According to Fischer (2004:98), a model entails the synthesis of the research data through different leadership requirements and intelligences within a model for postgraduate supervisors that will indicate how all the research-related concepts fit together and relate to each other in the research process, with a working definition of leadership in postgraduate supervision that will help individuals to understand the research process (Fischer 2004:99-102).

5.5. CONCLUSION

This chapter provided an interpretation of the semi-structured interviews with new and experienced postgraduate supervisors in the Faculty of Management Sciences of a UoT in South Africa. In this chapter, the interpretations of the findings were presented. In some areas as the exact words and phrases that were used by participants were reflected, whereby the researcher reported and discussed each topic of the proposed leadership model. The aim of this chapter was to address the purpose of developing a supervisory leadership model within the postgraduate supervision environment of UoTs in South Africa in order to grow leadership.

The interpretations of the data led to the identification and creation of a leadership model for postgraduate supervisors in UoTs in South Africa that will be discussed in the next chapter along with the current postgraduate models that exist.

CHAPTER 6

POSTGRADUATE SUPERVISION MODELS

*It would be better if you begin to teach others
only after you yourself have learned something.*

Albert Einstein

6.1. INTRODUCTION

In South Africa, as in many other countries, the education system is challenged to transform and to invent new ways to manage and lead a much more diverse and complex student population (Coetzee & Schaap 2005:31; Herbst & Maree 2008:32). No matter how sophisticated an institution becomes, there is still a need for new skills and new ways of thinking about leadership in the higher education spectrum (Herbst & Maree 2008:32; Schlechter & Strauss 2008:42). According to Schlechter and Strauss (2008:42), teams need more coaching, guidance and attention, because without the vision of a leader, the team could lose its focus and sight of the goals in the postgraduate research environment. With international and national competition and demands, leaders in postgraduate supervision are forced to manage and supervise students and their own professional lifestyle with maturity.

Leaders in postgraduate supervision are a central ingredient in the supervision process because it is commonly believed that a supervisor plays an important role in guiding the student (see 2.5.2) towards the successful completion of a postgraduate qualification. As mentioned at the end of chapter two, this chapter addresses the intelligences and development of leadership in postgraduate supervision for both novice and experienced supervisors at UoTs in South Africa, with the potential to unlocking new domains and reinventing traditional leadership

approaches. Scott, Coates and Anderson 2008:2 identified leadership as “the process of engaging people in change, leading them forwards, achieving voluntary followership, helping identify what needs to be done and then helping make it happen”. A fresh approach to leadership development can create a sense of completeness and a connectivity between the self and others, as well as in preparing individuals for the future (Adey, Csapo, Demetriou, Hautamäki & Shayer 2007:76; Herbst & Maree 2008:32).

Scott *et al.* (2008:2) identified the important “set of qualities or capabilities as someone who is both aspirational and inspirational, a person who can motivate and enable others to act in ways that fulfil their potential and the aims of the university, someone who is future not just present oriented, who is a pathfinder, who can take a hard decision, can set a model to make sense of what is happening or who is at the forefront.”

In this study it is important to view a leader in the postgraduate supervision environment from a holistic point of view, because the different leadership roles and skills within the academic and human project have to be taken into account. This information could be combined with all the different domains or competence of human potential and as such, contribute to the postgraduate supervisor being a complete or whole person, which will consequently contribute to the development of the student.

In the preceding part of this study **a draft leadership model for establishing a sound supervisor-student relationship** in terms of the human and academic dimensions of postgraduate supervision was devised. This chapter reflects on a number of **existing** models influencing the postgraduate supervisory domain and then draws a link with a leadership model of Covey (2004:107) which is widely recognised in the corporate world as it provides for a large number of the competencies that have been identified in the draft leadership model (see Figure

2.4), and emerged from the empirical investigations in order to create a research environment which will be to the benefit of the whole person and such contribute to the enhance of postgraduate outputs in the country. In this regard Albert Einstein refers to the development of the whole person: *“A human being is a part of the whole, called by us the “Universe,” a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty.”* (cited in Moody 2000:1).

6.2. MODELS INFLUENCING THE POSTGRADUATE SUPERVISION ENVIRONMENT

As stated earlier leadership models for postgraduate supervision are rather unknown for official use in the supervision process at South African higher education institutions. In developing an idiosyncratic model for UoTs, it was necessary to not only view the literature (chapter 2), but to explore what the perceptions of postgraduate supervisors at other UoTs (chapter 4) and the feelings of supervisors at a particular UoT (chapter 5), were, but also to integrate what could be learnt from existing frameworks or models. Therefore some of the frameworks or models that are available in postgraduate supervision will hence be discussed, such as (i) pedagogy of supervision in the technology disciplines; (ii) postgraduate education model; (iii) the reference model on the construct of quality of doctoral research supervision; and (iv) the product-process model.

6.2.1 Pedagogy of supervision in the technology disciplines

This model is a fellowship plan and conceptual model from Queensland University of Technology in Australia. This model of Bruce and Stoodley (2009:5) was designed to create awareness of research supervision as a teaching and learning practice in the technology and engineering disciplines. The proposed model has as purpose to raise awareness of postgraduate “supervision as a teaching and learning practice, encourage sharing of practices amongst supervisors, and enable reflection and learning from research and scholarship” (Bruce & Stoodley 2009:5).

This model asks the following important questions about postgraduate supervision as a teaching and learning practice:

- *“What do supervisors want their students to learn as they progress through candidature? How do they achieve these aspirations?”*
- *How do they know when their candidates have learned?*
- *How do supervisor aspirations compare with the broader aspirations of the university community?*
- *What are the barriers that supervisors experience to helping their candidates learn?*
- *What is useful for candidates to learn as they progress through their candidature and how can we help them?*
- *How can we encourage supervisors to think about supervision as a teaching and learning practice? What benefits might this have?”* (Bruce & Stoodley 2009:16)

Bruce and Stoodley (2009:16) are convinced that postgraduate supervisors “largely consider supervision as part of their research endeavour rather than as part of their teaching endeavour” and that postgraduate “students need to learn.”

Supervisors, however need to help them learn, not only in the area of their specific project, but also about the nature of their research fields, and what it means to “be a researcher in that field and in the wider research community” (Bruce & Stoodley 2009:17). The authors believe that this model will support and build an understanding of what is involved in helping students learn throughout their candidature (see 2.4) and to help supervisor succeed in the experience of the processes of postgraduate supervision (Bruce & Stoodley 2009:18).

The proposed model may bridge primary concerns in any curriculum, such as graduate capabilities which are cross-disciplinary which implies a culture of postgraduate supervision with a strong quality focus. The authors positions “quality” as a level of performance that is based on both impact on the body of knowledge and the more traditional criteria and to move to different forms of doctoral studies (Bruce & Stoodely 2009:20).

This model suggested the following supervisors’ roles: The *first* is becoming an expert, or ‘master knower’ in the content and research areas. The *second* is to make meaning, discover, solve problems and create new ideas. The *third* is the having a role to play in understanding an individuals own place in the research process which will benefit society as well as the profession. The *fourth* is to assist the student to introduce the impact of the research to the public domain and the *last* is that to open up the collective nature of research where communities of experts progressively are made aware that there different ways of researching the same or similar topics (Bruce & Stoodely 2009:22).

The authors also believe that a research supervisors have to adopt the role of teacher, or learning facilitator, and that their views of research are likely to influence their supervision practice (Bruce & Stoodely 2009:28).

Contribution of the above views to the extension of the proposed model in this study:

This model was developed to create an awareness about research as a teaching and learning practice. The authors indicated the importance of sharing practices between postgraduate supervisors (see 5.3.3) which allows reflection and scholarship. They asked the question: What does a postgraduate supervisor want their student to learn and how do they know it has been achieved. Another important aspect was the bigger picture (see 2.5.1 & 2.6.4) of the research process and possible barriers that may hinder the accomplishment. The last important aspect that the authors asked was what the benefits are.

Further do they explain that postgraduate supervisors mostly see supervision as research and not a teaching opportunity. The following approaches are recommended by them: The importance of skills development (see 2.1; 2.4; 2.6.4; 4.8.1 & 4.11.1), knowledge (see 2.6.4 & 4.5.3) with the importance of value (see 2.6.1 & 4.11), the accepting of different cultures (see 2.6.3 & 4.8) and the creative thinking process (see 2.6.2 & 4.8) which will allow a good quality (see 2.6.1; 2.6.4 & 4.11). Then do they recommend the following roles that postgraduate supervisors need to play, namely an expert (see 2.6.2 & 4.11), able to solve problems (see 2.6.2; 2.5.1 & 4.11), to provide new ideas (see 4.10 & 4.11), to allow an own place or ownership (see 2.6.2 & 4.13), to see the bigger picture (see 2.5.1 & 4.10) and to be a facilitator (see 2.6.4) in the learning process.

6.2.2 Postgraduate education model

The *postgraduate education model* was developed by Raiker (2011:9) who designed a theoretical model to support postgraduate students at the master's level; however, this model focuses only on the postgraduate student and not on the development of the supervisor. Raiker (2011:11–12) revealed the increasing diversity of postgraduate students in terms of language use, academic writing skills, subject knowledge, research skills and commitment to the research process.

Raiker (2011:13) believed that postgraduate students need to be actively involved in their research process and that they should take responsibility for their own learning. “Postgraduate students are expected to show initiative, not only in finding sources of scholarly and research-based knowledge, but also in accessing support if needed” (Raiker 2011:13). Further explained the author that a “university has the resources – academic, traditional and electronic – to develop and establish strategies and activities to support postgraduate students in developing distinctiveness” (Raiker 2011:23).

Contribution of the above views to the extension of the proposed model in this study:

This model focus on the postgraduate student and not on the supervisor, but the topics of importance can be added to the leadership model for supervisors. The authors wanted development in academic writing, subject knowledge (see 2.6.4 & 4.5.3), research skills (see 2.4 & 2.5.4) and commitment (see 2.6.2; 2.5.1 & 4.9) in the research process. They asked postgraduate students to be active involve and responsible (see 2.6.4 & 2.5). Although this model is built around the student, it is necessary for the supervisor to take note of the areas in which he/she can play a role in contributing towards the development of the student.

6.2.3 Reference model on the construct of quality of doctoral research supervision

The *reference model is on the construct of quality of doctoral research supervision* (Baptista *et al.* 2011:55), which is an evaluation model designed to monitor and assess the quality of the research supervision process at a doctoral level (Baptista *et al.* 2011:57).

Baptista *et al.* (2011:54) emphasised that postgraduate supervisors should pay attention to the subject matter expertise and the feedback process, as well as their support to students. Postgraduate supervisors have to acknowledge the need of students to be guided through the research process and be assisted to overcome the difficulties involved in this demanding research process (Baptista *et al.* 2011:54). Conrad (2007, cited in Baptista *et al.* 2011:54) pointed out that postgraduate supervisors should see themselves as accompanying their students on the doctoral journey by developing a proper intellectual and emotional climate. They should be aware of the importance of being aware of the type of activities that are needed for every stage in the research process in order “to design proper strategies to optimise and help the student experience” (Baptista *et al.* 2011:54). Baptista *et al.* (2001:54) mentioned the case of one supervisor who said that interacting with doctoral students allowed him not only to learn about human relations, but also “to grow at intellectual and cognitive levels”.

In creating an intellectually stimulating space and context in which the student can develop his/her own (academic/researcher) identity – “openness and flexibility are necessary in the supervisors-student relationship” (Baptista *et al.* 2011:55). This reference model also emphasises the postgraduate ‘supervisors’ voices “...the doctoral supervision process as a scientific and emotional process where interpersonal and intrapersonal phenomena occur. This is not only between the postgraduate supervisor and the student but also between those actors in the

research process of knowledge (re)creation, growing, development and transformation” (Baptista *et al.* 2011:57).

Contribution of the above views to the extension of the proposed model in this study:

The model views the importance of the monitor and assesses process of the quality (see 2.6.1; 2.6.4 & 4.11) in the research environment. Another important aspect with this model is the importance of subject knowledge (see 2.6.4 & 4.5.3), feedback (see 2.6.1; 2.6.4 & 4.7.1) and support (see 2.5.1; 2.6.4 & 4.5.3) about the whole research process. The authors also acknowledge that a postgraduate supervisor guide (see 2.5 & 4.5.1) the student through difficulties with the creation of an emotional friendly environment (see 2.5.4; 2.6.4; 2.6.1 & 4.8). Postgraduate supervisors need to be engaged (see 2.6.2; 2.5.1 & 4.9) in the postgraduate supervision relationship (see 2.6.1 & 4.8) that provides openness and flexibility. Within the environment the postgraduate supervisors act with respect (see 2.6.2; 2.5.1; 2.6.1 & 4.8) and allow the development of individual voices (see 2.1; 2.4; 2.6.4; 4.8.1 & 4.11.1).

6.2.4 Product-process model

This model recognises the product-process to enhance effective postgraduate research supervision (Friedrich-Nel & Masalla 2011:179). “A collaborative learning environment is created through interactive teaching – a dynamic process of questioning, discussion and engagement” (Wisker *et al.* 2007, cited in Friedrich-Nel & Masalla 2011:179). Friedrich-Nel and Masalla (2011:179) believed that “feedback is an essential part of interactive teaching and should ideally be a two-way process between the students and the supervisor (see 2.6.3). The feedback should be based on work completed and planned, underpinned by the fact of a safe learning environment where ‘there is always

another question” (see 2.6.3). The importance of the feedback process is that the postgraduate supervisor needs to shape and develop the student (the process) and to produce a tangible product or thesis (Friedrich-Nel & Masalla 2011:180).

Interactive teaching entails “engagement, facilitation, knowledge production and identify information (see 2.5 & 2.6), which are all vital ingredients of the postgraduate research supervision process” (Friedrich-Nel & Masalla 2011:180). The authors believed that “both the thesis and the postgraduate qualification are significant outcomes of the postgraduate supervision process.” This model looked at the research problem that is part of the process with the acquiring of the qualification: “The process also involves engagement, collaborative learning, the developmental activities of moulding and crafting the student to become a new identity and to comply with assessment requirements. The latter is seen as part of the process of obtaining the product (qualification). The new identity of the lifelong learning and scholar, as well as the research culture and graduate attribute that are acquired in the process are seen as a higher-level product that re-orientates the student to the root of ‘there is always another question.’” (Friedrich-Nel & Masalla 2011:183)

The continuous development and collaborative learning elements are a life-long approach in the research culture that influence the postgraduate supervision environment (Friedrich-Nel & Masalla 2011:183).

Contribution of the above views to the extension of the proposed model in this study:

This model looked at the product-process within a collaborative learning environment through interactive teaching. The interactive teaching includes engagement (2.6.2; 2.5.1 & 4.9), facilitation (see 2.6.4), knowledge production (see 2.6.4 & 4.5.3), lifelong learning (see 2.4 & 4.8) and scholarship with feedback

(see 2.6.1 & 4.7.1) in a safe environment (see 2.6.1 & 4.8) and continuous development (see 2.1; 2.4; 2.6.4; 4.8.1 & 4.11.1) opportunities.

6.3 A SELECTION OF LEADERSHIP FRAMEWORKS OR MODELS

Apart from the leadership theories that were dealt with in chapter 2, it deemed to be valuable to view Wisniewski's *Academic leadership competence framework* and Scott's (2008) *Academic leadership capability framework* which also deals with particular competences in the higher education environment, as well as the *four intelligences* model of Covey (2004), which very much addresses the dimensions of the draft leadership framework (see figures 2.3 & 2.4).

6.3.1 Leadership competence model

Wisniewski (2010:2) explains the leadership competence model as a “functional categorization of separate competencies that are simultaneously in situations where effective performance is demonstrated.” This model may provide a better understanding of the important leadership roles and skills across the broader educational environment within a HEI. The author includes the following seven important competencies and related abilities in a higher education leadership competence model:

a) Development of a core set of values and vision

The ability to clearly identify the values and belief upon which your actions are based and the willingness to act on your beliefs. Further to be able to develop a clear direction for the future and strategies for bringing changes (Wisniewski 2010:3).

b) Effective communication

The ability to listen and to communicate in multiple forums in a language that is clear, direct, honest and respectful. To identify the unspoken problem that lies beneath the surface of verbal communication and to depersonalise the problem/situation to state it in objective terms. The willingness and ability to provide an explanation for decisions made and consider multiple perspectives. Lastly, the ability to utilise appropriate metaphors and analogies (Wisniewski 2010:3).

c) Reflection and analysis

The ability to step back, observe the situation, identify the multiplicity of issues, an underlying dynamics. To facilitate and assimilate new information (Wisniewski 2010:3).

d) Creating a positive climate

The ability to interact comfortable with a diverse variety of people and to establish a high-trust environment. Inspiration and motivation of others (Wisniewski 2010:3).

e) Facilitation and collaboration

The ability to share responsibility and authority with others and to facilitate the identification of potential relevant common interests between parties. The ability to create opportunities for people to form partnerships through shared knowledge and to form teams that understand the vision and strategies (Wisniewski 2010:3–4).

f) Problem solving and risk taking

The ability to examine situations from a variety of perspectives and to encourage people to both generate and share new ideas, and to except solutions and their consequences. The ability to involve people in making critical decisions and the

ability to demonstrate a willingness to propose direction and action (Wisniewski 2010:4).

g) Perseverance

The ability to carry on despite ambiguity, frustration and chaos (Wisniewski 2010:4).

Contribution of the above views to the extension of the proposed model in this study:

This model allows the identification of values (see 2.6.1 & 4.13) and vision (see 2.6.1; 2.6.2; 2.6.4 & 4.10) that will direct the path for the future. The communication process (see 2.6.1 & 4.7) within this model needs to be clear, honest and respectful (see 2.5.1; 2.6.1 & 2.6.2). Another important aspect of this model is to observe and reflect on the process (see 2.6.1; 2.6.4 & 4.11) and to provide new creative information (see 2.6.4 & 4.5.3 & 4.11) when needed. Individuals also need to create a positive environment (see 2.6.1 & 4.8) that will facilitate collaboration (see 2.6.4). The last important aspect is the willingness (see 2.6.2; 2.5.1 & 4.9) to carry on.

6.3.2 Academic leadership capability model

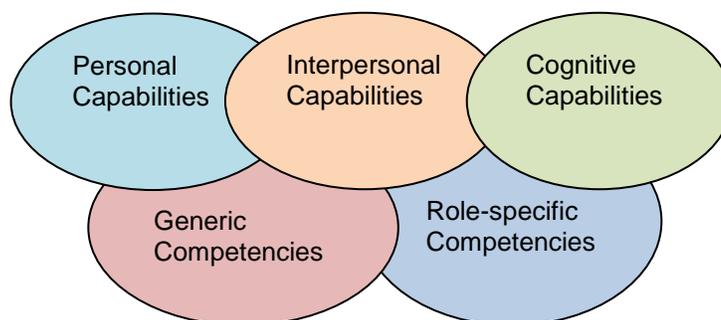


Figure 6.1: Academic leadership capability model

The overlapping nature of this leadership model indicates that “all five dimensions are necessary for effective performance as an academic leader and that the five domains identified feed into and off each other” (Scott *et al.* 2008:18). The authors indicated that “it is important for leaders first to be able to manage their own emotional reactions to the uncertainty and discomfort.” At the same time, all key “challenges of academic leadership have a human dimension, it is important to have a high level of interpersonal capability in order to better understand what is happening and to sort out what might work best to resolve the situation” (Scott *et al.* 2008:19) (see 2.6.3).

“The next dimension of cognitive capability refers to a leader’s capacity to diagnose accurately what is happening when the unexpected occurs, to identify what the human as well as technical or administrative dimension are, to determine if the problem is worth addressing in detail, and then having the ability to match an appropriate course of action to this diagnoses” (Scott *et al.* 2008:19) (see 2.6.2).

“Integrated into this process is a leader’s level of generic and role-specific skill and knowledge. These areas of competence help provide not only a scaffold for diagnosis but also a source for shaping the right response and delivering it in partnership with all the other players concerned” (Scott *et al.* 2008:20) (see 2.6.2).

Contribution of the above views to the extension of the proposed model in this study:

The model informed that all dimensions are needed and it is important that an individual knows his or her own emotional (see 2.6.1 & 4.8) reaction. Leaders’ capacity need to develop (see 2.1; 2.4; 2.6.1; 4.8.1 & 4.11.1) to include the planning (see 2.6.4 & 4.11) of the whole big picture (see 2.5.1 & 2.6.4) with adequate knowledge (see 2.6.4 & 4.5.3).

6.3.3 Covey's intelligences model

Covey's intelligence leadership model compares favourably to the intelligences or competence required from leaders leading a process. Apart from the leadership theories that were dealt with in chapter 2, it deemed to be valuable to view abovementioned models which deals with various competences, skills and roles in the higher education environment, as well as the *four intelligences model* of Covey (2004:57) and the performance pyramid of Loehr and Schwartz (2001:123), which very much addresses the dimensions of the draft leadership model (see Figures 2.3 & 2.4).

According to Kapp (2000:151-152), "intelligence is understood as the ability to learn or understand from experience or to respond successfully to a new experience or the ability to acquire and retain knowledge". Intelligence implies the use of reason or cognitive capacity to solve problems and direct behaviour. The history of research on intelligence has made it clear that leaders' success in their career and personal life does not depend on IQ only, but on the combination of other intelligences (Derksen, Kramer & Katzko 2002:37). Most psychologists agree that intelligence describes an individual's ability to learn, to understand and recognise concepts and to apply this information you has learned in order to deal and adapt to your environment (Kline 1991:1; Martin 2008:107).

Spencer (2002:258) believed that the concept of intelligence closely relates to that of cognition, because cognition involves the understanding and manipulating of information and intelligence is seen as the ability to understand the world we live in and to cope with all the challenges that come our way. The connection of the different intelligences to the basis of cognition allows you to profit from your educational experiences and achievements to adapt in the real working environment (Spencer 2002:258).

6.3.3.1. *The four intelligences*

Covey (2004:57) explained that the four intelligences obviously overlap in life and you can't really work exclusively on any one without touching directly or indirectly on the others. Covey's (2004:107) model also refers to four competences which are related to the completeness of a person: body, heart, mind and spirit, which he translated into four intelligences: physical (PQ), emotional (EQ), mental (IQ) and spiritual (SQ) as indicated in the table below.

Table 6.1: Covey's four intelligences model

Whole person	Four intelligences	Acronyms
Body	Physical	PQ
Heart	Emotional	EQ
Mind	Mental	IQ
Spirit	Spiritual	SQ

Covey added a new dimension by including the physical intelligence. The importance is to have a balance in life and not to neglect the development and health of your body. Mentally you can lose your focus, your creativity, your endurance, your toughness, your courage and your learning capability. What will happen to your emotional intelligence if you neglect the physical intelligence? "Patience, love, understanding, empathy, the ability to listen and compassion are themselves subordinated – they become buzzwords without flesh and blood to drive them" (Covey 2004:337–338). What will happen to your spirit, to your peace of mind if you neglect the physical intelligence? "It affects our desire to serve, to contribute, our willingness to sacrifice, to subordinate ourselves for a higher good; our conscience becomes dulled, yielding to almost any temptations. A loss of personal integrity makes me more self-oriented, more selfish. Physical self-mastery and development is foundational. It is also very concrete, something we can immediately do something about. We have more direct access to it; we can control it. As we master the body's appetites and strengthen its intelligences, we'll begin to see the space enlarging between stimulus and response, with all the

attending positive mental, emotional, and spiritual spin-offs.” (Covey 2004:337-338).

Covey’s model is also related to the Loehr and Schwartz (2001:123) performance pyramid.

Loehr and Schwartz (2001:120) constructed the performance pyramid (see Figure 6.2) based on the growing focus on the relationships between EQ and high performance to sustain high performance in today’s working environment. This model reflects an integrated theory of performance management addresses the body, the emotions, the mind, and the spirit which is regarded as successful approach to sustained high performance, pull together the person as a whole. *“Each of its levels profoundly influences the others, and failure to address any one of them compromises performance”* (Loehr & Schwartz 2001:120).

The foundation of the pyramid is PQ, which builds endurance and promotes mental and emotional recovery. Above PQ lies EQ, which creates the internal climates that drives the ideal performance state (this is achieved when all levels are working together). Above EQ is IQ, which focuses on the physical and emotional energy and the task at hand, and at the top is SQ which provides a powerful source of motivation, determination and endurance for a human being, allowing a sense of purpose (Loehr & Schwartz 2001:123).

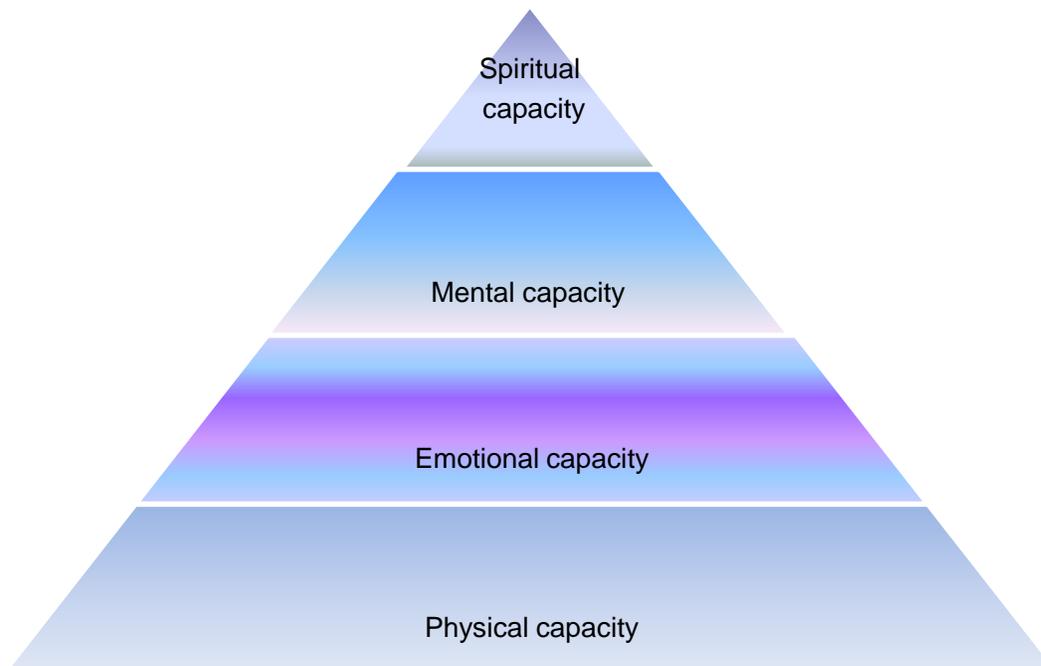


Figure 6.2: Performance pyramid (Loehr & Schwartz 2001:123)

Now that the relationships between the different models are explained and clear, the four intelligences or competence will hence be conceptualised.

- **Physical intelligence or competence**

PQ can be defined as the ability to use energy and the capacity to do work (Loehr & Schwartz 2001:122). PQ includes everything that your body does, without you even being aware of doing it. It runs the physical system, including the respiratory, circulatory, nervous and other vital systems, constantly looks after the cells in the body to destroy cells that are unwell and to make sure the body survives any attack, and scans the environment (Covey 2004:50; De Klerk-Weyer & Le Roux 2008:82). PQ includes your approach to your own self and learning to listen to your own body's signals and how to respond to it. Kinaesthetic intelligence is also included in the PQ, which is the ability to use your body in vastly differentiated and skilled ways for both goal-orientated and expressive

purposes (De Klerk-Weyer & Le Roux 2008:82). Your body is the most advanced and amazing machine because of the ability to stimulate and manage your neurological systems that enable you to learn the use of your sensory system (De Klerk-Weyer & Le Roux 2008:82).

According to De Klerk-Weyer and Le Roux (2008:82), it is important to realise that your thoughts and emotions influence the body, which entails the ability to identify the physical symptoms of your emotions in the body as well as your thinking patterns and emotions. An important characteristic of emotionally intelligent individuals is their ability to manage and balance all the mentioned facets within their lifestyle. If leaders do not manage this balance, they may manifest symptoms that could lead to unfulfilled needs and they may experience unpleasant or negative feelings (De Klerk-Weyer & Le Roux 2008:84). The following could be done to improve and renew your physical capabilities.

Although the findings presented in chapter 2 did not provide for the physical dimension, Covey's four intelligences model provided a valuable contribution to the initial leadership model. Leaders are primarily human beings who have responsibility towards themselves and other individuals, and this requires a balanced lifestyle to deliver quality work at every level. Another important suggestion for any leader is not to neglect their body, in other words becoming physically active, which dramatically increases energy (Carnegie 2009:161; Haggai 2009:189; Loehr & Schwartz 2001:124). It is important to recognise the use of music to discharge stress and to restore positive energy. Music has a powerful physiological and emotional effect on any individual because it presents relief from obsessive thinking and worrying (Loehr & Schwartz 2001:125). Leaders and individuals need to realise the importance of looking after their own bodies.

Just as fitness is crucial for the mastery of leadership, so is proper rest and relaxation. Therefore, you need to ensure that you create a peaceful atmosphere in your life to get enough sleep and relaxation (Carnegie 2009:162-163; De Klerk-Weyer & Le Roux 2008:84; Loehr & Schwartz 2001:124). It is important to maintain a consistent time to go to bed and to wake up every day. Each leader needs a regular sleep cycle because it helps to regulate your biological clock and increases the likelihood that the sleep you get will be deep and restful (Green 1996:3; Loehr & Schwartz 2001:124). From time to time your body will remind you of the importance of a good night's rest and relaxation just as the need for a healthy diet.

Proper nutrition with enough fibre, fruit, vegetables and protein is imperative for effective leadership. You should ensure that you taste, savour, relishes, enjoys and appreciates what you eat or drink (Carnegie 2009:163-164; De Klerk-Weyer & Le Roux 2008:84; Haggai 2009:188; Loehr & Schwartz 2001:124). Lastly, it is vital that a recovery session is taken every 90 to 120 minutes, because chronobiologists have found that the body's hormone, glucose and blood pressure levels drop. Suggestions to restore the body are to eat something, to hydrate, to move physically, and to change channels mentally and emotionally (Loehr & Schwartz 2001:125).

Physical alertness is also a desirable quality and postgraduate students tend to follow leaders with characteristics they want to imitate (Haggai 2009:181–182). Individuals need to remember to look after their physical well-being, because this forms an integral part of the success of a postgraduate research project.

- **Emotional intelligence or competence**

What is “emotional intelligence”? Goleman points out that the word ‘emotion’ comes from ‘*motere*’, a Latin verb meaning ‘to move’ (cited in Connelly 2007:3). EQ refers to the dimension of personal-management and social skills that allows an individual success in the workplace and in life in general (Lynn 2002:2; Sterret 2000:2). EQ is the distinguishing factor that includes intuition, character, integrity, motivation, good communication and relationship skills (Lynn 2002:2; Sterret 2000:2).

Ramsden (1998:87-90) reported the following attributes of effective practice in academic leadership, namely, being motivated to excellence, commitment to the job, leading by example, having integrity, being willing to learn from mistakes, and being determined (Ramsden 1998:87-90, cited in Scott 2008:19). Ramsden (1998:87-90) also reported the “importance of attributes like: being empathetic and responsive; an ability to motivate others; being able to listen, delegate and allow ideas to surface; encouraging initiative; building action groups; acknowledging others’ work; and helping staff learn” (Ramsden 1998:87-90, cited in Scott 2008:19).

EQ is the unique aspect of living out passions in life and working in collaboration with others. EQ is a valuable component in any business or academic environment, because it is invaluable in driving leaders’ success in the business and academic environment (Lynn 2002:2). According to Bergh and Theron (2008:252), leaders share a high level of EQ. EQ provides leaders with the ability to influence postgraduate students in order to achieve goals through constructive interpersonal interaction. EQ leaders are tuned into their own and others’ emotions and they are able to control and direct their own emotions in order to achieve high levels of motivation. Leaders must be able to empathise with

individuals and to build and maintain constructive relationships (Bergh & Theron 2008:252; Kapp 2000:152).

According to Dubrin (2004:54), an individual has the genes that influence the EQ that is necessary for leadership, which entail a combination of inherited and learned factors. Furthermore, the management of relationships between parties will improve because EQ enhances with experience in the environment and the maturing of individuals (Dubrin 2004:54). Leaders' academic ability is not a guarantee of success in today's environment; therefore, they need to understand their own emotions, as well as that of others.

EQ may sometimes be more important than cognitive intelligence and technical skills within the leadership process, because leaders with EQ could inspire individuals with enthusiasm (Rothmann, Scholtz, Sipsma & Sipsma 2002:1). Postgraduate supervisors' main task is to provide technical and emotional support so that they can lead and guide students in the research process (Sambrook *et al.* 2008:72).

EQ abilities therefore accentuate the internal climate that supports a leader's peak performance and provides further ways to understand the behaviour, operating styles, ways of thinking and capabilities of postgraduate students (Connelly 2007:3; Loehr & Schwartz 2001:124). EQ includes the following capabilities:

- Knowing your emotions – self-awareness
 - ❖ The keystone of EQ is the recognition of a feeling as it occurs. It is crucial for psychological insight and self-understanding to monitor feelings and incidents as you experience them and to understand what you think and does as a result. Self-aware leaders have certainty about their feelings and strengths, because they have a sense of how they really feel about personal decisions and are

confident about their work (Connelly 2007:14–15; Goleman 2005:43). Connelly (2007:15) explains the following competencies that are associated with self-awareness:

- Emotional self-awareness – recognising your emotions and the influence they have on your life
- Accurate self-assessment – identifying your strengths and limitations
- Self-confidence – knowing your self-worth and capabilities

○ Managing emotions – self-management

It is important that leaders control their feelings appropriately and that they have the ability to overcome life's setbacks and upsets. This self-management of a leader concerns the ability to feel positive emotions and to express positive emotions to postgraduate students (Connelly 2007:26; Goleman 2005:43). The following competencies are associated with self-management:

- ❖ Emotional self-control – controlling impulsive emotions (Connelly 2007:26)
- ❖ Trustworthiness – being honest and taking action that is in line with your values (Connelly 2007:26)
- ❖ Flexibility – being able to adapt and work with different people in different situations (Lee 2008:274)
- ❖ Optimism – the ability to see opportunities in situations and the good in postgraduate students (Christiansen & Slammert 2006:25)
- ❖ Achievement – developing your performance to meet your own standards of excellence
- ❖ Initiative – taking action when it is necessary (Connelly 2007:26)

- Motivating one-self

The mastery of a destination/goal is essential for self-motivation. Leaders who have emotional self-control tend to be more productive and effective in their work. Leaders in postgraduate supervision need to motivate or influence students to invest in a project and support a specific goal for a research programme. Therefore, it is important that leaders inspire and move postgraduate students towards a common vision that they believe in (Connelly 2007:47; Goleman 2005:43; Green 1996:3). EQ could “influence your capacity to succeed and cope with environmental demands” (Van Lill 2005:973).

- Recognising emotions in others

Another ability that builds on emotional self-awareness is empathy. Postgraduate students need supervisors who care enough for them to support them, listen to their experience and understand their feelings. The more empathy leaders have, the easier they will see the signals that a postgraduate student is in trouble. Empathy entails leaders' ability and skill to put themselves in the position of postgraduate students and to understand their needs, feelings and thoughts with a mind-set that conveys compassion, acceptance and understanding (Connelly 2007:38-39; Goleman 2005:43). The following competencies are associated with empathy (Connelly 2007:39):

- ❖ Empathy – understanding postgraduate students' emotions, needs and concerns
- ❖ Organisational awareness – the ability to understand the politics within an organisation and how these affect the people working in them
- ❖ Service – the ability to understand and meet the needs of clients

- Handling relationships

The management of emotions has a considerable influence on the relationship (see 2.6.1.5) between parties. The management of positive relationships requires a postgraduate supervisor with a reputation of leadership skills, social competence and interpersonal effectiveness. Leaders that use empathy and other EQ skills will build and maintain levels of trust among those with whom they work and interact (Connelly 2007:45; Goleman 2005:43-44). Another important aspect of close relationships is the easy recovery from an appalling situation to a positive emotional feeling of safety and security (Loehr & Schwartz 2001:125). The competencies of teamwork, conflict management and creating a positive environment are associated with handling relationships (Connelly 2007:45).

EQ motivates people to pursue their unique potential as individuals because their emotions serve as the source of human energy (Kapp 2000:152). Postgraduate supervisors need to be passionate and enthusiastic to provide the necessary support and motivation to convince postgraduate students to embark on a research process. Passion and vision are the key elements that a postgraduate supervisor needs within the supervision environment. All individuals that are part of the postgraduate supervision process use emotional input in co-creation and goals. Leaders need to recognise the emotional element in their life and should know how to understand and accept each sign. Understanding your own emotions and how to interpret postgraduate students' emotions is vital in a supervision process with the necessary empathy, because this will allow them to know whether the research project is still on track or whether they need to provide more encouragement to the student.

- **Mental intelligence or competence**

As the supervision model and Covey's (2004) model include the mental dimension, it seems to form an important part of the effective postgraduate supervisor's attire. IQ is associated with the use of language and, the ability to analyse or reason, think abstractly, make decisions, evaluate, visualise and understand new information and solve problems (Covey 2004:50; De Klerk-Weyer & Le Roux 2008:89; Song, Huang, Peng, Law, Wong & Chen 2009:2; Visser, Ashton & Vernon 2006:487). Furthermore, IQ is closely related to learning abilities and job performances (Song *et al.* 2009:2).

According to Dubrin (2004:54), individuals need opportunities to develop their mental ability and this will also increase their opportunities for leadership positions and develop the knowledge competence of a postgraduate leader. De Klerk-Weyer and Le Roux (2008:91) explained that a leader's assumptions and preconceptions can be described as the truth of how they believe to work.

The usual approach to IQ is to focus on improving competences by using techniques such as knowledge management or by learning to use a more sophisticated technology (Ismail & Rasdi 2008:92; Loehr & Schwartz 2001:126). However, good mental ability may also allow a leader to see that a university is a complex system and that it is part of a much larger system that includes the community and the nation's economy (Robbins & De Cenzo 2001:8). Influential leaders' energy is communicated to others through their mental alertness, which includes their hard work, commitment and persistence in the work environment. Not all leaders are 'intellectual giants', but influential leaders will observe new trends within a holistic picture of the project, as well as of the research environment and the latest developments in the field (Haggai 2009:182–183).

A leader with mental alertness will have foresight into the future planning of a postgraduate research project (Haggai 2009:184). Mental alertness for a leader will provide the opportunity to reflect on and reason about a problem to get to the heart of it. This watchfulness gains respect from people such as postgraduate students (Haggai 2009:184). Leaders should explain that no permanent success is possible without hard work, joined with the highest and constructive aims (Haggai 2009:185). Leaders may admit that commitment and persistence require an incredible amount of physical, intellectual and emotional energy. Leaders should believe in a postgraduate student and the research project and both parties have to work towards reaching the same goal (Haggai 2009:186).

According to Haggai (2009:190) "...increased energy comes not just from conditioning your body through proper eating, exercise, and plenty of sleep, but also from conditioning your mind through developing positive attitudes and eliminating negative emotions".

People think more than a thousand thoughts per minute; therefore, you must make sure that your thoughts are positive and productive, because if you want to change your behaviour or if you want to learn a new behaviour, your thoughts will dictate whether you will succeed or not (De Klerk-Weyer & Le Roux 2008:98–99). Visualisation (see 2.6.4) is another vital element to produce positive energy for a leader. If leaders want to endure various tasks within a postgraduate research project, they need mental toughness with constructive thoughts and deep commitment to visualise a vision (Haggai 2009:199; Loehr & Schwartz 2001:127).

Academics and postgraduate supervisors know that a university is an institution that provides a service to clients or students. For this reason it is important that mental development, knowledge and skills are considered. This is done through, among other things, postgraduate supervisors' attendance of workshops,

conferences or training opportunities that is made available by the HEI. The mental development that is provided to postgraduate students may ensure the positive legacy of students returning to the institution or making positive comments about the institution. Effective postgraduate supervisors know that mental alertness is a crucial factor, because every postgraduate research project requires new mental alertness, ideas, plans and goals for success and this could only be reached when supervisors are positive and willing to commit to the research project.

- **Spiritual intelligence or competence**

The spiritual or value-dimension seems to be a foundation upon which most functions are built. The spiritual concept comes from the Latin word '*spiritus*', which means breath (De Klerk-Weyer & Le Roux 2008:111). SQ means to connect with yourself and that you accept responsibility for your own life, which has an influence on how you live and your relationships with others and the world in general (De Klerk-Weyer & Le Roux 2008:111; Van Rensburg 2007:9). Furthermore, SQ entails the measuring of your behaviours according to your own values, regardless of circumstances (De Klerk-Weyer & Le Roux 2008:111). SQ includes the way leaders are willing to solve problems and give a moral sense and the ability to use knowledge and understanding with compassion (De Klerk-Weyer & Le Roux 2008:111).

Carnegie (2009:165) explained that the cultivating of the spirit is just as important as the intellectual needs. Spiritual awareness is important in a leader's life and needs to be respected and developed by each individual (Carnegie 2009:166; Loehr & Schwartz 2001:124), because your SQ is often linked to your intuition, gratitude, authenticity, tranquillity, values, purpose, connectedness, dignity, self-transformation, forgiveness, compassion, motivation, focus, determination, unconditional love, inner knowledge and truth, wisdom and insight, sense of

meaning and conscience (De Klerk-Weyer & Le Roux 2008:111; Loehr & Schwartz 2001:124).

Leaders who want to enhance their SQ need to be true to their values, be authentic and act with integrity and have a sense of purpose (they must want to make a difference in someone's life). Therefore, leaders should align their lives to their unique talents, knowledge and gifts (De Klerk-Weyer & Le Roux 2008:113). Only when leaders know what their values and beliefs are, can they plan effectively and take responsibility for their lives and decisions. Your values are the core of your being (De Klerk-Weyer & Le Roux 2008:113).

People's values guide them in what they want to and will achieve in their lives. These lessons are learned early in life and may be transferred from one individual to another. Your values can change and you can change because they provide a more positive feeling for postgraduate students and motivation is directly linked to your values (De Klerk-Weyer & Le Roux 2008:113). Your values will determine your emotional needs and expectations in life, and recognition of emotional needs is acceptance, friendship, admiration and respect in what you do and how you do something (De Klerk-Weyer & Le Roux 2008:119).

Proactive leaders in life need to write a mission and vision statement that they can follow and which may be a compass to ensure that they are on the chosen road to reach their own life goals (De Klerk-Weyer & Le Roux 2008:125). Another key aspect that leaders have to remember is that spiritual growth is a lengthy process and that it is essential not to rush this growth process (De Klerk-Weyer & Le Roux 2008:127).

The important elements of SQ are the reliability and integrity of postgraduate supervisors. The way postgraduate supervisors handle their own life story will provide the necessary information and admiration to students so that they can

trust their supervisors with their dreams. Postgraduate supervisors need to act in such a positive and meaningful way that a student wants to be part of that process and want to imitate the supervisor.

6.4 POSSIBLE ROLE OF INTELLIGENCES IN LEADERSHIP

Fry (2003:696) explained that leadership has been a topic of interest for many years, but that scientific research on leadership only began in the 20th century. An important aspect to remember regarding leadership is the many complexities, competition and change that leaders have to face in a university. Leaders need to gain more capabilities to cope with the new demands, diversity and conditions (Karakas 2007:45). Karakas (2007:45) believe that for a university to be successful, leaders will need to manage social responsibility, collaboration, relationships (see 2.6.1), creativity and innovation (see 2.6.1), adaptation and flexibility in their field of expertise. Furthermore, state Karakas (2007:45) that for leaders to guide (see 2.5.2) postgraduate students through this learning process and to apply these new capabilities and disciplines successfully, they need to perform three new creative roles and functions, namely that of social artist, visionary leader and innovator, that are implicitly part of this new leadership development.

Social artists will be leaders who continually work on themselves to develop skills to ensure that they can provide leadership and guidance to the changing paradigms, values and structures in the demanding higher education world (Karakas 2007:45). Therefore, postgraduate leaders will need to develop skills due to diverse student populations with various research projects.

As a visionary leader, postgraduate supervisors must interpret the universe and individuals' roles in a university and in the business world. Therefore, it is important that postgraduate supervisors could provide a vision (see 2.6.4) for

students in today's changing and demanding academic environment. Spiritual and visionary leaders also provide deeper meanings of, inspiration for and fresh insights into the human condition (Karakas 2007:45-46).

The innovators are leaders who are pioneers of new ideas (see 2.6.1) in society or the world. This leader explores and nurtures the creative talents and abilities of postgraduate students (Karakas 2007:46). The role of postgraduate supervisors within a research project is to nurture students' talents and create new ideas.

Individuals such as postgraduate students want a leader to guide, care and nurture them in terms of a vision that brings meaning and purpose to a new research goal and planning (Johnson 2006:1). Therefore, it is not out of the ordinary for an individual to seek 'wholeness', although their sense of wholeness may often be developed further than that which is understood by the caring of a leader or the mentor (Johnson 2006:1). Leadership in postgraduate supervision also concerns the motivation (see 2.6.3) of students to change and experience the world in a different way. From postgraduate students' perception, they are looking for a leader that will create a long-term vision (leaving a legacy) and provide desirable challenges that will support them to reach their research goal with success (Fry 2003:696).

Another important aspect concerning postgraduate supervisors is to recognise their emotions (see 6.3.5) so that they can respond appropriately to them. Leaders have to manage relationships (see 2.6.1) and provide effective and constructive feedback (see 2.6.1) to postgraduate students, which are important qualities of emotionally intelligent leaders (Connelly 2007:15). Therefore, leaders in postgraduate supervision should be aware of their emotions (see 6.3.5) and should be able to make decisions that feel right to them and not react impulsively. These actions may seem natural and automatic to a postgraduate student, but

there are many hours of reflections, insight and understanding of emotions that support a decision of a leader (Connelly 2007:15).

Postgraduate supervisors have many roles to play within the supervision process and therefore have to be a whole person. Postgraduate supervisors need to use all four the intelligences to ensure that they reach the goals and their students. Leaders in the postgraduate environment know that you cannot survive in this new and challenging academic world if you are not willing to reflect on and develop your own skills and competencies to attain a life-long learning attitude. Therefore is it important to understand the various developmental opportunities in the higher education environment.

Due to competitiveness between HEIs and the multi-cultural environment in which leaders find themselves, leaders need to have the ability to understand and manage the impact of emotions and related behaviours in terms of success (Coetzee *et al.* 2006:64). Postgraduate supervisors will need to play various roles within this new changing research environment to ensure that changes will be successful and leaders should invest time to understand how each student views the world (Coetzee & Schaap 2005:31).

Dubrin (2004:54) acknowledges the effect on the combination of heredity and environment on effective leadership. Certain personality qualities and mental abilities (see 6.3.6) are based on inherited predispositions and aptitudes that require the right opportunities to develop (Dubrin 2004:54). De Klerk-Weyer and Le Roux (2008:49) explain that your feelings (see 6.3.3.1) are influenced by other people and by the environment. Today's work environment requires that a postgraduate supervisor connects with students to challenge their conventional thinking with new ideas and goals (Densten & Gray 2001:119).

It is important that postgraduate supervisors understand the nature of the supervision process and that novice students and supervisors be nurtured into this new and uncertain research environment. Postgraduate supervisors need to remember that they influence students and that such influence could be carried into a new and different working and research environment. Another important aspect that postgraduate supervisors have to remember is that every UoT will have its own research and institutional environment and culture and that they have to adapt to the environment and research culture in which they are actively working.

Postgraduate supervisors need to have space to grow, a space where they feel respected in their discipline fields among challenges and where they may express their values. Leaders need the opportunity to demonstrate their leadership abilities and to take responsibility for their own learning in an institution that allows whole-person development and the gaining of wisdom (Robinson, Sterner & Johnson 2006:1). Leaders that allow themselves to tap into deeper wisdom, including the capacity to listen and to explain the power of intelligence and the openness of their heart, can make more informed choices in life (Ferdig & Lovell-Cole 2007:2; Robinson *et al.* 2006:1).

The focus of leadership development has to shift to self-management, self-motivation, a healthy self-esteem and the capacity for interrelating EQ with others and peers (Coetzee *et al.* 2006:64). It is important to remember that EQ will develop over a leader's life span and can be enhanced through training (Coetzee *et al.* 2006:64). Leaders' emotional competence is not solely about cognitive understanding of emotional experience, but includes behavioural, cognitive and regulatory skills that emerge over time as leaders develop and mature (Buckley & Saarni 2006:55–56). Thus, leaders create their own emotional experience through the combined influence of their cognitive developmental structures and their social exposure to emotional discourse (Buckley & Saarni 2006:55–56).

Postgraduate supervisors realise that what they are doing has meaning and purpose for their students; in fact, leadership in supervision is about inspiring and motivating others. Therefore, the success of inspiration and motivation can only be achieved if leaders have knowledge of their own emotions (Connelly 2007:2-3).

Postgraduate supervisors may develop their personal and professional lives at their own time within their academic career, where professional learning may be informal- and unplanned (Dyason *et al.* 2010:53; Manathunga 2005:18; Van der Westhuizen & De Wet 2003:186). Professional competence could develop through reflection on practical knowledge and postgraduate supervisors need to understand and unpack their experience and competence in the research environment (Christiansen & Slammert 2006:25; Naidoo & Tshivhase 2003:229). Professional learning can also occur as a result of structured guidance, input and support of the institution to educate postgraduate supervisors and to monitor their performance as well as their students' progress (Busher *et al.* 2000:139; Naidoo & Tshivhase 2003:229).

Leadership has become vital to the success of an academic institution in the global environment and therefore it is important for UoTs to develop their research environments and improve expertise through continuous development of all leaders (Raelin 2003:40; Van Staden 2010:181) in postgraduate supervision practices for the future. Postgraduate supervisors need to be trained for their ever-changing role and function as postgraduate supervisors so that they can assist students within the research process (Christiansen & Slammert 2005:1049; Lessing & Lessing 2004:83; Van der Westhuizen & De Wet 2003:186). The development of supervisors will depend on their level of growth and experience in research and this progress involves changing and developing students' skills, knowledge, attitudes and/or behaviours in the academic research environment (Dyason *et al.* 2010:53; Wisker *et al.* 2003:3). This may mean changing what

individuals know and how they work, or changing their attitudes towards their research project. A leader is responsible for deciding when an individual needs training and development (Emilsson & Johnsson 2007:167; Robbins & De Cenzo 2001:220). While individual training focuses on the skills needed to do your current job, individual development focuses more on the future. Rather than training one individual to be a leader, it is advisable to prepare everyone with higher-level skills and sufficient knowledge to be leaders with certain abilities, such as analytical, human, conceptual, political and specialised skills (Robbins & De Cenzo 2001:41, 222–223).

Improving the quality of learning requires an approach to focus on the development of leadership. This means challenging leaders to change the processes of teaching and learning for a better success rate (Bush 2008:20–21; Hean & Matthews 2007:4). Van Staden (2010:179) argues that the contribution of UoTs to research “is the development of a new understanding of a problem through the application of new and/or existing knowledge to the problem.” Therefore, leadership and research capacity development are long-term efforts and strategies that are necessary for leaders, due to the fact that they are often unprepared for the loneliness of the postgraduate supervision process and that ample time must be allowed for research outcomes. Ultimately may leaders acquire leadership qualities through a learning process (Bush 2008:30; Dyason *et al.* 2010:58).

With the continuous changes that are taking place in the supervision environment, it is necessary for postgraduate supervisors to attend development opportunities from time to time, which keep them informed of new methods and procedures and which may provide motivation for the research process. Development opportunities also provide a sense of security for postgraduate supervisors about their learning and teaching techniques. Postgraduate supervisors that have a life-long learning approach as a mission will remain scholars in their subject fields.

Postgraduate supervisors with this view point will never get old, because their minds are always active and busy.

6.5 SUPERVISORY LEADERSHIP MODEL

The following figures are an attempt to capture the data from the literature and from the empirical investigations (both quantitative and qualitative) to explain the leadership model for postgraduate supervisors. The use of the various competencies will differ from postgraduate supervisor to supervisor according to their growth and experience in the academic research environment and according to their exposure to postgraduate supervision developmental activities. “Effective postgraduate research supervision has been identified as one of the most crucial factors contributing to successful and timely post graduate completion” (Kiley & Mullins 1998; Latona & Browne 2001; Wright 2003 cited in Friedrich-Nel & Masalla 2011:171). Few institutions will have a precise list of knowledge, roles and skills for effective postgraduate supervisors, but a working definition of an effective leader is someone who helps others to attain productivity, quality and satisfaction (Taylor 2006:2–3). Wadee *et al.* (2010:27) explain that effective supervision goes beyond the thesis – it is attending to the broader intellectual development of a PhD candidate.

Although the leadership dimension is not included in the 4 Intelligences model (Covey 2004), it forms the core of this study and it has become evident that effective leadership is dependent on the various intelligences. The need for effective postgraduate supervisors in the research process is important (Green 1996:2). The following figure incorporates the intelligences of Covey’s model.

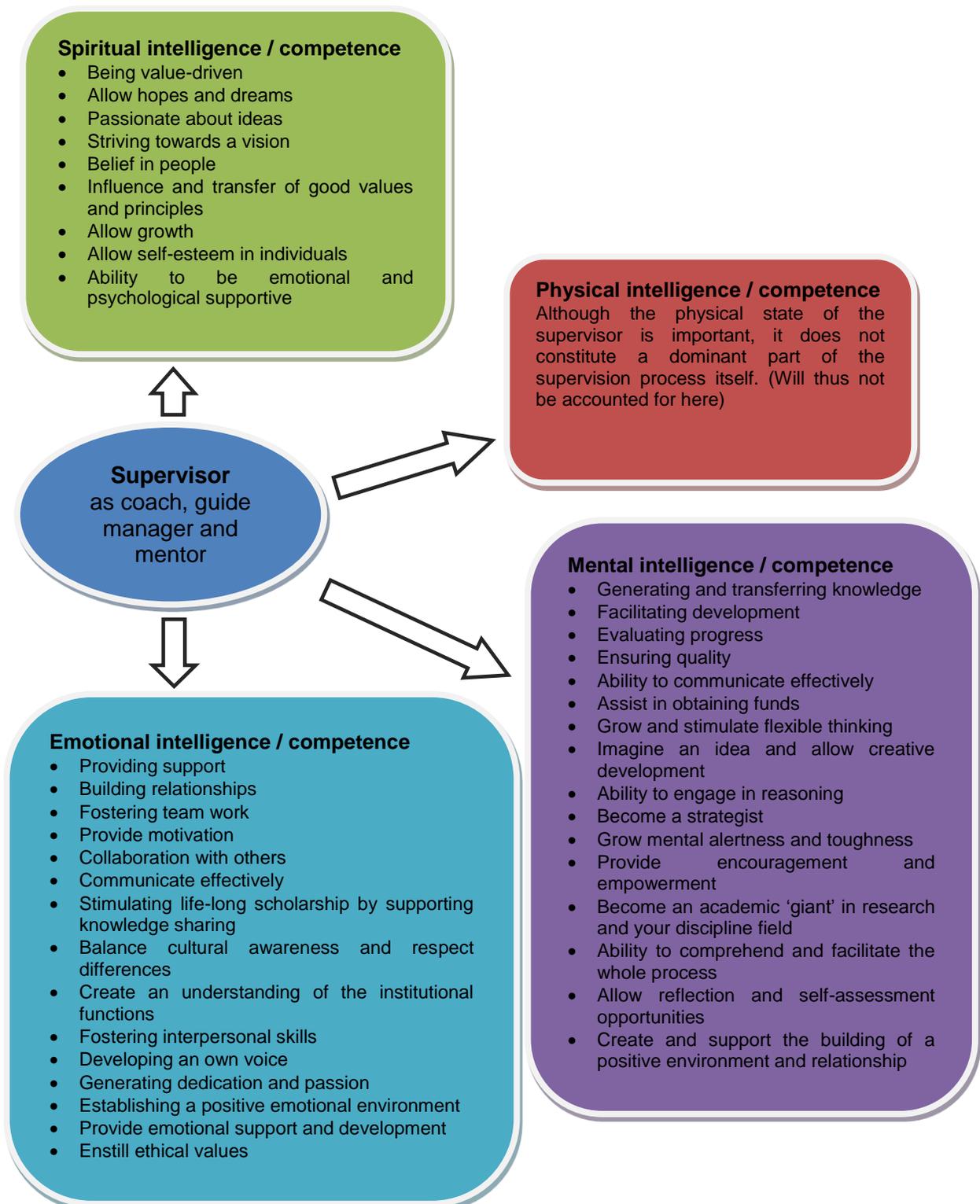


Figure 6.3: Covey's intelligences interpreted in terms of postgraduate supervision

Postgraduate supervisors need to have clarity about what they aim to achieve and why it matters to be part of an academic research project, because effectiveness as a leader within the postgraduate supervision environment is not accidental (Manning 2007:73). Leadership skills are grounded in educational value, interest and professional knowledge (Brundrett, Burton & Smith 2005:18). Skills may be grouped into the following three categories: namely personal, communicative (social) and organisational (managerial).

Personal skills relate to how leaders manage their own behaviours and thoughts in their professional lives (Brundrett *et al.* 2005:18). Allowing postgraduate students to know where they stand with the supervisor can contribute to leadership effectiveness from the supervisor. Grant (2005:340, cited in Friedrich-Nel & Masalla 2011:170) “emphasises qualities of the supervisor such as loyalty and doing things ‘proper’ so as to attain the outcomes in students that they seek.” Assertiveness refers to being forthright in expressing demands, feelings and attitudes. Being assertive helps leaders perform many tasks and achieve set goals (Dubrin 2004:36).

Most leaders show a high level of open-mindedness in coping with and handling frustration during a task (Dubrin 2004:41). Botha (2010 cited in Friedrich-Nel & Masalla 2011:171) understand the postgraduate research supervision process as the guiding and facilitation process from supervisors to ensure that their students become independent researchers through constructive engagement and by modelling appropriate research behaviour. Effective leaders are steady performers, even under heavy workloads (Dubrin 2004:100–101). Uncertainty does not contribute to effectiveness, because it assists individuals to cope with the situation. Bitzer (2010:26, cited in Friedrich-Nel & Masalla 2011:171) argues that a supervisor should “... create a high quality research learning environment for a student.” When leaders remain calm (Dubrin 2004:100–101), postgraduate students are reassured that success could be part of the research process.

Emotional stability refers to the ability to control emotions to the point that your emotional responses are appropriate to the situation (see 4.3.2.2). Emotional stability is an important leadership quality, because postgraduate students expect and need consistency during the research process (Dubrin 2004:36–38). Pearson and Brew (2002, cited in Friedrich-Nel & Masalla 2011:171) believes that postgraduate supervisors “provide emotional support, and assist with broader career development” in the research process. Being an affectionate person and projecting kindness contribute to leadership effectiveness in many ways (Dubrin 2004:41). Whether humour is a characteristic or a behaviour, the effective use of humour is an important part of the leaders’ role. Humour adds to the approachability and people-orientation of a leader (Dubrin 2004:38-41).

Communicative skills (see 2.6.3) relate to how leaders interact on an interpersonal level (see 2.5.1) with colleagues, peers and individuals (Brundrett *et al.* 2005:18). Friedrich-Nel and Masalla (2011:172) explain that the feedback process in the postgraduate research project to the student about their progress is an essential element of the learning process. “The postgraduate student and supervisor have to regularly exchange written work and feedback on the work” (Friedrich-Nel & Masalla 2011:172). Leaders must be trustworthy with a reputation for choosing and doing the right thing (see 6.3.3.1). Effective leaders set an example for postgraduate students with consistency between their deeds and their words (Dubrin 2004:34-35). An important skill for leaders is humbleness – admitting that they do not know everything and cannot do everything (Dubrin 2004:34).

Enthusiasm is also a desirable leadership quality, because it helps build good relationships with postgraduate students and students respond positively to an enthusiastic leader (Dubrin 2004:38). Sambrook *et al.* (2008, cited in Friedrich-Nel & Masalla 2011:174) explain the importance of balance to be created between the professional (technical) and the social (emotional) aspects in the building of a relationship as well as the development of mutual trust (see 2.6.2)

between the parties in the postgraduate supervision process. It is important for a leader to be self-confident, because self-confidence is not only a personality quality; it also refers to the behaviour and interpersonal skills of a leader in different situations. A self-confident leader maintains calmness in any crisis situation (Dubrin 2004:34; Erasmus & Kapp 1998:113).

Organisational and technical skills are concerned with the tasks that are associated with running the entire postgraduate research programme (Brundrett *et al.* 2005:18). Technical competence (see 2.6.4) and knowledge are important leadership characteristics in any academic research project. They enable the leader to provide individuals with hands-on guidance about how to accomplish important tasks (Dubrin 2004:100). When performance is measured against set standards (see 2.5.1.1 & 2.5.2.1), productivity is likely to increase, as individuals tend to live up to the expectations of their leaders (Dubrin 2004:99-100). Therefore, feedback (see 2.6.1) may inform postgraduate students how well they are doing and what corrective action is needed in the research project (Dubrin 2004:100; Friedrich-Nel & Masalla 2011:172).

The major responsibility of leadership is to produce change and the leader must set the direction of change, which means that the leader has to create a vision (see 2.6.4) and a feasible strategy (see 2.6.4) for a postgraduate research project (Dubrin 2004:99). To bring about constructive change, a postgraduate supervisor must take risks and be willing to implement those risky decisions (Dubrin 2004:100). The success of a good postgraduate research project is the balance and achievement of personal, communicative and organisational skills by an effective leader in a continuing process of self-development (Van der Westhuizen & De Wet 2003:186). An effective leader can adapt to any situation during the postgraduate research process (Dubrin 2004:99). Bitzer (2010, cited in Friedrich-Nel & Masalla 2011:182) argues that “ultimately a scholar and researcher with a new identity emerge as an outcome of the effective supervision process”.

Individuals in an HEI need to approach the learning and teaching environment with a life-long learning attitude. Postgraduate supervisors need to reflect on their own practices to ensure that they provide the best service possible and are effective in their position. Postgraduate supervisors are the individual that will inform students that they have to take charge of every research process and that they need to be committed and passionate about the research project and willing to take risks if needed. A good quote by Ramsden of an effective leader:

“It reflects an established notion in the mainstream literature on management and leadership – that effective leaders act as educators who help others learn ... By these means credible leaders turn followers into leaders” (Ramsden 1998:110, cited in Scott *et al.* 2008:12).

Leaders who are equipped and skilled for the postgraduate supervision environment and for the research profession will meet the needs of a democratic South Africa in the 21st century. This model for leaders in postgraduate supervision may support supervisors in finding their own voices in leading the students and the supervision environment. The model may bring clarity and coherence to the complex environment of changes and diversity of leaders in the research environment from initial recruitment and preparation of students to self-motivated professional development. A relevant model can make a valuable contribution to professional development as there is a need among postgraduate supervisors to be equipped with the appropriate skills to undertake their vital and demanding research supervision tasks (see Chapter 2). Postgraduate supervisors have to continually enhance their professional competences and performance (research outputs) with a lifelong learning approach. Further requirement is a high level of performance well as ethical and professional standards of conduct to a diverse student population. Lastly postgraduate

supervisors have to be held in high regard by the people and students of South Africa (RSA 2007:9).

Leaders' success in their career and personal life does not depend only on IQ, but is a combination of other intelligences (Derksen *et al.* 2002:37). Intelligences (PQ, EQ, IQ and SQ) need to pull together because you cannot change your external conditions, but you can train and manage your inner state. The following figure provides clarification of the various actions that constitute the various domains of the leadership model for effective postgraduate supervision and it refers to the previous discussed models in the postgraduate supervision environment.

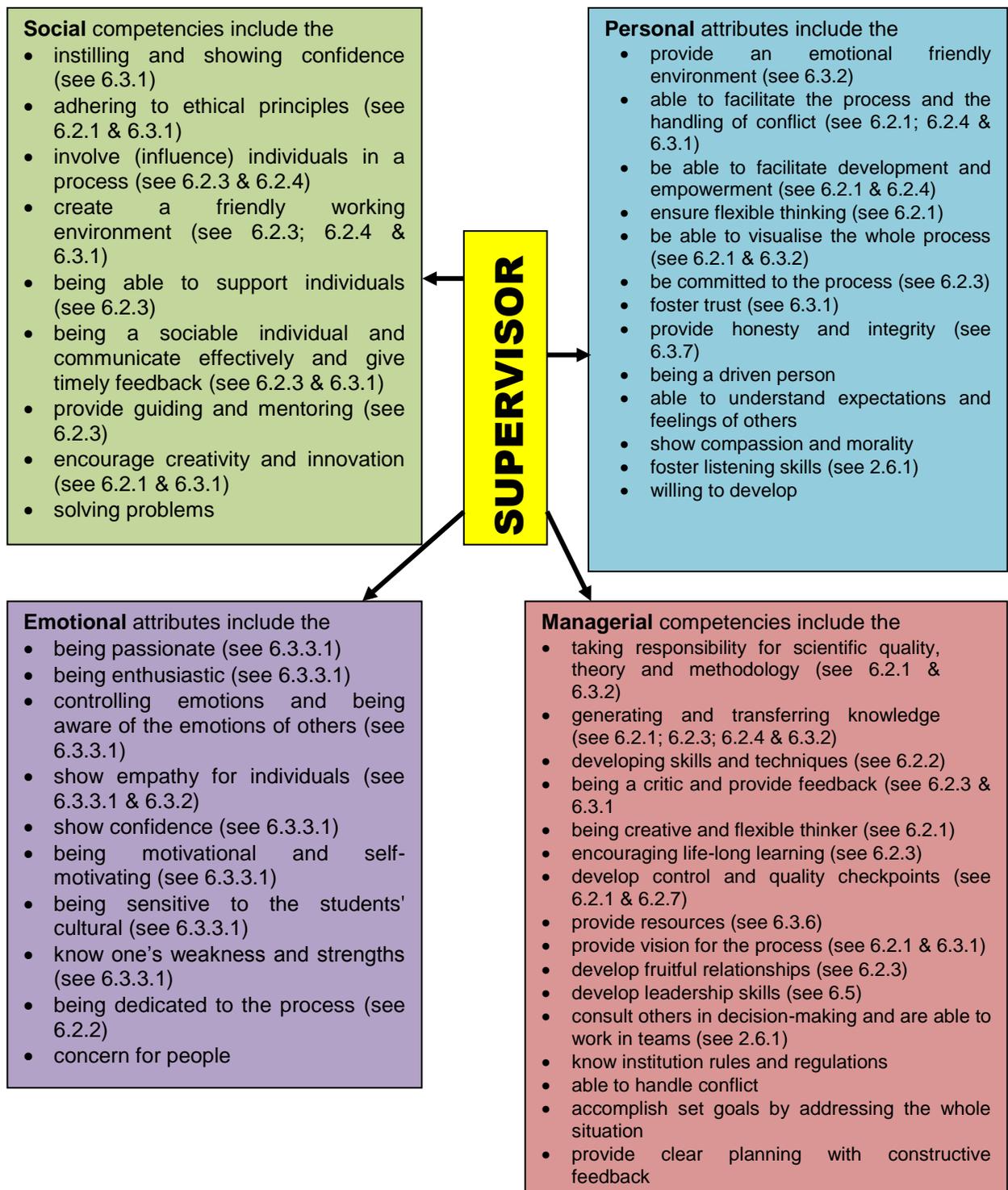


Figure 6.4: Synthesis of data as foundation for an emerging leadership model for postgraduate supervision based on the models presented in chapter 6

In the present study, the researcher presents a leadership model for postgraduate supervisors in UoTs in South Africa. In order to construct the envisaged model, all the data had to be synthesised and a unique structure emerged. The underneath synthesis includes the leadership domain, as well as Covey's four intelligences and the main trends in the empirical findings. It is not possible to provide for every detail that surfaced during the preceding investigations, but it has captured the dominant elements. These elements have to be transferred into a "workable" model that will be relevant to postgraduate supervisors at UoTs. However, it is understandable that all postgraduate supervisors do not have the background into the "intelligences" model, which makes the usage of the word "intelligence" not a meaningful entity to use in a model.

In terms of the leadership model in postgraduate supervision, is the focus not only on leadership, but also on the development and growing/building of leadership capacity at all levels in the research environment (Weiss & Süß 2006:3). Therefore, this leadership model in postgraduate supervision should not be seen as a fixed, rigid design, but it should be realised that it continuously develops and expands as the supervisor grow and engages in dialogue within the supervision research process.

At first the term "competence" was used to replace "intelligences", but after the concept model was sent to a number of supervisors for validating it, two of them recommended that the word "INTELLIGENCES" need to be used instead.

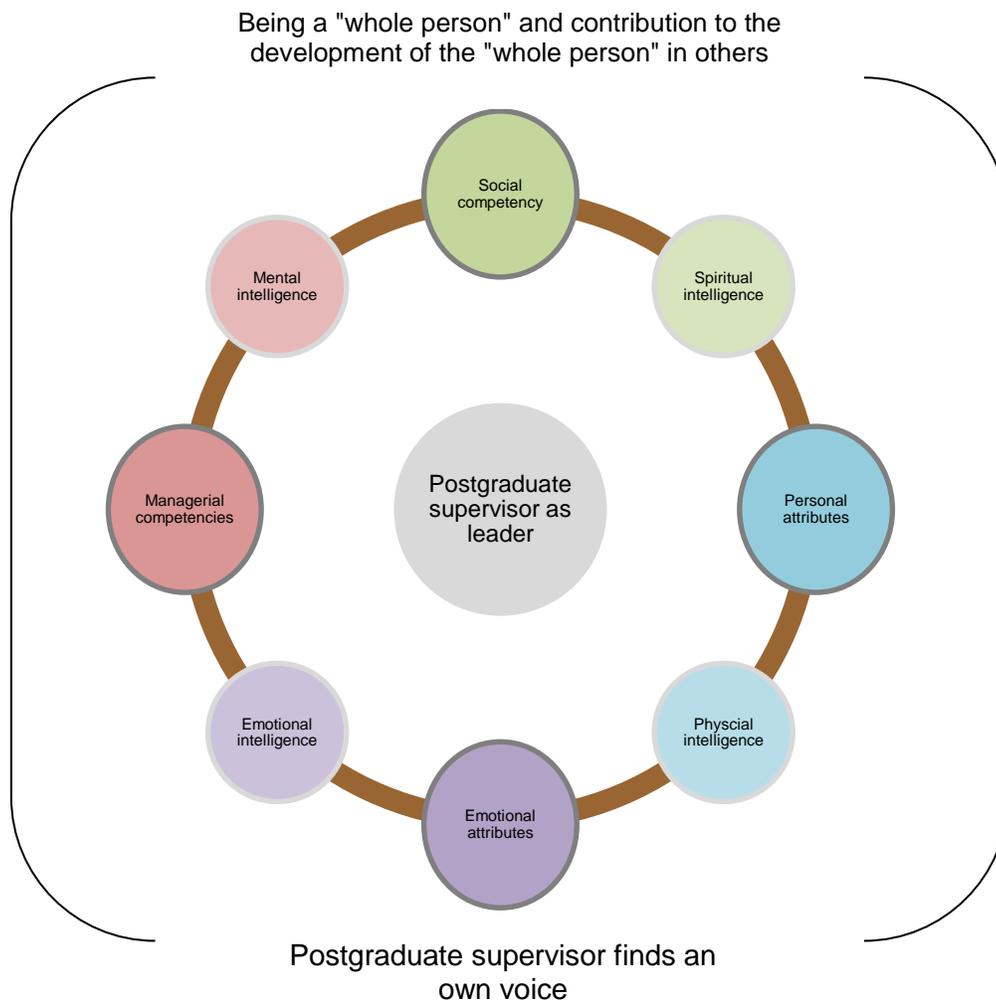


Figure 6.5: Leadership model in postgraduate supervision

Van Rensburg (2007:6) explained that if we understand leadership as **influence**, you can recognise yourself as a leader, irrespective of the formal positions you holds. All of us, to a greater or lesser degree, exercise **social and spiritual influence** on our environment. The question is what kind of **influence** and how effective are we in **influencing** others to develop their potential as human beings? Spiritual influence is the inner voice of a leader that lives with passion and the drive to remain a scholar in a subject field, to transfer and create knowledge and to develop others. Spiritual provides a powerful source of discipline, integrity and

professionalism for postgraduate supervisors and allows for a sense of purpose within the academic environment.

This influence has to be extended to postgraduate supervisors' **PQ** and **personal attributes**, which has to provide fuel to support supervisors' endurance and mental and emotional alertness. Postgraduate supervisors need to reflect from time-to-time on whether they added value to the lives of others. With this reflection process it is important to ask why you lead and whom you are leading. Postgraduate supervision is the influencing of another individual, which means that we lead and guide that person to accomplish success. Leaders have certain communications skills that set them apart from other individuals.

The **personal attribute**, which needs to be part of the postgraduate supervision process is one of the main ingredients of successful leadership is to act with integrity and honesty in any academic milieu. Therefore, is it important that leaders focus on building open-mindedness and meaningful relationships with parties in a research process. Excellent principles in leadership are reliability, responsibility and persistence in the postgraduate supervision process, which allow individuals to win.

Emotional support of the postgraduate supervisor creates a positive internal climate which drives the supervisor to keep the research process going. Leadership is an activity that can be learned and taught to others to help them understand and apply these values and characteristics of successful leadership in their own lives. The difficulty for most postgraduate supervisors is the maintaining of a long-term relationship, which requires compassion, support and enthusiasm with a shared vision. All leaders know that it is not possible to know everything, but with the necessary development of interpersonal skills and self-motivation, you can achieve self-confidence in the postgraduate supervision process.

The **managerial and mental knowledge** that a postgraduate supervisor brings to the supervision process, refers to the experience and knowledge of the entire research process. The postgraduate supervisor's roles (expected set of activities or behaviours stemming from the supervisors' job – supervision forms an integral part of an academic's work) and roles (requires from the supervisors to be a fund seeker, a master-apprentice, a facilitator and critical friend – the needed quality and standard evaluation) as well as the required skills (supervisor's ability to lead students to meaning, discover, problem solving and generate new knowledge – to take ownership of their research projects) and quality (being an expert in facilitating the research process with up-to-date knowledge of research methods and projects) to be effective within the entire research process. Leaders in the postgraduate supervision process are role models, and these leaders will spend time on students and make a long-term difference in their lives.

It is important to remember that **leadership** does not only happen at the top level of the institution; it can happen at all levels (Dalglish 2009:6). Postgraduate leaders need to inspire students with their voice. Adair (2009b:20) regards the personal leadership aspect as the inner subjective kind of authority that postgraduate supervisors need to possess, which in modern times has often been labelled as charisma. It, however, seems necessary that a postgraduate supervisor finds his or her **own voice** and develop into a **whole person** him- or herself in order to lead students successfully.

The **final model**, starting with the draft model (see Figure 2.3) and broadened by the empirical investigations (chapters 4 & 5), as well as the various models in this chapter (see figures 6.3 & 6.4) will be presented in chapter 7.

6.6 CONCLUSION

This chapter proposed a leadership model for postgraduate supervisors in UoTs in South Africa. The proposed model was assessed by specialists in the postgraduate supervision environment, by research units of UoTs in South Africa and by a Faculty of Management Sciences of a specific UoT in South Africa. The findings from the evaluations were used to refine the leadership model for UoTs in South Africa.

The reason for the development of this leadership model in UoTs in South Africa is to provide a long-term benefit for postgraduate supervisors in a novice and experienced research milieu which can assist UoTs to create a career path and support system for supervisors in the research environment. For postgraduate supervisors to be effective, they need to model leadership that is focused on development and growth at all levels in the research environment (Weiss & Süß 2006:3). The leadership model will develop according to each UoTs growth in the postgraduate research environment and according to the growth and development of their supervisors.

With the challenges of a far more corporate environment for all HEIs, there is an urgency to adapt to the new changing and diverse environment within our academic HEIs. The change forced leaders in postgraduate supervision to find a more holistic leadership approach that will work in a research environment by means of the use of the four intelligences or competencies, namely PQ, EQ, IQ and SQ.

Another important aspect that postgraduate supervisors have to realise is that positive leadership depends on genuine interest in people such as students and that they have to consider their own body and mental situation and enhance their SQ by making sure that they make time for themselves. From this chapter, a

viewpoint can be formed that a university cannot develop postgraduate supervisors' cognitive capabilities only, as they also have to work on the physical, emotional and spiritual well-being of their supervisors. Therefore, it is important in the creation of a leadership model in postgraduate supervision to consider the importance of all these intelligences and qualities of leaders to enable a university to develop students for the future.

Chapter 7 presents the conclusions and possible implications from this research study.

CHAPTER 7

CONCLUSION AND POSSIBLE IMPLICATIONS

7.1. INTRODUCTION

In this chapter the researcher provided a brief overview of the study through the reassessment of the relevant literature (Chapters 2 and 6) with the combination of qualitative and quantitative research methods to present the final findings with the proposed leadership model (Chapters 4, 5 and 6) and some concluding thoughts.

This study aimed to propose a supervisory leadership model in the postgraduate supervision relationship and research environment within UoTs to guide novice and experienced supervisors to ensure effective and quality supervision.

The chapter commences with an overview of the study by referring to the research questions and the way in which the researcher addressed each question.

7.2. OVERVIEW OF THE STUDY

In Chapter 1, the seven subsidiary research questions that were formulated to address the research problem (see 1.2) were presented. The research questions guided the study and provided important information that shaped the final outcome of the study, namely the creation of a postgraduate supervision leadership model. In the following paragraphs, the various research questions are reviewed together with the main findings of each research question.

7.2.1. Research question one

The first subsidiary research question was the following:

How does supervisory leadership relate to leadership theory?

Chapter 2 addressed the critical leadership requirements in postgraduate supervision in a higher education environment that are especially important in the context of this study. With this research question in mind, the researcher conducted a comprehensive literature study on the context and nature of leadership (see 2.2) in general and the conceptualisation of leadership in the context of the postgraduate supervision context (see 2.4). Leadership is crucial for postgraduate supervisors to develop students and to ensure high-quality research outcomes. The literature informs the reader that leadership embrace a positive process which may include mentoring, guidance, coaching or managing activity (see 2.5) through a facilitation process of the entire postgraduate research development.

The theoretical foundation of leadership (see 2.2) informs the reader about the many requirements needed for effective leading skills. Leadership approaches was investigated to decide which one would provide the best leading skills and opportunities for a specific environment. It was decided to look at the different characteristics of leaders and non-leaders, but was evident that it is impossible to identify the best set of traits that would fit all leaders. Researchers also look at different leading features, namely the ambition and initiative of a leader, this is also features that a passionate postgraduate supervisor may represent within a research project. Then an important feature from the theoretical foundation of leadership is the desire to influence individuals with the demonstration of managerial activities, motivation, effective communication skills, handling of

conflict and the evidence of quality leadership. All postgraduate supervisors need these features when they leading or supporting a student in the research process.

Researchers also find that the building of trusting relationships between individuals will happen when there is honesty, integrity and decisions that were choose for the best interest of both parties. One of the most important aspects within the postgraduate supervision process is that supervisors need to instil confidence in students which was an important feature in the foundation of leadership. Postgraduate supervisors and leaders are individuals that are energetic, sociable with the appropriate knowledge and vision to understand the road ahead and the ability to explain this important endeavour to a student. With this view it is also important that a postgraduate supervisor or leader could adapt their behaviour and the situation to the diverse student population that is currently part of a university environment.

In South Africa many postgraduate supervisor and leaders use the e-leadership approach due to the opportunity to reach their students with modern technology that would provide information that may be needed at that stage of the research process. Another approach that needs to be look into is the '*ubuntu*' style due to the diversity of the postgraduate students. This approach is an African view that a person is only a person through other people and this includes characters such as caring, compassion, teamwork and sharing between individuals.

Two elements that are forceful factors in the postgraduate supervision process are firstly the **leading** process (see 2.5), whereby an experienced postgraduate supervisor provides wisdom, knowledge (see 2.6.4) and guidance (see 2.5.2) to students for the achievement of goals in order to develop leadership qualities. The second element is the **management** process (see 2.5.3), which entails ensuring that postgraduate students understand the importance of accurate planning and organising of the research process to achieve goals and outcomes.

The postgraduate supervisory leadership process (see 2.2) entails the empowerment of adult students to accept responsibility for their research project, which would provide the necessary confidence and development to reach their set goals and dreams. It is important to remember that a university education qualification would have the opportunity to take an individual into a leadership position with a positive lifelong learning approach. Therefore postgraduate supervisors or postgraduate leadership entails respect, knowledge, discipline, vision, passion, experience and support within the complex and changing research environment.

In this research study postgraduate supervisors saw themselves as advisors and mentors within the research process. They did not view themselves as leaders but agreed that they need to create an environment (2.6.1) where their postgraduate students can grow and take responsibility for their work.

7.2.2. Research question two

The second subsidiary research question was the following:

Which theoretical points of departure can direct a draft leadership model for postgraduate supervision?

Chapter 2 addressed the leadership theories (see 2.2) and requirements in general. The leadership model (Figure 2.2) has been placed in context with the requirements, roles and skills needed from the postgraduate supervisor within the research process. The researcher provided an extended leadership model (see Figure 2.3) that is grounded on the leadership theories as a first draft for the leadership model in the postgraduate supervision environment. Within this model there might be some overlapping in the different categories of the competencies and attributes, but this might change according to the creator of the model.

The first area of interest was to acknowledge the social competencies and to find the same requirements in the postgraduate supervision process. In the postgraduate supervision area the researcher looked at the various communication processes (see 2.6.1) with the all-important interpersonal aspect (see 2.6.1) of the supervisor. This area of interest also includes the all-important ethical values (see 2.6.1) that is of utmost importance in the postgraduate supervision process. Another aspect that forms part is the effective leading or influencing of individuals with the needed support and advice in a friendly and positive environment (see 2.6.1).

The second area of interest was to acknowledge the personal attributes and to find the same requirements in the postgraduate supervision process. Within this area the researcher looked at the expectations and needs of the postgraduate students in the research process who need guidance (see 2.5.2) and coaching (see 2.5.1) which will allow the development (see 2.6.4) of an individual into an independent researcher. Another aspect of importance in the area of interest was the all-important commitment from the postgraduate supervisor ability to facilitate the process with honesty and integrity. Postgraduate supervisors would explain that this could only take place when trust and respect exist between parties which will allow an individual to take ownership of the research project.

The third area of interest was to acknowledge the academic competencies or the managerial attributes needed in the postgraduate supervision process. Within the area of interest the all-important development of leadership skills is placed first with the knowledge of the rules and regulations of the HEI. Postgraduate supervisors will also inform that the second important aspect within this area of interest is that an individual must be able to create a vision (2.6.4) and communicate (2.6.1) that vision to all parties involved in the postgraduate supervision process. After the vision is determined the postgraduate supervisor needs to provide the necessary plan of actions and tasks ahead with the

necessary management performances (see 2.6.4) involved. Some of these management performances would include the providing of knowledge and wisdom (see 2.6.4) to a novice postgraduate students and the co-ordination of goals and necessary funds (see 2.6.4) within the postgraduate research environment. Another aspect is that the postgraduate supervisor needs to be a role model for the students and allow creative thinking and a quality assessing and monitoring process (see 2.6.4).

The fourth area of interest was to acknowledge the emotional attributes always present in any situation. Individuals are required to motivate (see 2.6.3) someone and they need to understand other cultures (see 2.6.3) and be able to show empathy and concern for other people.

7.2.3. Research question three

The third subsidiary research question was the following:

How do postgraduate supervisor at UoTs in South Africa view their roles as leaders in the supervision process and in their relationship with their students?

Chapter 2 addressed the critical leadership roles in postgraduate supervision (see 2.6) in a higher education environment that are especially important in the context of this study. The key elements of the leadership roles are to influence, motivate, inspire and develop postgraduate students through postgraduate supervision. These roles include the negotiation between the postgraduate supervisor and student about their respective roles and responsibilities in the research process.

To accomplish set goals, postgraduate supervisors need to play different roles during a postgraduate research project, including that of supporter or motivator (see 2.6.3) to show real concern for students and to be an informant (see 2.6.4) about the rules and regulations that is needed to support a positive working environment for research studies. Chapter 2 provided a discussion of important leadership roles, such as effective decision-making aspects between parties to encourage openness and trust (see 2.6.2) in the postgraduate supervision process. This is only possible if postgraduate supervisors motivate students with their visualisation of a deliberate goal and a strategic plan (see 2.6.4) to achieve this goal in a research project. Leadership can only be successful if the postgraduate supervisor is the leader that sets the ethical guidelines (see 2.6.1.) in the negotiation procedures (see 2.6.4) for required funds in the research process.

Another important role that is played by postgraduate supervisors is that of a spokesperson or informant who provides quality supervision (see 2.6.4) by informing and answering questions of students. Adequate knowledge (see 2.6.4) in the postgraduate supervision process will inform the student about the necessary ethical guidelines and rules in a research project with the requirement to make informed decisions when needed. Effective leadership from the postgraduate supervisor will empower students to be creative entrepreneurs that will recognise opportunities and take ownership of their research work by suggesting new ideas (see 2.6.1).

In this research study postgraduate supervisors viewed the motivation and inspiring of trust as an important part of the research process. Postgraduate supervisors also informed the researcher that they are the strategic planner with the set of high ethical guidelines within the research process.

7.2.4. Research question four

The fourth subsidiary research question was the following:

How do postgraduate supervisors at a particular UoT in South Africa view the challenges they experience with their students in terms of their roles and skills, and why?

Challenges that postgraduate supervisors may occur within the research process is the fact that many of the respondents indicated that they are not responsible for the setting of a time schedules and the planning for the achievement of research goal, this is the responsibility of the student. Chapter 1 informed the reader about successful planning to ensure that postgraduate students accomplish their goals. Chapter 1 indicates the problems and challenges that many postgraduate students do not complete postgraduate studies, may be if this two responsibilities is done more intensive the complete rate may increase. Lastly a challenge that needs to be overcome in the UoT sector is the view that some of the postgraduate supervisors do not view themselves as academics but as professionals in their field of expertise. In the questionnaire many of them indicated that postgraduate supervision is only done by them because it is expected of them – *'it part of my job'*. Postgraduate supervisors need to be passionate about their field of expertise and be willing to generate this knowledge and wisdom to younger and first-generation researchers.

In this research study postgraduate supervisors indicated that they respect different cultures (see 2.6.3) and create an environment (see 2.6.1) for students where they can grow and develop into independent and confident individuals. Postgraduate supervisors also indicated that they support foresight into the future (see 2.6.4) with students to fulfil their hopes and dreams.

7.2.5. Research question five

The fifth subsidiary research question was the following:

What theoretical models exist to guide postgraduate supervision and student performance?

Some theoretical postgraduate supervision models do exist in the theory but whether they are being actively used is not known. The model for pedagogy of supervision in the technology disciplines (see 6.2.1) was originally designed to create an awareness of research supervision as a teaching and learning practice. This model also encourages the sharing of practices amongst postgraduate supervisors that would enhance scholarship. This model also mentioned the importance of experience as an expert in the postgraduate supervision process and the importance of the journey within this process.

The theoretical and practical perspective of a conceptual model in theses (see 6.2.2) accommodates purpose or boundaries with flexibility and coherence of the research plan and analysis. This model provides an overview of the intended postgraduate research process and the importance of the relationship within the supervision environment. This model also indicates the importance of vision within the decision-making process of the research environment.

Developing a model for postgraduate education is a model (see 6.2.4) that was developed to support the student and not the supervisor. The model does include the important commitment aspect needed from the postgraduate student in the research process with the needed strategies in place.

A reference model on the construct of quality of doctoral research supervision (see 6.2.5) is designed to monitor and assess the quality of the research

supervision process specifically on doctoral level. This model emphasises the importance of subject knowledge, openness and an effective feedback process with the needed support to postgraduate students in the supervision process. This model also indicates the importance of emotional competence within the supervision process.

In the development of active leadership (see 6.2.5) it is believed that a customer (student) needs to become the partner and the teacher (postgraduate supervisor) needs to become the facilitating coach. This leadership develops the competence with the improvement of postgraduate student outcomes with a positive vision.

Recognition of the product-process (see 6.2.6) to enhance effective postgraduate research supervision was designed to create an interactive teaching and dialogue environment. This model also indicates the important two-way process of feedback between parties on work that was completed. The model also emphasises the importance of the postgraduate supervisor-student relationship in a safe research environment with the necessary cognitive abilities and knowledge in the supervision process.

The leadership competence model (see 6.2.7) was created to develop the core set of values and vision with effective communication processes. The model also includes the reflection and analysis of the research process within a positive environment. An important aspect of this model is the enhancement of collaboration with others to gain knowledge and the solving of problems and risk-taking where necessary. The leadership model also explains the importance of perseverance in the postgraduate supervision process.

The last model was the academic leadership capability model (see 6.2.8). This model explains that personal, interpersonal, cognitive capabilities are necessary

with the generic and role-specific competencies in the postgraduate supervision process.

All above models do present some aspects that could be used within the postgraduate supervision process, but these models substantiate the need for a custom-made relevant leadership model for supervisors in UoTs, as none of them have addressed that need. This strengthened the need for an original contribution, but also strengthened the researcher's quest to construct a comprehensive model that addressed a variety of domains or competences within the postgraduate supervision process.

In order to answer this research question, the researcher conducted a comprehensive literature study on the background and nature of the **foundation of leadership, leadership roles** and **skills** with Covey's **four intelligences** (PQ, EQ, IQ and SQ) in the development of a sense of completeness to ensure that individuals (postgraduate supervisors and postgraduate students) find their **own voice** in the postgraduate supervision environment.

The researcher opted for a mixed-method mode of enquiry, as it had the potential to yield more comprehensive evidence for investigating the research problems, than either only quantitative or qualitative research would do. The collection of the data was done with a single questionnaire consisting mainly of quantitative items and qualitative open-ended questions to balance and validate some of the information.

Information gained from the research data was that postgraduate supervisors care for each other and for their students (see 4.5.3). Further did they responded that it is important to be sensitive to the needs of the postgraduate student (see 4.8) in the research process and this needs to be done with a vision (see 4.10) and the defending of a research project (4.8). Respondents also indicated that the

creation of a positive and friendly research environment (see 4.8) is of the utmost importance for success within the research environment and the development of a lifelong learning approach (see 4.8).

Respondents also explained that motivation (see 4.8) and passion (see 4.9.2 & 4.9.3) are important elements to ensure that postgraduate students achieve success in the research process. Another important aspect is that one must always respect others cultures and dreams and hopes in life (see 4.8). Lastly participants agreed that emotional and spiritual competence (see 4.9) is important to make the correct decisions and choices within the postgraduate research environment. These decisions could only be made when postgraduate supervisors' mental competence is enhanced on a regular basis with workshops and conferences.

7.2.6. Research question six

The sixth subsidiary research question was the following:

How do these theoretical frameworks, the draft leadership framework and the empirical data inform the final developmental framework for postgraduate supervision in terms of supervisor-student relationships?

The model plays an important role in the academic and personal relationship between the postgraduate supervisor and the student. It becomes clear that a postgraduate supervisor needs to be a 'people person' and someone that could play the mentoring role, which is perceived as a positive facilitating process with ample communication dialogue between parties. Communication was viewed as the most important aspect within the postgraduate relationship, because communication is also seen as an emotional involvement between individuals.

Postgraduate supervisor-student relationships refer to the all-important team building that is necessary within the research environment. Fostering of teamwork was seen as an important skill and leadership quality. Within the team environment is the needed support and knowledge creation process that provides the opportunity for an individual to be challenged and to constantly grow in the human and academic aspect of the postgraduate relationship.

Another important role and skill in the postgraduate supervision relationship is honesty and integrity, because this provides the necessary ethical and moral quality needed in the research environment. Within the environment it became clear that postgraduate supervisors need to allow students to make mistakes, because this will provide a learning opportunity for students, but this could only happen in a trusting and open relationship.

Within the postgraduate supervisor-student relationship it becomes evident that motivation, confidence, passion and emotional connectivity play an enormous role. This asked from the postgraduate supervisors to be available and be 'hands-on' informants about any aspect in the research environment. The postgraduate supervision relationship between the postgraduate student and the supervisor – both human and academic – should be of such a nature that a supervisor is able to empathise with students, understand students' feelings, needs and expectations, and be able to deal with them professionally.

The establishing of a positive postgraduate relationship with the student is important, because if this does not exist, then the progress of the student will suffer. Within a positive environment the opportunity to learn will take place for all parties involved. This environment would also have a postgraduate supervisor willing to devote his/her time and energy to support students with a research project. Postgraduate supervisors who are willing to commitment to their

discipline would work consistently and with great attention to detail in the research process.

7.2.7. Research question seven

What supervisory model for the development of academic supervisor-student relationship can serve as a base for leading master's and doctoral research in the South Africa UoT sector?

The aim and purpose of the study is the unfolding of the leadership model (Phase 3 & 4) for postgraduate supervision, especially for the Faculty of Management Sciences of a specific UoT in South Africa, which was presented in Chapter 6, and the synthesising of the challenges, requirements and intelligences identified in the literature review in addition to the perspectives gained from the questionnaire and semi-structured investigation into the current views of experienced postgraduate supervisors.

The characteristics of the leadership model are based on the results of the first two phases of the research project, namely the development survey and the institutional survey among four UoTs in South Africa. Chapter 6 commenced with the opportunity to develop a leadership model in postgraduate supervision that is grounded on the evidence collected from UoTs in South Africa with elements of Covey's intelligence leadership model (see 6.3) and the existing models in the supervision research environment (see 6.2). The elements include leadership requirements (see 2.4) and the intelligences (see 6.3). Therefore, the first element of the leadership model is the **spirit** (see 6.3.7) to accept responsibility in life with the necessary principles. The second element in the leadership model is the **mind** (see 6.3.6), which gives you the opportunity to reason and to understand the world around you. The third element in the leadership model is the **body** (see 6.3.4), which provides you with the energy and the capacity to be

actively involved in the postgraduate supervision process. The last element in the leadership model is the **heart** (see 6.3.5) that allows you to live out your passions and enthusiasm in life and to be a role model for other individuals (colleagues and postgraduate students).

This study presents the new leadership model to enhance academic relationships between a postgraduate supervisor and student. The all important aspect is the **influencing or social process** from a postgraduate supervisor. Postgraduate supervisors need to be effective in their influencing over students and within the research process. The social influence could only be successful when it is done with passion, honesty and commitment to a topic of interest. Further will the social process allow an individual to act with professionalism and to provide the required knowledge to a young and new individual.

The extended social influence of postgraduate supervisor need to be instigated by an individual's **personal attributes**. Personal attributes is the mental knowledge and emotional understanding that would permit someone to add value and scholarship to another individuals life. Within the whole research process is the all-important communication, listening and feedback skills of utmost importance. Postgraduate supervisors with good personal attributes will act with honesty and integrity and provide an open and approachable research working environment.

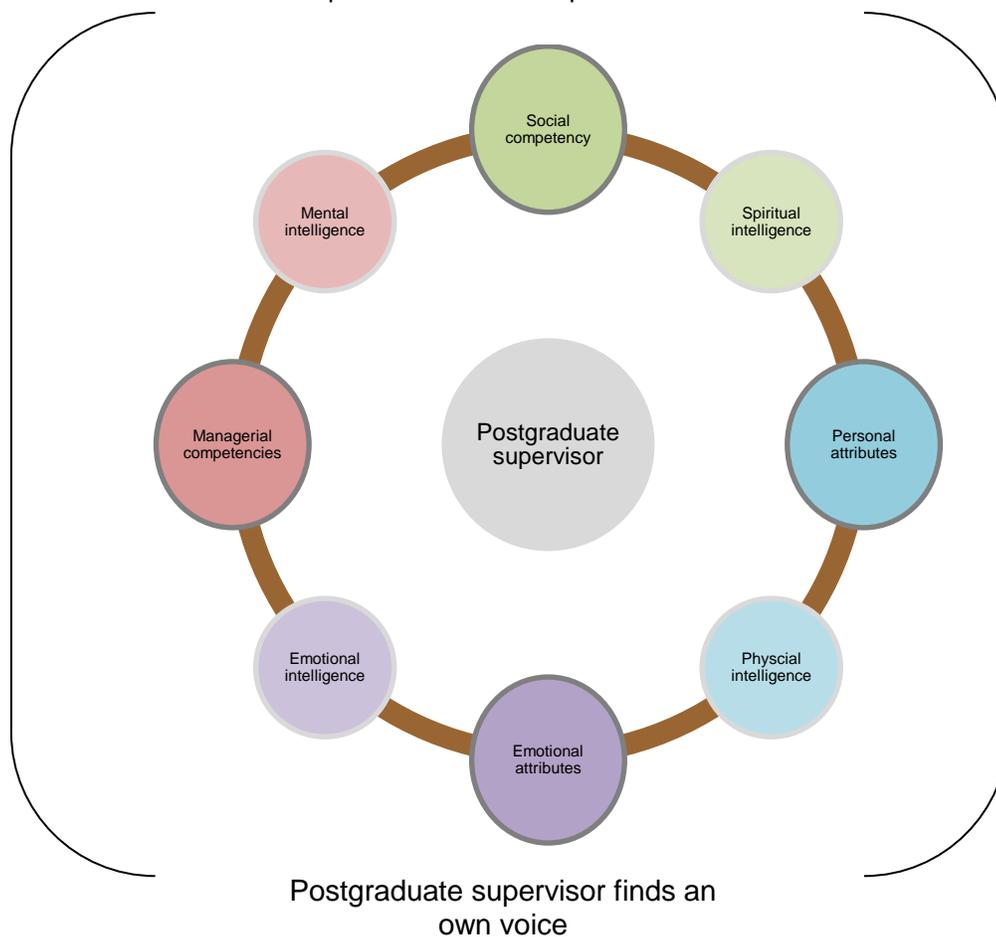
Another important aspect of the leadership model is that the postgraduate supervisor needs to create an **emotionally** supportive environment for a student. An emotional supportive postgraduate supervisor would apply good values and ethics within the research process with the necessary compassion and enthusiasm to reach a shared goal or vision.

The last important aspect of the leadership model is the **managerial competencies** within the research environment. This aspect will include the

necessary experience and knowledge of the subject discipline and the all-important in-depth knowledge from an experienced postgraduate supervisor. The managerial competencies may include various activities that needed to be done by a postgraduate supervisor, it may include the searching for funds, provide information about rules and regulations, defending of a research project or the facilitation to reach a solution. This leadership model serves as a directive for implementing visible and feasible actions to address shortcomings and challenges in the research environment of UoTs in South Africa.

A leadership model for enabling a sound supervisor-student academic and personal relationship

Being a "whole person" and contribution to the development of the "whole person" in others



The leadership model in enhancing leadership in the academic relationships between the postgraduate supervisors and student, focus not only on leadership, but also on the development and growing of leadership skills and capacities at all levels in the supervision and research environment. Therefore, this leadership model in postgraduate supervision should not be seen as a fixed, rigid design, but it should be realised that it continuously develops and expands as the supervisor grow and engages in dialogue within the supervision research process.

The above figure reflects the **model to guide current and emerging supervisors in leading** the supervisory process by striking a **balance between the human and academic side** of the project, resulting in a **supervisor-student relationship** that is destined for success. However to make this model a user-friendly model, it is necessary to unpack the components as constituted by the data from the literature, questionnaires and interviews. The representation below strives to provide an overview of what is required from each of the four domains:

- Being a sociable individual
- Being able to influence others
- Being able to instil confidence
- Being supportive – emotionally and academically
- Involving people in the process
- Communicating effectively by
 - providing timely feedback
 - providing constructive feedback
 - listening to the students
- Acting as coach and mentor
- Encouraging creativity and innovation
- Creating a friendly and supportive environment by
 - fostering sound interpersonal relationships
 - being open and friendly
 - not showing frustration
 - having a high level of emotional intelligence
 - putting him-/herself in the student's place/position
 - being available and approachable
 - enabling growth
 - not being too dominant or pushy
- Establishing relations where the student experiences a team spirit
- Enhancing the students' confidence in themselves
- Setting boundaries for the social relationships between supervisor and student

In doing so a supervisor needs to be:

- Allowing for students' hopes and dreams
- Passionate
- Striving towards a vision together with the student
- Believe in people
- Infusing sound ethical values and principles
- Emotionally controlled

Requirements
of the
supervisor's
SOCIAL
competency
as infused by
his/her
spiritual
intelligence
in leading the
supervisory
process

- Establishing the students' needs and expectations
- Promoting the interest of the student
- Ensuring that the student takes ownership of the project
- Being trustworthy and respectful
- Willing to engage and to co-commit to the project
- Undergoing continuous development (process of lifelong learning)
- Being capable of flexible thinking
- Promoting scholarship
- Allowing for creative and critical thinking
- Having mutual respect and understanding within the research and personal environment

In doing so a supervisor needs to be

- Value-driven
- A good role model in the academic environment
- Persistent
- Filled with excitement
- Fostering a moral conscience sense of self belief within the student
- Caring for his/her physical well-being
- Sustaining a balance between personal health and lifestyle and the work to be done at all times

Requirements
of the
supervisor's
PERSONAL
attributes as
infused by
his/her
spiritual and
physical
intelligence
in **leading** the
supervisory
process

- Being able to motivate students
- Being dedication to the work
- Understanding students' differences and cultural values
- Encouraging students to share their research
- Being intrinsically motivated to motivate students
- Being enthusiastic about the research project
- Creating an understanding of the institutional functions
- Fostering interpersonal skills
- Developing the student's own voice

In doing so a supervisor needs to

- Show enthusiasm
- Be value-driven
- Know his/her strengths and weaknesses and that of the students
- Concerned for the students' sake
- Show empathy
- Be passionate
- Understanding one's own emotions and that of the students
- Be emotionally aware
- Act emotionally controlled

Requirements
of the
supervisor's
EMOTIONAL
attributes as
infused by
his/her
emotional
intelligence
in **leading** the
supervisory
process

- Being able to lead and strategise
- Knowing the institutional rules
- Managing the process effectively
- Co-ordinating resources
- Organising and executing control over processes
- Accomplishing set goals
- Creating a positive emotional climate
- Providing a vision
- Setting goals and establishing time lines
- Scheduling of tasks and deadlines
- Being critical in the research process
- Being willing to change if needed
- Conducting planning
- Having foresight into future outcomes
- Assisting the student
 - in defending the research project
 - in developing research and professional skills
 - in evaluating the viability of a research project
- Being up-to-date with changes in the academic world
- Seeing the potential of the student and the project
- Creating a realistic and credible project
- Being able to identify possible gaps in the project and negotiate around them for the student and be pro-active
- Managing the student and the research process
- Providing internal training
- Monitoring the process, especially in terms of time frames

In doing so a supervisor needs to

- Generate and transfer knowledge
- Facilitate development and progress
- Ensure quality
- Communicate effectively
- Assist student in obtaining funds
- Grow and stimulate creative thinking
- Allow for creative development
- Engage in reasoning
- Grow mental alertness and toughness
- Allow reflection and self-assessment

Requirements of the supervisor's **MANAGERIAL competences** as infused by his/her mental intelligence in leading the supervisory process

The model was distributed to UoTs to provide their comments and evaluation about the proposed leadership model in postgraduate supervision. For that reason did the evaluation (Phase 4) of the proposed model by research units of each UoT, expert postgraduate supervisors in the postgraduate supervision environment and supervisors of the Faculty of Management Sciences of a specific UoT in South Africa tested the feasibility of such a leadership model.

The responses here varied, but most participants felt that the leadership model in postgraduate supervision was a noble idea, but it had to be proven how it could be implemented in the research environment of UoTs. This presented valuable information for the refinement of the final leadership model. The aim of testing the leadership model at other institutions of higher learning was to determine whether it could be used at other UoTs and could thus contribute to the capacity building of postgraduate supervisors in young research universities.

UoTs responses were as follows:

- UoT A No comment
- UoT B Good tool!
- UoT C In principle, this is a good guiding document that can support the supervisory process. However, three things are not yet clear; (a) what exactly is the difference between conventional leadership and the leadership model for supervisors; (b) what is the relationship between this model and mentorship; (c) how can such a model assist/assure that the student will master/comprehend the research process.
- UoT D No comment

The second evaluation was done with well-known and experienced authors in the postgraduate supervision environment of accredited journals in South Africa. Fifteen well-known authors received an e-mail invitation and eight provided comments about the development of the leadership model in the postgraduate supervision environment.

- A Can provide a contribution to the postgraduate research environment
- B Can support a novice postgraduate supervisor in the supervision process
- C Good model to review during a postgraduate research process
- D Novice postgraduate supervisors could gain necessary information from the model
- E It is a user-friendly tool, which can be very valuable to both novice and experienced supervisors
- F The model made me rethink my own position
- G I have my students' success at heart and want to give them my best and looking at the model made me realise my responsibility and how daunting every supervision project is.
- F Most important aspect is that one would develop and integrate a golden thread in the postgraduate supervision process. The model provides this opportunity for a postgraduate supervisor to do this.

7.3. IMPORTANCE OF THE RESEARCH

The possible contribution of the study lies in the development of a leadership model aimed at improving the effectiveness of postgraduate supervision at UoTs in South Africa. The researcher has incorporated features that are regarded as best practice from experienced postgraduate supervisors, but also the recommendations and suggestions from respondents in UoTs and the Faculty of Management Sciences of a specific UoT in South Africa and expert individuals who have published in accredited journals about postgraduate supervision

practices in South Africa. The leadership model is not only based on sound theoretical perspectives and principles (as discussed in the literature review), but also provides a more practical approach to leadership practices in the postgraduate supervision environment within a young research component of UoTs that could be used by novice supervisors.

The study focused on postgraduate supervision in UoTs in South Africa, which is a unique aspect, because the research component at these institutions is still young (see 1.2 & 1.4). Therefore, this study is not only applicable to only one UoT in South Africa, but also to other UoTs – thereby indicating the possible generalisation of the proposed leadership model.

However, the principles in the leadership model may be applicable to other higher education environments in South Africa with similar challenges in the postgraduate supervision. Postgraduate supervisors need to understand the postgraduate supervision process in UoTs in South Africa:

- With a workable leadership model all individuals (supervisors and students) may reach their full potential in the academic research environment.
- Individuals (supervisors and students) should respect different cultures (see 2.6.3 & 4.8).
- Individuals (supervisors and students) should be encouraged to work towards a shared vision (see 2.6.1; 2.6.4).
- Opportunities to achieve success should be created.
- Supervisors are a critical part of an individual (student) achieving his or her dreams (see 4.8).
- Effective communication skills should be encouraged (see 2.6.1 & 4.7).
- Positive and effective relationships should be built (see 2.6.1 & 4.13).
- Leadership skills should be modelled (see 2.6.4 & 4.5.2).

- Participation of individuals (supervisors and students) in development opportunities should be ensured (see 2.1; 2.4; 2.6.4; 4.8.1 & 4.11.1).
- Ethical principles and qualities should be modelled (see 2.6.1; 2.6.4 & 4.13).

Postgraduate supervision is a journey where novice individuals are empowered by a much more experienced individual, and therefore this is a process to act with respect, care and fairness to achieve results and satisfaction from a research process. It is important to ensure that you learn from each postgraduate research project – the goals, values, purpose and roles – because individuals need vision and the opportunity to develop and grow.

7.4. LIMITATIONS

Although a sufficient response rate (see 3.2.5) was obtained, the study had to accept the response rate due to rules laid down by the UoTs in South Africa. A higher response rate could have provided or influenced the results of the questionnaire; however, the researcher still received a detailed picture as to how respondents view postgraduate research supervision within their own institutions. Although it could be argued that the study has limited generalisation, the researcher is convinced that the study has provided adequate guidelines applicable to other research units in higher learning institutions in South Africa, especially within a young research arena of a UoT.

The focus of this study was to create a leadership model for the academic and human relationships in the research environment for novice postgraduate supervisors. The data-collection technique served its purpose in broadening the viewpoint of the researcher regarding postgraduate supervision and concerns and perspectives relating to supervision within UoTs in South Africa. Although the proposed leadership model is primarily aimed at improving effectiveness in postgraduate supervision in UoTs in South Africa, it contains sufficient

characteristics for possible enrichment at other higher education institutions in South Africa, such as UoTs that do not currently offer any postgraduate qualifications and UoTs that did not participate in the research study.

7.5. FURTHER STUDIES/RESEARCH NEEDED

Although postgraduate supervisors are satisfied with the supervision process in general, the application and implementation of the leadership model could provide new research opportunities to identify the effectiveness and the updating and expansion of such a leadership model and the offering of more refinements to the proposed design.

In addition to the leadership model, the researcher suggests that regular meetings be held to serve as a measure of whether postgraduate supervisors within universities are managing their current academic workload, especially in terms of their postgraduate student component. This needs to be done to improve or to support the leaders in the postgraduate supervision environment and to ensure that both parties stay on the right track of the research project.

This could enhance the postgraduate supervision capacity within a university, and the exchange of regular meetings and discussions of the competence of the leadership model and needs could be a well-timed opportunity to the success and a higher output in the research environment of a UoT.

7.6. CONCLUDING REMARKS

The aim of the study was to explore the phenomenon and relationships of leadership in the academic and human aspect of the postgraduate research supervision environment within UoT in South Africa and to develop a leadership model for novice and new supervisors. Through the study, the researcher aimed to utilise the theory and to implement it on a more realistic and visual level in order to enhance current leadership practices within the postgraduate research supervision environment. The researcher gained greater insight into the needs and challenges of postgraduate supervisors in the different disciplines, which will enhance her own learning, teaching and leadership practices within the postgraduate supervision environment. Although the development of the leadership model was a satisfying experience, the application of the suggestions made and the resulting enhancement of the leadership model were the ultimate goal of the study. In the questionnaire, one respondent described the development of leadership in postgraduate supervision as follows:

“In order to lead or to be a role model, one’s cup must stay full!”

The seriousness of emotions revealed in this comment illustrates the significance and intensity of the position in which postgraduate supervisors find themselves in a challenging and new world of learning and teaching where they have to balance all the various leadership requirements and intelligences to ensure that their guidance will lead to a life-changing experience for any postgraduate adult.

The researcher believes that the leadership model in postgraduate supervision together with the necessary human and academic projects and financial resources of a UoT in South Africa will be of use to novice supervisors who are committed to and passionate about the supervision environment.

I close this study with quotes from Ramsden and President Nelson Mandela to indicate that leadership is a learning cycle and part of our daily lives.

When I refer to leadership ... I imply ... a practical and everyday process of supporting, managing, developing and inspiring academic colleagues ... leadership in universities ... should be exercised by everyone, from the vice chancellor to the casual parking attendant.

Ramsden (1998:4, cited in Scott *et al.* 2008:2)

**Education is the most powerful weapon you can use to
change the world!**

Nelson Mandela

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APPENDIX A

ETHICAL CLEARANCE DOCUMENT



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20 June 2011

ETHICAL CLEARANCE APPLICATION:

*THE DEVELOPMENT OF LEADERSHIP IN POSTGRADUATE SUPERVISION AT A
SOUTH AFRICAN UNIVERSITY OF TECHNOLOGY*

Dear Ms AS Van der Linde

With reference to your application for ethical clearance with the Faculty of Education, I am pleased to inform you on behalf of the Ethics Board of the faculty that you have been granted ethical clearance for your research. We thank you for your very thorough consideration of the ethical aspects of your proposal.

Your ethical clearance number, to be used in all correspondence, is:

UFS-EDU-2011-0001

This ethical clearance number is valid for research conducted for one year from issuance. Should you require more time to complete this research, please apply for an extension in writing.

We request that any changes that may take place during the course of your research project be submitted in writing to the ethics office to ensure we are kept up to date with your progress and any ethical implications that may arise. At the conclusion of your research project, please submit a project report, no more than 500 words in length, which should contain only a brief summary focusing primarily on ethical considerations, changes and issues that may have arisen and steps taken to deal with them during the course of the research. Upon receipt of this report, a final ethical clearance certificate will be issued to you, which will form part of your final dissertation.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours sincerely,

Andrew Barclay
Faculty Ethics Officer



APPENDIX B

DEVELOPMENTAL PHASE LETTER



FACULTY OF EDUCATION

1 Interlaken
11 Nienaber Street
Langenhoven Park
9301

12 November 2010

Dear Prof/Dr

I am currently registered for a doctorate in Higher Education Studies at the University of the Free State (via the School of Higher Education Studies). The title of my thesis is: ***The development of leadership in postgraduate supervision at a South African university of technology.*** At the moment, I am in the process of finalising my literature review and empirical instrument.

I would like to kindly ask whether you would be willing to participate in my development phase as an expert postgraduate supervisor. If you are willing to participate, there is just one question:

How would you define leadership in postgraduate supervision?

All the information gathered by means of this development question will be treated as extremely confidential. In addition, the answer to this question will be used to refine the research instrument, and no individually identifiable information will be presented.

I am convinced that your participation will make a valuable contribution to the research effort, and your kind co-operation in this regard would therefore be highly appreciated.

Thank you for being willing to participate in this development phase study! Please send your answer to this question to: anna@cut.ac.za

Kind regards

A. Linde

Anna van der Linde
Postgraduate student
School for Entrepreneurship and Business Development
Central University of Technology, Free State

Prof. SM Niemann
Supervisor
School of Higher Education
University of the Free State

APPENDIX C

LETTER TO EACH UNIVERSITY OF TECHNOLOGY



FACULTY OF EDUCATION

1 Interlaken
11 Nienaber Street
Langenhoven Park
9301

19 May 2011

Dear Prof/Dr

I am currently registered for a doctorate in Higher Education Studies at the University of the Free State and hereby apply for permission to conduct research among postgraduate supervisors at universities of technology.

The title of my thesis is: ***The development of leadership in postgraduate supervision at a South African university of technology.***

If permission is given, the study will involve administering an adapted questionnaire (see attached questionnaire), which will take approximately 20 minutes for the volunteer postgraduate supervisors to complete. I guarantee that the data obtained from this questionnaire will be treated with the utmost confidentiality. For example, the results of the research will be reported only as a collective summary, and no individually or institutionally identifiable information will be presented.

I would like to commence with the questionnaire as soon as possible – preferably within the next week.

I trust that my request will be favourably attended to and if you have any questions or concerns about the research, please feel free to contact me, Anna van der Linde, at anna@cut.ac.za or my postgraduate supervisor, Prof. SM Niemann, at niemann@ufs.ac.za.

I am convinced that your institution's participation will make a valuable contribution to the research effort, and your kind co-operation in this regard would therefore be highly appreciated.

Kind regards

Anna van der Linde
Postgraduate student
School for Entrepreneurs and Business Development
Central University of Technology, Free State

Prof SM Niemann
Postgraduate Supervisor
School of Higher Education
University of the Free State

APPENDIX D

INVITATION LETTER TO EACH PARTICIPANT WITH THE QUESTIONNAIRE

FACULTY OF EDUCATION

1 Interlaken
11 Nienaber Street
Langenhoven Park
9301

27 May 2011

Dear Postgraduate Supervisor

I am currently registered for a doctorate in Higher Education Studies at the University of the Free State.

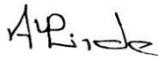
The title of my thesis is: **The development of leadership in postgraduate supervision practice at a South African university of technology.** In order to conduct this study, I would like to include all postgraduate supervisors within the universities of technology in South Africa.

I have obtained written informed consent from your institution to distribute this questionnaire to you. Please take note that your participation is voluntary and will take approximately 20 minutes. All collected information in this study will be treated as confidential. In addition, the results of the research will be reported as collective summary data only, and no individually identifiable information will be presented. If you have any questions or concerns about the research, please feel free to contact me, Anna van der Linde, at anna@cut.ac.za or my postgraduate supervisor, Prof. SM Niemann, at niemann@ufs.ac.za.

This questionnaire is divided into four sections: Section A (Biographical Information); Section B (Supervision Practices); Section C (Leadership in Postgraduate Supervision); Section D (Development). Please indicate your opinion about each of the statements by marking one of the responses in the columns to the right. After completion of the questionnaire, please e-mail it back to at anna@cut.ac.za on or before 30 July 2011.

Please accept in advance my sincere thanks for your participation in this research effort.

Kind regards



Anna van der Linde
Postgraduate student
School for Entrepreneurs and Business
Development
Central University of Technology, Free State

Prof SM Niemann
Postgraduate Supervisor
School of Higher Education
University of the Free State

LEADERSHIP IN POSTGRADUATE SUPERVISION QUESTIONNAIRE

Dear Postgraduate Supervisor

As part of my PhD research study at the University of the Free State, I am conducting a survey that investigates how postgraduate supervisors from universities of technology experience leadership in their supervision.

Instructions: **Copy** the circle (green), below and **highlight** the most appropriate option and **paste** it into each of the given questions or complete the answer in the space provided (general comments or suggestions for consideration). Use the following circle ● to indicate your answer:

SECTION A: BIOGRAPHICAL INFORMATION

1. **University of Technology**

- Cape Peninsula Central, Free State
 Durban Mangosuthu
 Tshwane Vaal Walter Sisulu

2. **Gender**

- Male Female

3. **Age category**

- <24 – 30 years 41 – 45 years 56 – 60 years
 31 – 35 years 46 – 50 years 61 – 65 years
 36 – 40 years 51 – 55 years 66 years or older

4. **Highest level of education completed**

- Master's Doctorate

5. **My discipline is:**

- | | |
|--|--|
| <input type="radio"/> Accounting and related subjects | <input type="radio"/> Environmental Health |
| <input type="radio"/> Agricultural Sciences and related subjects | <input type="radio"/> Fashion |
| <input type="radio"/> Architecture, Building and Planning | <input type="radio"/> Graphic Design |
| <input type="radio"/> Biomedical | <input type="radio"/> Hospitality Management |
| <input type="radio"/> Business and Administrative studies | <input type="radio"/> Human Resources Management |
| <input type="radio"/> Ceramic Design | <input type="radio"/> Jewellery Design and Manufacturing |
| <input type="radio"/> Clinical Technology | <input type="radio"/> Law- related subjects |
| <input type="radio"/> Civil Engineering | <input type="radio"/> Marketing |
| <input type="radio"/> Clothing | <input type="radio"/> Mathematical- related subjects |
| <input type="radio"/> Computer Science | <input type="radio"/> Office Management and Technology |
| <input type="radio"/> Communications and Language Studies | <input type="radio"/> Photography |
| <input type="radio"/> Creative Arts and Design | <input type="radio"/> Public Management |
| <input type="radio"/> Education | <input type="radio"/> Radiography |
| <input type="radio"/> Electrical Engineering | <input type="radio"/> Somatology |
| <input type="radio"/> Emergency Medical Care | <input type="radio"/> Sport- related subjects |
| <input type="radio"/> Engineering and Technology | <input type="radio"/> Tourism |

If other, please specify

SECTION B: SUPERVISION PRACTICES

6. How long have you been involved in postgraduate supervision? years
7. How many postgraduate students **graduated** under your supervision?
- | | |
|------------|----------------------|
| Supervisor | |
| Master's | <input type="text"/> |
| PhD | <input type="text"/> |
- | | |
|---------------|----------------------|
| Co-supervisor | |
| Master's | <input type="text"/> |
| PhD | <input type="text"/> |
8. How many students are you **currently** supervising?
- | | |
|------------|----------------------|
| Supervisor | |
| Master's | <input type="text"/> |
| PhD | <input type="text"/> |
- | | |
|---------------|----------------------|
| Co-supervisor | |
| Master's | <input type="text"/> |
| PhD | <input type="text"/> |
9. How would you describe your relationship with your student?
I see myself as my student(s)'
- Advisor Mentor Teacher
 Colleague Pastoral role
 Guide Senior in terms of the academia
10. Which of the following best describes the most frequent way in which contact with the student is initiated?
- | | |
|----------------------------------|----------------------|
| By you (postgraduate supervisor) | <input type="text"/> |
| By the postgraduate student | <input type="text"/> |
| By an agreed schedule | <input type="text"/> |
| By chance | <input type="text"/> |
| By circumstance | <input type="text"/> |

SECTION C: LEADERSHIP REQUIREMENTS IN POSTGRADUATE SUPERVISION

Rate your **requirements** within the postgraduate supervision process.

- | | Not at all | Disagree | Agree | Strongly Agree | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|--------------------------|
| | 1 | 2 | 3 | 4 | |
| 11. A leader is born (a product of our genes).
Postgraduate supervisors need to ... | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 12. act as a leader in the supervision process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 13. act as the manager in the supervision process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 14. act as the mentor/coach with passion in the supervision process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 15. use his/her knowledge and expertise to generate plans in a research process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 16. share the credit and accolades with his/her student. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 17. be responsible and ensure that students understand the institutional rules and requirements. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 18. create an environment where students grow and develop to take ownership of the research project. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |

- | | | | | | |
|-----|---|-----------------------|-----------------------|-----------------------|-----------------------|
| 19. | show and foster respect for students' culture. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. | be sensitive to the students' needs and expectations. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

	Not at all	Disagree	Agree	Strongly Agree
	1	2	3	4

Postgraduate supervisors need to ...

- | | | | | | | |
|-----|--|-----------------------|-----------------------|-----------------------|-----------------------|--------------------------|
| 21. | encourage students to care for and understand each other through team-work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 22. | motivate students. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 23. | be willing to fulfil students' expectations (hopes, dreams and needs). | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 24. | defend a research project that he/she believes in. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 25. | inspire trust. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 26. | act as a negotiator to obtain needed funds, facilities and equipment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 27. | provide timely feedback in the supervision process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 28. | act as a strategic leader. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 29. | build team relations ("community of champions"). | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 30. | articulate a compelling vision in terms of the envisaged outcomes of the study. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 31. | communicate well in the spoken word. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 32. | provide constructive feedback. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 33. | be able to understand his/her own emotions and the emotions of others. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 34. | know that dedication are essential in a research project. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 35. | encourage lifelong learning. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 36. | be confident in his/her work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 37. | take responsibility for leading a balanced, artistically and creative lifestyle. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 38. | connect with students to challenge his/her conventional thinking. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 39. | know that experience should improve relationships with students. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 40. | live out his/her own passions in life. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 41. | focus on the physical and emotional energy for themselves. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 42. | know that spiritual intelligence is essential for a supervisor to connect with their inner-self. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 43. | have foresight into future planning at postgraduate level. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 44. | take care of his/her wellbeing. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 45. | be up-to-date with changes in the academic and business world. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 46. | play the role of innovator to suggest new ideas in the research process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 47. | be able to evaluate the viability of a research project. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 48. | be flexible and allow students to set ideas and plans through his/her guidance. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 49. | be the critic in the research process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 50. | act as a pro-active leader in the research environment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 51. | be a good role model in the academic environment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 52. | be co-responsible for planning the entire research process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 53. | be co-responsible for setting time schedules for research goals. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |
| 54. | promote good values in the interest of a student. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="checkbox"/> |

	Not at all	Disagree	Agree	Strongly Agree
	1	2	3	4
It is necessary for postgraduate supervisor to ...				
55. collaborate with his/her students to create new decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. empower students with his/her learning and teaching practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. set ethical guidelines.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. establish sound interpersonal relationships.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. act as the spokesperson to inform, answer, inquire or report back to students about vision, capabilities, plans and activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. be an academic technical supporter of their students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. be responsible towards themselves by taking recovery sessions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SECTION D: COMPETENCIES AND DEVELOPMENT

62. Motivate the reason for your involvement in postgraduate supervision.

Provide an example or explain

63. How would you define leadership in postgraduate supervision?

Provide an example or explain

64. How would you share credits and accolades with your students?

Provide an example or explain

65. How would you provide constructive feedback to your student?

Provide an example or explain

66. How would you define conscience (spiritual intelligence) in postgraduate supervision.

Provide an example or explain

67. How would you define vision (mental intelligence) in postgraduate supervision.

Provide an example or explain

68. How would you define discipline (physical intelligence) in postgraduate supervision.

Provide an example or explain

69. How would you define passion (emotional intelligence) in postgraduate supervision.

Provide an example or explain

70. Postgraduate supervision requires continuous development.

Provide an example or explain

71. Universities support internal staff development of leadership in postgraduate supervision.

Provide an example or explain

72. A postgraduate supervisor is passionate about reading articles, books and journals about his/her subject field.

Provide an example or explain

73. Postgraduate supervisors encourage a network of fellow students.

Provide an example or explain

Any other comments regarding leadership in postgraduate supervision:

Provide an example or explain

Please e-mail the questionnaire back on or before 31 July 2011 to anna@cut.ac.za

Thank you for your co-operation!

“A life unexamined is not worth living.”
Plato

APPENDIX E

LANGUAGE EDITING VALIDATION

12 February 2013

ERICA WESSELSAccredited Member of the South African Translators'
Institute (No. 1000186)PO Box 3676
Bloemfontein
9300Tel: (051) 507-3607
084 401 6560
Fax: (051) 507-3309
E-mail:
ewessels@cut.ac.za**DECLARATION**

I hereby declare that I am a qualified and professional language practitioner with the following qualifications from the Central University of Technology, Free State (CUT) in Bloemfontein, South Africa:

- National Diploma: Language Practice (*Cum Laude*)
- Baccalaureus Technologiae: Language Practice (*Cum Laude*)

I furthermore declare that I am a registered and accredited member of the South African Translators' Institute (SATI), with membership number: 1000186 ("accredited" meaning I passed the stringent linguistic examination administered by SATI).

In this capacity, I have linguistically revised (in English) the following thesis:

TITLE: Supervisor-student relationships: A leadership model for enhancing postgraduate research at a university of technology

AUTHOR: Ms A.S. van der Linde

DEGREE: PhD (Higher Education Studies)

INSTITUTION: University of the Free State
Faculty of Education
School of Higher Education Studies

Signed:



ERICA WESSELS
APTrans(SATI)