A STRATEGY TO FACILITATE TRANSITION FROM MASTERS DEGREE NURSING STUDIES TO PHD/DOCTORAL THESIS PROPOSAL WRITING

by

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DEDICATION

To my grandkids Adam Ayomiposi and Austin Mufaro Ajayi whose exciting phone chats always gave me strength to carry on and in memory of my late father Jeremiah Bvure Masarira and my late father in law Mabenge Zhou.

DECLARATION

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I declare that the above thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the thesis to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

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19th December 2019
DATE

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A STRATEGIC INTERVENTION AND ACTION PLAN TO FACILITATE TRANSITION FROM MASTER'S DEGREE STUDIES TO PHD/DOCTORAL THESIS PROPOSAL WRITING

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ABSTRACT

Background: Challenges in thesis proposal writing have resulted in doctoral students dropping from research studies resulting in the shortage of doctoral prepared nurses. Impediments include lack of human and non-human resources. Benner's theory of novice to expert formed the basis for the development of the strategic intervention and action plan to address the challenges and strengths experienced by master's prepared doctoral students during thesis proposal writing

Purpose: The purpose of this research was to develop a strategic intervention and action plan that can be used to assist doctoral students to succeed in thesis proposal writing.

Methods: An exploratory mixed-methods approach combining qualitative and quantitative data collection and analysis in four phases was used. In Phase 1 qualitative data from two open-ended questions were used to gather data, combined with literature to develop a questionnaire for Phase 2. A questionnaire was developed from data obtained from Phase 2 as well as a thorough literature review to develop the strategic intervention and Action plan. In Phase 4 the strategic intervention and action plan was validated using the Delphi technique and experts acted as panellists for the validation.

Framework: Benner's novice to expert theoretical framework was adopted for the study because of the assumption that doctoral students need a change of perception and assistance in order to develop critical thinking skills that will enhance the development of research competencies. This framework was used because of its relevance to the study.

Research Findings: Competence in doctoral thesis proposal writing is affected by human resources as well as non-human resources. The identified strategic interventions that were included in the action plan were: recruitment of competent supervisors, training and mentoring of new supervisors, achieving of a realistic student/supervisor ratio for supervision of students, timely allocation of supervisors, recruiting of subject librarians and employment of adequate library support, provision of peer support programmes, implementation of a student recruitment and selection plan, provision of student support programmes to enhance research skills and competencies, binding contracts to stipulate students responsibility, provision of adequate research resources, and implementation of a bursary system among others.

Conclusion: The strategic intervention and action plan was developed using the input of doctoral nursing students who were in the process of completing their thesis proposal and a thorough literature review. The inclusion of the deans of nursing of universities and universities of technology of South Africa (FUNDISA) will enhance the possibility for the implementation of the strategic intervention and action plan which can contribute to assisting the master's prepared doctoral students to successfully transition from novice students with little or no research knowledge to competent thesis proposal writers.

Key Concepts: Research proposal writing, Dissertation, Doctoral student, intervention strategy, action plan, master's degree prepared nursing students, research proposal, thesis proposal, Benner's theory, human resources, non-human resources.

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CHAPTER 1
OVERVIEW OF THE STUDY

1.1 INTRODUCTION

A growing amount of literature and research has demonstrated that at least 50% of doctoral students struggle to complete their thesis research proposal and never complete their studies (Farkas 2018:1; Lindsay 2015:184-194; Ismael, Abiddin & Hassan 2011:78-89). The attrition rates of doctoral students have been of great concern to institutions of higher education (Humanities Indicators 2018:1). Moreover, the shortage of doctoral-prepared educators that are needed to train and supervise new students has negatively impacted the training of a sufficient number of nurses to deal with healthcare needs (Buchan, Seccombe, Gershlick & Charlesworth 2017:5); this has also contributed to the global shortage of nurses.

The global nursing workforce is currently experiencing a shortage with a deficit of 4 million nurses (AACN 2017:1; Hoboubi, Choobineh, Kamari Ghanavati, Keshavarzi & Hosseini 2017:67-71; Goulette 2010:10). In sub-Saharan Africa alone, there is a 2.3 million shortage of healthcare workers, including nurses who are urgently required to strengthen the health systems (Auerbach, Buerhaus & Stauger 2017:116-122; Ugochukwu, Uys, Karani, Okoronkwo & Diop 2013:117-131). The World Health Organization (WHO) declared the situation a health workforce crisis that resulted from decades of under-investment in health worker education, training and management (Bhatt, Giri & Koiralas 2010:36)

In South Africa, the National Department of Health estimated that the overall gap between nursing supply and demand was already at 18 758 between 2001 and 2011. South Africa, like other countries, is not training or producing sufficient numbers of nurses to deal with its health needs and the shortage affects the quality of service delivery (Rispel & Moorman 2013:239-260; McQuoid-Mason 2016:681-683). The South African National Department of Health strategic plan model (2012/13-2016/17) included

training of more healthcare workers as one of the strategies to address the gap in human resources and the nursing shortage.

With the increase in public awareness of the prospects for the nursing profession's role in shaping the future of effective healthcare, there is a great demand for more nurses to pursue doctoral degrees (Armstrong & Rispel 2015:1; Valiga & Ironside 2012:3). Doctoral education will equip nurses to contribute at policy formulation level, and in terms of nursing education and research. The impact of education on the quality of healthcare (Blaaw, Ditlopo & Rispel 2014:1) can never be underestimated. Doctoral-prepared nurses are thus needed to educate undergraduates and future scholars, create new knowledge, develop life-saving medical interventions, and shape social programmes and policies (Tzanakou 2014:1; Benner, Sutphen, Leonard & Day 2010:1; Essendi, Johnson, Nadise, Matthews, Falkingham, Bahaj et al 2015:103).

Despite the desperate need for more doctoral-prepared nurses, the shortage of doctoral-prepared nurse educators has forced some colleges and universities to turn away nursing students who wanted to continue with doctoral studies. During 2011, 75 587 nursing applicants were turned away due to a shortage of doctoral-prepared nurse educators who could support them. A further 58 327 were turned away from the entry-level baccalaureate degree, 13 198 from master's degrees, and 1 156 from doctoral studies (Kenner & Pressler 2012:183-184). When colleges and universities turn away master's students, it results in a shortage of master's-prepared and doctoral-prepared nurse educators to teach undergraduate nurses and supervise the new generation of master's and doctoral students. The shortage of master's students adversely affects the number of PhD and doctoral students. This, coupled with the fact that 50% of doctoral students drop out of doctoral studies, will contribute to a lack of doctoral-prepared nurses to supervise, support and mentor master's students in the future (Akerlind & McAlpine 2017:1686-1694).

The critical shortage of doctoral-prepared nurse educators (Kenner & Pressler 2014:105-106) can be addressed by increasing the throughput rate of doctoral nursing

students (Bastalich 2017:1145-1157). It is therefore vital that those who are enrolled in doctoral nursing programmes should successfully complete their degrees. Thus, there is a need to understand and explore the challenges and the strengths that doctoral nursing students experience during the thesis research proposal writing phase. These findings will facilitate the development of a strategic intervention and action plan that may help faculty to assist the doctoral nursing students writing their thesis research proposal.

1.2 BACKGROUND

According to the *UNISA 2019 Guide to Research and the Organization of Material,* a master's dissertation is an advanced research project of defined scope. A dissertation should indicate an understanding of relevant theoretical issues, lucidity and coherence, technical competence, as well as evidence of scholarly research. However, a master's dissertation does not have to be an original contribution to the body of knowledge (UNISA 2018:1).

Even though a master's dissertation is the end product for obtaining the master's degree, it all starts with the writing of a research proposal; that is the blueprint of any study. The quality of the research and the success of a student greatly depend on the quality and the thoroughness of the research proposal. The extent to which a master's degree prepares a doctoral student for writing the thesis research proposal on a doctoral level, as well as the quality of research writing skills, depend on the quality of the dissertation that was prepared and submitted for obtaining the master's degree (Odena & Burgess 2017:572-590).

A doctoral thesis requires more rigour, and therefore the research proposal for the thesis should be well formulated. A doctoral thesis needs to be an original contribution to the body of knowledge and requires the candidate to show an awareness of basic theoretical problems relevant to the topic of study (AACN 2017:1). Consequently, doctoral nursing graduates should be able to demonstrate conceptual abilities and

technical skills to develop and execute evaluation plans. They should have the ability to create new care delivery models, assess risks and collaborate with others in managing patient care (AACN 2017:6).

Despite the growth in the number of conferred doctoral degrees (NSF 2011:303), concerns have been expressed that 50% of doctoral students fail to complete their theses and therefore do not graduate (Schramm-Possinger & Powers 2015:1; Ismael et al 2011:80; Humanities Indicators 2018:1). Thus, while the increase of doctoral nursing graduates should be celebrated, it should not eclipse the alarming number of doctoral students who start but never finish their studies.

The fact that doctoral-prepared nurses are needed in numerous positions cannot be overstated. As educators, they will prepare future doctoral, master's as well as undergraduate students; practitioners who can have an impact on evidence-based practice by implementing research. They will also enhance the quality of healthcare and contribute to policy formulation in diverse aspects of healthcare delivery (Murphy, Staffileno & Carlson 2015:388-394; Kenner & Pressler 2012:183-185).

Perhaps nowhere else is the need for doctoral-prepared nurses more acute than in educational institutions. In these institutions of higher learning, doctoral-prepared nurses are in great demand in all levels of expertise (Paplham & Austin-Ketch 2015:273-281; Institute of Medicine (IOM) 2011:1; Kirschling 2014:1). It can thus be asserted that without adequate numbers of doctoral-prepared nurse educators, researched clinical evidence to inform nurses' decisions and actions, as well as patient care decisions, will be heavily compromised. Through nursing research, doctoral-prepared nurse educators are able to better understand nursing situations about which little is known. They are thus able to insightfully predict probable outcomes of nursing decisions (Polit & Beck 2014:10).

Considering the immediate need for doctoral-prepared nurses, especially as educators in school departments or colleges of nursing, efforts to recruit and support doctoral

students to complete their degrees are critical. There is an urgent need to reduce the dropout rates of doctoral nursing students by unearthing and exploring the factors that affect registered doctoral nursing students' preparedness and competence in writing research proposals. Researchers concur that more investigation is needed in order to develop a framework to manage the attrition problem (Halter, Boiko, Pelone, Beighton, Harris, Gale et al 2015:1; Association of Canadian Nurses 2015:1).

The questions that directed this study were:

1. Do master's degree prepared nursing students lack essential knowledge and skills for doctoral thesis writing?

2. Are master's degree prepared nursing students competent in writing a research proposal for a thesis report on a doctoral/PhD level?

3. Is there a gap in competence between master's proposal writing skills and doctoral proposal writing?

4. Can higher education institutions better prepare students for doctoral studies, rather than merely stipulating the successful completion of a master's degree as an admission criterion?

1.3 THE RESEARCH PROBLEM

Studies have indicated that 50% of doctoral students drop out from programmes, especially during the thesis proposal writing phase (Schramm-Possinger & Powers 2015:228; Cochran, Campbell, Baker & Leeds 2014:29; Abiddin 2012:635-639). Unfortunately, research that focuses on doctoral students' experiences and the qualities needed to succeed in PhD completion is limited (Luckett 2017:6; Sorensen 2016:297-303).

Student attrition can negatively impact on the reputation of the specific nursing school, college, department, or the university where the students are registered. It also has implications for the students' psychological, financial and career projections (DeClou 2016:174-198). Doctoral nursing attrition rates have negatively impacted on the global shortage of nurses in sub-Saharan Africa and, as a result, the WHO declared it a health workforce crisis (Bhatt et al 2010:36).

The purpose of this study was therefore to describe the experiences of doctoral nursing students in writing their thesis proposal in order to develop a strategic intervention and action plan that will assist each student in progressing from a novice research student after completion of a master's degree, to an expert research student on the doctoral level.

1.4 RESEARCH AIM AND OBJECTIVES

1.4.1 Aim of the study

The aim of this study was to describe the experiences of doctoral nursing students during the thesis proposal writing process in order to develop a strategic intervention and action plan that may enable nurse faculties to assist the doctoral nursing students in progressing and completing their theses.

1.4.2 Objectives

To enable the researcher to meet the aim of the study, the following objectives were formulated:

- describe the challenges that the doctoral nursing students experienced during the thesis proposal writing process;

- describe the strengths that doctoral nursing students experienced during the thesis proposal writing process;

- describe recommendations to improve thesis proposal writing as suggested by doctoral nursing students;

- identify the aspects that need to be addressed in the strategic intervention and action plan to assist doctoral nursing students during the thesis proposal writing process; and

- develop a strategic intervention and action plan to support doctoral students in the transition from a master's degree to writing a doctoral thesis proposal.

1.5 DEFINITIONS OF KEY CONCEPTS

1.5.1 Conceptual definitions

Dissertation is defined as a lengthy, formal treatise, especially one written by a candidate for a master's degree at a university (Borders 2018:15).

Doctoral student is defined as a person who is formally engaged or enrolled in a college or university to earn the terminal academic degree by pursuing intellectual inquiry and conducting independent original research (Thomson 2014:1) also called a PhD student.

Intervention is defined as the selection of the most appropriate theoretical and practical application to address an identified problem (Parrish 2018:407).

Strategy is defined as a process chosen for the attainment of a goal or resolution to a problem. A strategy is also defined as an important action needed to improve academic performance (Nickols 2016:4).

Master's degree prepared nursing student is a nursing student registered for a doctoral degree and who has completed a master's degree.

Research proposal is a thesis proposal written by a doctoral student as a blueprint of the research study that will be conducted (Border 2016:12).

Thesis is defined as a research report resulting from original research, especially when submitted for a doctoral degree (Anderson 2017: 1).

Thesis proposal is a detailed summary or overview of the thesis that informs whether the subject and the topic are appropriate to the field of study. It includes the outline of the topic, the introduction, the problem statement, the main question or aim and objectives, literature review, research methodology and references. The thesis proposal also defines all questions under consideration (Border 2016:11).

1.5.2 Operational definitions

In this study, a **doctoral student** is a master's degree prepared nursing student registered at a university for either a research (thesis) proposal module or for a thesis, or both, with the intention to obtain a doctoral or PhD degree in nursing.

In this study, the concept '**thesis**' is used when referring to the complete research report written by a doctoral student and submitted for examination for the purpose of obtaining a PhD or Doctoral degree.

In this study, a **thesis proposal** is the research proposal written by a doctoral student as the blueprint of the research study that will be conducted.

Strategic intervention and action plan in this study will be an outline of the activities and processes that need to be followed and implemented to prepare for and assist doctoral students with thesis proposal writing.

1.6 THEORETICAL GROUNDING OF THE STUDY

1.6.1 Pragmatism as the research paradigm

According to Creswell (2014a:48), pragmatists focus on research that is a real-world practice and is intended to be purposeful and practical. For pragmatists, methodology – the process of gaining knowledge and understanding – involves collecting both qualitative and quantitative data and mixing them. Creswell (2014a:39) asserts that pragmatists combine methods within a single study as a way of using the strengths of each approach while minimising the weaknesses. Pragmatic researchers are more able to use qualitative research to inform the quantitative portion of a research study and vice-versa (Tashakkori & Teddlie 2010:39).

An exploratory mixed-methods research approach was utilised by the researcher to explore the complexity of factors that challenged or strengthened the doctoral nursing students during the thesis proposal writing process. The exploratory mixed-method approach also enabled the researcher to examine this phenomenon from both an insider (drawing on perspectives of participants) and an outsider perspective (drawing on existing theory).

Benner's novice (the master's student) to expert (a doctor) model was found to be appropriate for this study.

1.6.2 Benner's Novice to Expert Model theoretical framework

Benner's work originated in clinical practice, but her theory and ideas have been used to guide research and practice throughout the nursing gestalt. Altmann (2007:118 cited in Oshvandi, Moghadam, Kwatiban, Cheraghi, Bonzu & Moradi 2016:3014), in her evaluation of Benner's work, acknowledged that Benner's Novice to Expert Model provides a framework that supports lifelong learning applicable to nursing practice, research, and education (Gentile 2012:101-104). Benner utilises mentoring, in this case

the supervision of a student, as one concept of enabling novice nurses to transform into expert nurses (Benner et al 2010:58). The conceptual framework of novice research student to expert research student is, therefore, fitting to assess the experiences of a master's degree prepared nursing student's transitioning to doctoral/PhD studies during the thesis proposal writing phase.

In applying Benner's model, the researcher sees the master's degree prepared student as the novice, with little previous experience of thesis proposal writing. The doctoral or PhD student needs a change in their perception of what is needed on a doctoral level, using critical thinking to move from an observer to an engaged performer as a doctoral candidate (Benner 1984:27-34).

1.7 RESEARCH DESIGN AND METHOD

An exploratory mixed-method research design was used to explore and describe the experiences of doctoral nursing students who were registered at South African universities for doctoral studies, and in the process of writing their thesis. Mixed-methods research is a type of research in which qualitative and quantitative viewpoints, data collection, analysis, and inference techniques are used for improved understanding (Goertzen 2017:159; Tashakkori & Teddlie 2010:39). The rationale for utilising the exploratory mixed-method was to use the results of the qualitative phase (Phase 1) in order to develop the questionnaire for the quantitative phase (Phase 2) of the study. Mixed methods are useful when one type of data provides a basis for the collection of another type of data (Goertzen 2017:159-161).

The first phase, which was the qualitative phase, gave voice to doctoral students, allowing them to state their experiences during the thesis proposal writing process in their own words. The data were gathered through two open-ended questions via Survey Monkey™. After analysing the qualitative data and conducting a literature control to address the challenges of thesis proposal writing, a questionnaire was developed to be

used in the second phase of the study. The research objectives and the appropriate techniques used to gather data are illustrated in Table 1.1.

The second phase of the research study, the quantitative phase, involved gathering data from a convenient sample from the population accessible via Survey Monkey™. The research objectives and the appropriate techniques used to gather data are also illustrated in Table 1.1.

Table 1.1: Four phases of the study

Phase	Design	Objectives	Technique	Sample	Purpose	Data analysis
1	Qualitative	1. Describe the challenges AND 2. Strengths that master's prepared doctoral nursing students experienced during thesis proposal writing	Two open-ended questions via Survey Monkey™	All-inclusive sample from the population	To gather qualitative data that will be supported or contradicted by literature control in order to develop a questionnaire for Phase 2	Qualitative analysis open coding
2	Quantitative	1. Describe the challenges, AND 2. Strengths that master's-prepared doctoral nursing students experienced during doctoral thesis writing.	Questionnaire via Survey Monkey™	All-inclusive sample from the population	To obtain quantitative data with qualitative enhancement for the development of the strategic intervention and action	Open coding of open-ended questions and quantitative data were analysed using the Survey

Phase	Design	Objectives	Technique	Sample	Purpose	Data analysis
		3. To identify elements/aspects or processes to be included in the strategic intervention and action plan as suggested by master's-prepared doctoral nursing students			plan.	Monkey™ software
3		Develop the strategic intervention and action plan	Combine data from phase 1 and 2 as well as a literature review in the development of the strategic intervention and action plan.	N/A	Analysed data from Phase 1 and 2 as well as a literature review to develop the strategic intervention and action plan.	N/A
4	Qualitative	Validate the developed strategic intervention and action plan	e-Delphi using a validation tool	A purposeful sample of experienced research and supervision experts from FUNDISA	To validate the developed strategic intervention and action plan.	

It was envisaged that the quantitative and qualitative phases of the exploratory mixed-method research design would weigh the same.

1.7.1 Population

1.7.1.1 Phase 1 and 2

The target population for this study was master's degree prepared nursing students registered for doctoral/PhD studies at universities in South Africa. The 22 universities and universities of technology that offer postgraduate nursing programmes in South Africa formed the site population.

1.7.1.2 Phase 4

The target population for the validation of the developed strategic intervention and action plan was the deans of 22 university nursing departments and members of the Forum for University Nursing Deans in South Africa (FUNDISA) (2018:1).

1.7.2 Sampling

1.7.2.1 Phase 1 and 2

An all-inclusive non-probability sampling of the South African universities and universities of technology that offer postgraduate nursing studies was done as they were all contacted via e-mail to obtain permission to participate (see Annexure B). The researcher e-mailed the nursing rectors/deans of all 22 South African universities and universities of technology to request contact information for all the registered students who fulfilled the inclusion criteria (See recruitment letter to deans and recruitment letter to students; Annexures B, C & D).

The recruitment letters were then sent to all 193 available e-mail addresses provided by the eight universities that volunteered to participate. Thus, the sample size was 193

students who could open the link in the recruitment letter, if they decided to participate (see Annexure C & D). Forty-eight students participated in Phase 1, and 48 students participated in Phase 2.

1.7.2.2 Phase 4

A purposeful sample of eight experienced research and supervision experts from FUNDISA were contacted via e-mail and requested to validate the strategic intervention and action plan (see Annexures E & F).

1.8 DATA COLLECTION

1.8.1 Phase 1

The questionnaire, consisting of two open-ended questions, was forwarded to 193 volunteer participants via Survey Monkey™. The two questions were:

a) Please describe all your positive and negative academic experiences during the proposal writing stage of your doctoral thesis.
b) Please describe all your positive and negative personal experiences during the proposal writing stage of your doctoral thesis.

The researcher received raw, unidentifiable verbatim data via the software program.

1.8.2 Phase 2

After the analysis of the qualitative data and a literature control to support or contradict the findings, a questionnaire was developed (see Annexure G). The link to the questionnaire on Survey Monkey™ was again forwarded to all 193 e-mail addresses to request voluntary participation (see a detailed description in Chapters 3 and 4).

1.8.3 Phase 4

After the strategic intervention and action plan was developed, it was shared via e-mail (e-Delphi process) and sent to eight volunteer members of FUNDISA as research and supervision experts for validation. A validation tool (see Table 6.3) accompanied the strategic intervention and action plan to enhance trustworthy results.

1.8.4 Research design quality

1.8.4.1 Internal validity

To prevent possible bias during the recruitment of research participants, the study was open to all students (available e-mail addresses) from the 22 universities in South Africa that offer both master's and doctoral programmes in nursing, and that volunteered to participate. The questionnaire was also developed from the results of qualitative survey responses from the same population (see Annexure G).

1.8.4.2 External validity

The questionnaire was pre-tested using five professors of research (see detailed description in Chapter 4, Section 4.6.2). It was then sent to all 193 students whose e-mail addresses were available rather than a selected sample of the population. Content validity was enhanced by doing a thorough literature review as well as using the qualitative data gathered to compile the questionnaire.

1.8.5 Trustworthiness, reliability and validity of data-gathering instruments

1.8.5.1 Trustworthiness

In qualitative research, the four aspects of trustworthiness are dependability, credibility, confirmability and transferability (Nowell, Norris, White & Moules 2017:1-13). Each of

these aspects is addressed in Chapter 3. The research context and assumptions that were central to the research are described, and complete detail is provided to allow other researchers to evaluate the applicability to similar contexts (Polit & Beck 2017:88-90). The principles of trustworthiness were also applied in Phase 4, where the Delphi technique was used to validate the developed intervention strategy (see Chapter 6).

1.8.5.2 Reliability

According to Campos, da Silva Oliveira, Feitoza and Cattuzo (2017:21-26), reliability is the extent to which results are consistent over time and are an accurate representation of the population under study (Bajpai & Bajpai 2014:112-115; Oluwatayo 2012:391-400). Using both qualitative data from the participants in Phase 1 as well as a literature review to compile the questionnaire in Phase 2, contributed to the reliability of the questionnaire. The final questionnaire for Phase 2 was assessed by a group of five research and supervision experts to enhance the reliability thereof (see Section 4.6.2).

In Phase 4, the quantitative data from respondents in Phase 2 as well as a literature review to develop a draft strategic intervention and action plan in Phase 3 contributed to the reliability of the strategic intervention and action plan. The final strategic intervention and action plan was validated by a purposeful sample of eight members of FUNDISA, thereby increasing the reliability of the strategic intervention and action plan (see Section 6.9).

1.8.5.3 Validity

Validity determines whether the research truly measures that which it was intended to measure and how truthful the results are (Burns, Morris, Periard, LaHuis, Flannery, Carretta et al 2017:213-222). The validity of the questionnaire used in Phase 2 of this study was analysed by five experts in the area of research to determine that the instrument measured what it was supposed to measure. The Statistical Package for Social Sciences (SPSS) computer program, imbedded in Survey Monkey™, was used

to analyse the data and ensure accuracy. The validation tool (Table 6.3) for Phase 4 was also validated by eight members of FUNDISA using e-Delphi to make recommendations for improving the strategic intervention and action plan.

1.8.5.4 Pre-testing the instruments

Pre-testing involves reviewing a newly developed research instrument such as a questionnaire to evaluate it for language appropriateness, structure, as well as assessment of the time needed for its completion (Polit & Beck 2017:200). The pre-test also tests whether all the questions are clear and can be understood in the same way to provide answers relevant to the topic (Hilton 2015:21-34). In both Phases 2 and 4, the questionnaires were pre-tested (see Sections 4.6.2 and 6.6).

1.9 ETHICAL CONSIDERATIONS

Ethical principles, as described by Haberman, Broome, Pryor and Ziner (2010:51-57) as well as Polit and Beck (2017:89), were adhered to. Approval to conduct research studies with human participants is required in order to determine that every precaution has been taken to protect the participants.

1.9.1 Approval

Ethical approval to conduct the research was granted by the Research Ethics Committee of the Department of Health Studies at UNISA (HSHDC/186/2013) (see Annexure A). The participating universities also provided their consent for their students to participate.

1.9.2 Informed consent

Informed consent means that participants received complete information about the research, were able to comprehend it, and were capable of agreeing to participate.

When the study involves minimal risk (such as filling out an anonymous questionnaire) informed consent may be optional and implied by the fact that the participant completed the survey (Polit & Beck 2017:80). In this study, the recruitment letters included all the information needed to ensure informed consent. Opening the link and completing the questionnaire was an indication that the participant consented to the research study (See recruitment letters Annexures C, D, E & F) since they had an option of not participating if they did not want to.

1.9.3 The risks of the study

The risk of the study included possible emotional discomfort for participants when sharing their experiences; particularly if they had a very bad experience pertaining to their specific situation. In order to prevent such a risk, the participants were offered the right to refuse to answer any question that could cause them discomfort. Their identity was not disclosed via Survey Monkey™. They could also withdraw from the study at any time with no adverse effects on them.

1.9.4 Privacy and anonymity

Participants completed questionnaires in their own time where they felt comfortable and private. Only raw data (refer to Sections 3.9.5, 4.9 & 6.8) were received back as described in Chapters 3, 4 and 6. Since participants were answering the questionnaire on password-protected computers in the privacy of their homes, the researcher had no way of interfering with their privacy as they responded. No names or any form of identifying information was required on the online Survey Monkey™ and Google Forms®, thus allowing the participants to remain anonymous.

1.9.5 Confidentiality

In order to maintain confidentiality and to protect the identity of participants, their e-mails were only used for contacting the participants and Survey Monkey™ was used to collect

data on password-protected computers. The Survey Monkey™ and Google Forms® software program only allowed for raw data to be retrieved by the researcher, without any identifiable information.

The researcher did not fabricate or falsify any data. All information sources were cited to avoid plagiarism. Citing all data sources and maintaining the confidentiality of participants' information, as well as information on the institutions involved, were done to reflect the researcher's integrity.

1.10 CHAPTER LAYOUT

The chapter layout illustrated in Table 1.2 provides information on how the thesis will unfold and be presented.

Table 1.2: Chapter layout

Chapter	Content	Rationale
Chapter 1	Background and problem statement, aim, objectives, research design, population, sampling and ethics platform	Overview of the study
Chapter 2	Literature review on doctoral education in nursing	To give a background of doctoral education
Chapter 3	Phase 1: Research methodology, data analysis and literature control (qualitative)	Step-by-step description of Phase 1 of the study that contributed to the development of the questionnaire to be used for data gathering in Phase 2

Chapter	Content	Rationale
Chapter 4	Phase 2: Research methodology, data analysis and literature control (quantitative)	A description of the relevant data that was utilised for the development of the strategic intervention and action plan
Chapter 5	Phase 3: The strategic intervention and action plan development	The literature review that will inform the strategic intervention and action plan development
Chapter 6	Phase 4 The strategic intervention and action plan validation process	To describe the strategic intervention and action plan as well as the validation process
Chapter 7	Conclusions, recommendations and limitations of the study.	The final recommendation of the study.

1.11 CONCLUSION

In this chapter, a short overview of the research study was presented. Chapter 2 describes the literature review of doctoral education in nursing.

CHAPTER 2
LITERATURE REVIEW: DOCTORAL EDUCATION IN NURSING

2.1 INTRODUCTION

Doctoral studies have a respected and esteemed history (Wendler, Cline, Kotloff & Mageean 2013:342) and refer to the highest level of achievement and knowledge in a field of study. The research-oriented Doctor of Philosophy (PhD) degree and its equivalent are usually the highest academic degrees conferred (Montalvo-Jave, Mendoza-Barrera, Valderrama-Trevina, Alcantara-medina, Macias-Huerta & Wall Jury 2016:180) and graduates are needed to add to the body of knowledge.

2.2 IMPORTANCE OF DOCTORAL-PREPARED NURSES

There are several key reasons that can be cited to underscore the invaluable roles and functions of doctoral-prepared nurses. First, graduates of PhD nursing programmes are qualified for roles in higher education to conduct nursing-focused research (AACN 2016:106). Engagement in ground-breaking research creates opportunity for them to contribute to the body of nursing knowledge through scholarly inquiry (AACN 2016:28). They thereby contribute to evidence-based practice and consequently to the quality of nursing care (Stevens 2013:1).

Secondly, doctoral-prepared nurses are essential to abate attrition due to the ageing of current PhD holders in the nursing field (Coetzee, Klopper & Kim, 2015: 26; Mulaudzi, Daniels, Direko & Uys 2012:1). Nursing faculties, for the remainder of the study referred to as nurse educators who are in possession of a doctoral or PhD degree, are currently leaving or will soon be leaving the profession due to their age. This is of concern as doctoral-prepared nurse educators who are competent in research are needed to supervise and mentor new doctoral students (Mulaudzi et al 2012:2-3; AACN 2016:30; Walker, Golde, Jones, Conklin-Bueschel & Hutchings 2012:12).

Doctoral-prepared nurse educators are also important role players in assisting the new doctoral students in developing a research identity (Inouye & McAlpine 2017:1-31; Baker & Lattuca 2010:807-810) and mentoring them to acquire research knowledge (Baker 2016:179-192; Martinsuo & Turkulainen 2011:110; Hopwood 2010:840). Quality supervision and mentorship from nurse educators who earned doctoral degrees are therefore needed to assist doctoral students towards successful thesis proposal writing, which forms the blueprint of each research project (Evans & Stevenson 2011:10). The doctoral students also need to develop higher-order thinking skills (HOTS) essential for critical thinking to enable them to be analytical (Roets & Maritz 2017:51-56; Cox 2017:1). Supervisors should guide students in acquiring and utilising these skills so that they become competent in areas such as thesis proposal writing (Duke & Denicolo 2017:34).

There is also a dire need for doctoral-prepared clinical nurse specialists within the nursing practice context to bring expert practical, theoretical and research-based competencies to practice. These clinical specialists provide high-quality and arguably evidence-based nursing care that improves patient outcome (McClelland, McCoy & Burson 2013:96-102). This can contribute to more research being conducted to develop a culture of evidence-based practice (Stevens 2013:13).

2.3 SHORTAGE OF DOCTORAL-PREPARED NURSES

There are insufficient numbers of doctoral-prepared nurse educators to train nurses to meet the current employment demands within the profession worldwide (Fang, Li, Arietti & Trautman 2014:1). The shortage of PhD nurse educators has also affected both undergraduate and doctoral training at universities, especially in sub-Saharan Africa (AACN 2017:23). According to Mulaudzi et al (2012:1), the average nurse educator-student ratio of 1:16 in South Africa means only a limited number of undergraduate and graduate nurses can be trained since there is a shortage of nurse educators. Moreover, the future training of PhD nurses will also be affected if new nurse educators with

doctoral degrees do not enter the nursing education system (Genius Management Solutions 2010:51; Nabolsi, Abu-Moghli & Khalaf 2014:213).

2.3.1 Implications for future doctoral training

In a study conducted in the USA, almost two-thirds of American nursing schools indicated that the shortage of nurse educators resulted in their inability to accept all qualifying applicants into undergraduate and postgraduate nursing programmes. American nursing schools in 2012 turned away 79 659 prospective nursing applicants from baccalaureate to graduate nursing programmes due to insufficient numbers of nurse educators (AACN 2017:34). Turning away prospective nursing students results in fewer doctoral students likely to be future doctoral-prepared nurse educators.

This shortage of doctoral-prepared nurses and nurse educators and the implication thereof is however not restricted to the USA, but also forced colleges and universities around the globe to turn away nursing students who applied for undergraduate nursing and postgraduate studies (Davis 2014:23). In countries such as Thailand, the ministry of public health reduced student nursing enrolment by 40% due to the economic crisis. This reduction in enrolment further reduced the number of student nurses who would proceed to complete doctoral studies, thereby reducing the number of doctoral-prepared nurse educators and nurse practitioners (Sophon 2016:1). Consequently, Thailand, that needs 219 doctoral graduates annually in order to reduce the shortage of nurse educators, only produces 50 doctoral graduates annually (Sawaengdee, Kantamaturapoj, Seneerattanaprayl, Putthasri & Suphanchaimat 2016:1). Moreover, not all the doctoral graduates choose to become nurse educators; some choose to work in the lucrative private health sectors (Hundup, Simonsen, Jorgensen & Obel 2012:1241-7).

The shortage of nurse educators who can teach research methodology and supervise master's and doctoral students (Daw, Mills & Ibarra 2018:1-9; Kenner & Pressler 2012:183-184) affects the recruitment of doctoral nursing students into nursing

programmes, thus further negatively impacting on the shortage of doctoral-prepared nurse educators and nurse clinical experts in practice. The issue is compounded by prospective students being deflected from doctoral nursing programmes, thereby delaying the correction of the shortage of doctoral-prepared nurses and nurse educators globally (Davis 2014:24; Mulaudzi et al 2012:2).

The listless prospect for the future training of doctoral-prepared nurses and educators is also evident in the South African context, where 72% of nurse educators are over 50 years of age. Of these, 70% are due to retire in 9-14 years, yet the age of the doctoral student currently averages 46 years (Coetzee et al 2015: 26). Thus, doctoral-prepared nurses are ageing with a limited number of young doctoral graduates to combat the dire shortage. In 2012 the average nurse educator-student ratio in South Africa was 1:16, with 272 nurse educators who were due to retire in 9 years, thus the ratio could become even worse. The number of registered nurse educators in 2012 were 10 000 (Mulaudzi et al 2012:2), with the total number being 14 709 in 2016 (SANC 2017). This insignificant increase has not improved the ability of universities to increase student intake into nursing programmes (Matlakala & Botha 2016:7-9).

Only 20% of registered doctoral nursing students in South Africa graduate annually, further extending the training of inadequate numbers of qualified doctoral-prepared nurse educators. This low graduation rate also impacts negatively on the already high workload of doctoral-prepared research supervisors who have to simultaneously supervise an average of 9.2 master's students as well as three doctoral students (Coetzee et al 2015:27). With the overstretching of doctoral-prepared research supervisors comes the danger of compromising the thoroughness with which they guide their doctoral students towards becoming independent scholars (McDonald 2017:1-10). Adequate time and effective supervision are needed to guide the development of HOTS in new doctoral students (McEachern & Horton 2016:448; Roets & Maritz 2017:51-56).

Inadequate numbers of doctoral-prepared nurses and nurse educators also have an impact on the healthcare of a community (Watson 2015:8; Watson 2017:1-12).

2.3.2 Implications for healthcare

The shortage of doctoral-prepared nurses has a far-reaching impact on the quality of healthcare worldwide (Mincer 2017:5) as well as in South Africa (Matlakala & Botha 2016:7-9).

According to the USA Bureau of Labor Statistics' Employment Projection 2012-2022 that was released in December 2013, registered nurses were listed among the fastest growing professions. It was projected that the number of registered nurses would grow from 2.71 million in 2012 to 3.4 million in 2022. The projected 19% increase in registered nurses was not equated with the number of nurse graduates who were needed to fill these openings (AACN 2015:36). There is thus still the need to train more nurses to fill the vacancies that exist (Pittman 2013:350).

An assessment of the nursing trends both in the USA and around the world predicts a worldwide nursing shortage (Niehaus, Garcia & Reading 2018:1-10), which has a possibility of impacting on healthcare as well as patient outcomes. According to several researchers, there is a need to increase the number of nurses prepared at a doctoral level who can make a significant impact on the increased complexity in healthcare needs that are further complicated by increased healthcare needs of the ageing 'baby-boomers' (Smeltzer, Sharts-Hopko, Cantrell, Heverly, Wise, Jenkison & Nthenge 2014:268-274; Health Resources and Services Administration (HRSA) 2014; Potempa, Redman & Anderson 2008:329-336). Sherman, Chiang-Hanisko and Koszalinski (2013:899-902) further corroborate that rates of chronic conditions due to an ageing population will increase the demand for health services, thereby increasing the need for doctoral-qualified nurses who are capable of dealing with these complex health issues.

The picture in South Africa is not any better. The country has a nurse shortage of 44 700, but only trains 3 744 nurses annually (SANC 2016:1). This number of graduates is barely adequate to stop the worsening nursing shortage (Wilmort 2016:1), including the shortage of doctoral-prepared nurses (Cox, Willis & Coustasse 2014:7).

Unless creative and effective ways are invented to remedy the shortage of doctoral-prepared nurses and nursing educators around the world, the admission of new students into undergraduate and postgraduate nursing programmes will continue to decelerate (Childers 2016:1). The net effect of this trend is that the shortage of doctoral-prepared nurses who are capable of rendering quality nursing care will further worsen, impacting negatively on the quality of healthcare (Lala, Lala & Dangor 2017:64; Nardi & Gyurko 2013:21).

Moreover, the shortage of doctoral-prepared nurses affects the quality of healthcare in most private and state-run hospitals. The low salaries paid in state hospitals, compared to salaries paid by private healthcare institutions, are failing to motivate the already few doctoral-prepared nurses; as a result, the quality of nursing care is compromised (Watson 2015:1). The lack of career paths for doctoral-prepared nurses in some African countries also force the doctoral-prepared nurse to move out of the clinical practice (Modupe, Oyetunde & Ifeoluwapo 2015:94-104). Similar negative trends have been noted in other countries, such as in the USA (AACN 2016:23).

In some countries, the shortage of doctoral-prepared nurses has been further exacerbated by nurses emigrating to other ‘greener pasture’ countries for better working conditions and better salaries (Schilgen, Nienhaus, Handtke, Schultz & Mosko 2017:1; Chan, Tam, Lung, Wong & Chau 2013:1382-1388). Consequently, it might be of utmost importance to revisit the recruitment criteria and selection process that provide entry into doctoral programmes (Harris 2016:1; Stanley & Dougherty 2010:379-380) to ensure that the candidates will be able to complete their degree, thereby remedying the doctoral nursing shortage.

2.4 RECRUITMENT AND SELECTION OF DOCTORAL STUDENTS

While the criteria for the selection and recruitment of students into PhD or doctoral programmes vary from one university to the next, institutions of higher learning have one thing in common, namely that they only recruit students with prior research

knowledge who will have the best possible chance of successfully completing their studies (Cochran et al 2014:27-48).

In the USA, for example, all nurses who enter a PhD programme in nursing should produce evidence that they can succeed in doing independent research as evidenced by their past master's degree grades with a grade point average (GPA on a 4.0 scale) of 3.5. They further require a Graduate Record Exam (GRE) score that indicates strong verbal reasoning, critical thinking, analytical writing and quantitative reasoning. The student should be proficient in English, and if they are non-native English speakers they need to take and pass a Test of English as a Foreign Language (TOEFL) with an average grade of 84% (AACN 2016:1).

Other requirements for entry into doctoral studies are that the student should have successfully completed courses with a B average or higher grade in statistics, as well as in research methodology which should have been taken less than three years prior to enrolling into the doctoral study programme. Computer literacy, including web researching and word processing skills, are additional requirements for entry into doctoral studies. Furthermore, the student may need a recommendation on their ability to conduct research from qualified individuals, such as the student's previous professors who are capable of judging and assessing the student's ability to carry out independent research (Zou 2017:1156-1160; Kuther 2019:1).

Higher education institutions require a prospective doctoral student to have prior research methodology knowledge as indicated by their possession of at least an honours or master's degree in a health-related field (Griffiths, Blakey & Vardy 2016:1) as an indication that they have prior research knowledge (Odena & Burgess 2017:572-590).

A thorough selection and recruitment of students capable of conducting research, who will succeed and be the future graduates, will enable universities to admit new doctoral students into different types of doctoral nursing programmes (Creech, Cooper, Aplin-

Kalisz, Maynard & Baker 2018:49-52; Watson 2017:1). Diverse recruitment and selection criteria exist for entry into the (1) complete doctoral research degrees, and (2) for the professional (practice) doctoral degree.

2.5 TYPES OF DOCTORAL EDUCATION IN NURSING

The number of doctoral nursing programmes has increased over the years, with 31 countries offering doctoral programmes worldwide. The doctoral programmes vary in curriculum and entry requirements, as mentioned earlier (Smeltzer et al 2014:269). Doctoral degrees in nursing are offered as 1) research only doctorates or 2) professional practice doctorates which have a coursework component. For the purpose of this study, doctoral nursing education will be classified as either a research doctoral degree or a professional practice doctoral degree.

2.5.1 Research doctoral degree

The research doctoral nursing programme prepares nurse researchers to contribute to the body of nursing knowledge through scholarly inquiry and requires evidence that basic theoretical problems relevant to the topic of study are identified and addressed (Polit & Beck 2017:1; Grove, Burns & Gray 2015:1).

The research knowledge in the field of nursing is a key objective of research doctoral degrees. This knowledge is gained by the coverage of coursework (research methodology) that is aimed at mastering the scope of the existing body of knowledge in nursing before embarking on a doctoral thesis (Vekkaila & Kirsi 2016:1) or by prior research knowledge obtained during an honours or a master's degree (Odena & Burgess 2017:573).

The research doctorate (PhD) therefore focuses on preparing nurse scholars and scientists who will guide the development and improvement of health policy, nursing knowledge, nursing theory and practice through scholarly research (Abraham, Gohan &

Pfrimmer 2015:73). As such, a PhD study becomes the means through which the doctoral students gain the ability to combine scientific and critical thinking with ethical research design (Murphy et al 2015:5-6).

Entry into this degree programme requires prior knowledge of research which can be acquired during an honours or master's degree, as stated before (Nehls, Barber & Rice 2016:120). At some institutions, during the initial stage of the doctoral degree, namely the thesis proposal stage (Newman 2016:1; Niehaus et al 2018:111), passing the proposal is a prerequisite for entry. For example, to be selected for entry into some South African universities such as UNISA, the doctoral student should have passed their master's degree with an average of 60% (UNISA 2018:1). In addition, in some universities, the student needs to complete and pass a thesis proposal module within a two-year period before admission into the PhD programme (Niehaus et al 2018:1-20).

Some institutions have additional requirements or allow special entries into the programme, like permission to enter from a university senate or by having published a research paper (University of KwaZulu Natal 2018:1; Nelson Mandela University 2018:1) thereby ensuring that the new doctoral student is capable of conducting research.

Core to the expected outcomes for research doctoral programmes is that the graduates demonstrate evidence in their thesis that they can develop and execute a research plan, have the ability to conceptualise new models for nursing care, practice, nursing education and other relevant topics, as well as collaborate with others (AACN 2016:6). They also need to demonstrate the ability to conduct original research with scientific integrity and must convincingly reveal that they have adhered to all ethical principles (Chitty 2018:1). The research doctoral student should also be able to link research to the theoretical base of nursing science, thereby developing evidence-based research that will contribute to evidence-based nursing practice (Hunker, Gazza & Shellenbarger 2014:1; Nieswiadomy 2012:9; Houser 2012:89).

The thesis, as the final research product of the doctoral candidate, needs to be externally examined and passed to obtain a doctoral degree (Golding, Sharmini & Lazarovitch 2014:563-576). Higher education institutions require an internal examiner as well as two (University of Queensland 2012:1) or three external examiners to form the examination panel (Aitchison 2015:1). In some institutions, a thesis also needs to be defended in front of an examination panel (Van der Heide, Rufas & Supper 2016:473-495) in order to graduate.

Doctoral graduates are qualified for roles in higher education to conduct nursing-focused research and to provide leadership in healthcare delivery systems and the formation of public policy (Edwards, Coddington, Erler & Kirkpatrick 2018:1-11). These graduates also become essential in nursing education to ensure that new master's and doctoral research students can receive quality mentorship and research supervision (Linden, Ohlin & Brodin 2013:639-662; Mulaudzi et al 2012:2). These graduates will be the educators for research methodology as well as the research supervisors for future master's and doctoral students.

2.5.2 Professional practice doctoral degree

The professional practice doctoral degree, also known as the doctor of nursing practice (DNP) degree or doctorate by coursework in the UK (Paplham & Ausgin-Ketch 2015:273-281), is not research focused (AACN 2017:88). It is a practice-focused degree intended to prepare doctoral students to become specialists in advanced nursing practice in order to promote health, test interventions that prevent illness and disability, and improve the safety and quality of healthcare (IOM 2010:1). Furthermore, the professional practice doctoral degree calls for doctoral preparation for the four roles that include Nurse Practitioners, Clinical Nurse Specialists, Nurse Anaesthetists, and Nurse-Midwives, as well as other nurses engaged in advanced speciality practice (AACN 2017:11).

With healthcare needs becoming more complex, it is essential to expand the academic preparation of nurses to doctoral level with a focus on evidence-based practice and leadership in order to improve healthcare outcomes (Udlis & Mancuso 2015:2-10). Several research studies indicated a positive correlation between advanced levels of nursing education and improvement in patient outcome (Abraham et al 2015:70-74). The academic preparation of the professional practice doctoral students is done through coursework.

However, apart from the coursework required in the DNP programme, the doctoral student must demonstrate advanced evidence-based practical knowledge by completing a clinical project. The project can be completed in the form of a practice-based clinical paper or a presentation. In completing the project, just as in a research-focused doctoral thesis, the doctoral student completing a DNP is required to submit a thesis proposal as an indication that they are capable of conducting research (Brown & Crabtree 2013:334).

The goal of the DNP degree is to prepare DNP graduates to conduct diagnostic and treatment modalities and to assimilate knowledge of expert clinical sciences. Graduates from this degree are needed in nursing practice and in clinical settings. They are also needed in leadership and management positions of clinical practice (Shen, Peltzer, Teel & Pierce 2015:10). The nursing disciplines are in need of the DNP graduates because they serve as experts in specific clinical fields and also add to the body of nursing science through applied research. Additionally, they serve as advocates for the profession of nursing in government and in the private sector (NINR 2011:33).

Although the two types of doctoral programmes in nursing have different foci, they have one thing in common. They both require the student to write and conceptualise a quality research proposal for their thesis, whether it is a requirement for the fulfilment of the full research degree or whether it is expected as the partial fulfilment for the requirement for the professional or coursework doctoral degree.

2.6 THE RESEARCH PROPOSAL WRITING

The process of writing a research proposal requires that new doctoral students demonstrate an ability to conduct independent research (Manchishi, Ndlovu & Mwanza 2015:126-138). They therefore need to conduct self-directed research while being assisted by a research supervisor (Mantai 2015:636-650; Evans & Stevenson 2011:27). They also have to possess important research skills such as (1) the ability to conduct a literature search and provide context, (2) identify and write a problem statement, (3) demonstrate scientific writing skills including paraphrasing, and be proficient in the language of instruction, (4) be knowledgeable about research methodology and, (5) have HOTS.

Competence in these skills will enable the new doctoral student to succeed in thesis proposal writing and minimise dropout from studies (Maher, Feldon, Timmerman & Chao 2014:15).

2.6.1 A literature review

A literature review is a logical and comprehensive exploration of all published literature relevant to a specific research topic (Creswell 2014a:64; Macnee & McCabe 2008:255; O'Gorman & MacIntosh 2015:31). The purpose of a literature review is to find information and present an in-depth analysis and logical argument of research findings pertaining to the scope of the proposed research (Machi, Brenda & McEvoy 2012:4). A planned and well-structured literature search will lead the researcher to a variety of resources which include books, journals, and other valuable documents both in and outside the internet (Suhonen 2017:46).

A good literature review not only increase chances of success in a research project such as thesis proposal writing, it also saves the researcher futile experimentation on topics whose prospects are doubtful for lack of supporting information (Nieswiadomy 2012:12; Polit & Beck 2017:27) by focusing only on what is applicable to the chosen

topic (Burns, Susan, Grove & Gray 2015:88; Houser 2012:211). Therefore, conducting a literature search is a skill every researcher must acquire from individuals who have mastered the skill through study or instruction (Suhonen 2017:45; Mulaudzi et al 2012:2-3), thus through mentoring and experience. Knowing how to perform a viable literature search requires critical thinking skills that assist one in selecting relevant information (Burns et al 2015:87). These skills include the ability to conduct an internet search, how to acquire appropriate resources from a library, and how to remain unbiased (Pannucci & Wilkins 2010:620-621). Such skills are critical for writing a successful thesis proposal.

2.6.1.1 Purpose of literature review

Though tedious and time consuming, a literature search and review is an important part of thesis proposal writing which no researcher can afford to avoid (Machi et al 2012:14-15). A literature review will provide information on previous studies on similar topics and gaps in the existing knowledge can be identified to enable a researcher to write a good research problem (Pautasso 2013:44).

There are also several reasons that account for the significance of a literature review in the thesis proposal writing process. It provides evidence of the available cutting-edge ideas in the selected area of research (Galvan 2013:9), thereby assisting the researcher in identifying inconsistencies or gaps in knowledge that contribute to the development of a research proposal based on evidence from research (Polit & Beck 2017:88-90). A researcher conducting a literature search can situate their own proposed research contributions within the wider context of similar research and be part of the privileged scholarly discussions (Schmidt & Brown 2015:1).

A literature review also provides currency and relevance to the problem to be investigated while writing the thesis proposal, and later in the thesis reveals to what extent the study findings are grounded in credible scholarship and theoretical frameworks (Maggio, Sewell & Artino 2016:297).

Furthermore, methods and models from the literature, which other researchers have employed can be identified and either utilised or adapted for the intended research study (Galvan 2013:9-10). Recognising and utilising methods and models that already exist can decrease frustration in research proposal writing, thus accelerating the research process (Polit & Beck 2017:28-29; Odena & Burgess 2017:572).

A literature review allows the researcher to not only develop research instruments but also identify relevant existing ones. The validity and reliability of a research instrument can also be verified through a thorough literature search (Creswell 2014:201). Knowing what instruments other researchers have developed enables the researcher to compare their research findings with those of others (Polit & Beck 2017:32). Closely examining what other researchers have done permits the researcher to appreciate similarities and differences existing in their investigations and provides clarity on nuances that each research topic is likely to present (Suhonen 2017:1).

2.6.1.2 How to conduct a literature search

The planning and the time needed to conduct a literature search and review during the thesis proposal writing phase must not be underestimated (Hacker & Sommers 2011:67). Planning to complete a literature search over several weeks is not only sensible but also realistic (Suhonen 2017:45-46). What is of uttermost importance is that the researcher must formulate the purpose of the literature review because the answer will guide and direct the focus of the literature search (Thakre, Thakre & Thakre 2013:2033-2037) and impact on the quality of the literature review.

Therefore, when deciding to commence with a specific study, the researcher must pinpoint the keywords related to their area of research (Creswell 2014a:64). These keywords are suggestive words that speak to the topic to be researched and are used to generate information from the various databases (Thakre et al 2013:2033). The

identified keywords, as well as the databases to be used, must guide the researcher to appropriate scholarly sources (Baker 2016:16) within a specific timeframe.

In addition to keywords and databases, the dates of publication of sources are also important factors to take into consideration when searching for literature. The researcher should utilise recent literature published within five years from the time writing the thesis proposal is initiated going backwards (Baker 2016:17; Hacker & Sommers 2011:5). This rule applies for most literature searches for doctoral studies, unless the topic is historical in nature, requiring digging into the past. Nevertheless, most literature searches benefit from the cross-pollination of ideas in the most recent publications, even if the topic might carry some historical bearing (Fonseca 2013:5).

Conversely, when to stop searching for more literature can be a concern for most doctoral students. When keywords employed produce similar information in different constructs or terminology – when redundancy occurs – the literature search can safely be concluded for the researcher has likely hit rock bottom (Suhonen 2017:45-46). Furthermore, a comprehensive literature search should not only have exposed the researcher to as many conceptual tools as possible, but also information on sound methodology and tenable theoretical frameworks (Grove et al 2014: 231) to be applied in the intended research study (Pautasso 2013:1).

The literature search must also be balanced. Literature from printed books and e-books, peer-reviewed journals, theses and dissertations, as well as applicable published reports, policy documents and guidelines should be included (Mongan-Rallis 2014:17).

Of importance is that the literature search has to meet doctoral research standards and expectations in terms of its rigour, quality and the interpretation of the reviewed literature. It must not be too broad or too restricted to avoid evidence of the inability to assess the quality and the importance of the literature (Suhonen 2017:45). The quality of the thesis proposal must not be compromised (Grewal, Kataria & Dhawan 2016:636). Thus, prior to concluding the literature search one should run through a checklist

comprising of pointed questions to ensure that nothing important has been overlooked. It is critical that the literature search is relevant and adequate in identifying the information that covers the area of study (Panda 2015:1). If the literature search is not adequate to answer the research problem and cover the research topic, keywords should be reworded until the desired results are achieved (Grewal et al 2016:637).

The final questions a researcher might consider is whether the literature search has surveyed as many perspectives on the topic (Fonseca 2013:6) as possible and whether the literature will enable the researcher to write a good research problem (Creswell 2014:67).

2.6.2 The problem statement

A problem statement is a short description of an area of concern the research needs to address (Vinz 2016:233). It usually outlines the negative points of a problem situation that will be addressed in a research project (Creswell 2014:150). According to Grove et al (2014:230), it must identify the gap in knowledge that needs to be researched in a specific research study or project.

The identification of a problem, thus the writing of a problem statement that addresses the gap in knowledge, is the first step in the research process. The problem statement gives direction and guidance to the intended research project (Creswell 2014:148) and enables the researcher to remain focused by answering very specific and pertinent questions (Grove et al 2014:231).

Students are required to write a problem statement that can generate research problems from sources such as previous research, literature sources, personal experiences – such as problems encountered in nursing practice (Polit & Hungler 2013:132) – as well as from existing theories (Nieswiadomy 2012:55). Through these sources, the gaps in knowledge can be identified, a problem statement formulated and research can be conducted (Polit & Beck 2017:88-90).

Creswell (2014:149) states that a well-formulated and viable problem statement will address the following questions: (1) the what, (2) how, (3) where, (4) when, (5) why and (6) who. The 'what' will be an identification of the issue or the problem to be researched. The 'where' should provide an answer to the area affected by the problem. 'When' should specify the timeline of the problem. 'Why' should address the significance of the problem, and the 'who' addresses the affected population (Nieswiadomy 2012:60).

Other than providing convincing answers to the "w" questions (Nieswiadomy 2012:59), a problem statement should also comply with other research principles. A good problem statement (1) should only address one focused problem, (2) should never suggest a solution, (3) and must include the timeframe over which the current research problem has been occurring (Creswell 2014:157).

Consequently writing a problem statement for a research proposal (thesis proposal) requires scientific writing skills including the ability to paraphrase (Nicholson 2018:10). Likewise, these skills are important for presenting a quality literature review as well as the final thesis report (Grove et al 2014:29).

2.6.3 Scientific writing skills

Scientific communication, also known as academic writing, is a way of conveying accurate information in an explicit and logical manner. Language should be simple and information needs to be organised in a very logical order (Senkevitch, Smith, Marbach-Ad & Song 2011:158-160).

Eisner (2011:1-4) states that good scientific writing must show a logical connection between paragraphs. She suggests that 1) each paragraph should start with an introduction of the central idea of discussion, then 2) substantiate and support the idea or argument with evidence, and then 3) indicate the importance of evidence by explaining the significance of the argument to the study. The paragraph should be

concluded with a sentence or two that introduce the main idea of the next paragraph, thereby providing a smooth transition from the present paragraph into the next.

When transitioning from one paragraph to the next, the writer should further introduce the idea of discussion. Badenhorst (2018:58-74) calls this introduction “a topic sentence” which is usually the writer’s opinion about the idea of discussion. The rest of the paragraph will be dedicated to supporting or substantiating the writer’s opinion. Supporting evidence and an explanation should be presented using rules of effective scientific writing which include the use of simple language while eliminating irrelevant information (Ekola 2016:2). In fact, careful consideration of the language or words that are used, as well as the way in which they are employed, makes for precise and clear information. Therefore, scientific and technical terms should only be used to clarify information and prevent confusion. Moreover, only standard abbreviations that are commonly used should be employed (Tetzner 2015:1). Additionally, basic principles of scientific writing, including correct spelling, punctuation, style and good grammar, are important (Ekola 2016:1-18) as these writing skills are necessary for writing successful thesis proposals.

In addition to the basic principles of scientific writing, there are also technical rules that are necessary for this process. When writing a scientific paper the writer 1) should avoid abbreviating words, except in few circumstances such as temperature, 2) and use the past tense. Since the main focus in research is usually observations that occurred in the past, the tense must be in the past to reflect that reality. Nevertheless, this rule will not apply if reporting on research that is still on-going, and 3) use third person referencing when writing the report (Fisher, Jansen, Johnson & Mikos 2016:1). Using these principles will enable the researcher to paraphrase effectively.

Paraphrasing is a writing skill that allows one to express someone’s ideas in their own words and style (Grove et al 2014:63). This process involves taking information or ideas from a source and presenting it differently while attributing it to the original source and ensuring that the meaning is not altered (Fisher et al 2016:1). Therefore, when the

researcher fails to acknowledge the source of information in their research, it amounts to plagiarism (Eaton 2018:1-12). According to Helgesson and Eriksson (2015:91-101), while plagiarism is a significant problem in research, there are different opinions on the definition of plagiarism and what makes it wrong. The authors suggest that plagiarism is when an individual claims someone's intellectual ideas as their own. This unscientific way of presenting facts, especially when it is done deliberately, involves deceit and dishonesty (Helgesson & Erikson 2015:91-101). In order to avoid plagiarism, the doctoral student should thus be competent in paraphrasing. Paraphrasing also enables the writer to include several points of view and therefore add credibility to the work by providing support for claims or disagreements with information obtained from other sources (Driscoll & Brizee 2013:45).

Therefore, the ability to paraphrase is an indispensable competence that every new doctoral student must possess. When paraphrasing the student must (1) read a paragraph several times until the meaning becomes apparent, (2) rephrase the passage while remaining true to the original meaning, (3) respect the relationship between ideas and the supporting points, (4) use synonyms and change the structure of the sentence, and (5) combine short sentences or break up long sentences (Driscoll & Brizee 2013:46). Consequently, accurately paraphrasing research information is crucial in mastering information and communicating effectively. As a result, it prevents the excessive use of direct quotes and forces the researcher to synthesise information and avoid plagiarising (Ekola 2016:11-20).

Honing and Bedi (2012:101-123) noted that plagiarism practices differed between those English-speaking native researchers and those who did not speak English but were expected to conduct research in English. The non-English-speaking researcher tended to plagiarise more, likely due to them not fully understanding the language. The authors concluded that there was also more plagiarism in cases where there was pressure to excel academically, as is the case with doctoral students while writing the thesis proposal.

Cheema, Mahmood, Mahmood and Shah (2011:666-671), in their study on plagiarism during research, discovered that many research students were not clear about what constitutes plagiarism, the consequences of plagiarism, and the types of plagiarism. Research students thus need to be educated on intellectual property laws as well as correct citation, thereby preventing plagiarism. In fact, Creswell (2014b:84-89) advocates that if a researcher is not competent in academic writing skills such as paraphrasing, they should attend writing workshops.

Other than the skill or competency to paraphrase, any doctoral student who needs to write a research proposal should also possess critical thinking skills (Senkevitch et al 2011:157), which include HOTS (Watson 2017:3).

2.6.4 Higher-order thinking skills (HOTS)

Higher-order thinking skill (HOTS) refers to a way of learning that requires cognitive processing skills such as analysis, synthesis and evaluation (Watson 2017:1; Gazza, Shellenbarger & Hunker 2013:269). The HOTS concept is based on learning taxonomies, and it requires students to analyse facts and not simply memorise information (Cox 2017:1). Academic writing and thinking skills will therefore enable the doctoral student to work effectively towards writing the thesis proposal (Tarvid 2014:588; Schramm-Possinger & Powers 2015:1).

HOTS also encourage students to understand concepts and be creative and innovative (Nehls et al 2016:114), especially in doctoral thesis proposal writing. In fact, the goal of critical thinking is to enable students to apply critical reasoning and make wise judgements in order to develop a quality research proposal (Abdulai & Owusu-Ansah 2014:1). In addition, higher-order thinking is considered a major intellectual skill in the health science education area (Rowles, Morgan, Burns, & Merchant 2013:32), yet many students who come into higher education are deficient in both the function and understanding of the critical thinking concept (Rowles et al 2013:33; Choy & Cheah, 2009:219; Henderson & Hurley 2013:118).

In spite of the deficiency of this important skill in doctoral students (Zohar 2013:233-249), authors have observed an inability, indifference and apathy on the part of educators to teach HOTS (Yen & Halili 2015:42; Roets & Maritz 2017:54). Consequently, several points of view have emerged over the feasibility and possibility of teaching someone to think. Opinions have varied in that thinking cannot be taught since it is an inherent competency shaped by one's culture and therefore it is a difficult skill to change or improve (Smith 2014:349). Others are of the opinion that refinement of the critical thinking skill is dependent on the effort and attitude of the student (Dislen 2013:35-45).

What is worse is that the proper assessment of HOTS is challenging since the evaluation is done by measuring only the ability to master content and reasoning (Zohar 2013:233-249). An accurate assessment of the doctoral student's critical thinking skills may therefore be challenging. In view of this difficulty, Dunne (2015:91) argues that it is important for one to have a sensible knowledge of the subject of discussion – which he called 'criticality' – and not necessarily critical thinking. However, the researcher supports the ideas of authors who suggest that a thorough focus on increasing critical thinking skills, especially before embarking on doctoral research studies, allows the student to better process and apply research information (Snodgrass, 2011:19; Tsai, Chen, Chang & Chang, 2013:2; Hundr et al 2014:1). Authors discovered that students who lacked or were deficient in HOTS have problems with formulating the research questions and research problems; as a result, the rest of the research process was negatively affected (Wetzel & Ewbank 2013:393; White 2013:213). HOTS therefore enable the student to be a highly capable independent thinker with intelligence, creativity and the ability to grasp research knowledge (Papathanassiou, Kleisiaris, Fradelos, Kakou & Kourkouta 2014:283-286). Such a student will succeed in writing their research proposal.

Roets and Maritz (2017:51-56), in their study of novice nurse researchers, found that the deficiency in the development of HOTS may be linked to factors such as the lack of focus on generating evidence in the undergraduate nursing curriculum. In order to

remedy the deficiency of HOTS among research students, other authors suggest a self-evaluation tool that will be utilised by the research student in order to assess their level of critical thinking skills before embarking on research. This will allow supervisors to assist the research student in developing these skills (Chiappetta-Swanson & Watt 2011:1). Furthermore, the research supervisors should also evaluate their research knowledge – including HOTS – in order to be competent in helping the student during research (Roets & Maritz 2017:55), thereby preventing student dropout.

However, some authors caution that the learning and development of HOTS cannot be rushed and time is needed for the student to grasp the research knowledge and skills fully (Mountz, Bonds, Mansfield, Lloyd, Hyndman, Walton-Roberts et al 2015:1236). It is thus suggested that HOTS should be taught earlier (Roets & Maritz 2017:51-56) than at the thesis proposal writing level; perhaps during undergraduate, master's degree or at the start of doctoral research, therefore allowing sufficient time for the student to develop the skills that will enable them to succeed in their thesis proposal.

2.6.5 Language proficiency

An aspect that can hinder the development of HOTS in writing a thesis proposal is a lack of proficiency in the language of instruction (Roets & Maritz 2013:68-79; Roets 2013:139-149). Language proficiency is the ability to speak, listen, read and write a language and it is measured using guidelines by departments of teaching of foreign languages of the prospective countries (Ekola 2016:32-43). Language proficiency is vital in learning and has an impact on student success (Neeta & Klu 2013:256; Krugel & Fourie 2014:220), such as in writing of the thesis proposal.

In fact, a lack of proficiency in the specific language of instruction makes it impossible for the student to understand and communicate research information. Without proficiency in the language of instruction, the research student is unable to access resources and correctly interpret research information (Itau, Coffey, Merriweather,

Norton & Foxcroft 2014:326), resulting in the student's inability to successfully complete a research proposal (Ekola 2016:25).

In addition, knowledge of the language of academic instruction when embarking on doctoral studies is an important indicator of student success (Krugel & Fourie 2014:219). Students who were proficient in the language of instruction performed better in their studies than those who were not proficient (Neeta & Klu 2013:258; Fakeye 2014:22), thus indicating that language proficiency is important for student success.

Knowledge and understanding take place in the context of a language, and doctoral students need to be language proficient in order to understand as well as express their grasp of the research subject matter (Roets & Maritz 2017:51-56). Language skills facilitate effective interpretation of study resource materials, expand the vocabulary that deals with the subject matter, such as in research (Itau et al 2014: 305-326), and promote easy and accurate responses to ideas (Kola, Ogundele & Olanipekun 2013:355-358). Competences in language skills also help a student avoid plagiarism as they are capable of writing scientifically by effectively paraphrasing information while writing the thesis proposal (Eisner 2011:1). Students who are proficient in the language of instruction are also able to accurately express their research needs to the supervisor and interact with fellow students in ways that are mutually beneficial for successful research completion (Kola et al 2013:355-358).

Competency in scientific writing skills will enable the researcher to identify, select, analyse and process the information needed to understand the research problem during the research methodology (Vinz 2016:1).

2.6.6 Research methodology

The introduction to the methodology part of the research should consist of the research problem that needs to be answered and the challenges one might face in finding the answers (Creswell 2014:262). The methodology must also include a detailed description

of data collection, methods and tools, as well as the justification for using them (Creswell 2014:264; Polit & Beck 2017:16-22). Moreover, the population and sampling, and the process of analysing the data and how it will be interpreted and presented must also be explained (Creswell 2014:262-263; Macnee & McCabe 2008:196-198).

The research methodology should indicate whether the research design is qualitative, quantitative or mixed (Nieswiadomy 2012:79; Tashakkori & Teddlie 2010:22). A careful selection of the research design is important because an appropriate design will enable the researcher to address the research problem as well as achieve the stated objectives of the research study (Creswell 2014:262-263).

The research population from where the sample was drawn should be described while discussing the strategy used for sampling. Depending on the type of research design, it may also be important to describe the site where the research was conducted (Nieswiadomy 2012:79). The reasons for selecting the subjects and sample population should be provided, and literature should be used to justify the sampling method.

The next section of the research methodology is an outline of the research design. This section is a step-by-step listing of how the data are collected and analysed. In this section, the description of the research design is often demonstrated through diagrams or flowcharts to illustrate the different steps that were followed (Creswell 2014:45). The section does not give a detailed account of the data collection and analysis, as the actual detail of the methods used is narrated in the data collection and analysis sections (Rajasekar, Philominathanet & Chinnathambi 2013:1), which are preceded by a literature review that informs the study.

Thereafter, a step-by-step explanation of all the methods used to collect the data and how each method was carried out should be clearly explained. The explanation should also include pre-testing and pilot studies that may have been conducted. The strengths and weaknesses of each method of data collection method should be discussed in reference to the literature review (Polit & Beck 2017:90). It is also necessary that the

researcher utilises data-gathering techniques that will yield the best results during data analysis and synthesis.

The analysis and interpretation of the research findings should be preceded by a meticulous organisation, management and analyses of the gathered data. The analyses and interpretation of the research findings should be supported by a literature review, and if not, the researcher should explain the anomaly. During data collection and in the subsequent analysis of data, it is important that the researcher abides by the ethical issues that should be considered in a research study. It is also important that the reader understand that the researcher took the ethical issues that could arise in the study into consideration. The ethical issues in the study, as well as the necessary steps taken to address them, should therefore be described. By properly addressing the ethical issues of a study, the researcher can enhance the trustworthiness and integrity of the study.

Therefore, a discussion of what criteria were used to evaluate the trustworthiness of the research and the strategies used to enhance it will indicate to the reader that the researcher understands the consequences of not enhancing the trustworthiness of a study. However, even a carefully planned research study has limitations that should be acknowledged. Potential limitations, including the general problems that are characteristic of the research method used, should be discussed. More importantly, the discussion should include the limitations that are specific to the study and how they were addressed (Lewallen & Kohlenburg 2011: 23).

Finally, the research methodology chapter should conclude with a brief summary and highlights of the important elements that were presented in the chapter.

2.7 THE RESEARCH SUPERVISOR

Doctoral supervision has been associated with the doctoral degree completion and attrition rates, and the role of the supervisor as well as the quality of supervisor/student relationship have been identified as some of the most critical factors that determine

degree completion (Begin & Gerard 2013:1). Although a variety of dynamics play a role in successful research writing by doctoral students, the appropriateness and quality of research supervision are crucial in the success thereof (Bitchener, Basturkmen, East & Meyer 2011:6-10).

While research supervision has been discussed from several angles, with handbooks and guides written as prescribed recommendations and references for best supervision practices (Aitchinson, Kamler & Lee 2010:1), none are specific as to the actual role of the supervisor in doctoral training or in writing the thesis proposal. In fact, evidence suggests that most research supervisors base their practice on their own experience as research students (Switzer & Perdue 2011:12). There are thus suggestions to the need to better understand the actual tasks that the supervisors engage in in order to create professional development programmes for supervisors that will enable them to better assist students in their research (Bitchener et al 2011:4).

Research supervisors need to be competent as well as knowledgeable in research in order to guide and educate their research students (Moskvicheva, Bordovskaia & Darinskaya 2015:576). According to Roets, Botha and van Vuuren (2017:5) research supervisors are not adequately trained to supervise and also lack research supervision experience. As a result, there is a need to train research supervisors so that they acquire expertise and skills to be competent supervisors (Severinsson 2012: 215-223).

As supervisors attempt to improve not only their own supervisory skills but the competence of the research student, one challenge they face is the diversity of the graduates enrolling in doctoral studies. Graduates from diverse educational backgrounds, cultures and languages pose a challenge for the supervisor (Van Rensburg, Mayers & Roets 2014:3). The supervisor may also need to be trained in cultural sensitivity (Roets 2016:7161-7170), which will enable them to understand different behaviours and perspectives of students from different countries and cultures (Wang & Li 2011:109). When the supervisor is knowledgeable of the different students' cultures, they will be able to gain insight into the different worldviews of the students,

thereby minimising misunderstandings (Roets et al. 2017:6). Training is therefore important in preparing the supervisor in their role of guiding research students (Severinsson 2012:215-223).

As indicated before, there are no harmonised research supervision programmes to prepare supervisors worldwide (Borders, Wester, Granello, Chang, Hays, Pepperell & Spurgeon 2012:163). In South Africa, some universities require research supervisors to train in research supervision while others make the training voluntary (Roets et al 2017:5). Consequently, it is the research supervisor's responsibility to evaluate their need for improving their research knowledge and supervisory skills in order take necessary steps to improve the areas in which they need to develop (Hales 2011:557). A competent supervisor will assist the student in developing into an independent researcher.

Wisker (2012:59) is of the opinion that the student has the right to expect the supervisor to invest time and resources in assisting them to complete their research. The author is quick to point out, however, that the supervisor's responsibilities towards the student are complicated by the fact that the supervisor has other institutional roles such as administrative and personal responsibilities which they have to balance with assisting the student. Given the vast responsibility and time needed to assist students with research, some authors caution that the supervisor needs to determine if they are prepared to supervise a student before accepting the responsibility (Chiappetta-Swanson & Watt 2011:10). The supervisor thus needs to develop time management skills and alternatively can conduct joint research supervision in order to have enough time for supervision (Kiley 2011:588), for providing timely feedback, and attending appointments with students (Roets et al 2017:6). These supervisory activities are important in support of the doctoral student in research.

Others argue that navigation into research studies should be a joint responsibility of the student and the supervisor (Peelo 2010:48). It is therefore important that the supervisor and the student negotiate what is expected of the student while the supervisor spells out

their role right from the start of the research process (Lee 2012:40). Defining parameters and responsibilities early will foster an environment that motivates the student to freely interact with the supervisor when they need support with their research (Lee 2012:41).

In several studies, interacting with supervisors not only provided the doctoral student with the support they needed, but also became an avenue for acquiring research knowledge (Martinsuo & Turkulainen 2011:110; Hopwood 2010:840; Baker & Lattuca 2010:810). However, in order for the supervisor to impart sound research knowledge, they need to be competent in research themselves (Akerlind & McAlpine 2017:1688). Supervisors who possess sound research knowledge and skills are able to successfully guide students in their doctoral research (Ago & Odimegwu 2014:5). In a study to uncover nurse educators' inadequacies, Siler and Keller (2001:397-403) discovered that nurse educators who increased their own research skills became more competent when teaching or supervising students (Neeta & Klu 2013: 255-257; Mulaudzi et al 2012:2).

Every supervisor therefore needs to update their skills and research knowledge through training aimed at ensuring that they remain competent to guide students through writing the thesis proposal (Akerlind & McAlpine 2017:1688). They should remain experts in their academic disciplines (Evans & Stevenson 2011:26), thereby playing a role in preventing student dropout.

Since many doctoral students start their doctoral studies with insufficient research knowledge, they will need support in order to succeed. Besides being certified to handle the subject area of their expertise, supervisors should also have a willing nature towards helping students succeed in their research (Evans & Stevenson 2011:27). This means the supervisor must show a keen interest in working with the student, and guide the student as they strive towards the goal of successfully completing their research (Franke & Arvidsson 2011:133). The supervisor must find ways to assure the student of the required support essential to navigating through the research process and becoming competent in research (Begin & Gerard 2013:267-268).

Supervisors must assist the student in working through a lot of informational sources and resources for writing the thesis proposal (McBride, Tietze & Fenton 2013:1) ensuring that their students are aware of how to access literature sources for research (Suhonen 2017:45-46; Calma 2011:6), and that the students are capable of doing the actual research (Hjelm 2015:172-174). As noted by White (2013:220), most doctoral students were incompetent in identifying pertinent literature for formulating research questions, resulting in poor design and methodology phases of their research. For this reason, supervisors must be prepared to work a little more in guiding the student in acquiring research knowledge and the identification of literature that will assist them in formulating research questions (Essa 2011:73), thereby assisting them in successfully completing their thesis proposal.

Early in the supervision process, the supervisor needs to identify the areas where the student is deficient in research knowledge to assist in correcting the research incompetence by referring the student to appropriate support programmes (Roets et al 2017:7). Students who lack research knowledge not only lack confidence but are anxious, and this anxiety results in late completion of their research studies (Roets & Maritz 2013:139-142). The student should thus be assisted in acquiring research knowledge in order to reduce their anxiety and increase their confidence in research (Essa 2011:73).

By guiding the student through adequate constructive feedback (Kiani & Jumani 2010:416) and by providing suggestions for improvement, the supervisor will encourage the student to take responsibility for becoming an independent researcher (Van Rensburg et al 2014:3). The feedback will create an educational relationship and reduce student anxiety (Kenner & Pressler 2014:105).

Quality supervision is not only measured by the competency of the supervisor and students' determination but also by the quality of supervisor-student relationships (Van Rensburg et al 2014:3) The student-supervisor relationship is crucial and requires supervisors' emotional intelligence to encourage and care for students (Ago &

Odimegwu 2014:6). Severinsson (2012:215-223) further claim that supervisors should act as mentors and support their students to develop research skills and become a competent researcher.

2.8 THE RESEARCH STUDENT

The new doctoral student should show evidence of their ability to write a thesis proposal and understand the relevant research techniques. Doctoral students should possess important research skills that will enable them to create and interpret new research knowledge, thus making a significant and original contribution to the body of nursing knowledge (Nieswiadomy 2012:120). However, authors noted that most students lacked sufficient research knowledge and have difficulty picking appropriate research topics (Wetzel & Ewbank 2013:399), formulating research questions (White 2013:120), and they are deficient in academic writing and conceptual skills (Roets & Maritz 2013:68-70); all factors that are important in successfully writing a thesis proposal.

Institutions of higher learning thus need to evaluate the research preparedness of doctoral students during the recruitment and selection process (Creech et al 2018:49-52). Studies have indicated that most students start their doctoral studies without knowledge of the magnitude of doctoral research (Chiappetta-Swanson & Watt 2011:7). The doctoral student also has the responsibility to familiarise themselves with institutional policies (Roets et al 2017:1).

Most doctoral students do not understand what is required of them during research (Lindsay 2015:184) and that the PhD process has complex intellectual and emotional challenges (Deconinck 2015:366). Supervisors expect doctoral students who completed a master's degree to have the ability and skills to embark on doctoral studies, yet some seem to have inadequate skills and lack the ability to work independently (Jackson 2016:1313). Generally, supervisors do not wish to start from nothing but want to build on research skills that students already possess (Lee 2009:2).

Another problem among doctoral students is the lack of HOTS. In order to succeed in research, the doctoral student should possess or develop critical thinking skills, problem-solving skills and be able to conceptualise (Yen & Halili 2015:41). The student who does not possess HOTS can benefit from discussions with other students conducting similar research methods (Pyrko, Dorflwe & Eden 2017:389). According to Roets et al (2017:7), the supervisor may assist the doctoral student in linking with support systems such as academic writing centres, thereby reducing the difficulty experienced due to lack of academic skills.

The difficulty experienced in writing a thesis proposal is normal and part of expected academic rigour, and students should seek guidance from their supervisor (Ra & Trusty 2015:319). However, avoiding hard work by excessive dependence on the supervisor undermines expected growth that the doctoral student must derive from the rigorous research process (Amran & Ibrahim 2012:532). Van Rensburg et al (2014:6) noted that students should be prepared to exert themselves in order to develop research skills and succeed in research. Since the thesis is considered the most important means by which a doctoral student's educational development is measured (Severinsson 2012:218), the student must aim to become an independent researcher. The new doctoral student must therefore resolve research, philosophical, and methodological ambiguity early in the process in order to determine what direction their thesis proposal writing must take (Pauler & Jucks 2017:170).

Since many students have family and financial responsibilities that force them to work while studying, some succumb to stress that leads them to discontinue their studies (Beckett, Nettiksimmons, Howell & Villabanca 2015:477). In fact, 50% of students who dropped out from graduate studies cited workload as a major factor in their decision since they did not have enough time for their studies (Dyrbye, Shanafelt, Sinksy, Cipriano, Bhatt, Ommaya, West & Meyers 2017:215; Deconinck 2015:367). Consequently, doctoral students should be deliberate in creating time for research. Failure to invest adequate time in research was found to be a significant factor in

compelling students to discontinue their studies among both graduate and undergraduate students (Brown & Watson 2010:402).

It is not unheard of for students to expect their supervisors to go beyond the academic sphere into their personal issues (Franke & Arvidsson 2011:123). The supervisor should also make the student aware of any available support, such as financial and research training opportunities, thereby providing support that fosters a quality supervisor-student relationship (de Gruchy & Holness 2007:1). The student should take advantage of training opportunities in order to develop their research knowledge (Murakami-Ramalho, Militello & Pierty 2013:266).

While the two areas might arguably stand unrelated, a supervisor who can render advice or any kind of help to the student outside the academic expectations improves rapport between them. This augurs well for the development of the student researcher into a successful doctoral candidate (Hjelm 2015:176; Carr, Lhussier & Chandler 2010:11) capable of make significant contributions to the body of knowledge through ground-breaking research (Niehaus et al 2018:1-20). Throughout the research process, the doctoral student thus ought to consult the supervisor to profit from their expertise in research to avoid costly pitfalls (Martinsuo & Turkulainen 2011:112), such as discontinuing their research studies.

Unfortunately, there are differences between students' and supervisors' expectations that pose challenges as evidenced in a study in which role players brought this reality to view (Roets & Botma 2012:111-117). It is clear that not all students who embark on doctoral studies fall short of the supervisors' expectations in as far as their competency to conduct independent research is concerned (Azure 2016:165). Yet other students do not have what it takes to plan and establish clear objectives for their research. Such students mistakenly assume that the supervisor is supposed to do much of the work. This, unfortunately, deprives the student the sense of ownership of the thesis (Lovitts 2008:302).

McEachern and Horton (2016:456) caution that the supervisor should not write the research for the student but rather facilitate the development of quality academic writing skills. Students, however, still require direction and support from their supervisor (Mulaudzi et al 2012:3); by identifying the areas of knowledge deficit in the student and giving carefully planned constructive feedback, the supervisor will facilitate the development of research competence (Van Rensburg et al 2014:7).

One of the challenges experienced by students is a lack of adequate preparation. Many graduate students start writing research papers, research proposals and even their thesis underprepared, without acceptable writing skills (Maher et al 2014:1; Aitchison et al 2010:1-2) and poor language proficiency (Krugel & Fourie 2014:210). Without language proficiency the student cannot be competent in research (Roets 2013:141). Language incompetence therefore needs to be corrected in order for the student to successfully complete their research.

While academic writing encompasses a wide spectrum of skills, an absence of some of the most basic aspects of writing skills is disconcerting. While writing the thesis proposal, the expectation is that a doctoral student has already mastered much of the elementary mechanics of writing. Progress is grossly arrested when the student is embroiled in poor grammar, misplacement or absence of appropriate punctuation, and pitiable selection of suitable words (Nabolsi et a. 2014:210). Scientific writing is an important skill that is necessary for the doctoral student to logically present well synthesised and analysed research information (Kaliyadan, Thalamkandathil, Parupalli, Amin, Balaha & Al Bu Ali 2015:143).

Another common problem in research proposal writing is a lack of focus. This is most evident in poor sentence and paragraph construction. Unrelated ideas are often lumped together, leaving the reader unable to follow the writer's direction of thought. Topic sentences are not well substantiated by relevant, well-thought-out sentences. As a result, arguments are unpersuasive and expose leaps in logic (Bednall 2018:1; Alter & Adkins 2006:54-58). Critical thinking, HOTS, coupled with language proficiency will

therefore greatly enhance the doctoral student's academic performance (Roets & Maritz 2017:55; Neeta & Klu 2013:260-261).

Additionally, research proposal writing is marred by an absence of clear and proven research methods. While guesswork may have its place in other circles, it certainly is risky and time consuming in thesis proposal writing (Nieswiadomy 2012:120; Grove et al 2014:122). The student needs some basic research knowledge before being involved in conducting the thesis proposal phase (Fromkin 2015:1), otherwise they abandon their studies.

Moreover, anxiety in research is yet another issue some students experience (Roets & Maritz 2013:70). Not knowing the correct format the thesis proposal must take and being unsure of the expectations of the supervisor can be unnerving (Itau et al 2014:312). At times it might be sheer fear of the mammoth task of embarking on a thesis. Yet anxiety might be reduced by breaking the task of research proposal writing into smaller manageable units. Instead of trying to focus on the research proposal in its entirety, aiming at doing well one step at a time is less intimidating (Badenhorst, Moloney, Rosales, Dyer & Ru 2015:58).

An acknowledgement of the wide-ranging problems associated with thesis proposal writing as well as the entire doctoral study process, calls for more help to the doctoral student on many levels. On the first level, the new doctoral student must be supported with academic writing courses to ensure all aspects pertinent and foundational to thesis proposal writing are thoroughly dealt with (Babcock & Thonus 2018:1). Beyond academic writing courses, writing centres that bring together students aspiring to engage in, or already involved in, thesis proposal writing must be established. The initiative to form these centres might come from students themselves who can identify tutors specialised in academic writing to teach them. The tutors do not take the place of the supervisors; instead, they serve to prime the new doctoral students for various research options their field of study might require (Bastalich 2017:1145), thereby assisting the student in successfully completing their research.

2.9 CONCLUSION

This chapter described the literature review conducted on doctoral education in nursing. The review covered the importance of doctoral-prepared nurses, a shortage of doctoral-prepared nurses, and the implication of the shortage for nursing education and healthcare. The chapter also described types of nursing doctoral degrees as well as the research proposal writing process. The roles of both the research supervisor and student were also discussed. Chapter 3 presents the research methodology, data analysis and literature control of Phase 1, namely the qualitative phase of the study.

CHAPTER 3
PHASE 1: RESEARCH METHODOLOGY, DATA ANALYSIS AND LITERATURE CONTROL (QUALITATIVE)

3.1 INTRODUCTION

An exploratory mixed-method study design was utilised. This study was conducted in four phases with two phases devoted to data gathering as illustrated in Table 1.1. This chapter will describe the overall research design utilised in this study, but it will focus on a full description of Phase 1 of the study (see Table 3:1).

Table 3.1: Phase 1

Design	Objectives	Technique	Sample	Purpose	Data analysis and interpretation
Qualitative	1. Describe the challenges AND 2. Strengths that masters prepared doctoral nursing students experienced during thesis proposal writing	Two open-ended questions via Survey Monkey™	All-inclusive sample from the population	To gather qualitative data that will be supported or contradicted by a literature control in order to develop a questionnaire for phase 2	Qualitative thematic analysis and literature control

3.2 RESEARCH DESIGN

An exploratory mixed-method approach was utilised in this research by combining the qualitative and quantitative designs to describe the experiences of doctoral nursing

students while writing their thesis proposal. A strategic intervention and action plan was then developed to assist the doctoral students during thesis proposal writing.

Mixed-method research is defined as a systematic gathering of data by using both qualitative and quantitative data-gathering techniques. Analyses are performed of the combination of both qualitative and quantitative data in one study (Jirowong, Johnson & Welch 2014:360; Polit & Beck 2017:88-90). It also allows a combination of narrative and numeric data in research analysis (Morse & Niehaus 2016:1).

Since qualitative and quantitative approaches by themselves are sometimes inadequate to provide an accurate perspective of the issues being researched (Eyisi 2016:1; Morgan 2014:1), a combination of the two approaches complement each other and allow for a better analysis as they draw from each other's strength. Mixing approaches also enhance the validity of a study by providing numerous perspectives and methods of examining a phenomenon (Halcomb & Hickman 2015:41-47).

The researcher used an exploratory mixed-method approach to examine the challenges of doctoral students as they were writing their thesis proposal. The mixed-method approach provided a better perspective of the strengths and weaknesses of the doctoral students during the thesis proposal writing phase.

3.2.1 Qualitative versus quantitative method

Several researchers claim that there has been an oversimplification of differences between qualitative and quantitative approaches, and that the two methods overlap and have no distinct boundaries (Cleland, Durning & Driessen 2018:3). Although qualitative and quantitative research methods may seem opposite of each other, they are both inductive, use some numbers, and allow for analyses to be conducted in more than one way.

Therefore, the two should be viewed as a continuation of the other since they complement each other (Creswell 2014a:1; Cleland 2015:1-6). There are also some noted differences between qualitative and quantitative approaches (Eyisi 2016:1; Creswell 2014b:234) as presented in Table 3.2.

Table 3.2: Qualitative technique vs Quantitative technique

Qualitative research is a process of analysis that improves understanding of human and social sciences to discover the way people reason and feel.	Quantitative research is a scientific and empirical research technique used to generate numerical data.
Qualitative research is investigative and exploratory.	Quantitative research is decisive and conclusive.
Qualitative analysis focuses on variety of answers and viewpoints from several sources of information that may be different but true.	Quantitative analysis essentially is used to find one consistent truth throughout the research investigation.
Qualitative research critics argue that qualitative approach lacks reliability, validity, generalisability and is subjective and biased.	Quantitative research is limited in exploring behaviours, experiences and meaning and makes it difficult to tell the context of the gathered data.
Qualitative data collects verbal data.	Quantitative research gathers measurable data.
Qualitative research utilises a small sample size to get a comprehensive understanding of the target concept in what is known as purposive sampling.	Quantitative research relies on a larger random sample to draw conclusions and generalise the results to the whole population.

Mixing qualitative and quantitative approaches is therefore advantageous to a study as it combines the advantages of two methods (Jirowong et al 2014:360) thus overcoming the weaknesses of each as they draw strength from each other (Shorten & Smith 2017:74-75).

The researcher used a qualitative data-gathering technique to first explore the phenomenon by means of two open-ended questions to describe “the experiences of

doctoral nursing students during thesis proposal writing". The phenomenon was then quantitatively measured by means of an online questionnaire (De Vos, Strydom, Fouche & Delport 2011:441; Creswell 2014:215). The questionnaire included closed-ended questions as well as open-ended questions for qualitative enhancement in order to develop a strategic intervention and action plan to assist doctoral nursing students in progressing and completing their thesis proposals. Each of the study's four phases is discussed next.

3.3 PHASE 1: QUALITATIVE DESIGN

Polit and Beck (2017:1) define 'qualitative research' as the in-depth and holistic investigation of phenomena through the gathering of rich descriptive material using a flexible research design. It is also a systematic, subjective methodology used to describe the significance of life experiences (Creswell 2014:225; Burns et al 2015:1-10) such as thesis proposal writing. Moreover, qualitative research studies can provide data on highly intricate phenomena that are impossible to explain and clarify with quantitative research. It can generate ideas for later quantitative research (Cleland et al 2018:473-475), as was the case in this study.

Furthermore, qualitative research is used to gain a more comprehensive understanding of human attitudes, behaviour, experience, aspirations and intentions (Sobrido Prieto & Rumbo-Prieto 2018:387-393). This takes place on the basis of surveillance and analysis to discover and describe the way people feel and reason (Beck & Harrison 2016:224-234). In qualitative research, the researcher gives weight to the opinions and experiences of the participants.

During Phase 1 of this exploratory mixed-methods design, qualitative data were gathered and analysed. The findings were used for the development of the quantitative data collection instrument, namely the questionnaire to be used for data gathering in Phase 2 (see Annexure G). The purpose of this first phase was to explore and understand the challenges and strengths that doctoral nursing students experienced

and what they believed they needed as they manoeuvred and successfully moved through the challenges when writing a thesis proposal.

3.4 POPULATION

The population is defined as the specific type of individual or group (Creswell 2014b:184; Binu, Mayya & Dhar 2014:119-123) from whom data can be obtained in order to answer specific research questions. The population of universities were the 22 South African universities and universities of technology which offer graduate nursing programmes. The target population of students was the registered doctoral nursing students who were in the process of writing their thesis proposal at the 22 South African universities and universities of technology.

3.5 SAMPLING

Sampling is defined as the method of choosing a group of people, procedures, performances or other elements that characterise the population being studied (Das, Mitra & Mandal 2016:652-656; Polit & Beck 2017:1).

3.5.1 Sampling of universities

All-inclusive sampling was done as all 22 South African universities and universities of technology that offered postgraduate nursing programmes were asked to participate in the research. Since the sample size needs to be large enough to detect links among variables (Burns et al 2015:31) and focus on those involved in the phenomena (Polit & Beck 2017:343), all 22 universities and universities of technology that offered doctoral nursing programmes were included and considered a large enough sample size.

The South African universities and universities of technology were asked to volunteer to participate. Five follow-up e-mails to request participation were sent to the deans of nursing programmes in each of the 22 universities. The researcher received ‘out of

office' messages from e-mails sent to five of the universities. Seven of the universities responded that they did not offer master's or doctoral programmes in nursing. Two universities responded that they did not allow research to be conducted on their students by a student from another university. The eight universities that granted permission to conduct the study therefore formed the accessible population.

3.5.2 Sampling of students

All-inclusive sampling of students was done. The researcher received 193 student e-mail addresses from the eight universities who agreed to participate; these were used to share the recruitment letter via e-mail (see Annexure C) with the students. Only 25 completed questionnaires (12.9% response rate) were received via Survey Monkey™ during the first round. Reminders were sent to all 193 e-mail addresses after two weeks, and again after four weeks. At that time, another 23 individuals responded to the invitation to participate. A total number of 48 completed questionnaires were received, thus establishing a response rate of 24.8%. The researcher had aspired for a 50% response rate, but the relatively low response rate might be due to the fact that students might not have the same e-mail addresses as during their registration period and therefore did not receive the invitation.

However, the 24.8% response rate for an e-mail survey can be seen as satisfactory as the norm is between 10 – 15% (Fosnacht, Sarraf, Howe & Peck 2017:245-265; Blumenberg, Menezes, Golcalves, Assuncao, Wehrmeister, Borros & Borros 2019:625).

3.6 RESEARCH TECHNIQUE

A questionnaire via Survey Monkey™ was used to gather the data. The advantage of the Survey Monkey™ method of data collection is that it is very discreet. The seven reasons for using an electronic survey, as mentioned by Magro, Prybutok and Ryan (2015:2145) are: a) An online survey is cheaper than traditional mail. b) It eliminates the time consuming traditional mailing process; c) It is transmitted quicker; d) It takes less

time to answer; e) Encourages honest responses due to participation through anonymity; f) Can be analysed quickly due to embedded software, and g) Analyses are more accurate as the software is capable of performing more accurate analyses than human beings (Ravert, Gomez-Scott & Donnellan 2015:308-310). These advantages were the motivation for using the online questionnaire as a method of data gathering.

A questionnaire containing only two open-ended questions was distributed via Survey Monkey™ to the 193 students. The two questions were;

a) Please describe all your positive and negative ***academic*** experiences during the thesis proposal writing stages of your PhD studies.
b) Please describe all your positive and negative ***personal*** experiences during the thesis proposal writing stages of your PhD studies.

The open-ended questions allowed the participants to answer in their own words how they personally experienced the challenges pertaining to thesis proposal writing. The two questions encouraged all volunteers to respond as they could respond and write what their own real challenges and opportunities were. Open-ended questions are helpful in exploring things for which the researcher does not yet have a hypothesis or theory, and may help provide more depth by exploring the 'why' in greater detail (Goertzen 2017:159-161).

Open-ended questions can assist researchers in identifying possible response options for further quantitative research (Singer & Couper 2017:115-134) as was the case in this study, where the answers were used to contribute to the development of a questionnaire. While an analysis of open-ended questions may require more time and more complex coding, the researcher believed that the information received contributed to the quality and content validity of the quantitative questionnaire developed for utilisation in Phase 2 (see Annexure G).

The researcher is of the opinion that the electronic survey might have had one disadvantage, namely the lower than expected participant response rate, due to the fact that some students might have had problems accessing the internet, and e-mail addresses might have changed. During the researcher's recent visits to South Africa, Namibia and Zimbabwe, she had problems accessing the internet and had to use internet cafes which were rather costly and had long queues. The problem with internet access was also raised by some respondents who stated:

> *"I would be surprised if you get any substantial number of responses. The fact that you redirect students to a web site may be too much for students who don't have internet access. It would have been better if you had attached or even copied the questionnaire to the email."*

> *"I work in a country where I'm lucky if I get any internet access. Most times I rely on cafes with such long waiting lines and the cost is not worth it at times."*

Sending the questionnaire via e-mail, however, would have made no difference as internet access would still be needed to receive the e-mail. Sending it back to the researcher via e-mail could also jeopardise privacy and confidentiality as the advantage of only receiving raw data would have been lost.

3.7 DATA GATHERING

Data collection started on July 18th, 2013. The Survey Monkey™ questionnaire was designed in such a way that if a prospective participant did not want to participate, he/she could choose not to click on the link after reading the information letter (see Annexure C). This action automatically ensured that the questionnaire did not appear on the screen. If they clicked on the link, it allowed them access to the questionnaire. In the process of answering the questionnaire, the participants could skip any of the two questions if they were not comfortable to answer. However, the questions were non-

threatening and were answered by all participants who volunteered to take part in the study.

E-mails containing the recruitment letter (see Annexure C) were sent to all 193 participants whose e-mail addresses had been provided by the eight participating universities. The researcher sent recruitment letters that instructed students on how to participate in the Survey Monkey™ study (See Annexure C). Raw data obtained from 48 completed questionnaires were received via the software programme Survey Monkey™.

3.8 TRUSTWORTHINESS

According to Nowell et al (2017:1-13), trustworthiness in qualitative research is rigour without sacrificing relevance. The following aspects are important in establishing trustworthiness in research; credibility, dependability, confirmability, and transferability (Polit & Beck 2017:138, Lincoln & Guba 1986:112) and were utilised in this study.

3.8.1 Credibility

Credibility refers to assurance in the accuracy of a research report and how well the data analysis addresses the intended focus of the study (Polit & Beck 2017:89; Korstjens & Moser 2017:274-279). One of the activities that increase the credibility of a research study is triangulation (Horton, Peterson, Banerjee & Peterson 2016:23-24; Creswell 2014:201; Lincoln & Guba 1986:73-84). In this study, credibility was enhanced by the researcher utilising an exploratory mixed-method study design. The qualitative findings of the first phase were designed to inform the development of the questionnaire for data gathering in Phase 2. In addition, a co-coder assisted with the coding of the data to enhance the credibility of the data analysis process.

3.8.2 Dependability

Dependability is the consistency of data over circumstances and over time (Polit & Beck 2017:90). In order to achieve dependability, collected data should be examined by two researchers and the results should be compared to confirm correctness (Forero, Nahidi, De Costa, Mohsin, Fitzgerald, Gibson, et al 2018:120) and ensure a well-documented and logical research process (Lincoln & Guba 1986:74-77).

The researcher received raw data that did not reveal the identity of any participant for analyses. The researcher then coded the data using Tesch's eight steps of data analysis and made use of a co-coder with experience in data analysis. The co-coder is a university professor with experience in qualitative data analysis and open coding. The research supervisor also acted as a third party to ensure the dependability of the data. The data were kept on a password-protected computer, thus allowing for an independent audit of the data. All aspects of the research, the context and the processes that were followed were fully described in a step-by-step manner to ensure that a complete data trail exists.

3.8.3 Confirmability

Confirmability is when there is an objective potential to compare similarities about data's relevance, accuracy and its interpretation among two or more independent people (Polit & Beck 2017:139; Moon, Brewer, Januchowski-Hartley, Adams & Blackman 2016:1).

The researcher ensured that the research conclusions revealed the participants' opinion without allowing the researcher's perspective or bias to interfere with the interpretation of that data (Polit & Beck 2014:140). There was thus agreement between the actual evidence and the researcher's interpretation (Galdas 2017:1-10). There was also consensus reached between the researcher, the supervisor and the co-coder about the thematic analysis of the gathered data.

3.8.4 Transferability

Transferability is when research findings can be applied or generalised to other target populations or situations (Thirsk & Clark 2017:1-9). By describing the research context and assumptions central to the research, the researcher provided a complete data trail and thorough description of the processes that were followed. It will therefore be possible for other researchers to transfer the findings to similar contexts as suggested by Polit and Beck (2017:140).

3.9 ETHICAL PRINCIPLES

Ethics in research, specifically research involving human research participants, must adhere to all ethical principles. It is a critical responsibility of the researcher to ensure that participants are free from harm (Polit & Beck 2017:1-7) and have the opportunity to choose whether to participate. Haberman et al (2010: 51-57) also emphasised the ethical issues that should be considered during a study involving human participants. These aspects were taken into consideration and were adhered to as described next.

3.9.1 Permission from authorities

According to Polit and Beck (2017:81), ethical approval is required to conduct research studies with humans in order to determine that every precaution has been taken to protect the participants (Sanjari, Bahramnezhad, Fomani, Shoghi & Cheraghi 2014:22; Jirojwong et al 2014:63-66).

The research proposal for this study was ethically approved by the Research Ethics Committee, Department of Health Studies at UNISA (amended to HSHDC/186/2013) (see Annexure A).

All the universities in the target population were invited to take part in the research. Permission to obtain access to students' e-mail addresses from 22 universities and

universities of technology were requested (Annexure B), and permission letters were received from eight universities.

3.9.2 Informed consent

Informed consent means that participants have received complete information about the research, are able to comprehend it, and are capable of agreeing to participate. When the study involves minimal risk, such as filling out an anonymous questionnaire, informed consent may be optional and implied by the fact that the participant completed the survey (Polit & Beck 2017:80). In this study, the recruitment letter (see Annexures C, D, E & F) formed the front page of the questionnaire during Phases 1, 2 and 4 of the study. By clicking on the link that allowed them access to the questionnaire and completing the questionnaire, it was an indication that the participant consented to the research study since they had an option of not participating if they did not want to.

All participants were informed that their e-mail addresses were provided by their universities as prospective participants (see Annexure C & D). The participants were provided with a full description of the research purpose and a letter on how to progress if they wished to participate in the study (see Annexures C & D).

3.9.3 Freedom from harm

The researcher must ensure that the participants are free from harm, exploitation and ensure participants' human dignity (Polit & Hungler 2013:153-159). In this study, there was no physical harm to participants as a result of participating in the study. While there was a possibility for emotional harm due to questions asked, the participants were given the opportunity to skip and not answer any question they deemed uncomfortable to answer. Each participant received information via e-mail explaining that if they believed answering any question was going to cause emotional discomfort, they could avoid answering that question. They were also informed that they could withdraw from the study if they wished (Annexures C, D, E & F) without any negative effect.

3.9.4 Freedom from exploitation

Participants had the choice to answer or not to answer questions with no consequences, thus the participants were free from exploitation and abuse. The participants were selected because they had personal knowledge of and experiences with writing a thesis proposal. They were thus suitable to contribute to the study's aim and were not selected for any other reason. Participants who did not participate were not adversely affected since the researcher had no way of knowing who participated and who did not.

The participants were also provided with the researcher's contact information to enable them to contact her or the research supervisor if they had any questions or needed clarification about any question or an aspect of the research. The participants had the right not to disclose any information if they did not want to.

3.9.5 The right to confidentiality and privacy

Researchers have a legal and moral obligation to protect participants' privacy (Moxham, Dwer & Reid-Searl 2013:345). Participants answered the questionnaire on Survey Monkey™ in their own time and at a place preferred by them. They could use their own password-protected computers if they wanted to. As stated before, the Survey Monkey™ software did not request any personal and identifiable information from participants to share with the researcher.

Participants remain anonymous when the researcher is unable to link responses to the one who provided the responses. In this study, responses were collected from Survey Monkey™. The software program provides only raw data to the researcher. The software does not require the respondents to enter any identifying information. Respondents were guaranteed confidentiality and assured privacy that their raw information would not be used in a way that reveals their identity as explained in the recruitment letters (see Annexures C, D, E & F).

The researcher received only raw data that could not be linked to any individual and the raw data were kept confidential. Only the researcher, co-coder and the research supervisor had access to the raw data. The participants were also assured that while the research study results may be published in a scientific peer-reviewed journal or be presented at professional conferences, since that Survey Monkey™ is a computer software program, no identifiable data would be transferred to the researcher and therefore the participant's identity cannot be revealed.

3.9.6 The right to fair treatment

Fair treatment is achieved when the participants are selected because they meet the criteria for participating in the study. In this study, invitation to participate was extended to all participants whose e-mail addresses were availed by the participating universities. The right to fair treatment also entails that those participants who refuse to participate or withdraw from the study are not adversely affected by their decision not to participate (Jirojwong et al 2014:60). The researcher accepted the decision of some participants who chose not to participate since the researcher had no knowledge of who did or did not participate.

3.10 DATA ANALYSIS

The raw data were retrieved from the Survey Monkey™ software program. Tesch's (in Theron 2015:1-9) eight proposed steps of data analyses were used to identify the themes as follows.

1) The researcher read through all 48 responses from the participants retrieved from Survey Monkey™ to get an overall sense of the responses. 2) Thereafter, the researcher read one response at a time and reread each to get meaning of the information while jotting down ideas in the margins as they came to mind. 3) After going through all responses one at a time, the researcher put similar categories in groups, labelling them according to themes. 4) The researcher then rechecked the data to see if

new themes emerged. 5) The researcher found the most suitable description for the categories. Categories that were interrelated were grouped together into themes to reduce the number of similar themes. 6) The researcher then decided which themes and categories would be included. 7) Data were then placed under the relevant themes and preliminary analysis was done. 8) Recoding was done as necessary.

The researcher also utilised the assistance of a co-coder to read and reread the data and the themes identified in order to enhance consistency of data analysis (Polit & Beck 2017:58), thus confirming the identification of the themes and the categories.

The nine themes that emerged from the analyses were 1) Encouraging supervision; 2) Negative supervisory aspects; 3) Availability of resources; 4) Unavailability of resources; 5) Social support; 6) Lack of social support; 7) Lack of time; 8) Personal motivation; and 9) Lack of knowledge.

3.11 DATA PRESENTATION AND INTERPRETATION

Forty-eight participants provided answers to the two open-ended questions. As indicated in Table 3.3, the nine themes were supported by categories as well as subthemes (the direct responses) that expressed the academic and personal experiences of doctoral nursing students while writing their thesis proposal.

Table 3.3: Participants' experience

Theme	Category	Sub- themes
1 Encouraging supervision	1.1 Timely feedback received	*1.1.1 "My supervisor gave timely feedback and encouraged critical thinking"* *1.1.2 "The contribution of the supervisor to the success or failure of student (if late responses, the*

Theme	Category	Sub- themes
		research progress will be poor, if fast response the progress will be fast)".
	1.2 Type of feedback	*1.2.1 "Positive feedback from supervisor was helpful".* *1.2.2 "The success or failure of the student depends on the contribution of the supervisor."*
	1.3 Support and motivation	*1.3.1 "The positive experience emanated from the support of the supervisor."* *1.3.2 "Highly motivating supervisor."* *1.3.3 "My supervisor was great and made me feel motivated."* *1.3.4 "Supervisor supported me."* *1.3.5 "My supervisor was encouraging."* *1.3.6 "My supervisor motivated me."*
	1.4 Allow development of HOTS	*1.4.1 "The supervisor allowed me to occasionally expose my ignorance which she handled with appreciable skill and*

Theme	Category	Sub- themes
		wisdom." *1.4.2 "The supervisor encouraged critical thinking."* *1.4.3 "I enjoyed exchanging ideas with thesis advisor."*
	1.5 Personal attributes	*1.5.1 "The supervisor was approachable."*
2 Negative supervisory aspects	2.1 Delayed feedback	*2.1.1 "By far the most negative experience is the extremely long time it often takes for my supervisor to respond to my written submissions."* *2.1.2 "It takes a long time for me to receive written feedback. I don't know if this is standard expectation for all doctoral students but it has been a big negative and has led to much anxiety and headache."*
	2.2 Type of feedback	*2.2.1 "Not easy to attend to supervisor's comments since comments indicate a hopeless situation."* *2.2.2 "Supervisor's destructive comments that make you feel like you are stupid."*

Theme	Category	Sub- themes
		2.2.3 "I received minimal guidance from supervisor."
	2.3 Supervisor's unavailability	*2.3.1 "Unavailability of supervisor resulted in lack of guidance."* *2.3.2 "Not having direct lines with supervisor delayed my progress."*
	2.4.Supervisor allocation	*2.4.1 "Late assignment of research advisor was frustrating."* *2.4.2 "Delays in assigning research supervisor delayed beginning of my research."* *2.4.3 "I had to write academic registrar six months after I was registered because I had not been assigned a supervisor yet."*
3. Availability of resources	3.1 Books and journals	*3.1.1 "Exploring journals and books and other resources gave me self-confidence."*
	3.2 Workshops	*3.2.1 "The proposal writing workshops were very helpful."*
	3.3 Library	*3.3.1 "Library very helpful."* *3.3.2 "Library resource material was helpful."*

Theme	Category	Sub- themes
	3.4 Written guidelines	*3.4.1 "Tutorial letters and guidelines were helpful."* *3.4.2 "Written guidelines were important."*
4 Unavailability of resources	4.1 Reference material	*4.1.1 "Shortage of reference books was frustrating."* *4.1.2 "Lack of research material delayed my progress."* *4.1.3 "I had difficulty accessing library materials"* *4.1.4 "I had difficulty acquiring library e-books."* *4.1.5 "Being an international student, library access was a nightmare."*
	4.2 Library personnel	*4.2.1 "Uncooperative library personnel slowed my progress."*
	4.3 Internet	*4.3.1 "Internet access was a nightmare."* *4.3.2 "I had no library internet access."* *4.3.3 "I had no access to university email due to residing outside South Africa. No internet access."* *4.3.4 "I would be surprised if you get any substantial number of responses. The*

Theme	Category	Sub- themes
		fact that you redirect students to a web site may be too much for students who do not have internet access. It would have been better if you had attached or even copied the questionnaire to the email." *4.3.5 "I work in a country where I'm lucky if I get any internet access. Most times I rely on cafes with such long waiting lines and the cost is not worth it at times."*
5 Social support	5.1 Fellow students	*5.1.1 "I received good support from fellow students."* *5.1.2 "I was supported by other researchers."*
	5.2 Family	*5.2.1 "My family and friends supported me."*
6 Lack of social support	6.1 Fellow students	*6.1.1 "I had no contact with peers due to lack of internet."*
	6.2 Family members	*6.2.1 "Family does not leave enough time for studies."* *6.2.2 "One family member messed my computer as she was attempting to find computer games. I lost all*

Theme	Category	Sub- themes
		my research work and had to start afresh." *6.2.3 "My sister's housemaid deleted my work on the computer. I had to start from scratch."*
7. Lack of time	7.1 Family responsibilities	*7.1.1 "It's hard to juggle between full time work, studies & family, No time for studies."*
	7.2 Work Responsibilities	*7.2.1 "I work full time. Hard to work and study."* *7.2.2 "Job does not leave enough time for studies."*
8. Personal motivation	8.1 Self-motivation	*8.1.1 "Self-confidence and hard work were important in thesis proposal writing."* *8.1.2 "Endurance and applying learned knowledge are important."* *8.1.3 "Devoting enough time to studies was helpful."* *8.1.4 "Determination to succeed is important."*
	8.2 Lack of motivation	*8.2.1 "Sometime I felt alone and unclear about how to proceed with my work."*
9. Lack of knowledge	9.1 Statistics	*9.1.1 "I had no adequate knowledge of statistics."*
	9.2 Research methodology	*9.2.1 "I had no adequate*

Theme	Category	Sub- themes
		knowledge of research methods."
	9.3 Interpretation skills	*9.3.1 "I had difficulty interpreting information. I could not understand information."*

3.12 FINDINGS

To enhance easy reading and a true understanding of the gathered data, the literature control will be presented in an integrated manner to compare or contradict the data with the available literature.

Tesch suggests that the only way to truly understand experiential data and support the existing themes is to use participant quotations (Tesch 1987:233). For this reason, the subthemes, as illustrated by the direct participant statements, are used as mentioned by themselves in their answers to the open-ended questions. As stated, nine themes were identified, namely 1) Encouraging supervision; 2) Negative supervisory aspects; 3) Availability of resources; 4) Unavailability of resources; 5) Social support; 6) Lack of social support; 7) Lack of time; 8) Personal motivation; and 9) Lack of knowledge.

3.13 THEME 1: ENCOURAGING SUPERVISION

The supervisor is the primary guide in the thesis proposal writing process and assists the doctoral student in acquiring research knowledge and skills (Prazeres 2017:220). In addition, the success of the doctoral student largely depends on a positive supervisor-student relationship (Prazeres 2017:220-221).

According to Azure (2016:163-164), most research students abandon their studies because of poor supervisor-student relationships. Other studies indicate that most

students consider the supervisor their role model (Wisker 2012:415) who should induct them into the field of research (Lee 2018:878-890), motivate and support them (McDonald 2017:158), and encourage proper writing skills in the research process (McEachern & Horton 2016:444-456). In order for the student to succeed in thesis proposal writing, it is therefore imperative that there is good rapport between the supervisor and student. Consequently, as indicated by several authors, the relationship between the student and supervisor should be clearly spelled out from the beginning and subsequently through timely feedback (Lowry 2018:43-46), thereby removing any confusion of the roles each is to play during the research study (Linden et al 2013:639-662).

3.13.1 Category 1.1: Timely feedback received

When one is learning a new skill such as thesis proposal writing, they need timely information on whether or not they are doing it correctly (Basturkmen, East & Bitchener 2014:432-445) because prompt feedback is important for successful student research. Feedback is important in socialising the student into the academic arena and provides training in academic writing (Bitchener et al 2014:432-445). Student feedback is central in learning and should therefore be timely (Lowry 2018:43-46) to ensure a positive experience, as mentioned by the participants:

> *"My supervisor gave timely feedback and encouraged critical thinking."*

> *"The contribution of the supervisor to the success or failure of student (if late responses, the research progress will be poor, if fast response the progress will be fast)."*

Timely feedback is associated with improved student performance (Yarwood-Ross & Haigh 2014:38-43), improved academic writing skills (Tiyuri, Saberi, Miri, Shahrestanaki, Bayat & Salehiniya 2018:1-14) and increased confidence, specifically if

the feedback was positive and constructive (Satariyan, Getenet, Gube & Muhammad 2015:1-12).

3.13.2 Category 1.2: Type of feedback

Studies have indicated that when students receive positive and constructive feedback they are more likely to seek guidance from their supervisor than those who receive constant negative feedback (Bazrafkan, Shokrpour, Yousefi & Yamani 2016:232-239). Participants concurred and responded that:

> *"Positive feedback from the supervisor was helpful."*

For students to succeed in thesis proposal writing and prevent attrition, there is a need for the supervisor to effectively support doctoral students by communicating clear guidelines and offering constructive feedback (Duke & Denicolo 2017:10-19; Badenhorst 2018:58-74). Participants emphasised their sentiments and expressed:

> *"The success or failure of the student depends on the contribution of the supervisor."*

Feedback should be prompt, clear and precisely communicated to ensure successful thesis proposal writing because in many ways feedback takes the place of classroom instruction (Akerlind & McAlpine 2017:1686-1698). Ultimately, the goal of a supervisor's feedback is to support and motivate the new doctoral student to successfully write the thesis proposal and ultimately their thesis.

3.13.3 Category 1.3: Support and motivation

The importance of a supportive and caring supervisor during research has been documented in several studies (Can & Walker 2011:508-536; Barnes, Williams & Stassen 2012:55). Students see supervisors as key support systems while writing their

thesis proposal and the student-supervisor relationship seems to be vital to the successful completion of research (Barnes et al 2012:20; Azure 2016:163-169).

Participants confirmed this by stating:

"The positive experience emanated from the support of the supervisor."

"My supervisor was great and made me feel motivated"

Dissatisfaction with the research progress among doctoral students often stem from a lack of supervisor support (Inouye & McAlpine 2017:1-11). This results in a feeling of powerlessness among students (Hjelm 2015:177). The importance of a supervisor's support was mentioned by several participants:

"Highly motivating supervisor."

"Supervisor supported me."

The doctoral students' persistence in writing the thesis proposal is highly dependent on their relationship and motivation from the supervisor (Lepp, Remmik, Leijen & Leijen 2016:14; Lowry 2018:43-46). The importance of motivation from the supervisor during thesis proposal writing was emphasised by participants. There was a general consensus in perceiving that supervisors were doing exceptionally well when it came to supporting and motivating doctoral students during their thesis proposal writing phase, as indicated by responses received:

"My supervisor motivated me"

"My supervisor was encouraging."

Ultimately, the support and motivation the new doctoral student receives from their supervisor helps the student to be proficient and skilful in research (Bui 2014:12-27; Gardner 2010:63-80; Evans & Stevenson 2011:11). Moreover, it encourages the development of HOTS (Dukic 2015:1-11; Bitchener et al 2011:6).

3.13.4 Category 1.4: Allow development of higher thinking order skills

The supervisor needs to assess the individual doctoral student's research knowledge and skills (Chiappetta-Swanson & Watt 2011:1) and encourage the student to develop an attitude of refining their critical thinking skills (Dislen 2013:38-44). Supervisor support was perceived as very helpful in the development of necessary academic writing skills and HOTS during doctoral research (Watson 2017:28; Fromkin 2015:1). The development of the mentioned skills will enable the doctoral student to analyse, synthesise, organise, reason, apply and evaluate research information (Roets & Maritz 2017:51-56).

The positive contribution of the supervisor towards the student's development of HOTS was confirmed by participants:

> *"The supervisor allowed me to occasionally expose my ignorance which she handled with appreciable skill and wisdom."*
>
> *"The supervisor encouraged critical thinking."*
>
> *"I enjoyed exchanging ideas with thesis advisor."*

3.13.5 Category 1.5: Personal attributes

Azure (2016:163) noted that among the most important supervisor attributes, students appreciated supervisors who were flexible, friendly and approachable. Doctoral students found it helpful when there was open dialogue with their supervisors in making

decisions about their theses (Eyisi 2016:1-10), and they respected the opinions of the student (Yarwood-Ross & Haigh 2014: 38-43; Abiddin 2012:636). The importance of open communication between the supervisor and a student – thus, an approachable supervisor – is essential, as emphasised by Azure (2016:164).

One responded expressed:

> *"The supervisor was approachable"*

3.14 THEME 2: NEGATIVE SUPERVISORY ASPECTS

3.14.1 Category 2.1: Delayed feedback

When students wait long periods for a response from their supervisors, their momentum comes to a halt (Kimani 2014:66), which may impact on their motivation to continue.

Participants whose emotions and self-confidence were negatively affected by supervisors' delays in responding stated:

> *"By far the most negative experience was the extremely long time it often took for my supervisor to respond to my written submissions".*

> *"It takes a long time for me to receive written feedback. I do not know if this is standard expectation for all doctoral students but it has been a big negative and has led to much anxiety and headache."*

The feeling of anxiety is supported by the findings in other studies that also revealed students' anxiety was due to delays in feedback from either doctoral supervisors or other faculty members (Fillery-Travis, Maguire, Pizzollatti, Robinson, Lowley, Stel, et al 2017:33; Garwe 2015:111-112).

3.14.2 Category 2.2: Type of feedback

Studies have identified some problems with the way feedback is given as well as the type of feedback provided to students. The challenges ranged from feedback that should assist doctoral students in understanding the research culture, which is given in mixed messages because, according to Bitchener et al (2011:5), the supervisors themselves seemed uncertain about expected research standards; feedback that lacks specific information and advice on how the student can improve; and feedback that is not clearly communicated for the student to interpret (Ghazal, Gul, Hanzala, Jessop & Tharani 2014:13-27).

Students sometimes receive critical comments or contradictory feedback that left them discouraged (Bednall 2018:12; Bastalich 2017:1145-1157), as supported by the comments of participants in this study:

> *"Not easy to attend to supervisor's comments since comments indicate a hopeless situation."*

> *"Supervisor's destructive comments that make you feel like you are stupid."*

> *"The supervisor provided very minimal guidance."*

While the quality and timeliness of feedback is important in research, the availability of the supervisor is just as crucial.

3.14.3 Category 2.3: Supervisor unavailability

The supervisor should be available to guide and support students, especially during the thesis proposal writing phase (McCallin & Nayar 2012:20). When they are not available, students find it difficult to progress (Roets et al 2017:1-7) as indicated by participants' responses:

“Unavailability of supervisor delayed my progress.”

“Not having direct lines to supervisor delayed my progress.”

Furthermore, a readily available supervisor will also guide the student in the timely selection of relevant research material (Roets & Maritz 2017:1-12).

3.14.4 Category 2.4: Supervisor allocation

An early supervisor-student relationship has been noted to have greatly influenced the student’s transition from a novice to an independent researcher (Lindsay 2015:185-186). Sadly, however, some studies have indicated that certain institutions have insufficiently qualified supervisors to guide students (Roets 2013:12; Nabolsi et al 2014:216). The lack of supervisors was echoed by several participants in the study who stated:

“Late assignment of supervisor was frustrating.”

“Delays in assigning research supervisor delayed my beginning of research."

“Six months after I was registered I had not been assigned a supervisor yet.”

While it is important for students to be assigned research supervisors, it is equally important that the supervisor is available to guide and support the student (Lindsay 2015:186).

3.15 THEME 3: AVAILABILITY OF RESOURCES

3.15.1 Category 3.1: Books and journals

The need for books and journals during thesis proposal writing can never be underestimated. Books and journals are important resources in acquiring research information (Hicks 2015:219). It is essential that doctoral students get access to

resources if they are to succeed in writing a thesis proposal (Marshall, Morgan, Klem, Thompson & Wells 2014:21). A lack of resources, including internet access, can result in limited or lack of critical thinking skills as well as a lack of academic writing skills (Gaines, Blake, Kouame, Davies, Gaddy, et al 2018:249-265; Zohar 2013:234). A participant indicated:

"Exploring journals and books and other resources gave me self-confidence."

In the case where the student is unable to access or make sense of research material in books and other resources, attending seminars on related research topics could increase their research knowledge and skills (Pyrko et al 2017:389-409).

3.15.2 Category 3.2: Workshops

When students attend conferences, not only do they obtain literature and ideas that benefit their knowledge but they also form strong support systems that motivate them to persist in their study programme (Nabolsi et al 2014:214). Workshops led by experts in the area of research allow for open dialogue that encourages the exchange of ideas necessary for growth and improvement of the new doctoral student's knowledge in research (Singh 2017:73-81).

Since workshops are arranged for specific issues and problems, participants can share perspectives and different points of view, enabling the student to get a better understanding of dealing with a problem area in their thesis proposal. Interacting with others can also help the new doctoral student to develop vital skills such as academic writing and critical thinking skills (Liaquat & Karunakaran 2014:52-57) that will assist them in the thesis proposal writing phase.

The importance of workshops assisting students by increasing their thesis proposal writing skills was echoed by one student, who stated that:

"The proposal writing workshops were very helpful."

Students who attend workshops can also be assisted with how to access relevant research material from the library and other sources (Sakai, Sato, Sato & Watanabe 2018:44; Mahwasane 2016:259-266).

3.15.3 Category 3.3: Library

The library is central to research as it provides access to journals and books, among other resources (Hicks 2015:219; Ghalib 2016:24). With the advancement in technology, libraries also provide access to e-books and e-journals (Sigh & Khan 2015:1). It is therefore important for libraries to be readily accessible in order for students to attain information (Marshall et al 2014:122).

Libraries are not only important as reservoirs of books and journals but they also provide better research study environments. Moreover, librarians, specifically the subject specialist librarian, usually works in conjunction with the doctoral student to enhance their knowledge of research (Mutshewa 2015:1). Libraries provide information that would have been too expensive for the student to acquire elsewhere as registered students can access e-books and journal articles for free from their institutions' library (Egesimba, Quadri, Dimkpa & Ezebuike 2011:29-30).

Another advantage of libraries is that the researcher is able to find most sources for research in one place without having to waste valuable time. In the case where some of the needed resources may not be available in the particular library, the librarian can obtain such resources through interlibrary sourcing (Bell & Frost 2012:1; Saunders 2015:286).

Participants appreciated the importance of libraries during research:

"Library very helpful."

"Library resource material was very helpful."

While libraries are an important source of research material, there are times when students should refer to specific institutional guidelines on how to proceed with their research (Knox, Taylor, Geonnotti, Machta, Kim, Nysenbaum & Parchman 2011:20).

3.15.4 Category 3.4: Written guidelines

According to Kontorovich and Liljedahl (2018:101-111), research writing for new doctoral students evokes questions such as where to find research information and how to assess and manage it. It is therefore critical that the new researcher be provided with principles and guidelines for writing their thesis proposal.

Guidelines are important as they provide structure (Lee 2018:878-882). Without guidelines students often have difficulty regarding when and how to seek guidance; at the same time, supervisors also express confusion as to when to offer guidance (Knox, Sokol, Schlosser, Inman, Nilsson & Wang 2013:45-61). Without written guidelines, students may go elsewhere to seek advice (Fisher et al 2016:1), especially from those supervisors the students deem more knowledgeable (Roets 2013:4).

Written guidelines remove the ambiguity and guesswork (Galvan 2013:22-30) of how a new doctoral student should proceed in writing their thesis proposal. Guidelines are imperative as they remove the confusion students may encounter and are a constant source of reference for the research student and can prevent misunderstanding (Fisher et al 2016:1).

As stated in the research guidelines (University of Michigan 2019:1), different universities have specific guidelines pertaining to the style and way of thesis proposal writing. It is therefore important for the student to be supplied with specific guidelines pertaining to their institutions' research writing requirements.

Participants acknowledged the importance of written guidelines by stating:

“Tutorial letters and guidelines were helpful."

“Written guidelines were important.”

Important sources of reference for research information, such as tutorial letters and reference or text books, should also be accessible in order for the student to succeed (Rohwer, Young, Wager & Garner 2017:10-11) in writing their thesis proposal.

3.16 THEME 4: UNAVAILABILITY OF RESOURCES

3.16.1 Category 4.1: Reference material

Literature emphasises the need for relevant (Mahwasane 2016:260) and available research sources (Rohwer et al 2017:10) such as books for successful research to take place. The research information sources need to be current as well as relevant for quality doctoral research to be conducted (Isebe 2015:1-11). Since information and facts continue to be updated due to rapid information changes, it is essential that universities keep updating information sources by subscribing to scientific journals and acquiring current books for research (Sigh & Khan 2015:1).

Studies corroborate the importance of availability of current resources in developing research skills (Saunders 2015:286). According to Mutshewa (2015:1), when libraries lack adequate resources, students are discouraged as viable resources are needed for evidence-based research.

Participants cited *“shortage of reference books”* as well “*lack of research material”* as an impediment to the research process, a great concern as institutions provide resources for free for all registered students. Without access to resources, the research progress is impeded (Mutshewa 2015:1), thereby negatively impacting on student progress.

Participants were of the opinion that library material was not accessible; they stated:

"I had difficult accessing library materials."

"I had difficulty acquiring library e-books".

"Being an international student, library access was a nightmare."

Libraries are an important source of research material and are central to learning (Ghalib 2016:26), yet some students may need guidance on how to access library sources (Mutshewa 2015:2). Librarians should assist or provide written guidelines on how the research student can acquire current research sources including journals, e-books, as well other necessary research materials (Isebe 2015:22).

3.16.2 Category 4.2: Library personnel

It is the librarian's responsibility to assist the research student in the use and availability of research material (Mahwasane 2016:264). It is not enough for the library to have support services such as librarians, but the librarian should be available and willing to provide the research student with appropriate and current research material (Mutshewa 2015:1). Librarians who do not assist students can negatively influence their research progress and the quality of their thesis (Gagan & Rakesh 2013:193-198).

Participants were of the opinion that library personnel were uncooperative, as noted by one participant:

"Uncooperative library personnel slowed me down."

Egesimba et al (2011:29-30) stated that libraries should not only contain printed material but also non-printed material such as e-resources. Most importantly, librarians should be able to educate students on how to locate information, including use of the

internet (Foasberg 2015:700). Some institutions provide training opportunities for students on how to access e-reserves and registered students can register to attend these scheduled library workshops. Training also includes using library catalogue reference sources and referencing procedures, among others (Seema 2014:1-11). With this training offered by some institutions, the student may access library sources including the internet without the need for a librarian.

3.16.3 Category 4.3: Internet

The internet is one of the fastest and easiest ways of doing research. It supplies the most up to date information, including information which has yet to be published into books. The internet can make books and journals, which used to take a long time to acquire from libraries, just a click away (Gagan & Rakesh 2013:193). However, when the internet is unavailable or when access is difficult to obtain, the student gets frustrated (Roets & Maritz 2017:53; Zohar 2013:236). This finding was supported by the participants who mentioned:

> *"Internet access was a nightmare."*
>
> *"No library internet access."*
>
> *"No access to university e-mail due to residing outside South Africa. No internet access."*

Students do not only need support from their supervisors, the librarian and other resources, they also need social support (Burkard 2014:19-54).

3.17 THEME 5: SOCIAL SUPPORT

3.17.1 Category 5.1: Fellow students

Students need significant levels of support not only from a supervisor, but also from peers (Kaakinen, Suhonen, Lutovac & Kaasila 2017:22-28) when they are busy with research studies. Postgraduate studies remain a very isolated endeavour (Carter, Blumenstein & Cook 2013:339-351); without frequent communication with others, the student may feel isolated and discouraged (Murakami-Ramalho et al 2013:256-271).

Support from peers contributes to students' success (Kaakinen et al 2017:22-28). Emotional support in terms of encouragement and positive feedback from peers also helped students as they progressed towards thesis completion (Delamont, Atkinson & Parry 2000:115). Peer support is best provided by individuals who have struggled with or overcome similar experiences as they provide one another with survival strategies and encouragement (Luckett 2017:17; Mead & MacNeil 2006:29-37). Peer support reduces fear of stressful situations and increases cognitive skills such as critical thinking skills that are essential when writing the thesis proposal (Lambert & Machin 2016:22-27).

Peer support can be provided through group meetings, e-mails, phone calls, text messaging and many more, such as through social media, web and blog discussions, and information sharing with fellow researchers (Fuchs 2017:638-639). The support is complementary in that it does not take the place of the professional, such as the supervisor (Lindsay 2015:183-196).

New doctoral students who were part of peer research networks share common research interests (Hjelm 2015:176) and they can share similar challenges and resolutions (Gbollie & Keamu 2017:19; Stracke 2010:1-10).

The importance of peer support was similarly recognised by the participants:

“I received good support from fellow students.”

“Support from other researchers was helpful.”

Another source of support for research students comes from their family members.

3.17.2 Category 5.2: Family

Although studies indicate that family responsibilities distract students from working on their research studies, students who completed their thesis rated their families as more supportive than those who abandoned their doctoral studies (Beckett et al 2015:471-480; Brown & Watson 2010:385-404).

A positive home environment such as a supportive family has a significant impact on the success of a doctoral student (Carter et al 2013:340-342). Support from family members in areas such as allowing for quiet study time and adequate uninterrupted sleep have been attributed to the academic achievement of a doctoral student (Beckett et al 2015:480).

A participant reported:

“My family and friends supported me.”

3.18 THEME 6: LACK OF SOCIAL SUPPORT

3.18.1 Category 6.1: Fellow students

Some students do not receive support from fellow students and are emotionally isolated (Baker 2016:179-192; Bell & Frost 2012:15-26). This lack of support might be due to a challenge with resources as was indicated by one of the participants:

"I had no contact with peers due to lack of internet."

Doctoral studies have been associated with emotional isolation and students who lacked peer support experienced increased stress and anxiety related to the thesis process (Kaakinen et al 2017:24-27).

Moreover, apart from peer support challenges, there are times when family relationships and responsibilities can also adversely affect the thesis proposal writing process.

3.18.2 Category 6.2: Family members

Emotional support from family and friends has been attributed to alleviating the isolating effect of the thesis writing process (Odena & Burges 2017:577; O'Shea & Stone 2011:2; Shepard & Nelson 2012:15). Yet some studies indicated that family relationships and responsibilities adversely interfered with the doctoral research process (Carter et al 2013:339-351; Wao & Onwuegbuzie 2011:115). This notion was supported by some participants stating:

"Family does not leave enough time for studies"

"One family member messed my computer as she was attempting to find computer games. I lost all my research work and had to start afresh".

"My sister's house maid deleted my work on the computer. I had to start from scratch."

Studies indicate that role conflict such as the expectation by family members that women should take care of children even though they may be studying greatly slows down the student's progress (Martinsuo & Turkulainen 2011:107). The more children and other family responsibilities the student has, the more frustrated the student becomes, resulting in dropouts (Beckett et al 2015:471-80).

3.19 THEME 7: LACK OF TIME

3.19.1 Category 7.1: Family responsibilities

The diversity of doctoral students entering university in terms of educational background, age and socioeconomic background has posed challenges for the student. Many students are breadwinners and have to feed a family (Watts 2010:336; Alkandari 2014:1) while writing their thesis. One participant stated:

> *"it's hard to juggle between full time work, studies and family. No time for studies*."

The working student would therefore need to work closely with the supervisor in order to regroup and maintain a balance between academic and non-academic responsibilities that may arrest research progress (Van Rensburg et al 2014:4) in order to succeed.

3.19.2 Category 7.2: Work responsibilities

Many doctoral students find themselves having to balance between work and study. In one study it was noted that 80% of students worked while they studied and 70% of these working students suspended their studies (Riggert, Boyle, Petrosko, Ash & Rude-Parkins 2006:2), because balancing work and study was too stressful (Brown & Watson 2010:401-402). In the UK, one out of seven students work full time while studying in order to finance their studies and feed their families (Bolli, Agasisti & Johnes 2015:396).

Between occupying a full-time job and the demands of the thesis proposal writing phase, students experience difficulties:

> *"I work fulltime and it's hard to work and study."*

> *"Job does not leave enough time for studies."*

Due to the varying challenges at the different phases of doctoral studies (Phillips & Pugh 2010:1), there is need for a doctoral student to invest in time for their studies (Miqdadi, Momani, Mohammad & Elmousel 2014:1-3). The prospective doctoral student therefore needs to assess the feasibility of their research study. They should evaluate their research skills, ability to handle the level or topic of study, and ascertain whether they will have adequate time to conduct the research (Moskvicheva et al 2015:576-579).

Martinsuo and Turkulainen (2011:106) reported that investing time doing research were important factors in doctoral students' progress. The more time spent on research work the faster the research progresses. Conversely, students who procrastinated did not invest enough time in research and had problems completing their studies (Miqdadi et al 2014:3-5). Lack of time commitment and management is thus detrimental to thesis proposal writing progress.

Brown and Watson (2010:402) further noted that "dual lives" such as being a student who is working part- or full time generated tension for the doctoral student. However, working while studying is not the only challenge in research progress; the student also needs to be motivated in order to succeed (Gupta & Mill 2017:1-18; Lindsay 2015:183-196).

3.20 THEME 8: PERSONAL MOTIVATION

3.20.1 Category 8.1: Self-motivation

Having confidence that one can successfully complete their research studies is an important personal attribute that students need to have (Gupta & Mili 2017:10). However, confidence only increases when the student possesses research skills and is knowledgeable and competent, as mentioned earlier (Hundr et al 2014:21). Self-confidence also adds freedom from fear and anxiety, and increases the drive and motivation to succeed (McEachern & Horton 2016:445). Studies have indicated that

students are more likely to be retained when they have a high degree of self-confidence (Niehaus et al 2018:1-20).

The individual doctoral student's self-determination and self-motivation contributes to their success (Sorensen 2016:297-303). Participants confirmed the importance of self-motivation by stating:

"Self-confidence and hard work were important in proposal writing."

"Endurance and applying learned knowledge are important in research."

"Determination to succeed is important."

Self-confidence, however, can be dashed by negative labels (Ghazal et al 2014:13-27) such as negative feedback from supervisors (Hjelm 2015:176) and critical comments that result in negative emotions (Gunnarsson, Jonasson & Billhult 2013:134-142); these may result in a lack of motivation.

3.20.2 Category 8.2: Lack of motivation

Ra and Trusty (2015:319-329) state that the reason why numerous students drop out of doctoral studies are the student's lack of motivation and persistence, while Sharma and Sharma (2018:1-5) further affirm that the psychological makeup of the student has been linked to completion of doctoral studies. Therefore, in order for the student to develop into an independent researcher, they need to be determined to apply themselves to research studies (Van Rensburg et al 2014:6).

One participant noted:

"Sometime I felt alone and unclear about how to proceed with my work".

An unmotivated student might find it difficult to succeed (Tiyuri et al 2018:43) in thesis proposal writing as they may not exert themselves to acquiring research knowledge. Lack of motivation could result from a lack of proficiency in the language of instruction causing the student's inability to grasp or understand research information (Martinsuo & Turkulainen 2011:107).

3.21 THEME 9: LACK OF KNOWLEDGE

3.21.1 Category 9.1: Statistics

Statistics is a scientific approach that guides the researcher in data collection, analysis, interpretation and in the description of research results (Kodituwakku & Perera 2014:1). Knowledge and proper utilisation of statistics result in more believable and accurate research results and findings (Haser 2018:18-29). Lack of statistical knowledge therefore cause poor quality research (Haser 2018:18-29).

One participant who was adversely affected by a lack of knowledge stated:

> *"I have no adequate knowledge of statistics."*

In order for the doctoral student to succeed in writing their thesis proposal they need to have an understanding of statistics and develop research knowledge (Nind & Lewthwaite 2018:398-410).

3.21.2 Category 9.2: Research methodology

Research methodology is a way of systematically solving a research problem (Fischler 2019:1). It is a science of studying how research is conducted, described, evaluated and predictive of a phenomenon (McEachern & Horton 2016:1). It is a work plan of research that provides training in choosing methods, materials, scientific tools and techniques relevant for the solution of the problem (Morgan 2014:1). Knowledge of

research methodology will enable the student to choose a research topic, conduct a thorough literature search, formulate a research question, choose a proper study design, conduct research, analyse and properly interpret the study results (Fischler 2019:1).

An increasing number of students who are admitted to doctoral studies need intensive guidance to access literature, do research and write their thesis proposal (Essa 2011:253). According to Adas and Bakir (2013:254), most new doctoral students who lack research knowledge rarely seek advice due to fear. The fear emanates from the feeling that they ought to know how to do something, even if they had never been properly taught and are not prepared for research writing (Itau et al 2014:306).

A number of studies have encouraged supervisors to take a broader perspective of students' development of research knowledge in order to increase the students' chances of success (Basturkmen et al 2014: 432). In order for doctoral students to become independent researchers, they need the support and guidance of their supervisor in managing bulky information during research (McBride, Tietze & Fenton 2013:11), retrieving relevant resources (Calma 2011:23), and conducting quality research (Evans & Stevenson 2011:35). Studies have also highlighted personal factors such as the individual student's knowledge of research as a reason for attrition (Gupta & Mili 2017:1).

Martinsuo and Turkulainen (2011:103) also report that the single most important factor in doctoral research progress is the student's possession of relevant research knowledge.

One participant acknowledged their lack of research knowledge:

> *"I had no adequate knowledge of research methods."*

Literature recommends proper selection criteria of research-prepared doctoral students in order to increase students' chance of success in writing their thesis proposal (Roets et al 2017:1-10; Creech et al 2018:49-52).

3.21.3 Category 9.3: Lack of higher-order thinking skills

The research student needs to have an understanding of research as well as the ability to interpret information (Yen & Halili 2015:41). In order to be analytical and better process and apply research knowledge, the student should possess HOTS (Tiyuri et al 2018:14). These skills enable the student to be creative and understand concepts (Nehls et al 2016:163). Moreover, Roets and Maritz (2017:51-56) noted that a deficiency in the development of HOTS was associated with a lack of focus on generating evidence and students had problems formulating research problems resulting in compromised research (Wetzel & Ewbank 2013:393; White 2013:213).

Students who possess HOTS are creative, intelligent and able to interpret research information (Watson 2017:11). Sadly, many doctoral students enter higher education lacking critical thinking skills (Zohar 2013:233-249) as stated by one participant:

"Difficulty interpreting information, could not understand information"

Therefore, the new doctoral student – under the guidance of the supervisor – needs to take advantage of the skills training resources to enhance their research skills and knowledge (Stoesz & Yudintseva 2018:1). Levine (2013:2) suggests that the student who needs to develop critical thinking skills can do so by being involved in communities of practice. This is a gathering of students with similar challenges learning from each other and discussing progress; it could enhance their development of critical thinking skills.

3.21.4 Lack of language proficiency

Despite the fact that none of the participants reflected on the language proficiency required to progress in studies, literature provides evidence that students need to be proficient in the language of instruction since an understanding and knowledge of research takes place in the context of language (Roets & Maritz 2017:51-56) and language skills assist in the effective analysis of research study material (Itau et al 2014:305-326).

Students who are proficient in the language of instruction are able to accurately interpret resource material and respond to ideas (Kola et al 2013:355-358). They avoid plagiarism since they will be competent in paraphrasing information (Eisner 2011:1).

3.21.5 Lack of scientific writing skills

As stated, most doctoral students start their doctoral studies without basic research knowledge (Hjelm 2015:172-174) despite not recognising it as a concern, as evident in this study. Many students lack academic writing skills (Sajid & Siddiqui 2015:174-186) and in order to be competent researchers, such skills have to be developed (Roets 2013:141).

Research calls for sound academic writing but it is challenging to most students who are not able to conceptualise, analyse or organise their writing. It is important that students learn how to construct ideas and arguments, as well as identify weaknesses and gaps in their reasoning that will build competence in scientific writing (Van Rensburg et al 2014:7).

Research requires understanding of the principles of research writing without which the doctoral student cannot succeed (Chokwe 2013:377). Approaches to supporting doctoral students include special writing courses, writing centres and writing groups (Shrivastava, Shah & Navaid 2018:83-90).

3.22 CONCLUSION

In this chapter, the research methodology of Phase 1 of the study was described. The research design in this chapter was qualitative. Several stages of the design were described and the data analysis with a literature control was presented. The purpose of the data analysis was to describe the experiences of the doctoral nursing students during the thesis proposal writing phase in order to use the information to develop a questionnaire for the quantitative phase of the study. It subsequently assisted in the development of a strategic intervention and action plan in Chapter 5. The next chapter will describe Phase 2 (quantitative study) of the study.

CHAPTER 4
PHASE 2: RESEARCH METHODOLOGY, DATA ANALYSIS, INTERPRETATION AND LITERATURE CONTROL (QUANTITATIVE WITH QUALITATIVE ENHANCEMENT)

4.1 INTRODUCTION

After the analysis of the qualitative data was completed, a literature control was done to validate and interpret the data as described in Chapter 3. The analysed data and available literature described in Chapter 3 were used to develop the questionnaire for the data gathering in Phase 2 (see Table 4.1). This chapter describes Phase 2 and will include all aspects as illustrated in Table 4.1.

Table 4.1: Phase 2

Design	Objectives	Technique	Sample	Purpose	Data analysis and interpretation
Quantitative	1. Describe the challenges AND 2. Opportunities that master's-prepared doctoral nursing students experienced during thesis proposal writing 3. To identify elements or suggestions to be included in the intervention	Questionnaire via Survey Monkey™.	All-inclusive sample from the population.	To obtain quantitative data for the development of the strategic intervention and action plan.	Quantitative analysis using Survey Monkey™ software and open coding of open-ended questions.

Design	Objectives	Technique	Sample	Purpose	Data analysis and interpretation
	strategy as suggested by master's-prepared doctoral nursing students.				

4.2 QUANTITATIVE DESIGN

According to Creswell (2014:155), quantitative research is an objective and organised method of collecting, describing and examining common characteristics which are quantified by assigning values to categorical data. It is also a way of analysing objective theories by investigating the relationship between the dependent and independent variable (Polit & Hungler 2013:112). It aims to establish a cause and effect correlation between two variables and relies on hard facts using computational, mathematical and statistical methods (Kontorovich 2016:101). In this study, the researcher established the doctoral nursing students' challenges and strengths while writing their thesis proposal.

The purpose of this specific phase was to describe the challenges and opportunities of the doctoral nursing students during thesis proposal writing using a quantitative method, namely a questionnaire with qualitative enhancement. The data from Phase 2 were utilised for the development of the strategic intervention and action plan (Phase 3, as described in Chapter 5).

4.3 POPULATION

The target population and accessible population were the same as described in Phase 1 (see Section 3.4). As stated, the doctoral students who were writing their thesis

proposal at all 22 South African universities and universities of technology were included in this population.

4.4 SAMPLING OF UNIVERSITIES

All eight universities that granted access to their students' e-mail addresses during Phase 1 formed the sample (see Section 3.5.1).

4.5 SAMPLING OF STUDENTS

All-inclusive sampling of the 193 student e-mail addresses supplied by the eight universities were used, and the recruitment letter with the link to obtain access to the quantitative questionnaire (see Annexure C) was sent via e-mail. Twenty completed questionnaires (10.4% response rate) were received via Survey Monkey™ during the first round. Reminders were sent to all 193 e-mail addresses after two weeks and again after four weeks. Another 28 responded to the reminder invitations to participate. A total number of 48 completed questionnaires were received, thus a response rate of 24.9%.

The researcher received six "unable to deliver" messages indicating that some participants were not available on the provided e-mail addresses. However, the 24.9% online survey response rate can be considered satisfactory as a 10 – 15% response rate is acknowledged as acceptable in the literature (Liu & Wronski 2018:1).

4.6 DATA GATHERING

Data were gathered by means of an online questionnaire using Survey Monkey™. E-mails containing the recruitment letter (see Annexure C) were sent on January 25th 2018 to all 193 participants' e-mail addresses provided by the eight participating universities. The recruitment letter also contained instructions on how to participate in the Survey Monkey™ questionnaire (see Annexure C).

4.6.1 The online questionnaire

A questionnaire is a self-reporting research tool (Polit & Hungler 2013:253; Zazpe, Santiago, De la Fuente-Arrillaga, Nunez-Cordoba, Bes-Rastrollo & Martinez-Gonzales 2019:1) designed for the purpose of collecting specific data from respondents (Sebo, Maisonneuve, Cerutti, Fournier, Senn & Haller 2017:1; Sansoni 2011:8). Questionnaires can effectively measure intentions, opinions, attitudes and behaviours of reasonably large quantities of subjects quickly and less expensively than other methods (Ebert, Huibers, Christensen & Christensen 2018:12). The online questionnaire was determined a suitable data-gathering technique and had the following advantages for the study:

4.6.1.1 Advantages of online questionnaires

The following advantages of online questionnaires, as described by Sushma (2015:1540-46), motivated the use of this method of data gathering.

The questionnaire was a fast and practical method of collecting data from a large sample and it was relatively cheap. The $35 a month the researcher had to pay for access to the software program was cheaper compared to other data collecting methods where transport, accommodation and delivery costs would have exceeded this amount. Another advantage was that quantified data obtained through online questionnaires can be used to measure the extent to which the doctoral student was affected by challenges and opportunities while writing their thesis proposal. The analysis of the data could also be done using the software imbedded in Survey Monkey™ without additional costs.

Online questionnaires are very discreet and can be completed in private and at a convenient time. The results can be transmitted to the researcher as soon as the respondent clicks the ‘submit’ button. Raw data were received as analysed by the software program, thus anonymity and confidentiality of the data could be ensured. As previously described (see Section 4.5), the researcher received 48 respondents’ raw

data resulting in a satisfactory 24.9% response rate for online surveys (Ebert et al 2018:22). However, questionnaires also have disadvantages that have to be taken into consideration when they are used for data gathering.

4.6.1.2 Disadvantages of quantitative questionnaires

The use of questionnaires has disadvantages as described by Sansoni (2011:9), but the disadvantages were addressed to minimise negative results. A questionnaire with only closed-ended questions is not adequate to understand information such as feelings, behaviour and changes of emotions, but in this study open-ended questions were used for qualitative enhancement and not as the only questions. The questionnaire consisted of eight open-ended questions and 12 closed-ended questions.

Respondents may not understand the questions asked in the questionnaire or may not be honest in answering the questions. The respondents were literate by virtue of being doctoral students who were in the process of writing their thesis proposal. The questionnaire discussed challenges and opportunities that each respondent understood as they were the ones going through the experiences of writing a thesis proposal and therefore understood the importance of the questions asked.

4.6.2 Pre-test

According to Polit and Beck (2017:88-90), a questionnaire has to be evaluated for structure and its language appropriateness, to determine the clarity of questions and whether the answers to the questions would be relevant to the topic (Hilton 2015:22). A pre-test of the questionnaire which was distributed via Survey Monkey™ was conducted as suggested by Polit and Hungler (2013:38, 711).

Five academics were purposively selected due to their accessibility, willingness to voluntary participate, and the fact that they were knowledgeable in research instrument development as they were research methodology lecturers and research supervisors in their respective universities.

The academics suggested that more open-ended questions be added to the questionnaire in order to justify some of the answers in the questionnaire. Some questions were corrected for tense and grammar in order to improve clarity. Questions that were unclear and needed adjustment were improved and some open-ended questions were added (see Table 4.2).

Table 4.2: Old questions and new or revised questions

Old question	New/Revised question
1. Please indicate with a tick in the appropriate box the extent to which seminars, supervisory assistance and written guidelines are/were beneficial to support you in choosing a thesis topic.	1. Please indicate with a tick in the appropriate box the extent to which **you think** seminars, supervisory assistance and written guidelines would have been beneficial to support you in **CHOOSING A THESIS TOPIC.**
2. I understood the concept of trustworthiness.	2. I understood the concept of trustworthiness correctly.
3. No questions about ethics.	3. **Added;** I had the ability to conduct research in an ethical manner
4. I am proficient in English reading.	4. I am proficient in English reading and understanding

After pre-testing and implementating the suggested changes, the questionnaire was distributed via Survey Monkey™ to all 193 participants. The contact information of both the researcher as well as the supervisor was included in the letter of invitation to participate (see Annexure C) in case the respondents needed clarification information or had any questions.

4.7 RELIABILITY

According to Heal and Twycross (2015:66-67), reliability is the extent to which results are consistent over time and are an accurate representation of the population under study. Reliability can be achieved by developing a research instrument that can accurately measure the phenomenon under study (Polit & Hungler 2013:78). In this study, the research instrument – the questionnaire (see Annexure G) with eight open-ended questions and 12 closed-ended questions – was developed using Phase 1's data as well as a literature review. The instrument was then pre-tested by the five academics experienced in questionnaire development thereby increasing the reliability of the instrument.

4.8 VALIDITY

Validity determines whether the research truly measures that which it was intended to measure and provides truthful results (Campos et al 2017:21-26). The validity of the questionnaire used in this study was assessed by the supervisor and pre-tested by five academics with experience in instrument development and research supervision in order to determine that the instrument measured what it was supposed to measure. The SPSS computer program, imbedded in Survey Monkey™ (McDowall & Murphy 2018:152-153), was used to analyse the data.

4.9 ETHICAL CONSIDERATIONS

The ethical considerations of protecting participants from harm, as described in Section 3.9, were applied. Moreover, confidentiality was maintained by using the Survey Monkey™ program which does not require the respondent to supply any identifying personal information, therefore allowing for privacy and anonymity of the participants. The respondents had the right not to participate if they did not want to (see Annexure D).

4.10 DATA ANALYSIS

Data analysis was done using the quantitative data analysis software imbedded in the Survey Monkey™ SPSS. Data were analysed using descriptive statistics and results were presented in percentages, bar graphs and frequency counts. The answers to closed-ended questions were justified using follow-up open-ended questions for qualitative enhancement.

The qualitative responses were open coded and a thematic analysis was done as stipulated by Miles, Huberman and Saldana (2014:1). Where applicable, the participants' responses were included to give a clearer picture of the interpretation of the quantitative data. Literature control was also used to support or contradict the study findings and validate the data.

4.11 DATA PRESENTATION AND INTERPRETATION OF FINDINGS

To ensure a logical flow in the presentation of the findings, literature to support or contradict the findings will be presented in an integrated way. Using a tick in the appropriate box, the respondents indicated whether or not they experienced challenges in 1) Choosing a thesis topic, 2) Drafting their statement of the problem, 3) Finding relevant resources, and 4) Conducting the literature review. As illustrated in Figure 4.1, respondents had very diverse experiences pertaining to which aspects they experienced as challenging when writing their thesis proposal.

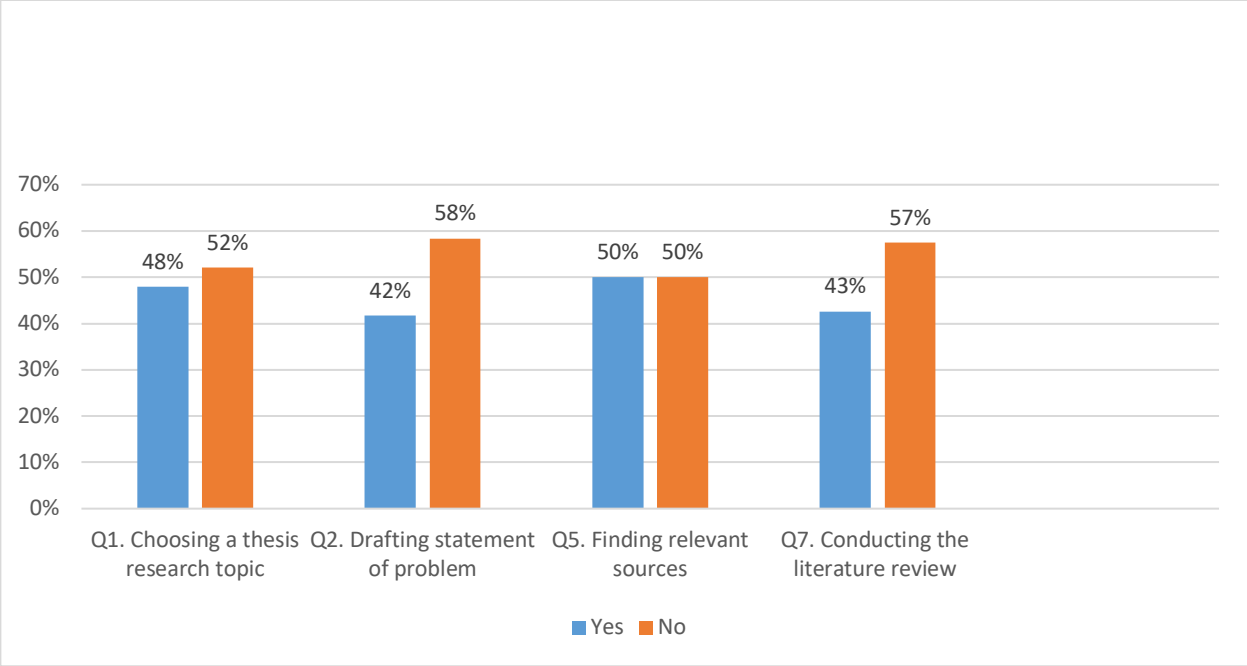

Figure 4.1: Challenges Experienced During Proposal Writing (N=48)

4.11.1 Choosing a thesis research topic (n=48)

As illustrated in Figure 4.1, 23 (f=48%) respondents experienced problems with choosing a thesis research topic, while 25 (f=52%) did not experience problems. It is good to know that more respondents did not experience choosing a topic as a challenge as the thesis topic in research is the central idea of the study (Creswell 2014:54). Participants therefore need knowledge in choosing a thesis topic in order to establish a viable research study, as well as develop other important research aspects such as drafting the statement of the problem (Creswell 2014:55).

In an open-ended question (see Table 4.3), respondents recommended what they think is important to assist students in defining a research topic. Three themes were identified, namely 1) Availability of human resources, 2) Availability of non-human resources, and 3) Personal motivation and determination. All comments and similar suggestions were grouped together as categories and the direct statements were added as the subthemes, as illustrated in Table 4.3.

Table 4.3: Recommendations to assist with the choice of a topic

Theme	Category	Subtheme
4.11.1.1 Availability of human resources	a) The supervisor	*"The supervisor should support the student by allowing the student to choose a topic and assist and guide them in modifying the topic."* *"A Competent supervisor should guide the student to choose a topic."* *"A supervisor should help the student to choose a good topic."*
	b) Support clubs	*"Universities need to set up support clubs"* *"Peer seminars are helpful"*
4.11.1.2 Availability of non-human resources	a) Workshops	*"More research methods courses and workshops are needed."*
	b) Methodology courses	*"Major research courses assistance should be offered to those who need them."*
4.11.1.3 Personal motivation and determination	a) Student responsibility	*"Students should focus on problems in their profession."* *"Students should read more journals."* *"Students should read widely to find the knowledge gap that needs to be researched."*

4.11.1.1 Theme 1: Availability of human resources

a) The supervisor

David (2017:4-16) supports the importance of the supervisor guiding students in acquiring research skills and knowledge that included the choice of a research topic. Also, Akerlind and McAlpine (2017:10-26) further argue that the part that the supervisor plays in research is essential as it affects the type of doctoral student that will be produced at the end of the research process. Respondents confirmed the positive contribution that supervisors must have in assisting students in choosing a research topic. Respondents indicated:

> *"The supervisor should support a student by allowing the student to choose a topic and assist and guide them in modifying the topic."*

> *"A Competent supervisor should guide the student to choose a topic."*

> *"A supervisor should help the student to choose a good topic."*

These findings are consistent with those by Moxham et al (2013:345-354) who found that although a number of factors influence the development of research competencies among doctoral students, the quality of research supervision is critical in successful doctoral thesis proposal writing and include assistance with the choice of a research topic. However, there are times when the supervisor may need to refer students for academic support in order to develop research competency (Kontorovich & Liljedahl 2018:4; Murakami-Ramalho et al 2013:256-271).

b) Support clubs

Students who join support clubs are able to share research challenges (Hjelm 2015:17) such as choosing a research topic. The frequent communication with others reduces the

fear and isolation that accompanies doctoral studies (Carter et al 2013:339-351). Students noted;

"Universities need to set up research support clubs."

"Peer seminars are helpful"

Respondents cited the need to set up support clubs and peer seminars as a means of assisting them in choosing a thesis topic. Wegener, Meier and Ingerslev (2014:1-14) concur with the findings and noted that support clubs give the research student the opportunity to develop research skills while sharing their insecurities. Attending peer support groups improves research skills and assists in developing competencies such as the ability to choose a research topic (Thalluri, O'Flaherty & Shepherd 2014:92-104).

Ra and Trusty (2015:319-329) also shared the view that support clubs assist students to succeed in thesis writing by increasing cognitive skills due to the positive feedback, encouragement and survival strategies the doctoral students receive from others (Fuchs 2017:1-2). According to DeClou (2016:174-198), students who are part of a group form strong support systems that motivate and increase their research skills, such as how to acquire research sources (Dukic 2015: 86). The need for human resources were mentioned as challenges experienced by respondents, as well as other types of resources that could have supported them.

4.11.1.2 Theme 2: Availability of non-human resources

Readily available non-human resources such as workshops and research methodology courses enable the student to acquire critical thinking skills such as the ability to choose a thesis topic (Schekman, Weigel & Watt 2015:1). Students confirmed the need for resources such as workshops and methodology courses:

"More research methods courses and workshops are needed."

"Major research courses assistance should be offered to those who need them."

Such notions are supported by Healey, Bovill and Jenkins (2015:2) who noted that since many doctoral students lack adequate preparation for research proposal writing, methodology courses and workshops can remedy this inadequacy.

According to Fatumo, Shome and McIntyre (2014:1), research courses and workshops increase the students' research knowledge and skills. They might also feel part of a group when attending workshops, which could motive and encourage them (de Ridder, Meysman & Oluwagbemi 2014:1). Simultaneously, their fears and sense of academic isolation may be reduced when they share similar challenges with those who are in similar situations (Wegener et al 2014:1-14). They can therefore exchange ideas and improve their research skills and knowledge (Shrivastava et al 2018: 83-90).

4.11.1.3 Theme 3: Personal motivation and determination

Studies revealed that although supervisors play an important role in guiding students to develop skills such as the ability to choose a thesis topic (Lowry 2018:43-46), students themselves have to be motivated and self-determined to develop their research skills (Van Rensburg et al 2014:5-6; Burkard 2014:19-54). The importance of students' own personal motivation in research was echoed by participants (see Table 4.3) as they stated;

"Students should focus on problems in their profession."

"Students should read more journals."

"Students should read widely to find the knowledge gap that needs to be researched."

Determination and self-motivation remove anxiety and fear from students and increase the drive to succeed (Gupta & Mili 2017:1). According to Tiyuri et al (2018:7-11), determination is one of the most important factors in determining success in research. Therefore, when a student's self-motivation increases, there is also an increase in academic performance, such as the ability to choose a thesis topic during the thesis proposal writing phase (Verderame, Freedman, Kozlowski & McCormac 2018:1).

Sharma and Sharma (2018:1-5) found that many students drop out, especially while writing their thesis proposal due to a lack of motivation and persistence (Jiranek 2010:2). Students who are motivated can successfully complete their studies (Gbollie & Keamu 2017:1-11) since they are able to choose a research topic and develop other research skills, including the ability to draft the problem statement (Creswell 2014:147-148).

4.11.2 Drafting of the statement of the problem (n=48)

Twenty respondents (f=41.7%) (see Figure 4.1) indicated that they experienced challenges in drafting the problem statement while 28 (f=58.3%) did not experience any problems. Since the problem statement is the initial step in the research process and gives guidance and direction to the intended research project (Creswell 2014:148), the results indicate that there is an urgent need to train doctoral students in the drafting of the problem statement.

According to Polit and Hungler (2013:132), a problem statement also enables the research student to remain focused, but requires academic writing skills (Nicholson 2018:15-31). Therefore, students who are registered for a doctoral thesis should have knowledge on how to draft a well-formulated research problem as it is critical in guiding and directing their thesis (Creswell 2014:148). It also ensures that the researcher remains focused by answering relevant questions (Grove et al 2014:231).

Respondents provided reasons for why they did or did not experience any challenges with drafting the problem statement, which is indicated in the thematic analysis illustrated in Table 4.4. Two themes were identified, namely 1) Student competences and 2) Supervision.

Table 4.4: Challenges in drafting a problem statement.

Theme	Category	Subtheme
4.11.2.1 Student competences	a) Research competency	*"I knew how because I teach research paper writing."* *"It was easy because I have two masters qualifications by dissertation."* *"I know because I had been supervising research for some time."* *"I was taught during research proposal course so I had no real problems."* *"I had good knowledge on research writing."* *"I have previous knowledge on proposal writing."*
	b) Lack of research competences	*"I had problems in identifying the research gap to fill."* *"The phrasing of the problem statement was a challenge."* *"I did not understand exactly what I was expected to do."* *"I really battled in order to come up with a suitable problem statement."*
4.11.2.2. Supervision	a) Supervisor assistance	*"My supervisor reinforced research knowledge."* *"My supervisor assisted me."*

Theme	Category	Subtheme
		"I was guided by a competent supervisor." *"My supervisor helped me shape it."*

4.11.2.1 Theme 1: Student competences

Doctoral students need to identify where they are lacking as far as their research skills and knowledge are concerned. They also need to develop HOTS which will enable them to become independent scholars capable of conducting research (Chiappetta-Swanson & Watts 2011:7-8), thus competent to produce quality research (Yen & Halili 2015:41; Davidson & Palermo 2015:1-9) and draft a research problem statement.

Research supervisors expect research students who completed their master's or honours degrees to possess research skills and the ability to draft a research problem statement (Nieswiadomy 2012:120). Fortunately, some respondents indicated that problem statement writing was not a challenge for them.

Respondents indicated that their prior knowledge and research competence had been helpful in drafting the statement of the research problem as indicated in the direct responses:

> *"I knew how because I teach research paper writing."*
>
> *"It was easy because I have two masters' qualifications by dissertation."*
>
> *"I know because I had been supervising research for some time."*
>
> *"I was taught during the research proposal course so I had no real problems."*
>
> *"I had good knowledge on research writing."*

"I have previous knowledge on proposal writing."

Conversely, participants who experienced challenges with drafting the problem statement cited a lack of research knowledge. They shared:

"I had problems in identifying the research gap to fill."

"The phrasing of the problem statement was a challenge."

"I did not understand exactly what I was expected to do."

"I really battled in order to come up with a suitable problem statement."

McCallin and Nayar (2012:10) supported the findings that research experience, such as completing other research courses, working as a research assistant, or being part of a team that conducted research in the past was influential in the student developing into an independent researcher (Burkard et al 2014:20; Kontorovich 2016:101-111) capable of writing a problem statement.

Students who are competent in research and possess research skills are also more likely to succeed in doctoral studies (Jackson 2016:1313-1332) and have increased motivation to complete their studies (Luckett 2017:10-18). Research competency is determined by the student's academic writing skills (Roets 2013:141) as well as the student's ability to apply themselves to research studies (Van Rensburg et al 2014:6). Another determinant of the student's ability to develop research competency is proficiency in the language of instruction, since this competency enables the student to grasp research information, write in a scientific manner and thereby develop their research skills (Martinsuo & Turkulainen 2011:107; Erath 2017:321-328).

However, studies indicate that research students lack adequate research knowledge and have difficulty drafting their problem statement (Goertzen 2017:159-161). According

to Verderame et al (2018:10-23), most doctoral students start their research studies without sufficient knowledge, thus reflecting a need to screen prospective doctoral students for research preparedness. Some students phrased this challenge as follows:

"The phrasing of the problem statement was a challenge."

"I did not understand exactly what I was expected to do."

"I really battled in order to come up with a suitable problem statement."

Prazeres (2017:220-221) noted that in the case where a student is lacking research knowledge, the supervisor should support and motivate the student (Taylor & Beasley 2010:83), while encouraging research skills development (McDonald 2017:1-10; Wisker 2012:115).

4.11.2.2 Theme 2: Supervision

Supervision requires research competences, expertise and special knowledge in order for the supervisor to adequately offer guidance and motivation to their students (Roets et al 2017:1-10). A supervisor who lacks supervision expertise and research skills needs to be trained in order to prepare them to be competent in assisting students to draft a problem statement and produce quality research (Lee 2018:879 - 890; Fillery-Travis et al 2017:1-5).

a) Supervisor assistance

Students who have challenges with drafting the research problem should work closely with their supervisors (Carter & Laurs 2014:1) who will assist them in developing HOTS. This will enable supervisors to be focused in areas such as the formulation of a research problem and encourage their students to continue to develop other research skills (Ago & Odimegwu 2014:6; Roets & Maritz 2017:51-56).

Students appreciated the assistance they received from their supervisors and they stated:

"My supervisor reinforced research knowledge."

"My supervisor assisted me."

"I was guided by a competent supervisor."

"My supervisor helped me shape it."

The positive perspectives of participants about their supervisors' assistance support the findings by Azure (2016:163) who found that students made academic progress when they were appropriately assisted by their supervisors. On the contrary, Kiley (2011:588) noted that supervisors had many other responsibilities and they needed to develop time management skills or conduct joint doctoral student supervision in order to adequately afford the student enough supervision time. The participants who may not have appreciated the assistance of their supervisor could be those students who were not adequately supported by their supervisors due to the supervisor's various other commitments.

Peelo (2011:48) further indicated that navigating into doctoral research should be a shared responsibility of the student and the supervisor. Both should define parameters and responsibilities early in order to create an environment that motivates free interaction whenever the student needs assistance (Fenge 2012:401-14). According to Winchester and Salji (2016:308-312), students will not be able to write a problem statement without the competency to conduct a literature search and a literature review that will provide evidence-based research.

4.11.3 Finding relevant literature sources (n=48)

Adequate and relevant literature sources greatly impact on the quality of the research (Creswell 2014:200) by revealing to what extent the research findings are grounded in credible scholarship (Portugal 2017:1). It is therefore important that students are competent in conducting literature reviews. It is evident from the study that 24 (f=50%) respondents (see Figure 4.1) had problems finding relevant literature to conduct quality doctoral research, while the other 24 did not experience any problems in this regard.

In an open-ended question, respondents provided justification for why it was difficult to find relevant literature to conduct evidence-based research. The answers were open coded and all the comments and reasons could be grouped into one theme, namely the lack of resources (see Table 4.5).

Table 4.5: Reasons for difficulty to find relevant literature

Theme	Category	Subtheme
4.11.3.1 Lack of resources	a) Access to literature	*"It was difficult to get literature sources"* *"It was not easy to find recent text books on the topic"* *"Articles in the area of study were not adequate"* *"My area of study has limited literature"* *"It was not easy to find current and relevant literature"*
	b) Lengthy process	*"The process of finding literature was time consuming".* *"Library resources sent by mail were very slow and difficult to get"*
	c) Financial implications	*"Articles were expensive and I*

		had to pay." *"Electronic resources expensive due to lack of internet."*

4.11.3.1 Theme 1: Lack of resources

a) Access to literature sources

Grewal et al (2016:635-639) indicated that doctoral students should have access to books, journals and other sources of research literature in order to acquire research information and succeed in thesis proposal writing. A lack of literature sources can result in the researcher being unable to conduct a scholarly literature review (Pautasso 2013:1), compromising the research proposal.

Students can be discouraged and their progress impeded if they experience problems in obtaining relevant literature (Mutshewa 2015:1; Apuke & Iyendo 2018:1-10). Some respondents indicated that they experienced problems with accessing relevant literature sources (see Table 4.5). They stated:

"It was difficult to get literature sources."

"It was not easy to find recent text books on the topic"

"Articles in the area of study were not adequate"

"My area of study has limited literature"

"It was not easy to find current and relevant literature"

These findings are supported by Hacker and Sommers (2011:67), who claimed that the search for research literature can be time consuming and tedious (Grewal et al 2016:635), and must meet doctoral research standards and expectations in terms of the

rigour and quality of the literature to be reviewed (Suhonen 2017:45). Registered students should therefore be prepared to spend quality time in order to conduct a well-structured literature search (Eaton 2018:11).

Contrary to the findings, Bradbury (2018:1) noted that registered doctoral students should not encounter problems with accessing relevant literature since they are provided free access to literature sources through the library. Additionally, they have access to subject librarians who will assist them in attaining research materials.

Student handbooks in most universities also have information on how to obtain library material for research (UNISA 2018:1), further reducing the frustration experienced by students when they are unable to access literature. It is therefore possible that the students who had challenges in accessing literature sources lacked the competency to find research literature and may not have known how to get assistance.

When a student lacks the ability to access literature, attending seminars on related topics can increase their required research skills (Zohar 2013:234; Bothaina, Al-Sheeb, Abdulwahed & Abdel 2018:15-30); without this competency, it will take the student a long time to access the research literature.

b) Lengthy process

It is important that research sources be readily available since a prolonged process in obtaining research literature will result in student frustration (Grewal et al 2016:635-639). Participants were of the opinion that the process of accessing literature was time consuming and they stated:

> *"The process of finding literature was time consuming."*

> *"Library resources sent by mail were very slow and difficult to get."*

The participants' perception of a lengthy process in obtaining literature is consistent with literature (Grove et al 2015:190-194). As stated, some participants saw the process of obtaining research literature as lengthy and conducting a quality thesis may take time (Vande Schoot, Yerkes, Mouw & Sonneveld 2013:1-10). Transitioning from a new doctoral student with limited research skills to an independent researcher capable of conducting research at higher level can thus be time consuming (Niehaus et al 2018:1-20).

Another challenge with literature sources is the cost of some research materials.

c) Financial implications

The financial burden of conducting a relevant literature review can be a challenge to some students (Saunders 2015:286; Alkandari 2014:online). However, successful and quality research can only take place when relevant literature resources are available and accessible (Sushma 2015:1540-1546). A lack of support to gain access to literature resources negatively impacts on students' progress (Mutshewa 2015:1; Seema 2014:1-11).

Some students found it difficult to access relevant literature for their studies, despite universities availing registered students access to free library sources such as research material, e-books and e-journals (Singh & Khan 2015:1). Libraries also have subject librarians who are able to assist students in obtaining relevant literature (Bradbury 2018:1). A few participants found it expensive to acquire relevant literature (Table 4.5) and they noted:

"Articles were expensive and I had to pay."

"Electronic resources were expensive due to lack of internet."

Some participants, most likely the ones who had free access to library sources as registered students at their university, provided reasons for why they did not find it difficult to find resources. Although they were not requested to provide reasons, all responses mentioned the availability of resources as the reason why they did not experience problems;

"Had good literature sources".

"Lots of literature available".

"Lots of help from librarian".

"Up to date library".

In the case where some literature is not available in a specific university, the librarian can also assist the student to acquire the needed literature via interlibrary sourcing (Kara 2016:1). Students who have access to adequate literature sources are able to conduct a viable literature review.

4.11.4 Conducting the literature review (n=48)

The doctoral student is required to demonstrate the ability to conduct a thorough literature review (Nieswiadomy 2012:19). However, there are times when some students lack this important research skill and may need assistance (Kaakinen et al 2017:22-28). As indicated in this study, 20 respondents (f=41.7%) had problems conducting the literature review, while 28 respondents (f=58.3%) (see Figure 4.1) did not.

Polit and Beck (2017:33) noted that a thorough literature review provides evidence-based research information and should meet research standards in terms of quality and rigour (Suhonen 2017:45). Finding relevant research sources is therefore critical and

requires critical thinking skills (Burns et al 2015:87), whether it be in searching online or at a library (Hicks 2015:217-242).

Some authors emphasised that language proficiency is vital in order for a doctoral student to be able to really access resources and accurately interpret research information, including relevant and applicable literature (Itau et al 2014:326). The supervisor can be a very important resource to assist the student in acquiring the understanding of conducting a literature review, and assist students to become competent in doing a literature search (Van Rensburg et al 2014:8).

Participants provided reasons for the problems and strengths they experienced in conducting a literature review. Two themes were identified, namely 1) Resources and 2) Prior knowledge of conducting a literature review (see Table 4.6).

Table 4.6: Challenges and strengths in conducting literature review.

Theme	Category	Subtheme
4.11.4.1 Resources	a) Available training opportunities	*"Workshops helped me"* *"I attended a research course before which made it easy for me."* *"I took an academic writing class before."* *"Registering with Scopus, Mendeley and Springer helped me to get research articles."*
	b) Unavailability of literature resources	*"There were limited references related to my topic"* *"There are limited resources."* *"Accessing articles was a problem."*
4.11.4.2 Prior knowledge of conducting a literature review	a) Existing prior knowledge	*"I knew how to conduct the literature review."* *"I had strong research skills from*

Theme	Category	Subtheme
		undergraduate." *"I had been taught how to summarise and synthesise ideas."* *"It was easy for me to conduct a literature review."*
	b) Lack of prior knowledge	*"I was not sure of what to include and what not to include"* *"There is too much literature and difficult to know what is relevant."* *"I had problems with paraphrasing."* *"I had problems integrating literature."*

4.11.4.1 Theme 1: Resources

a) Availability of training opportunities

According to Babcock and Thonus (2018:1), an advantage of academic writing centres and peer workshops is that doctoral students develop vital critical thinking skills as they interact with others. This will improve their research knowledge in terms of how to conduct the literature review.

Table 4.6 indicates that participants appreciated the importance of training opportunities such as seminars and workshops in enhancing their skill of conducting a literature review. They noted:

"Workshops helped me"

"I attended a research course before which made it easy for me."

"I took an academic writing class before."

"Registering with Scopus, Mendeley and Springer helped me to get research articles."

These findings concur with Thalluri et al (2014:1-14) who noted that students who were "at risk" of not succeeding in their studies, became competent and developed skills when they participated in peer support group activities. Niehaus et al (2018:15-31) similarly maintain that seminars and research courses have been associated with successful learning in research. Moreover, Candling (2016:1) suggests that students who have challenges in research skills and are deficient in research knowledge can be supported with academic writing courses and seminars, and they are motivated to persevere in their research studies.

b) Unavailability of literature resources

Sushma (2015:1540-1546) noted that the development of research knowledge and skills is greatly impeded by a lack of research sources. The quality of doctoral research is thus compromised if literature sources are not available (Seema 2014:1-11).

Some participants (See Table 4.6) agreed that the unavailability of literature resources was an impediment in their ability to conduct a literature review. Others stated that limited references negatively impacted them;

"There were limited references related to my topic"

References are critical in doctoral research and should be accessible (Mahwasane 2016:259). It is concerning that there were respondents who indicated that:

"There are limited literature research resources"

"Accessing research articles was a problem."

It is not clear whether the participant referred to the number of relevant articles or how to gain access to the available ones. As stated, this should not have been a challenge as registered students are provided free library access to research articles (Hicks 2015:219) and subject specialist librarians can assist the research student with information on how to obtain research information (Mutshewa 2015:1). Isebe (2015:22) further elaborates that some students may lack the knowledge of how to access library material or other sources of research information and may need assistance and guidance from librarians (Mutshewa 2015:2; Kara & Karen 2016:1-26).

A research student who lacks skills in obtaining literature sources can also be referred to research seminars where they gain knowledge of such research skills. The doctoral student is also responsible to refer to specific institutional guidelines on how to acquire research information (Manchishi et al 2015:126-138), thereby increasing their research knowledge and skills (McEachern & Horton 2016:444-456) and enabling them to conduct a literature review.

4.11.4.2 Theme 2: Prior knowledge of conducting literature review

a) Existing prior knowledge

You and Bednarski (2014:48-54) noted that doctoral students who possess research skills and knowledge before they embark on thesis writing often succeed in transitioning into independent researchers. Participants emphasised the fact that their prior research knowledge was beneficial in conducting a literature review. Some direct quotes provide evidence thereof:

> *"I knew how to conduct the literature review."*

> *"I had strong research skills from undergraduate."*

> *"I had been taught how to summarise and synthesise ideas."*

"It was easy for me to conduct a literature review"

Such notions are supported by Niehaus et al (2018:1-20), who state that research self-efficacy is greatly influenced by early research training and knowledge. Doctoral students are expected to have prior research knowledge in light of obtaining their master's or honours degree.

b) Lack of knowledge to conduct a literature review

It is of concern that respondents indicated:

"I was not sure of what to include and what not to include"

"There is too much literature and difficult to know what is relevant."

"I had problems with paraphrasing."

"I had problems integrating literature."

Searching for relevant literature and conducting a literature review (see Section 2.6.1) is a competency that must have been fostered and developed within a master's or honours study. Doctoral students must take responsibility in developing their research skills and the institutions of higher learning have a responsibility to screen doctoral students for research preparedness during recruitment (Sorensen 2016:297-303; Creech et al 2018:49-52). However, supervisors can also assist students in reviewing literature (Van Rensburg et al 2014:8), and encourage students to form communities of practice where students meet regularly with those in similar disciplines to learn from one another and share challenges in terms of how to conduct a literature review (Pyrko et al 2017:389-409).

As stated, screening doctoral students during recruitment will enable universities to enrol only those students who have greater chances of succeeding in research (Sorensen 2016:297-303; Creech et al 2018:49-52). Such students will also be knowledgeable in conducting a literature review.

4.12 ASPECTS THAT CAN SUPPORT STUDENTS WITH THESIS PROPOSAL WRITING

Respondents indicated what support they believe would have assisted them during the thesis proposal writing phase of their doctoral studies. As determined, doctoral students sometimes need to be supported in choosing a thesis topic (Hineman & Semich 2017:1), drafting a problem statement (Odena & Burgess 2017:572-590; Wetzel & Ewbank 2013:393), finding relevant research sources (Mahwasane 2016:260), and conducting a literature review (Badenhorst 2018:58-74; McBride et al 2013:12). Since some respondents confirmed that thesis proposal writing was a challenge (see Figure 4.1), they might find certain supportive aspects, namely seminars, supervisory assistance and written guidelines beneficial during the thesis proposal writing phase.

4.12.1 Support with choosing a thesis topic (n=48)

As indicated in Figure 4.2, on a scale from 1 to 5 respondents had to indicate to what extent they thought seminars or workshops, the supervisor's assistance or written guidelines could be beneficial to them in choosing a thesis topic.

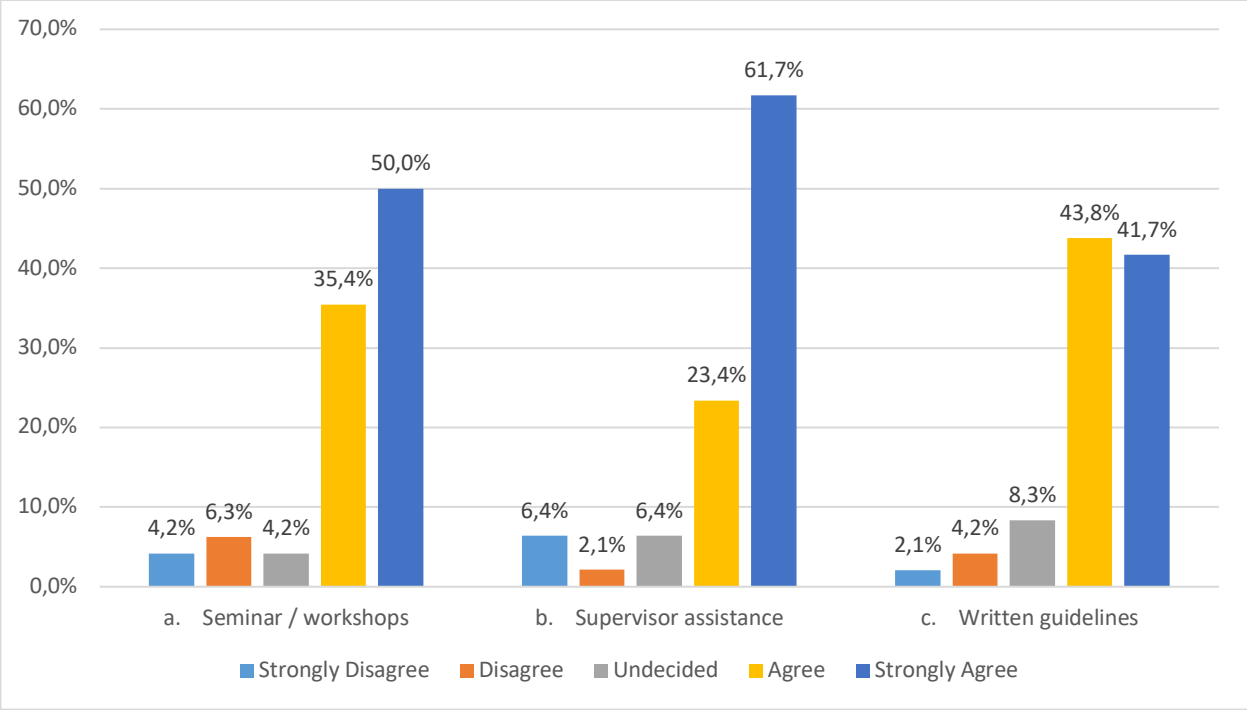

Figure 4.2: Methods to support choosing a thesis topic

A majority of respondents (n=41; f=85.4%) agreed and strongly agreed that **seminars or workshops** could have supported them in identifying a research topic. Only 7 (f=14.6%) were undecided, disagreed or strongly disagreed.

There is evidence from similar studies that confirm research students who attended research workshops developed critical thinking skills that could assist them in choosing a thesis topic (Arbee & Samuel 2015:1). The interaction that takes place when students attend seminars encourages the exchange of ideas to further improve the students' knowledge of how to choose a thesis topic (Islam 2019:1-22). Supervisors can assist the students by referring them to research seminars offered by institutions to enhance knowledge in the case where the student is experiencing difficulty.

A **research supervisor** can also play a pivotal role in the students' choice of a research topic (Watson 2017:28). A total of 40 respondents (f=83.3%) indicated that the research supervisor's assistance would have supported them in choosing a thesis topic (see Figure 4.2). Thus, after assessing the student's research skills and knowledge (Lee

2018:878-890; Smith 2014:384-411), the supervisor should encourage the student to refine their skills in choosing a thesis topic (Lepp et al 2016:1).

Supervisory support was also noted to be helpful in the development of skills that enable the student to organise, analyse, reason, synthesise, apply and evaluate research information while choosing a research topic (Roets & Maritz 2017:5; Duke & Denicolo 2017:1). Using constructive feedback to communicate areas that need improvement, the supervisor can encourage the development of critical thinking skills that will enable the student to not only choose a research topic (Lowry 2018:43-46) but provide evidence of scholarly writing. While supervisor support is important in choosing and refining the research topic, students can also refer to specific institutional guidelines on how progress with their research (Bednall 2018:1).

Written guidelines are manuals, tutorial letters or online institutional documents, with a set of written instructions or requirements on how to proceed with studies (Mutshewa 2015:1). Specific institutional guidelines are available to the registered student during their study and often remove the uncertainty of how students should proceed with their research (Stoesz & Yudintseva 2018:1-10).

The majority of respondents (n=41; f=85.4%) believed that **written guidelines** would have been beneficial to them in choosing a thesis topic (see Table 4.2). It is also well documented that written guidelines (Fisher et al 2016:2) can provide guidance and structure in research, especially when students are confused about where to find information when choosing a topic. These written guidelines can also assist the student in drafting a problem statement.

4.12.2 Drafting of the problem statement (n=48)

According to Nabolsi et al (2014:214), academic writing centres and writing groups improve doctoral students' research knowledge. The open dialogue in such groups

encourages ideas that enable students to deal with challenging areas in terms of drafting the problem statement (Arbee & Samuel 2015:48-69).

Respondents, as illustrated in Figure 4.3, indicated to what extent **seminars, supervisor assistance or written guidelines** could have supported them in **drafting a problem statement**. Respondents indicated their choice by ticking the appropriate boxes.

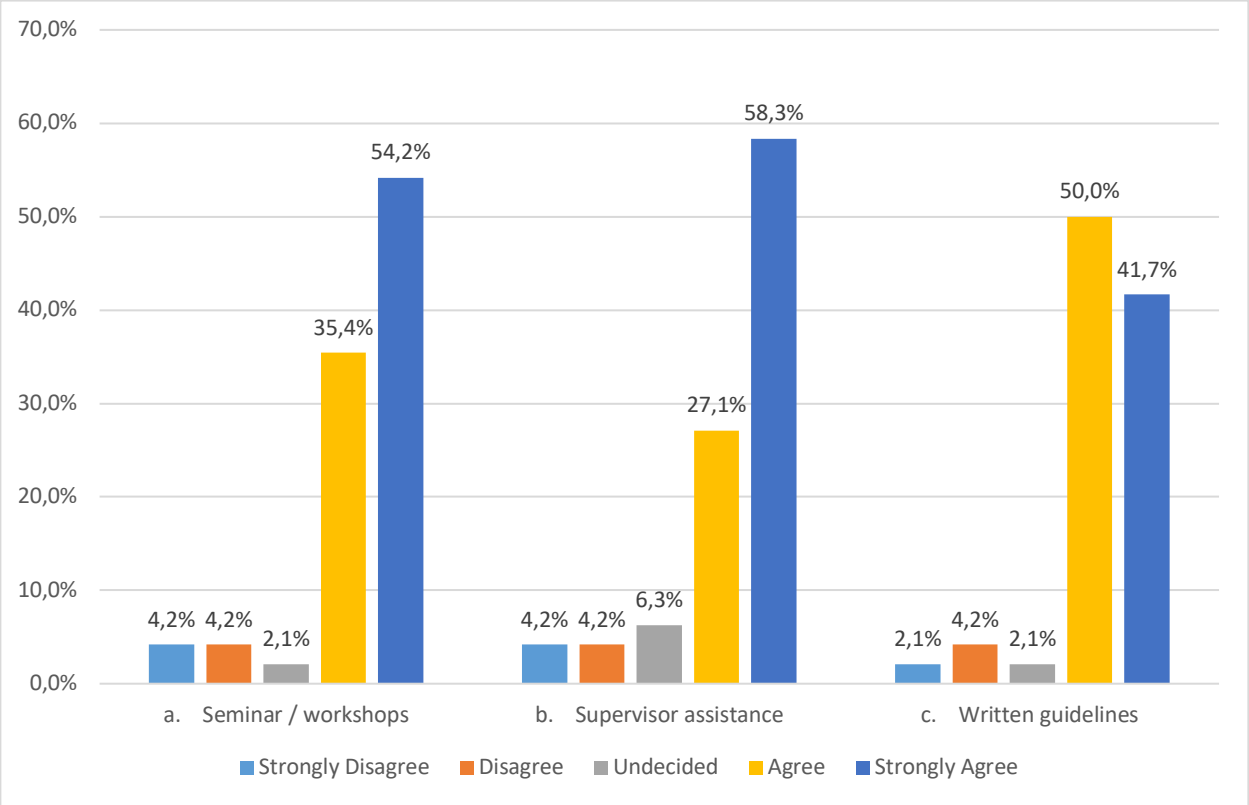

Figure 4.3: Support for drafting of the problem statement

As illustrated in Figure 4.3, the majority of respondents (n=43; f=89.6%) agreed and strongly agreed that seminars or workshops could have supported them in drafting their problem statement. The findings are supported by Kim, Suh, Kim and Gopalan (2012:1-22) who noted that seminars have been credited with the improvement and growth of research students' knowledge and abilities (Contact 2016:1). Peer seminars and conferences allowed the students to not only develop a research identity, but also

allowed the development of research knowledge, such as how to draft the problem statement (Murakami-Ramalho et al 2013:266; Council of Ontario Universities 2014:1). In cases where the student is failing to progress, the supervisor should promote the student's development of critical thinking skills to assist the student in developing into a competent researcher who is capable of drafting the problem statement (Roets 2013:139-149; Inouye & McAlpine 2017:1-10).

Most respondents (n=41; f=85.4%) indicated that **supervisor assistance** would have been helpful in drafting the problem statement. Watson (2017:28) and Wisker (2012:115) concur that the support of a supervisor is important to motivate and encourage students to develop proper research skills. Supervisor support in the form of constructive feedback was noted to be helpful in students' development of critical thinking skills (Fromkin 2015:1; Can & Walker 2014:303-318). While supervisors are important in supporting students in drafting the proposal statement, students should also refer to written guidelines (Ghazal et al 2014:13-27).

As indicated in Figure 4.3, 44 (f=91.7%) respondents noted that **written guidelines** supported them in drafting the problem statement. Written guidelines remove the confusion of how the research student should conduct the research, including writing the statement of the research problem (Vinz 2016:1). Since different universities have different and specific written guidelines concerning thesis proposals (Hertzberg 2017:1), students should familiarise themselves with their specific institutional guidelines on how to proceed with research (Balakumar, Inamdard & Jagadeesh 2013:130-138). Written guidelines can also provide the student with information on how to find literature sources (Sigh & Khan 2015:1).

4.12.3 Finding of relevant literature sources (n=48)

Respondents indicated the extent to which they thought seminars, supervisor assistance and written guidelines would have been beneficial in finding relevant literature sources (Figure 4.4).

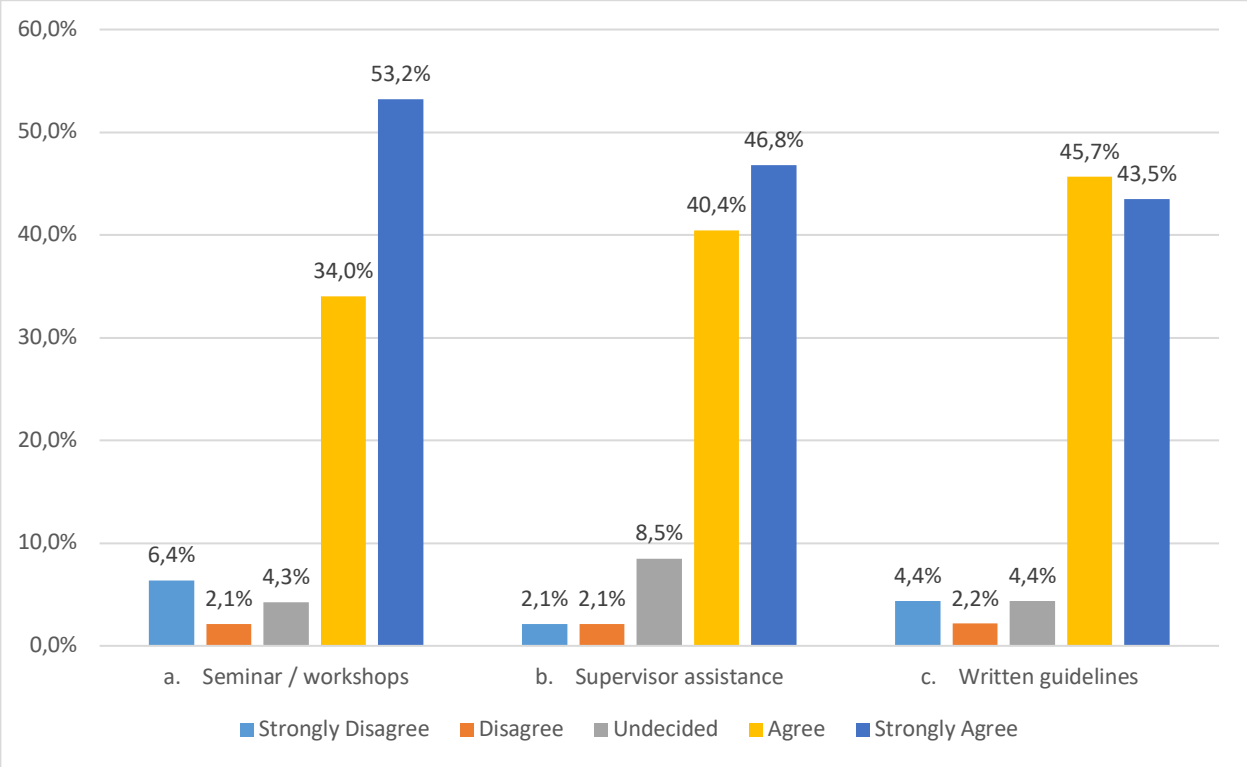

Figure 4.4: Support in finding relevant literature sources

A majority of respondents 41 (f=87.2%) believed that **seminars or workshops** were beneficial in supporting them to find relevant literature sources. According to several authors, seminars are a valuable source of where to find research information, as well as current literature sources (Black, Balneaves & Garossimo 2015:14-20; Falato & Fata 2016:1). Students should take responsibility for developing their own research skills, which include the ability to conduct a thorough literature search (Tiyuri et al 2018:7-11). Where students lack the ability to find literature sources, the supervisor should refer such students to obtain research training and assistance from the library (Roets et al 2017:6-7; Dukic 2015:1-11).

Several authors agreed that one of the fundamental responsibilities of the supervisor is to assist the research student in gaining access to relevant research material (Murakami-Ramhalo et al 2013:256-271). Forty-two respondents (f=87.5%) confirmed

that **supervisor assistance** would have been valuable to them in finding relevant literature sources.

Research students who receive documented information about their programme's expectations and departmental orientation – including support services (such as where and how to find relevant literature sources) – become focused and progress effectively (McEachern & Horton 2016: 444-456). A majority of respondents (n=43; f=89.6%) were of the opinion that **written guidelines** could support them in finding relevant literature sources. When research sources are available, the student is able to succeed in conducting a literature review (Eaton 2018:1-12).

4.12.4 Conducting the literature review (n=48)

As is indicated in Figure 4.5, respondents noted their opinion of the helpfulness of seminars, supervisor assistance and written guidelines in conducting a literature review.

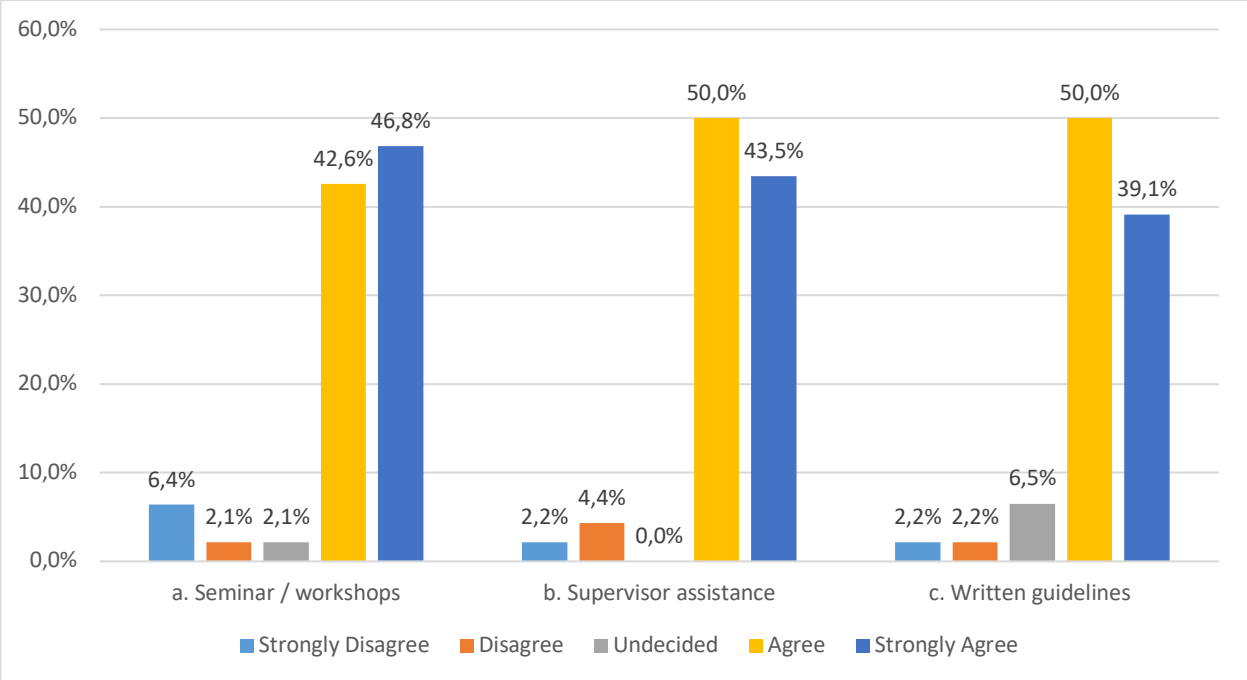

Figure 4.5: Support in conducting the literature review

Figure 4.5 shows that a majority of respondents (n=42; f=89.4%) believed that **seminars/workshops** would have been beneficial to them in conducting the literature review. As indicated, seminars and workshops help students to develop research skills and form support systems that will motivate them to successfully complete their studies (Gauvreau, Hurst, Cleveland-Innes & Hawranik 2016:1). Moreover, most respondents (n=45; f = 93.5%) were of the opinion that **supervisor assistance** was essential in conducting the literature review. Studies confirm that research supervisors empower students to become independent researchers (Denicolo, Duke & Reeves 2016:1) and to develop relevant research knowledge in terms of conducting the literature review (Van Rensburg et al 2014:3; Denicolo et al 2016:1). Supervisors also encourage students to familiarise themselves with institutional guidelines and proceed according to those guidelines (Knox et al 2011:20).

According to Fisher et al (2016:1-2), **written guidelines** assist students to find research information and provide structure and guidance in doctoral studies. As indicated in Figure 4.5, most respondents (n=43; f=89.6%) agreed that written guidelines were helpful in conducting the literature review. When students become competent in conducting a literature review, they tend to progress in their studies (Lindsay 2015:184).

4.13 COMPETENCIES IN THESIS PROPOSAL WRITING

Students register for doctoral studies after completing a master's or honours degree. It is during their master's and honours degree studies that the students are expected to acquire skills such as scientific writing skills and the ability to conduct research (Grove et al 2014:29). Sadly, however, most students who enter their doctoral studies are not competent in conducting research and are not able to progress, resulting in them dropping out from their programmes (DeClou 2016:175).

In the description of the findings illustrated in Figure 4.6, all the 'strongly agree' and 'agree' results were added together and calculated to reflect respondents who agreed with the statement. Those who indicated 'undecided', 'disagree' or 'strongly disagree'

were calculated as respondents who lacked research competencies. The respondents who indicated that they were undecided were considered as stating that they were incompetent. The researcher reasoned that if one is unsure whether they know how to do something then it is evidence of a lack of that specific knowledge. Therefore, the undecided responses added to the ‘disagree’ and ‘strongly disagree’ group.

It is evident from Figure 4.6 that a substantial number of respondents were not competent as far as those research skills necessary in thesis proposal writing were concerned. The competencies included (a) The ability to apply research methodology theory (see Section 4.13.1); (b) The ability to apply research methodology in practice (see Section 4.13.2); (c) The ability to choose the applicable research design (see Section 4.13.3); (d) The ability to choose the applicable research techniques (see Section 4.13.4); (e) The ability to do a literature search (see Section 4.13.5); (f) The ability to conduct research in an ethical manner (see Section 4.13.6); (g) The knowledge of how to protect research participants from any harm (see Section 4.13.7); (h) The ability to critically analyse the research findings from other studies findings and results (see Section 4.13.8); (i) Knowledge of how to describe the reliability of a study (see Section 4.13.9); (j) Understanding the concept of trustworthiness (see Section 4.13.10); (k) Proficiency in English reading and understanding (see Section 4.13.11); (l) The ability to compile a scientifically sound research proposal (see Section 4.13.12); as well as (m) The ability to write scientifically in English (see Section 4.13.13).

Students who lack research knowledge and skills usually give up their studies and do not graduate (Tiyuri et al 2018:1-11). It is therefore important that they are assisted in developing these skills in order for them to be successful in their studies.

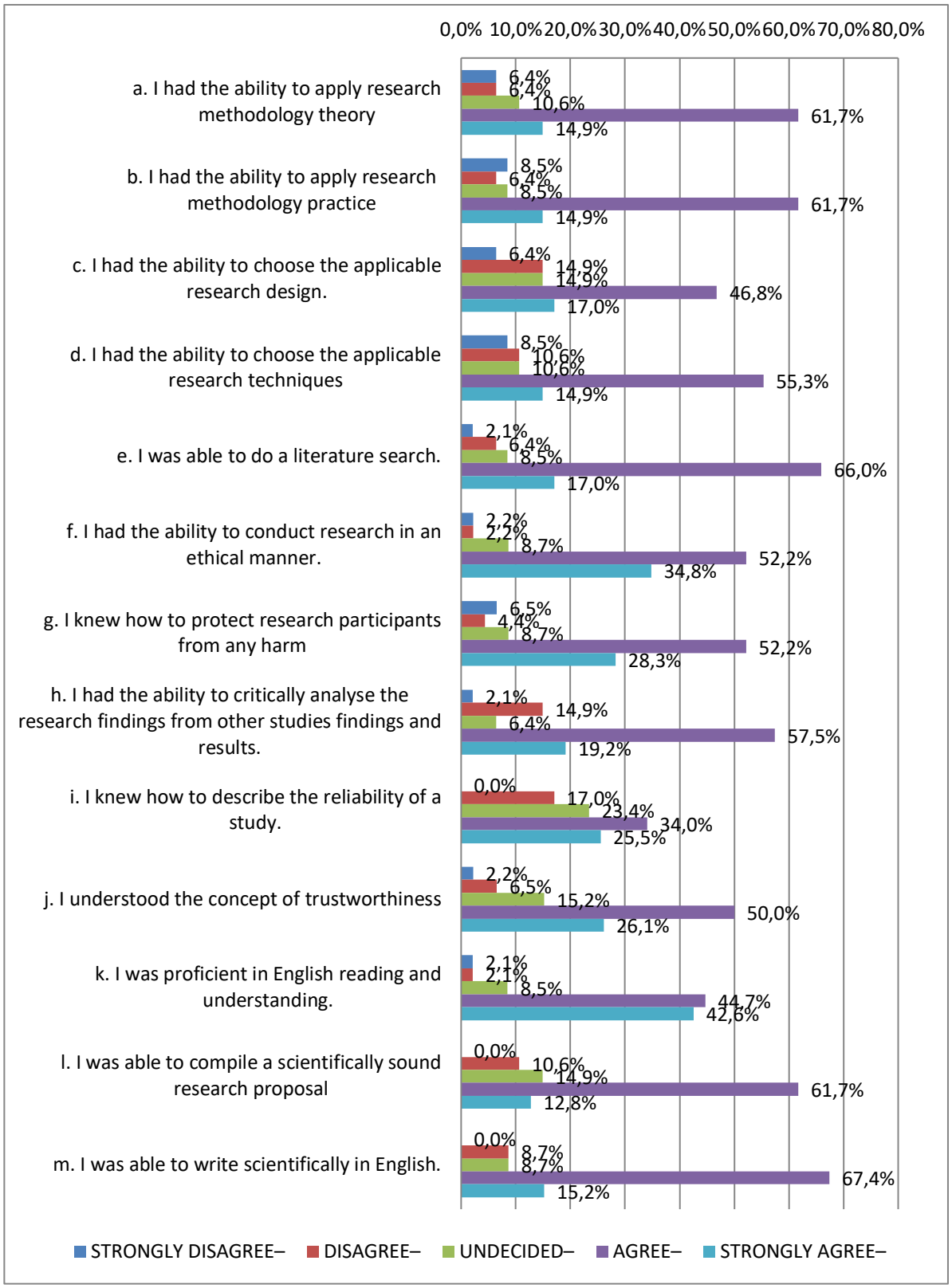

Figure 4.6: Existing research competencies (n=48)

In motivating their opinions on what they view as being important to assist students in developing research skills, respondents elaborated in an open-ended question (see Table 4.7). One theme emerged, namely that of knowledge.

Table 4.7: Support suggested for developing research skills

Theme	Category	Subtheme
4.13.1 Knowledge	4.13.1.1 Research courses	*"I took undergraduate research courses."* *"Through pre-doctoral studies on research."* *"Students should get more research lessons."* *"I acquired research skills during my master's programme."* *"We did research methodology courses first six months."*
	4.13.1.2 Workshops	*"Workshops can be the best solution."* *"You get research knowledge by attending more research workshops."* *"It should be mandatory for doctoral students to attend at least one research seminar."*
	4.13.1.3 Written Guidelines and Tutorials	*"Research skills could develop by using written guidelines on model formulation."* *"Tutorials could be very helpful in developing research skills."*
	4.13.1.4 Research presentation	*"Presentation for peer review would give experience in research."* *"Research seminars where*

Theme	Category	Subtheme
		students would present their studies would expose students to research." *"Presenting masters research at conferences."* *"Publishing research papers in peer reviewed journals and at peer seminars."*

4.13.1 Ability to apply research methodology theory (n=48)

While 39 respondents (f=83%) indicated that they had the ability to apply research methodology theory, eight respondents (f=17%) unfortunately did not possess this important competency. In justifying their answer (see Table 4.7), respondents indicated that pre-doctoral studies on research were of great benefit in their ability to apply research methodology. They credited their knowledge of research to courses they took during their master's programme. They noted;

> *"I took undergraduate research courses".*

> *"We did research methodology courses first six months"*

Contrary to the findings in this study where most students indicated they had the ability to apply research methodology, literature indicated that many doctoral students commenced their doctoral studies without sufficient research skills (Wetzel & Ewbank 2013:399). Students should thus be assessed and evaluated prior to enrolment pertaining to their research knowledge and skills. Seminars or research courses should be available and recommended to those students who lack research skills before they embark on doctoral research in order to minimise dropout (Pyrko et al 2017:389).

4.13.2 The ability to apply research methodology in practice (n=48)

In order to succeed with their studies, the doctoral student needs to have relevant skills such as the ability to apply research methodology in practice (Nieswiadomy 2012:120) as they are more likely to be retained as researchers (Kontorovich 2016:101-111).

While 36 (f=76.6%) respondents generally had the ability to apply research methodology in practice, 11 (f=23.4%) lacked this ability. In justifying their response (see Table 4.7), the respondents indicated that conducting research presentations during peer-reviewed seminars would have increased their confidence in research practice. They stated;

> *"Presentation for peer review would give experience in research."*
>
> *"Research seminars where peers would present their studies would expose students to research."*
>
> *"Publishing research papers in peer reviewed journals and at peer seminars increased confidence."*

Kaakinen et al (2017:22-28) supported the study's findings and noted that students developed research skills such as the ability to apply research methodology practice through networking, sharing experiences, and co-authoring publications with peers (Pyrko et al 2017:389). When students acquire the ability to apply research practice, they may also develop other skills such as the ability to choose the research design.

4.13.3 The ability to choose the applicable research design (n=48)

Figure 4.6 indicates that most respondents (n=31; f=64.6%) had the ability to choose the applicable research design, while 17 respondents (f=35.4%) were incompetent in

choosing the applicable research design. In their own words (see Table 4.7), respondents who claimed to be competent commented:

"I acquired research skills during my master's programme."

"Through pre-doctoral studies on research."

Tiyuri et al (2018:18) support the perceptions of the respondents and noted that research self-efficacy, such as the ability to apply research knowledge to identify the appropriate design, is greatly influenced by prior research knowledge acquired before starting a doctoral programme, thus research preparation is important in applying knowledge (Jackson 2016:1313-32). Davidson and Palermo (2015:19) further elaborate that this preparation can be in the form of pre-doctoral research courses, which many students should have taken during master's and honours degree studies.

Assessing students' research preparedness should be done prior to their enrolment in doctoral studies so that those lacking research competencies can be referred to take courses that will enhance their research skills (Van Rensburg et al 2014:1-55). This will enable them to choose an applicable research technique.

4.13.4 The ability to choose applicable research techniques (n=48)

Thirty-four of the respondents (f=70.8%) indicated that they had the ability to choose the applicable research technique, while 14 (f=29.2%) claimed to be unable to do so. Although the majority of respondents indicated that they were able to choose the applicable research design, Wetzel and Ewbank (2013:400) noted that most doctoral students have insufficient research knowledge and lack understanding of research techniques (White 2017:120). The lack of these important skills results in anxiety and poor progress (Roets & Maritz 2013:139-142).

Respondents motivated their responses (see Table 4.7) and said:

"Research skills could develop by using written guidelines on model formulation."

"Tutorials could be very helpful in developing research skills."

They suggested that research skills, such as the ability to apply research techniques, could be developed not only by using written guidelines and tutorials but also through the assistance of the supervisor; especially when experiencing challenges with thesis proposal writing. They noted:

"Engage the supervisor."

"Cooperate with supervisor."

Basturkmen et al (2014:432) support the respondents' perceptions and state that the supervisor should support the student to understand principles of academic skills and identify gaps and weakness in their knowledge through constructive feedback (Van Rensburg et al 2014:1-55). Students must also be referred to institutional written guidelines for research principles and practice as these guidelines remove the guesswork and confusion in research and enable the student to use the correct research technique (Burkard 2014:19-54).

4.13.5 Ability to conduct a literature search (n=48)

A literature search is when the researcher identifies the literature sources pertinent to their research study (Hacker & Sommers 2011:67). It is a skill that every researcher needs or develops in order to arrive at appropriate academic sources (Baker 2016:16). The literature search must meet academic research criteria and expectations in terms of its quality, rigour and the interpretation of the reviewed literature (Suhonen 2017:45).

Competency in research skills enables the student to conduct a thorough literature review and to synthesise, critically analyse, interpret and present research information and results (Kaliyadan et al 2015:143) grounded in credible theoretical frameworks and scientifically sound scholarship (Houser 2012:111). The majority of respondents (n=43; f=89.6%) indicated that they were able to do a literature search, while 5 (f=10.4%) stated they could not. This is a major concern as a student registered in a doctoral programme must have conducted a literature review in the past and be able to apply that knowledge.

Respondents motivated their answers (see Table 4.7) and stated that *"It should be mandatory for doctoral students to attend at least one research seminar"* before conducting research. Falato and Fata (2016:1) confirmed that attending seminars encourages students to share challenges and incompetence, thereby motivating them to develop skills such as how to conduct a literature search in an ethical manner.

4.13.6 The ability to conduct research in an ethical manner (n=48)

Although Figure 4.6 indicates that a majority of 40 (f=83.3%) respondents were able to conduct research in an ethical manner, it is unfortunate that 8 (f=16.7%) respondents did not have this knowledge. One requirement of research is that it must be conducted in an ethical manner. Ethical principles must be applied and human and animal participants must be protected from harm (Polit & Beck 2017:88). The doctoral student must consider and apply ethical principles that will protect participants from harm and thereby enhance reliability, trustworthiness and integrity of the study (Creswell 2014:140).

Akerlind and McAlpine (2017:1686) noted that supervisors who are capable of identifying student inadequacies – such as an inability to conduct research in an ethical manner – were able to assist in enhancing students' overall knowledge of research and their ability to become competent. A cordial relationship with supervisors will enable the student to openly discuss and address inadequacies and may enhance the student's

confidence in areas such as protecting research subjects from harm (Pyhalto, Vekkaila & Keskinen 2015:1).

4.13.7 How to protect research participants from any harm (n=48)

While most respondents (n=37; f=80.4%) indicated that they knew how to protect research participants from any harm, nine respondents (f=19.6%) did not know how to protect their research participants. This is very concerning since protecting the research participants is of utmost importance (Polit & Beck 2017:89-90). Doctoral students are expected to have knowledge of ethical principles of research and should be able to protect research participants since they would have conducted research during their master's degree studies (Roets et al 2017:16).

The protection of research participants is addressed in the Nuremberg code (Al Tajir 2018:1) and is a requirement enforced by Constitution of the Republic of South Africa Act 108 of 1996 G17678 in South Africa (Halton & Dennis 1997:44-66) and many other countries where Institutional Review Boards (IRB) or Research Ethics Committees (REC) have to ensure that researchers comply to the laws and codes that protect participants and prevent the abuse of humans during research studies (Deshmukh, Dodamani, Khaimar & Naik 2017:33-36). The fact that some of the respondents in this study did not know how to protect research participants is of great concern. Since research should only be conducted with the consent of participants, the lack of research ethics knowledge can result in harm of the participants. It is therefore critical that research students are assisted in acquiring the essential skill of protecting human subjects in research (Amon, Baral, Beyrer & Kass 2012:1).

In responding to an open-ended question concerning how to protect participants from harm, one respondent emphasised the importance of protecting research subjects and stated that *"It should be mandatory for doctoral students to attend at least one research seminar"* (see Table 4.7), in order to assist the student to develop competency to protect participants from harm. This sole comment, however, did not directly emphasise

the importance of ethics training. The researcher is thus left with the question of whether respondents really understood and acknowledge the importance of ethics and the protection of human research participants.

4.13.8 The ability to critically analyse research findings (n=48)

Roets and Maritz (2013:69) noted that most new doctoral students were deficient in critical thinking skills and were unable to critically analyse research information. This can delay progress and contribute to drop out from their studies (Yen & Halili 2015:42). Contradictory to the literature, Figure 4.6 confirms that 36 respondents (f=78.3%) indicated that they could critically analyse findings from other findings and results; while 10 (f=21.7%) indicated that they did not have the ability to critically analyse the research findings.

Students should be motivated to develop critical thinking skills in order to succeed in research (Watson 2017:28). As mentioned, a thorough screening of students enrolling into doctoral studies must be done to ensure that only those students capable of doing research are admitted (Roets et al 2017:1-10; Sorenson 2016:297-303), thereby preventing dropout. Students may be screened for critical thinking skills using language proficiency screening and/or other screening processes such as interviews and entry tests (Aina, Alexander & Shola 2013:355-358).

Another important research competency is the ability to understand the reliability of a study.

4.13.9 How to describe the reliability of a study (n=48)

Reliability is a way of evaluating the quality of the research measurement technique used to collect data in a thesis (Campos et al 2017:21-26). It is important because it measures dependability, exactness, repeatability and credibility of a research study (Bajpai & Bajpai 2014:112-115). According to Mohajan (2018:1), reliability also refers to

the degree to which a particular instrument or technique yields the same results each time it is used under similar conditions. Research students therefore need to be knowledgeable of reliability because in order for research results to be considered valid, the measurement method should be reliable (Chakrabarrty 2013:1-8).

Figure 4.6 indicates that only 29 (f=60.4%) respondents knew how to describe the reliability of a study. Nineteen (f=39.5%) respondents did not have adequate knowledge to describe the reliability of a study, which is of great concern. On justifying their answers (see Table 4.7), the respondents indicated that prior research knowledge they attained from pre-doctoral research courses as well as their master's degree was influential in their ability to describe the reliability of a study, and they stated:

"I took undergraduate research courses."

"I knew how through pre doctoral studies on research."

McCallin and Nayar (2012:21) support the findings and note that students who are taught and knowledgeable of how to describe the reliability of the study before embarking on doctoral studies succeed in transitioning into independent researchers (Mohajan 2018:1) and may understand research concepts such as trustworthiness.

4.13.10 The concept of trustworthiness (n=48)

While the majority of respondents (n=35; f=76.1%) indicated that they understood the concept of trustworthiness, 11 (f=23.9%) did not. Grove et al (2015:392) define 'trustworthiness' as a determination of high quality and rigour in a qualitative study. Polit and Beck (2017:511) and Burns et al (2017:392) further elaborate that in a qualitative research study, trustworthiness is determined by the extent to which the study is credible, dependable, confirmable, transferrable and authentic.

Burns et al (2015:392) also note the interrelatedness of the criteria of trustworthiness and state that the more dependable and confirmable a study is, the more credible it is. The research students' understanding of trustworthiness will reduce problems such as bias in interpretation of the data and increase the accuracy of the research report (Polit & Beck 2017:139). Students should therefore attend seminars and workshops to enhance their understanding of trustworthiness in research.

Falato and Fata (2016:2-22) noted the importance of an understanding of research concepts and credited seminars and research course attendance before doctoral studies as critical in enhancing research knowledge. Attending seminars and tutorials was also mentioned by respondents as being helpful (See Table 4.7):

"Workshops can be the best solution."

"You get research knowledge by attending more research seminars."

Apart from attending research seminars that the supervisor may recommend, studies indicate that an understanding of the language of instruction is crucial in research since analyses and interpretation of research concepts is done through an understanding of the language (Roets 2013:141).

4.13.11 Proficient in English reading and understanding (n=48)

The majority of respondents in this study (n=42; f=89.4%) indicated that they were proficient in English reading and understanding, while 5 (f=10.6%) felt that they were not proficient in English. Contrary to the number of respondents who claimed to be proficient, literature confirms that a significant number of doctoral students lack language proficiency (Rohwer et al 2017:11-20), specifically if the language of instruction differs from their mother tongue (Kola et al 2013:356). Students who lack proficiency in the language of instruction also lack critical thinking skills and are not able to read and interpret research information (Krugel & Fourie 2014:219). Statements by

respondents, such as "*The phrasing of the problem statement was a challenge"* (see Table 4.4) could be an indication of an inability to analyse or interpret research information as a result of a lack of proficiency in the language of instruction (Roets 2013:141).

Students with language incompetency and who are lacking in writing skills are unable to understand or communicate research information (Itau et al 2014:326). They are therefore unable to compile a scientifically sound research proposal, since understanding takes place in the context of a language (Roets & Maritz 2017:51). Competency in academic writing skills will enable the research student to select, identify, analyse and process information needed to write a comprehensive thesis proposal (Erath 2017:321).

Students who are deficient in language proficiency should be referred to sources and skills training centres in order to remedy this deficiency and become competent in compiling a sound research proposal (Itau et al 2014:305-326).

4.13.12 Ability to compile a scientifically sound research proposal (n=48)

A research proposal is intended to demonstrate to others that the researcher has a meaningful research project and has the competency and a plan to successfully complete it (Abdulai & Owusu-Ansah 2014:1-2). A sound research proposal will also indicate the originality of that research as well as the proposed area of study, research expertise and the researcher's ability to write academically (Islam 2019:1-22). Although 36 respondents (f=76.6%) indicated that they had the ability to compile a scientifically sound research proposal, it is of concern that 11 (f=23.4%) respondents indicated they were unable to.

Lindsay (2015:184) supports the findings that many students who enter doctoral studies have no understanding of the complexity of the doctoral research process and are unable to write a sound research proposal. Similarly, Satariyan et al (2015:1-12) state

that supervisors have a responsibility to identify deficiencies of research skills among their students and should encourage students to develop those skills by making them aware of research training courses (Roets et al 2017:1-10). Students should also be motivated to develop research skills that will enable them to compile scientifically sound research proposals (Duke & Denicolo 2017:1).

On the same note, Gbollie and Keamu (2017:1) claim that early detection of research skills deficiencies by supervisors, and positively influencing how the student should proceed through constructive feedback, not only promotes the student's development of research skills but also increases the student's self-determination (David 2017:4-16).

4.13.13 Ability to write scientifically in English (n=48)

Many students start doctoral studies with insufficient knowledge of research concepts due to a lack of knowledge of the language of instruction (Roets & Maritz 2017:51-56) resulting in an inability to read or analyse research information (Roets 2013:140-141). The majority of respondents in this study however indicated that they were able to write scientifically in English as evidenced in Figure 4.6.

Forty of the respondents (n=40; f=85.1%) indicated that they were able to write scientifically in English, while an alarming 7 (f=14.9%) were unable to write scientifically in English. However, this finding is based on the students' opinion on their ability, which might be different from practice as indicated in the literature (Fakeye 2014:22).

Recruitment criteria of doctoral students must be of such a nature that only students capable of reading, writing and understanding the language of instruction are selected to enter doctoral research studies. Alternatively, they should be supported with additional language support and training (Neeta & Klu 2013:258). Some universities offer English as a second language course to students whose original language is not English, thereby improving their ability to read, write and understand research information in English (Han, Tanriover & Sahan 2016: 1-11; Dewaela & Tsui 2013:1).

The training to improve students' proficiency in the language of instruction (English) can also be done by offering a prerequisite English module, or requesting students to pass an English proficiency entry exam (Djihd 2013:203-212; Jadie, Sonya, Laura & Natasha 2012:1-17).

4.14 ENHANCING RESEARCH COMPETENCIES

Respondents were asked to indicate if peer workshops, supervisor assistance or tutorials would have enhanced their competency in research skills (Figure 4.7).

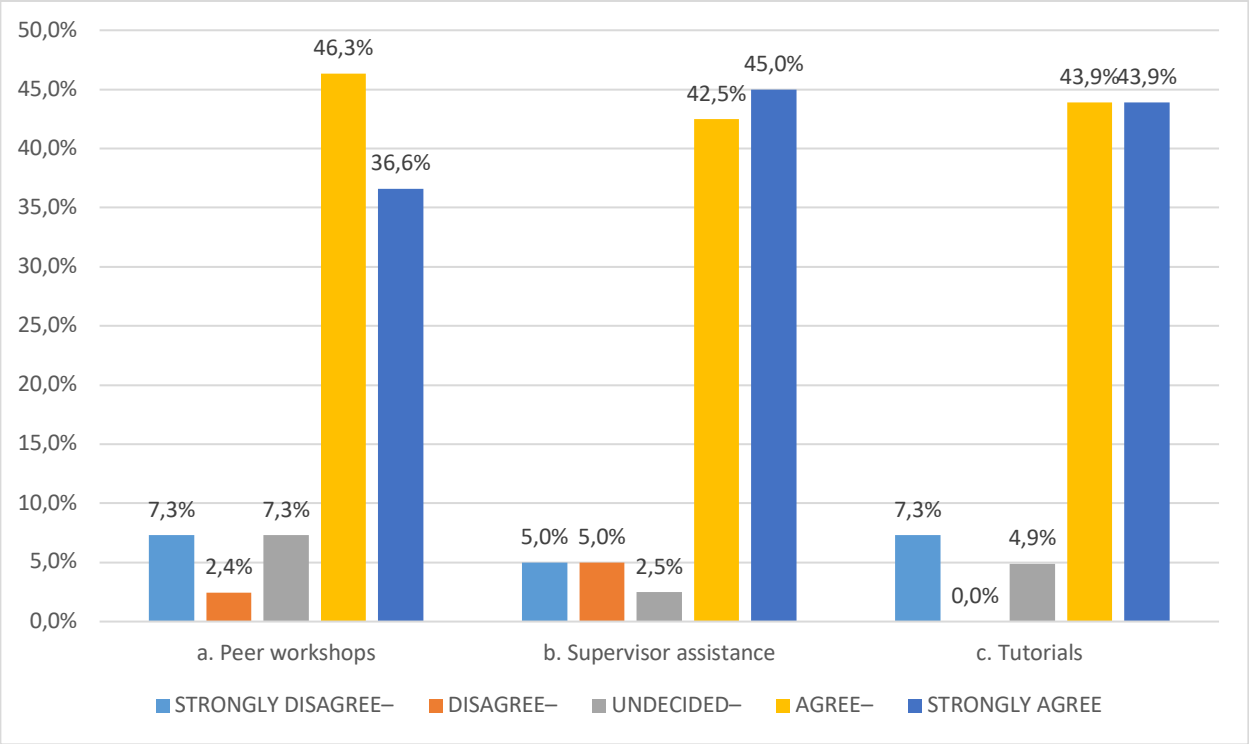

Figure 4.7: Assistance with development of competencies

4.14.1 Peer workshops (n=48)

As noted in Figure 4.7, the majority of respondents (n=34; f=82.9%) believed that peer workshops would have helped them in developing research skills while 7 (f=17.1%) disagreed. Those who agreed that workshops would have been helpful motivated their answers by stating:

"Presentation for peer review would give experience in research."

"Research seminars where students would present their studies would expose students to research."

"Presenting masters research at conferences."

"Publishing research papers in peer reviewed journals and at peer seminars helps."

Murphy et al (2015:388-94) confirm that self-development, research knowledge and skills can be obtained through networking during peer workshops where presentation opportunities may be offered to the research student (Levine 2013:1).

Roets and Maritz (2017:5) agree that in order for the student to be competent in research skills such as analysing, synthesising and applying research information, they need to be encouraged and advised of the available training and peer workshops. Also, according to Mayke, Vereijken, van der Rijst, Jan, van Driel and Friedo (2018:522-542), when the supervisor identifies the "student at risk" early in their doctoral studies, referring them to skills training and peer workshops, offer support to the student and reduce the attrition rate (Thalluri et al 2014:92-104).

4.14.2 Supervisor assistance (n=48)

Thirty-five of the 40 respondents (f=87.5%) who responded (see Figure 4.7) believed that supervisor assistance would have helpful for them in developing research skills while 5 (f=12.5%) did not believe that supervisors would have been able to assist them. Respondents verbalised (see Table 4.8) their agreement that:

"Engaging the supervisor is important."

“Cooperating with the supervisor helps.”

Moskvicheva et al (2015: 576) support the finding that engaging competent supervisors encourages the development of research skills among students, and a positive relationship can also contribute to supervisors providing assistance to ensure that students develop confidence in their abilities. As a result, they develop the critical thinking skills necessary for thesis proposal writing (Jackson 2016:1313) and are encouraged to complete their doctoral studies (Luckett 2017:1; Barnes et al 2012:20).

4.14.3 Tutorials (n=48)

Tutorials and workshops can assist students in the development of research skills (Pyrko et al 2017:389). Respondents agreed by indicating that tutorials and workshops were – in their opinion – also important in the development of their research skills. Thirty-six respondents (f=87.8%) agreed that tutorials would have helped them in developing research skills. Respondents stated;

“Attending research workshops is helpful.”

“Attending tutorials on thesis writing is important.”

“More lessons and courses on research methodology should be offered.”

During tutorials, students may form intellectual communities with faculty and students writing related theses from different disciplines, thereby providing opportunities to share research support and constructive criticism (Sharma & Sharma 2018:1-5). The other advantage of tutorials is that the student has the opportunity to confirm or dispute their prior research knowledge and learn from those knowledgeable of the proper research theory (Stoesz & Yudintseva 2018:66).

4.15 THESIS SUPERVISOR

According to Moskvicheva et al (2015:576-583), supervisors play an essential role as they direct the research study, provide feedback and emotional support to ensure that the student becomes an independent researcher capable of writing a thesis proposal. Roets et al (2017:14) elaborate further and state that in order for the supervisor to effectively supervise and assist the research student, the supervisor needs to be an expert in the area of study and have up to date knowledge of the topic of research. Other positive attributes of supervisors are that they are reliable, have confidence in their students and are encouraging towards the student (Griffiths et al 2016:69-73).

As indicated in Figure 4.8, respondents had varied perceptions of their research supervisors.

4.15.1 Accessibility (n=48)

Fillery-Travis et al (2017:1) define 'supervisor accessibility' as the availability of the supervisor to guide the research students through timely feedback, and being in touch to assess that the student is conducting the research according to research standards. Supervisor accessibility should also be directed by the institutions' policies on supervision (Duke & Denicolo 2017:23).

Thirty-six respondents (f=79%) indicated that their supervisor was accessible while 12 (f=21%) felt that their supervisors were inaccessible. When the supervisor is accessible to support and guide the student, the student's feelings of intellectual isolation can be alleviated (Lindsay 2015:185). The student then finds it easy to negotiate and transition to an independent researcher (McCallin & Nayar 2012:20).

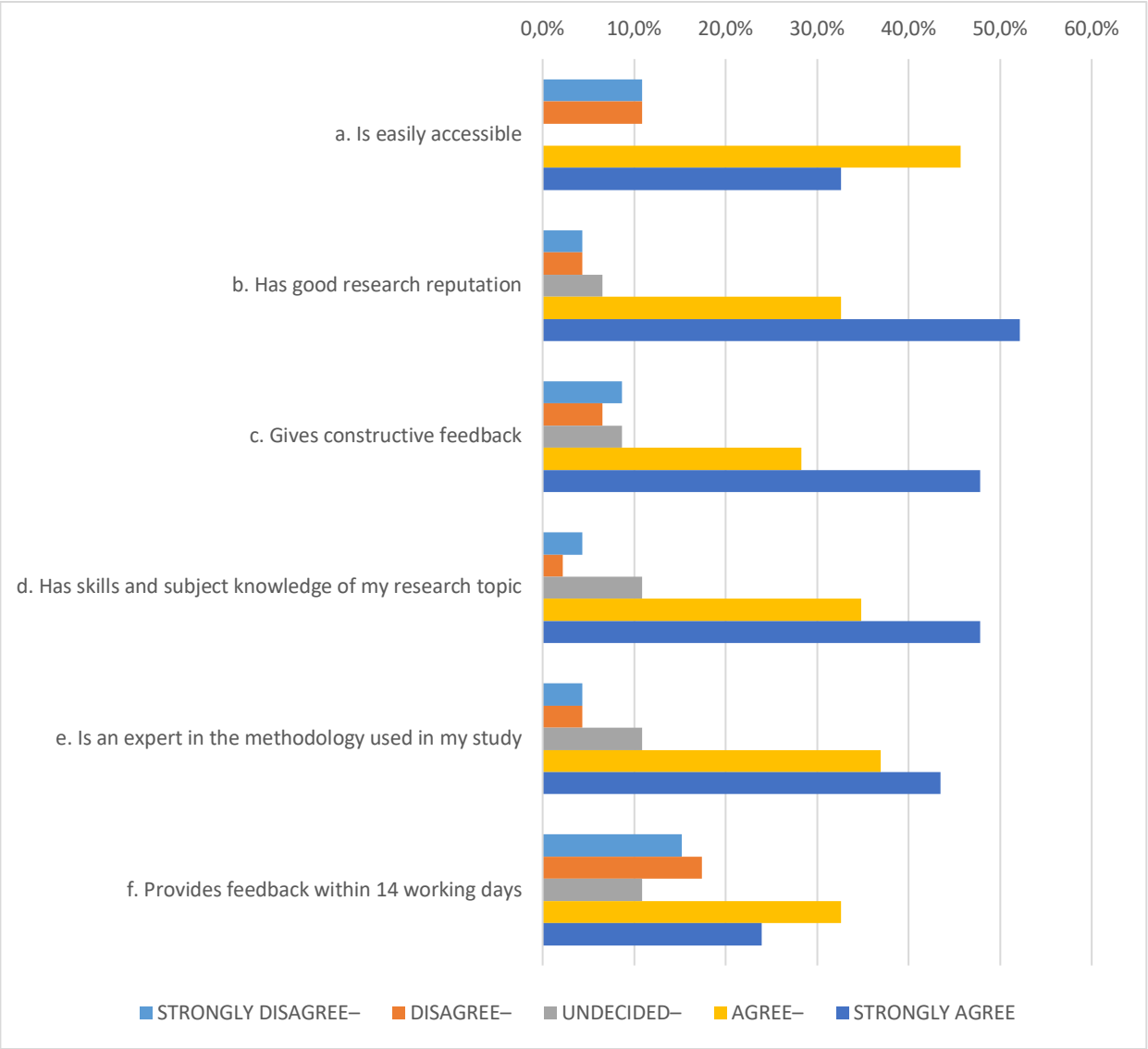

Figure 4.8: The supervisor's attributes

Respondents (See Table 4.7) appreciated a supervisor who is available when they need research guidance. They confirmed that a supervisor who is hard to reach when a student needs guidance leaves the student confused as to how to proceed with research. One respondent lamented:

> *"It is a pain when I wait 4 to 6 weeks … without knowing how to get in touch with my supervisor."*

On the contrary, Cochran et al (2014:27-48) assert that doctoral thesis writing mandates that the student should not only depend on the supervisor but be self-directed and students are expected to become an independent researcher.

4.15.2 Research reputation (n=48)

According to Backman (2018:online), reputation is the opinion that people have about someone or something based on past behaviour or character. Generally, it means that the person is either bad or good. According to Vocabulary.com (2018:online), the word 'reputation' comes from a Latin word which means to be considerate. Some of the characteristics of someone with a good reputation are being helpful, patient, supportive, and not having a good reputation can affect a profession or a business (Vidaver-Cohen, Gomez & Colwell 2015:131). In the case of a university, a bad reputation can affect the number of students who would want to be enrolled in such a university (Nguyen & LaBlanc 2001:303; Lickerman 2010:1).

As illustrated in Figure 4.8, most respondents (n=39; f=81.2%) agreed that their supervisor had a good research reputation. Only 9 (f=18.8%) did not believe their supervisor had a good reputation.

In this research the research reputation means that the supervisor is known as a good or bad research supervisor in their knowledge of research, as well as the way in which they handle their research students (Griffiths et al 2016:68-72). Respondents commented on the importance of the attitude and support of the supervisor in assisting the student in their research studies. They commented:

> *"The supervisor should find ways of encouraging the student since I seldom leave our appointments confident I can do it."*

> *"The supervisor should work with me and show interest in helping me."*

"The supervisor should show a positive attitude especially during the ups and down of research."

Roets (2016:7161-7170) noted that misunderstandings between students and supervisors have been worsened by the enrolment of students from different cultures and countries. Training supervisors in cultural sensitivity would therefore reduce misunderstanding and improve communication between supervisors and students (Prazeres 2017:220).

4.15.3 Constructive feedback (n=48)

Constructive feedback is defined by Ghazal et al (2014:13-27) as information concerning the students' performance that is given for the purpose of improving their learning. It plays a significant role in encouraging the students' acquisition of research skills and motivates students to grow and develop into independent scholars capable of doing research (Gazza et al 2013:268).

Constructive feedback should also highlight and reinforce good performance, delineate poor performance and offer corrective action strategies (East, Bitchener & Bastukmen 2012:2). It should be timely, reassuring, significant, instructive, precise and reasonable (Azure 2016:163). Basturkmen et al (2014:432) noted that "poor feedback" (that is a lack of constructive feedback) leads to a bad supervisor-student relationship and results in failure to achieve the intended outcomes. It may also result in defensive behaviour on the students' part or reduced motivation (Barnes et al 2012:1).

The majority of respondents (n=35; f=76.1%) were of the opinion that their supervisor gave constructive feedback as reflected in Table 4.7. They stated that timely and positive feedback from the supervisor was significant in the development of their research knowledge. They shared:

"Constructive feedback is helpful."

"Supervisor should give positive comments when I've done well."

Ago and Odimegwu (2014:1) supported the idea that constructive feedback is essential in research. Basturkmen et al (2014:432-445) also noted that positive and prompt feedback was associated with students' likelihood of seeking guidance from their supervisor, thereby removing confusion in terms of how the student can proceed with their studies (Peelo 2011:45). When the supervisor provides constructive feedback that is clearly communicated, students learn how to produce high quality research which will enhance throughput (Kiley 2011:585-599).

4.15.4 Timely feedback (n=48)

Timely supervisor feedback is central in learning and was associated with improving student performance (Lee 2012:1); when students receive timely feedback, they will be able to progress (Lindsay 2015:183-196). While timely feedback may be interpreted differently by different people, most institutions have guidelines over how soon feedback can be expected from both the student as well as the supervisor (Moskvicheva et al 2015: 576). Frequent feedback allows the student to evaluate their views and try new approaches (Lowry 2018:1).

It is essential that the student and supervisor discuss and agree on expectations, including the frequency of their communication, frequency of drafts submission, meetings and how the supervisor can be reached to assist the student (Van Rensburg et al 2014:1). Without such guidelines, there would be misunderstanding concerning the timeliness of feedback.

Only 26 respondents (f=54%) acknowledged that their supervisors provided feedback promptly, while a disturbing 22 (f=46%) disagreed. In their own words (Table 4.7),

respondents noted the importance of receiving timely feedback from their supervisor. They also attributed research progress to timely supervisor feedback:

"Respond within reasonable time and help student finish study."

"Prompt return of marked scripts to students."

"A supervisor should review chapter by chapter rather than wait till I am done with the entire process."

"Timely feedback assists students to progress with research."

Pyhalto et al (2015:1) noted that positive and prompt feedback from one's supervisor motivated the student to seek guidance and prevent dropout from studies. It should also be clearly communicated since it takes the place of classroom instruction in guiding the student (Prazeres 2017: 221).

4.15.5 Skills and subject knowledge (n=48)

Although the majority of respondents (n=38; f=79%) agreed that their supervisor had skills and knowledge of their research topic, it is troubling that 10 respondents (f=21%) disagreed. Contrary to the belief of the majority of respondents in this study, literature indicates that most supervisors lack adequate training and experience as far as research supervision is concerned (Roets et al 2017:5). They may need training in order to adequately guide research students (Moskvicheva et al 2015:576). However, the lack of supervisory skills does not necessarily mean lack of subject knowledge.

The lack of supervision skills in some inexperienced supervisors may be mistaken by students as a lack of subject knowledge (Severinsson 2012: 215). This may be more complicated in the case where the students are being supervised by two supervisors who may be using different research methodologies (Severinsson 2012:216-223).

Bitchener et al (2011:8) also noted that some inexperienced supervisors may lack clarity and specificity in their communication with the student, which may lead the students to think that the supervisor has no subject knowledge.

Respondents did not state what competencies their supervisors possessed but they indicated what competencies they thought the supervisor should have:

> *"Supervisor should have knowledge and be specialised on the research topic."*

> *"Supervisor should not just boast about their achievement but provide meaningful guidance to prove it."*

4.15.6 Expertise in methodology (n=48)

According to 37 respondents (f=80.4%) their supervisor was an expert in the methodology used in their study (Figure 4.9), and one stated;

> *"Supervisors should have expertize of students' research methodology."*

Others noted*:*

> *"Supervisor should have skills about the methodology of my research."*

> *"Supervisor should be experienced in research and knowledge of the research format of the institution he/she is supervisor."*

Supervisors therefore need to evaluate their supervisory skills and research knowledge and should improve those areas in which they are inadequate in order to assist students to develop into competent researchers (McEachern & Horton 2016:444). In the case where the supervisor is inexperienced, they can work with an experienced supervisor until they are skilled in guiding students (Mayke et al 2018:522).

4.16 AVAILABLE RESOURCES

According to Kara and Karen (2016:1), resources are crucial for research success and in acquiring research information. Respondents were thus asked to indicate the appropriateness of resources available to them.

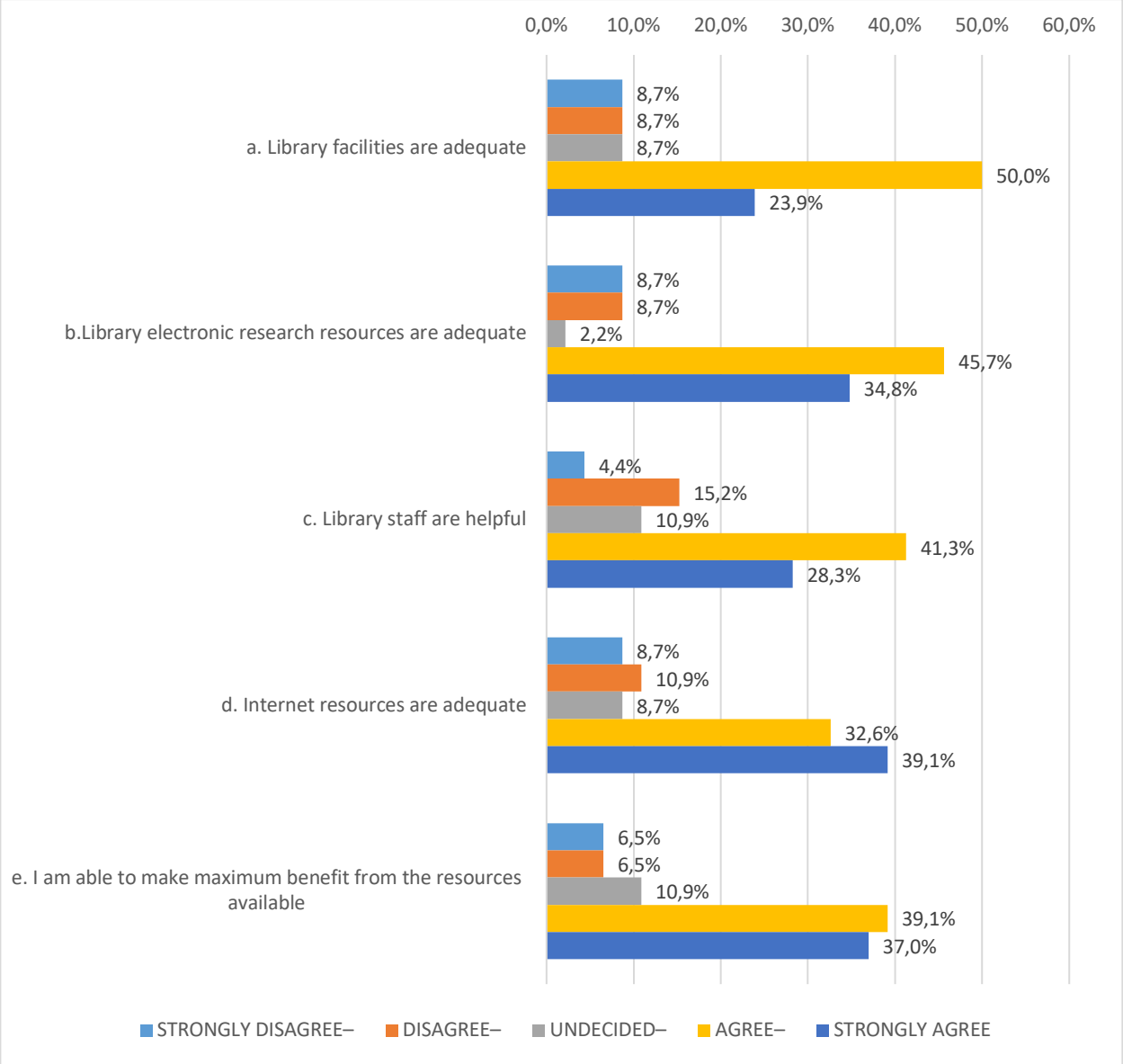

Figure 4.9: Available resources to support thesis writing

4.16.1 Library facilities are adequate (n=48)

According to Bradbury (2018:1), in order for the doctoral student to conduct sound scientific research they need to have access to libraries with sufficient resources. Thirty-four respondents (f=70.8%) indicated that library facilities were adequate. However, 14 (f=29.21%) did not have adequate library facilities (see Figure 4.9).

As indicated, most universities are capable of supplying research resources to registered students, and those students who indicated inadequate library resources may need knowledge on accessing their university library.

4.16.2 Library electronic research resources are adequate (n=48)

A lack of library research resources can delay the students' research progress as they would need to wait weeks for such material to arrive via postal service (Isebe 2015:20). However, due to advancements in technology, e-books, e-journals and other electronic resources can be easily accessed via electronic searches (Singh & Khan 2015:1). Thirty-seven respondents (f=77.1%) had adequate electronic research resources (see Figure 4.9). However, 11 (f=22.9%) claimed to lack adequate electronic research resources.

4.16.3 Library staff is helpful (n=48)

As illustrated in Figure 4.9, 32 respondents (f=66.7%) believed that library staff was helpful. A lack of such library support can hinder research progress and compromise the quality of research produced (Gagan & Rakesh 2013:200). The librarians have a responsibility in assisting students to find research information and relevant literature sources (Mahwasane 2016:264). It is thus important that students make use of the librarians' assistance in order to conduct research and use internet sources that institutions supply via libraries.

4.16.4 Internet resources are adequate (n=48)

Roets and Maritz (2017:53) indicated that when it is difficult to obtain access to the internet, the student gets discouraged and research progress may be arrested. While most respondents (n=33; f=68.8%) had adequate internet resources (see Figure 4.9), 15 (f=31.2%) claimed to lack such resources. Most universities, however, supply registered doctoral students access to internet literature articles and other research sources (Gagan & Rakesh 2013:193).

4.16.5 Ability to maximise the benefit from the resources available (n=48)

Figure 4.9 indicates that 35 (f=72.9%) respondents were able to draw maximum benefit from the resources available, while 13 (f=27.1) could not. According to Essa (2011:7), a growing number of doctoral students are ill-prepared for research and are unable to access or interpret literature or do research. These students do not seek advice although they have never been properly taught (Lepp et al 2016:1). They therefore need supervisors' assistance to be able to competently utilise research information and conduct quality research (Evans & Stevenson 2011:35).

In the case where students are unable to maximise use of available resources, these students can follow institutional written guidelines or be taught during seminars. Moreover, they can be advised by peers or supervisors on how to draw maximum benefit from supplied resources.

4.17 CONCLUSION

In this chapter, the research methodology of Phase 2 of the study was described. The research design in this chapter was quantitative with qualitative enhancement. The research methodology, data analysis, and interpretation combined with a literature control was also described. The purpose of the data analysis was to describe the experiences of doctoral nursing students during the thesis proposal writing phase.

Together with the analysed qualitative data, the thorough literature control, as well as the literature on strategic interventions and action plans were used for the development of an intervention strategy in Chapter 5. Although only 48 students participated in the research, other measures discussed in future chapters were used to develop and finalise the strategic intervention and action plan for implementation. The next chapter will describe the development of the strategic intervention and action plan.

CHAPTER 5
PHASE 3: THE STRATEGIC INTERVENTION AND ACTION PLAN

5.1 INTRODUCTION

This chapter discusses Phase 3 (as illustrated in Table 5.1) of the study which consists of steps towards the development of the strategic intervention and action plan aiming to assist doctoral students in transitioning to competent thesis proposal writers. The data from Phases 1 and 2 and from a thorough literature review pertaining to the principles for the development of the strategic intervention and action plan were used by the researcher to develop the draft strategic intervention and action plan.

As the last step in the development of the strategic intervention and action plan, the researcher used Benner's theory to develop the action plan (see Section 5.7). This plan will be used by nurse educators to assist doctoral students in transitioning from novice doctoral students with little or no previous thesis proposal writing experience to experts in thesis proposal writing. Benner (1984:28) indicated that the doctoral student needs assistance and a change in perception in order to develop the necessary critical thinking skills to develop research competencies.

Table 5.1: Phase 3

Phase	Objective	Technique	Purpose
Phase 3	Development of the strategic intervention and action plan	Combine data from Phases 1 and 2 with a literature review on the development of the strategic intervention and action plan	Analysed data from Phases 1 and 2 as well as a literature review utilised to develop the strategic intervention and action plan

5.2 DEVELOPING THE STRATEGIC INTERVENTION AND ACTION PLAN

With the assistance of a subject librarian, a literature review was conducted to describe the process and principles for the development of the strategic intervention. The databases used were Google scholar, UNISA library and repository to access e-books, e-journals, and textbooks for research information. The search words used were ‘strategy’, ‘intervention’, ‘research-based intervention strategy’, ‘action plan’, ‘research supervision’, ‘doctoral students’ competencies’, ‘thesis proposal writing’, ‘intervention strategy’, ‘steps in developing a strategic intervention’, ‘evidence-based strategic intervention’, and ‘implementation of an intervention strategy’.

5.3 WHAT IS A STRATEGIC INTERVENTION?

According to Hiligsmann, Salas, Hughes, Manias, Gwadry-Sridhar, Linck and Cowell (2013:180), an intervention is the most appropriate practical and theoretical application selected to address and resolve an existing problem (Nickols 2016:4; Hill & Jones 2013:1). In this study’s context, the problem that needed to be resolved was – by implication – the high dropout rates of doctoral students possibly due to being novices in thesis proposal writing. The interventions are focused on an outline of the activities and strategies that need to be followed and implemented to prepare and assist doctoral students with thesis proposal writing, thus to go from a novice to an expert in thesis proposal writing.

A strategy is a process to follow in achieving goals or solutions to a problem (Hill & Jones 2013:1). It is a long-term plan of action that prescribes resources and other activities to bring about the intended goal (Duke & Denicolo 2017:1) such as the actions needed to improve academic performance (Dante, Valoppi, Saiani & Palese 2011:59-64; Nickols 2016:1). In the context of this study, strategies are proposed recommendations and solutions developed to provide doctoral students with the

necessary assistance to develop competencies during thesis proposal writing to enhance a positive outcome.

A strategic intervention is seen as the way to move from an existing situation (the challenges that the doctoral students experience during thesis proposal writing) to the desired outcome to be achieved (doctoral students' competency in thesis proposal writing) as supported by Balakumar et al (2013:130-138). The developed strategic intervention, together with the action plan to facilitate the implementation of the interventions, can be utilised by institutions that offer doctoral nursing education programmes to improve the throughput of students during the thesis proposal writing phase.

5.4 WHAT IS AN ACTION PLAN?

An action plan is the process of transforming strategies into actions, thus allowing ideas to become tangible (Poister, Edwards & Pasha 2013:1). After ascertaining the strategies, the next step is the process (action plan) needed to address each strategy and the expected results to determine the impact (Salviejo, Aranes & Espinosa 2014:92-99). Dumigsi and Cabrella (2019:1-10) define an action plan as specific measures, or a step-by-step process that should be taken in order to realise the formulated objectives to fruition. The steps could include (a) The process (actions) to be followed to reach those objectives, (b) What methods are needed (c) Who is responsible for each step, and (e) The time frame for implementing the action plans (Dumigsi & Cabrella 2019:1-10).

An action plan was developed using the proposed strategies developed from the challenges that were experienced by doctoral students during their thesis proposal writing phase (see Chapters 3 and 4), as well as the literature control. The aim of the proposed strategic intervention and action plan is to aid nurse faculty to assist doctoral nursing students in transitioning from novice research students to expert doctoral students capable of completing their thesis proposal writing phase.

To ensure that the interventions do not remain mere strategies, an action plan was developed to form part of the strategic intervention (see Table 5.4) and is also discussed together with the intervention (see Step 4).

5.5 STEPS IN DEVELOPING THE STRATEGIC INTERVENTION AND ACTION PLAN

Hiligsmann et al (2013:1) highlight that the plan for developing strategic intervention should be appropriate for the needs of those for whom it is intended. In this research, the plan is the formulation of the strategic intervention aimed at assisting or supporting doctoral students in the transition from their master's degree to doctoral thesis proposal writing. They are to progress from novice research students after completing their masters' degree to competent doctoral students who are capable of writing a thesis proposal.

According to Bryson, Edwards and Van Slyke (2018:317), there are several steps in developing a strategic intervention, namely (1) Identifying the problem (see Section 5.5.1), (2) Assessing the level of the problem (see Section 5.5.2), (3) Identifying targets of change (see Section 5.5.3), and (4) Developing the evidence-based strategic intervention and action plan (see Section 5.5.4).

5.5.1 Step 1: Identifying the problem

According to Islam (2019:1-22), it is necessary to collect information in order to identify and evaluate the extent of any problem. The main problem identified from the literature review was the poor throughput rates of doctoral students (Lindsay 2015:184-194; Humanities indicators 2018:1), with many dropouts during the proposal writing phase (Lepp et al 2016:1). To evaluate why this problem exists and the possible reasons, two surveys were conducted. A qualitative survey (see Chapter 3), as well as a quantitative survey (see Chapter 4) were used to collect data from doctoral nursing students who were in the process of writing their thesis proposals. The data analysis and

interpretation of the findings of Phase 1 (see Section 3.10), Phase 2 (see Section 4.10), as well as a thorough literature review, provided evidence of the identified problems. The findings were supported by the input from doctoral students (see Table 3.3).

5.5.2 Step 2: Assessing the extent of the problem and what must be achieved

The extent of the shortage of doctoral-prepared nurse educators is evident in the 50% of doctoral students who do not graduate due to dropping out during the thesis proposal writing phase (Akerlind & McAlpine 2015:1687). When doctoral students fail to graduate, it results in a shortage of nurse instructors who are supposed to teach doctoral nurses who will become future research supervisors (Cullinan 2016:1-2; Mulaudzi et al 2012:2).

There is currently a shortage of 4 million nurses globally (Haddad & Toney-Butler 2019: 1) and a projected 12.9 million nursing shortage by 2035 (WHO 2013:online). According to the American Nurses Association (2018:online), 1.1 million more nurses are needed to remedy the nursing shortage in a country like America. In Thailand and Sri Lanka, the nursing shortage has become a prevailing trend due to economic crises resulting in severe doctoral nursing shortages (Sophon 2016:1). A shortage of nurses implies a shortage of nurse educators, further indicating a lack of doctorally prepared nurses.

In South Africa, only 20% of registered doctoral students eventually graduate. With the average nurse educator ratio being 1:16, the low graduation rate has a negative impact on the already overloaded research supervisors. The high workload of the doctoral-prepared nurse educators and supervisors reduces the thoroughness with which the research supervisors can assist doctoral students to become competent researchers (Drennan Vari & Ross 2019:1-11).

The shortage of nurse educators is further worsened by the ageing nursing workforce where one million nurses are currently over the age of 50 years, meaning that these ageing nurses will retire within the next 10-16 years (Wilmot 2016:3), resulting in a

further shortage of nurses worldwide. In South Africa, 70% of the 72% nurse educators who are above 50 years are due to retire in the next 9-14 years (Coetzee et al 2015:26-27). With a reduced number of doctoral students who graduate, institutions are unable to recruit adequate numbers of students who will become future research supervisors (Matlakala & Botha 2016:9-10).

Doctoral students who discontinue writing their thesis proposal and do not graduate therefore worsen the shortage of doctoral-prepared nurse educators and supervisors who can support and teach the new generation of master's and doctoral students. The limited number of PhD and doctoral nurse educators thus adversely affects the number of students who can be admitted into doctoral programmes (Mulaudzi et al 2012:1).

It has also been noted that many doctoral students enter their studies lacking academic writing skills and they are deficient in knowledge of research, thus further increasing the chances of students abandoning their studies (Aina et al 2013:355-358). Doctoral students need HOTS in order to understand and interpret research information and to succeed in research (Yen & Halili 2015:40-41). Doctoral students also need to be proficient in the language of instruction in order to be able to analyse and accurately interpret research information (Roets & Maritz 2017:52; Itau et al 2014: 310).

In this study, the respondents identified by means of an online survey (Survey Monkey™) that they lacked research knowledge and skills to write a thesis proposal (see Chapter 4). The specific challenges identified can account for the failure of students to advance past the proposal writing phase. The students also specified the areas in which they had the most challenges (see Chapters 3 and 4).

Surveys can allow quantification of information, but where the individual opinions and emotions are concerned, qualitative data should be used (Creswell 2014:202). In this study, qualitative data were collected on the challenges experienced by doctoral students (see Chapter 3) to enable the researcher to develop a questionnaire for the gathering of the quantitative data. In the questionnaire, open-ended questions allowed

for qualitative enhancement (see Chapter 4) to ensure that individualised comments could be incorporated in the developed strategic intervention.

5.5.3 Step 3: Agents of change

Agents of change are those identified to be able to influence change in the conditions that contribute to the problem (Brooman, Darwen & Pimor 2014:663-674). Individuals who are experiencing the problems, in this context the doctoral students, are usually the best agents of change if they are supported. As indicated by Benner (1984:27), research students themselves, using critical thinking abilities, need to change their perception of what is needed at the doctoral level. They also require assistance to move from a novice research observer to an expert doctoral candidate.

The challenges identified and described by the respondents (doctoral students) must therefore form the basis for the development of both the strategic intervention as well as the action plan, and will be discussed in the sections as indicated in Table 5.2.

Table 5.2: Combined data from qualitative and quantitative phases

Challenges regarding	Specific aspects to address in the intervention strategy
5.2.1 Human resources /change agents	**5.2.1.1 Supervisors** • Supervision competencies • Assignment of supervisors
	5.2.1.1 Librarians • Shortage • Support
	5.2.1.1 Peers • Support • Workshops
	5.2.1.1 Family members • Support
	5.2.1.1 Doctoral students • Level of prior knowledge, research skills & Competencies

Challenges regarding	Specific aspects to address in the intervention strategy
	• Self-determination
5.2.2 Non-Human Resources	**5.2.2.1 Research courses**
	5.2.2.1 Libraries
	5.2.2.1 Finances

The suggestions by the respondents on how to support them to avert dropping out can help them achieve their ultimate goal, namely success in writing their doctoral thesis proposal. The relevant change agents identified were supervisors, librarians, peers, family members and doctoral students themselves (see Table 5.2). Non-human resources that require change were identified as research courses, libraries and finances. However, aspects identified from the literature must also be utilised in order to develop a strategic intervention based on as much evidence as possible. The aspects identified from the literature, among others, were:

- **SELECTION CRITERIA**

Selection criteria and the assessment of student preparedness, thus the recruitment of those students with a chance of succeeding in writing a thesis proposal (Creech et al 2018:49-52), must be addressed in the strategic intervention. Most universities require that the student is **proficient in the language of instruction**. In the USA, non-native English-speaking students are required to pass a Test of English as a Foreign Language (TOEFL) with a grade average of 84%. They also need to have **passed their master's degree** with a 3.5 grade point average (GPA on a 4.0 scale) and should have taken and passed a Graduate Record Exam (GRE) with a score that indicates **quantitative reasoning, critical thinking, strong verbal reasoning and analytical writing** (AACN 2017:1).

Language proficiency is critical as it enables the doctoral student to understand and communicate research information. The student who is proficient in the language of instruction is able to access resources and correctly interpret research information (Itau et al 2014:326-327). Furthermore, in order to understand and express their comprehension of the research subject matter, the doctoral student has to be

competent in the language of instruction since understanding and knowledge take place in the context of a language (Roets & Maritz 2017:51-56).

Another requirement is that the students entering doctoral studies are expected to have completed research methodology and statistics courses with a B or better grade within less than three years before enrolling into doctoral research studies. Word processing and web research skills are also required (Alfredo 2017:1). A student with knowledge of research methodology will be able to select an appropriate research design, address the research problem, and achieve the stated objectives of the study (Nieswiadomy 2012:79; Creswell 2014:262-263). Knowledge of statistics will enable the student to better analyse and interpret research findings (Tashakkori & Teddlie 2010:22-23).

In South Africa, prior research methodology knowledge in the form of a successfully completed honours or master's health-related degree with an average of 60% is required in order to enrol into doctoral studies (UNISA 2018:1; Griffiths et al 2016:1). This being said, the findings of this study revealed a lack of knowledge (see Section 3.21).

- **STUDENT RESPONSIBILITIES**

The responsibility of the students as the change agents themselves cannot be ignored (Yen & Halili 2015:40-41). According to Cochran et al (2014:27-48), students succeed when they take ownership and responsibility for their learning. Many institutions of higher learning have policies concerning the responsibility of students during research. These responsibilities include familiarising themselves with the university procedures and requirements for research studies as outlined in the university student handbook, the responsibility to keep communicating with their supervisor, participating in organising their progress and completing their studies, attending research training, meeting their assessment and requirements deadlines, and completing studies on time (UNISA 2016:1).

Martinsuo and Turkulainen (2011:103-120) indicated that personal commitment on the part of the student is related to the degree of that student's success. The student has to invest adequate time and effort to meet the requirements of their degree programme (Deconinck 2015:360), and not procrastinate as the length of the student's research studies may weaken the perception of progress (Farkas 2018:1). Moreover, setting deadlines for research assignments such as timely submission of corrected work and integrating constructive feedback is crucial in the successful completion of thesis proposal writing (Basturkmen et al 2014:432).

It is also essential that the doctoral student effectively communicates with the supervisor about the challenges that may impede their research progress (Akerlind & McAlpine 2017:1686). By asking questions on issues they do not understand, it enables the supervisor to provide timely support (Azure 2016:163).

Additionally, the research student has the responsibility of seeking resources needed for their research (Bradbury 2018:1). They do this by being proactive, focused and motivated in developing meaningful interaction with the librarian who may support them in acquiring resources that will enable them to succeed in thesis proposal writing (Kara & Karan 2016:1). The student should also situate themselves in learning communities or cohorts (Falato & Fata 2016:1) where their interaction with other students promotes learning, leading to successful research proposals (Fuchs 2017:639; Gauvreau et al 2016:1).

5.5.4 Step 4: Identifying an evidence-based strategic intervention and action plan

Hill and Jones (2013:1) suggest that when drafting a strategic intervention, all the stakeholders should be consulted in order to refine and validate a draft strategic intervention and action plan before it can be finalised (Hiligsmann et al 2013:17). It is therefore important to include the other important stakeholders, namely the students themselves in Phases 1 and 2, and the research supervisors, represented by the members of the FUNDISA who were identified as experts in the field of research

supervision (see Chapter 6). They contributed to the validation of the strategic intervention that includes the action plan as Step 5 (see Table 5.4) in developing a strategic intervention and action plan.

Data received from 96 students, a thorough literature review, as well as from eight members of the FUNDISA who validated the strategic intervention and action plan contributed to the development of the strategic intervention. The summary of the evidence obtained as well as the possible strategic intervention is illustrated in Table 5.3.

Table 5.3: Demonstrates the evidence-based strategies derived from the combined data from Phases 1 & 2

Theme	Subtheme	Strategic Intervention
Human resources as change agents	**a) Supervisors** Supervision competence	**1.** Supervision by competent supervisors
	Assignment of supervisors	**2**. Achieve a realistic supervisor-students ratio
		3. Appropriate supervisor-students allocation according to niche areas and expertise
		4. Timely allocation of supervisors
		5. Provide support for supervisors
	b) Librarians Shortage	**6**. Ensure effective library support for registered students
	c) Peer support	**7.** Peer support programmes for doctoral students
	d) Doctoral students Prior knowledge	**8** Student recruitment and selection criteria

Theme	Subtheme	Strategic Intervention
	Research skills and competencies	**9.** Support programmes to assist students with the development of related research skills and competencies
	Language literacy	**9.1** Implement a language literacy training programme
	Scientific writing skills	**9.2** Implement a programme for scientific writing skills
	Self-determination	**9.3** Provide opportunities for the development of HOTS
	Student responsibilities	**10.** Binding contracts that stipulate the responsibility of students doing research
Non-human resources	**b) Libraries**	**11.** Provide access to research sources
	c) Finances	**12**. Implement a bursary system

5.6 HUMAN RESOURCES AS CHANGE AGENTS

5.6.1 Supervisors

Participants emphasised challenges regarding the supervision they received (see Sections 3.13 and 3.14). Competent research supervisors are needed to motivate, educate and guide their research students (Roets et al 2017:2; Griffiths et al 2016:69; Lee 2012:1). It is therefore of paramount importance that competent research supervisors must be appointed in higher education institutions responsible for doctoral nursing education programmes. The following are the suggested strategies and actions that can be implemented to assist doctoral students in completing their thesis proposal through the institutions using agents of change.

STRATEGY 1: Supervision by competent supervisors

Research supervisors should have adequate expertise and understanding of research in order to supervise doctoral students to write quality thesis proposals. A supervisor who lacks supervision experience when they are appointed as a supervisor would need research supervision training (Roets et al 2017:4-5). Some of the respondents indicated that they received minimal assistance from their supervisors and they attributed it to a lack of research supervision skills and knowledge (see Section 3.14) on the side of the supervisor.

The expertise and competency of the research supervisor are crucial as it influences the quality of the thesis proposal written by the doctoral students (Barnes et al 2012:5). Thus, an incompetent supervisor can lead to a student producing a poorly written thesis proposal.

Intervention/Actions

In order for doctoral students to produce quality research, competent and experienced supervisors must be recruited by universities (see Table 5.4, Action 1.1) to ensure that they can mentor novice doctoral research students to become expert research students (Roets & Maritz 2013:66) capable of writing a good thesis proposal. Institutions should recruit competent supervisors who adhere to the appointment criteria. There are, however, no specific written guidelines on how supervisors must supervise research students (Satariyan et al 2015:1-12). Since supervisors have no specific references and guidelines for how best to supervise, and no formal training is required for one to be a supervisor (Kiley 2011:99), supervisors use their own student experience as the bases for their supervision of doctoral students.

Research supervisors who lack supervision competencies and skills therefore need to be trained (see Table 5.4, Action 1.2) in order to acquire research competency. There is a need to develop programmes for professional supervision training that will enable

supervisors to better supervise research students (McCallin & Nayar 2012:63-74). Such training programmes should be provided before supervisors are assigned research students, in order for them to be competent to guide research students in the development of HOTS (Severinsson 2012:216). This will enable them to be competent in writing a research proposal.

Institutions should design and develop a supervision training curriculum and policies (see Table 5.4, Action 1.5) for the training of the research supervisor. The areas to be covered in the research supervision training would include topics such as the supervisor/student relationship, cultural sensitivity in supervision, and sharing of constructive feedback – including online feedback (Van Rensburg et al 2014:3; Roets 2016:7166).

Research supervision expertise is crucial in guiding research students (McCallin & Nayar 2012:63). New research supervisors (in this case those who have never supervised before) may need guidance on how to effectively supervise and educate their research students (Severinsson 2012:216) in the form of mentoring or co-supervision (Borders et al 2014:26-44).

Formal mentoring programmes (see Table 5.4, Action 1.6) for research supervisors should be implemented. Institutions should utilise experienced research supervisors to mentor new supervisors. When supervisors are adequately prepared to supervise, they will be competent to guide and assist the research students assigned to them in writing their thesis proposal (McDonald 2017:158).

Communities of support are initiated within the American doctoral education system where students are supported by multiple supervisors in addition to the support they receive from their own appointed supervisors. This community of support assists students in developing research skills by relieving the pressure and load of an inexperienced supervisor or a supervisor with many doctoral students (Martinsuo & Turkulainen 2011:103-120).

STRATEGY 2: Achieve a realistic supervisor-student ratio

The number of students a research supervisor should guide is important since the doctoral student needs support to competently navigate through the writing process (Begin & Gerard 2013:266). While a ratio of one supervisor to three doctoral students was suggested as realistic (Roets 2016:1-14) there are others that suggest eight research students per supervisor are ideal (University of Cambridge 2019:online), indicating that a realistic ratio of supervisor per number of students depends on the university. Some institutions allow supervisors to supervise more (in this case more than 8) students if their past supervision experience indicates that they have successfully supervised and mentored research students to graduation (Franke & Arvidsson 2011:7; Fillery-Travis et al 2017:1)

Supervisors have a significant responsibility to assist the research students, especially since most doctoral students start their research with insufficient research knowledge and skills (Evans & Stevenson 2011:27) in terms of academic writing and HOTS that enable the student to understand concepts and apply critical reasoning (Nehls et al 2015:114). It is therefore important that the number of doctoral students supervised should enable the supervisor to appropriately assist and guide the students without exerting a heavy workload on the supervisor (Roets 2016:8).

Intervention/Actions

Supervisor allocation should be conducted as soon as the student is admitted into doctoral studies in order to facilitate a supervisor/student rapport that is crucial in the creation of an environment conducive to student competency development (Lindsay 2015:184-185). Where there is a shortage of supervisors (Roets 2013:11-12), the universities should recruit enough qualified supervisors in order for students to improve the student/supervisor ratio (Nabolsi et al 2014:215-216) (Table 5.4, Action 2.1). Institutions should ensure a realistic supervisor-students ratio of seven doctoral research students per supervisor (Roets 2016:1-14) or more students as stated in the

case where the supervisor is experienced and has successfully supervised more students to complete their studies (Franke & Arvidsson 2011:7-19).

As mentioned, in the case where the supervisor has not supervised before, they need to work with an experienced supervisor until they are capable of supervising research independently (Kiley 2011:589). Experienced supervisors also need to be provided with training in order to be current with new trends in supervision (Hales 2011:557). Institutions should promote career growth for research lecturers in order to develop supervision skills and competencies.

It is not just sufficient to assign the supervisor early, but the supervisor should also be knowledgeable and skilled as far as research is concerned (Kemer 2012:1). Supervisors should be allocated according to niche areas as well as their particular expertise (Evans & Stevenson 2011:239-250).

STRATEGY 3: Appropriate supervisor-student allocation according to niche areas and expertise

Universities should review the CVs of supervisors to determine their area of expertise before allocating students to them. The supervisor who is an expert in the student's area of study is better able to guide the research student to successfully complete their thesis proposal writing phase (Evans & Stevenson 2011:240). The knowledgeable supervisor is also able to promptly identify and correct research incompetence where the student is deficient in research knowledge (Roets et al 2017:1-10). A supervisor who is knowledgeable in the specific area in which the student is interested is more competent in supervising and able to guide research students within the specific area (Neeta & Klu 2013:256).

Interventions/Actions

Supervisor allocation should be done according to the niche areas (see Table 5.4, Action 3.1) of the supervisor as that is where the supervisor is an expert (Evans & Stevenson 2011:27). In cases where the supervisor is not an expert, and an alternative supervisor is not available within the context, the supervisor might need to be supported to gain knowledge of the specific area in order to gain competence in supporting the doctoral student (Fenge 2012:401). Alternatively, the research supervisor who lacks knowledge within an area of doctoral study can also be initially supported by experienced supervisors as stated, until they are competent enough to supervise independently (Fenge 2012:401-414).

STRATEGY 4: Timely allocation of supervisors

Universities should allocate supervisors in a timely manner. In order for students to receive timely guidance there is a need for them to engage with their supervisor early in their research study (Lindsay 2015:186-187). Most students start their doctoral studies with no understanding of doctoral research requirements (Lindsay 2015:184) and they need urgent and early direction and support in order to progress and succeed in thesis proposal writing (Islam 2019:1-22).

Since the early assignment of competent supervisors is crucial for the development of HOTS, a supervisor with the capacity to identify research knowledge deficits can assist the student to acquire research knowledge and skills (Henderson & Hurly 2013:248) early in the research process, contributing to student success.

Intervention/Actions

Mandatory supervisor allocation or the selection of students to supervise (see Table 5.4, Action 4.1) should be done as soon as the student is admitted into the doctoral programme (Roets et al 2017:5). Roets and Maritz (2017:51-52) suggest that HOTS

should be taught very early in the process since a lack of these skills has a negative effect on the research process as a whole (White 2013:213; Wetzel & Ewbank 2013:393). Thus, the sooner the student is allocated, the sooner a supervisor-student relationship can be fostered to encourage the development of academic writing skills such as HOTS (Wisker 2012:115).

After the supervisor is allocated students, early communication of the names and details of the student/supervisor should be done.

STRATEGY 5: Provide support for supervisors

Supervisors should be provided with support in order to work efficiently.

Intervention/Actions

Universities should provide resources such as technical editors, language editors, and IT personnel (see Table 5.4, Action 5.1) to support doctoral students, thereby lessening students' dependency on supervisors (Martinsuo & Turkulainen 2011:107). Furthermore, research support staff (see Table 5.4, Action 5.1), such as research assistants can be employed in order to lessen supervisor responsibility (Martinsuo & Turkulainen 2011:108).

5.6.2 Librarians

STRATEGY 6: Ensure effective library support for registered students

In order for the doctoral students to be effectively supported during research, there is a need for librarians to be available to assist the students in obtaining current research information (Mutshewa 2015:1-2). Oakleaf (2010:1) noted a suggested ratio of 1:100 librarian to user ratio, yet according to 2015 NCES statistics, some universities have a

librarian/user ratio of 1:1500. Obviously such massive numbers of users for one librarian may make it too challenging for the librarian to work effectively.

Intervention/Actions

Participants in this study had challenges resulting from a shortage of librarians available to assist them (see Section 3.16.2). It is vital for universities to recruit enough skilled librarians in order to support doctoral research. A shortage of qualified librarians will result in poor research quality (Mahwasane 2016:264-265).

The number of librarians should be based on the number of research students and institutions should ensure that librarians are sufficient to effectively support research students. Institutions should implement a realistic student to librarian ratio according to the number of students who need to be supported. The number of available librarians is important and librarians should be adequate to support, assist and guide students during research. Universities should assess the number of librarians and the research students' services to ensure the librarians are adequate. Institutions should also provide subject librarians for specific faculties in order to assist students during research.

Participants had challenges with uncooperative librarians who delayed their research progress (see Section 3.16.2). When librarians fail to adequately assist students, their research progress is arrested and the quality of research is also compromised (Gagan & Rakesh 2013:200-201). The institutions should thus recruit competent subject librarians to support research students. It is important for institutions to review the qualifications of librarians before they are employed. As indicated, librarians are responsible for assisting the student in finding important and appropriate material for their studies (Foasberg 2015:700) as well as training students on how to access library sources online (Sigh & Khan 2015:1).

Institutions should recruit competent librarians with specific subject knowledge (see Table 5.4, Action 6.1) who are capable of supporting research students with their

specific subject information. Institutions should therefore review the qualifications of librarians for needed skills such as the ability to support and assist students with specific subject information (Isebe 2015:1-11). Qualified and skilled librarians will effectively assist and guide students during research (Ghalib 2016:26).

However, in the case where the librarian's specific subject knowledge, skills or attitude are not adequate, in-service training or workshops should be provided for librarians to update their knowledge, work ethic and skills. Institutions should require librarians to update their knowledge through workshops and continuing education (see Table 5.4, Action 6.2). The availability of competent and cooperative librarians will assist doctoral students during their studies.

In view of the vast number of users in most libraries, a shortage of qualified librarians may be a reality that may be relieved by the use of support library staff (Gagan & Rakesh 2013:200). Institutions should recruit or train non-subject library staff (see Table 5.4, Action 6.3) who can assist library users who are non-research students in acquiring library sources and information, thus reducing the workload of subject librarians (Isebe 2015:22-23).

Lack of library skills, such as how to access resources in a library, can also reduce the efficiency of library support personnel, thus coming across as uncooperative (Sushma 2015:1544). Institutions need to adequately train library support personnel (see Table 5.4, Action 6.3) on how to treat library users and train them on basic library skills (Bradbury 2018:1). Improving the work environment (see Table 5.4, Action 6.3) by training library support personnel can greatly improve the effectiveness of library personnel (Mutshewa 2015:2).

Research students can also be referred to peer support groups for assistance with research (Murakami-Ramalho et al 2013:260).

5.6.3 Peer support

STRATEGY 7: Peer support programmes for doctoral students

Agents of change are those affected by the problem as well as those who are knowledgeable about how to bring about change (Kiani & Jumani 2010:414). Former doctoral students who have graduated offer peer support (see Table 5.2), which might effect change, as supported by Kaakinen et al (2017:22).

Participants credited their increase in research knowledge to their association with fellow doctoral students, thus peers also conducting research. Peer support has been noted to motivate students and increase their research knowledge (Nabolsi et al 2014:214). It is very influential in the development of research skills since students are more likely to listen or imitate their fellow peers (Lambert & Machin 2016:27) who may also be going through similar research experience (Levine 2013:1). Universities should establish communities of support where students who lack research skills can be supported by peers and other faculty members to develop such skills.

Interventions/Actions

Universities should implement communities of support and peer support programmes (see Table 5.4, Action 7.1) to help students develop research skills. Methods of providing peer support include web and blog interaction with fellow researchers, group meetings, text messages and e-mailing (Fuchs 2017:38). Peer support has been noted to encourage students to gain confidence and remove the feeling of isolation that accompanies doctoral research studies (Murakami-Ramalho et al 2013:256-257) and increase cognitive critical thinking skills (Henderson & Hurly 2013:250). Students who present in front of fellow students may feel supported and encouraged by positive feedback (Gupta & Mili 2017:1). Students should therefore be encouraged to present papers at peer workshops before they can enrol in doctoral research studies.

Apart from challenges with the mentioned human resources, students also lacked research skills and competencies necessary for research completion.

5.6.4 Doctoral students

The lack of research competencies was described as a challenge by respondents (see Section 3.21). Most respondents lacked basic skills for conducting research. While these competencies should have been acquired during masters' or honours degree study, most respondents were sadly incompetent (Galeano & Morales-Menendez 2012:48). Some respondents even indicated that they lacked knowledge of how to proceed with research as they did not know what they were required to do.

STRATEGY 8: Student recruitment and selection criteria

A careful selection and recruitment of students who are capable of conducting research should be done. Respondents who had research knowledge attributed it to the research knowledge they received during their master's training. To ensure quality research, the student needs to be competent and knowledgeable of research (Van Rensburg et al 2014:3). Doctoral research calls for an understanding of academic writing skills in order for the student to analyse, organise or conceptualise their writing (Lee & Murray 2013:1-2).

Interventions/Actions

As discussed, universities should recruit doctoral students who have a good chance of succeeding in their research studies. The universities should thus develop selection criteria (see Table 5.4, Action 8.1) to recruit students. Such criteria can include reviewing the students' understanding of the language of instruction, evidence of previous papers presented, and quality of masters' dissertation produced.

Universities should also require the students to take an entry language proficiency test (see Table 5.4 Action 8.1). Those students who fail the entry test (by attaining less than 60% grade) would need to enrol for language proficiency training before starting their research.

Doctoral students who are deficient in research knowledge such as language deficiency can also be referred to support groups which will assist them in developing such skills (Gupta & Mili 2017:1-2). Other areas to be assessed are the students' knowledge of scientific writing, methodology and prior research experience (Tarvid 2014:587). Institutions can assess the students' knowledge of methodology and prior research experience by assessing previous research done by students before registering for doctoral studies. These can include student's masters' dissertation, for which the student should have earned a mark of at least 65%. Scientific writing skills can also be assessed using an assessment tool.

STRATEGY 9: Support programmes to assist students with the development of related research skills and competencies

All doctoral students enter their studies after completing a master's or honours degree (UNISA 2018:1). However, some doctoral students lack the research preparation they are expected to have obtained in prior studies and end up abandoning their thesis proposal (Lindsay 2015:184).

Participants verbalised their appreciation of research courses and workshops, and credited them for the research knowledge and skills they had acquired (see Section 3.15.2). Most respondents appreciated the research training they received both during their master's degree training as well as during peer workshops (see Section 3.17.1). Some appreciated the research participation they were involved in during work study before enrolling in doctoral research (see Section 3.17.1).

Research-related methodology courses could assist in improving students' research skills and knowledge. It has been noted that students who join support groups develop their research identity and may successfully transition into competent researchers (Murakami-Ramalho 2013:271).

Interventions/Actions

Universities should provide research-related courses (see Table 5.4, Action 9.1) or workshops to improve students' research competencies prior to commencing research. According to Knox et al (2011:1), research students who lack research skills and information are at a disadvantage as they may not be able to complete their research studies. Research skills are best developed during the first year of graduate study (Kontorovich & Liljedahl 2018:1). Institutions of higher learning should therefore implement support programmes to assist students in the development of research skills (see Table 5.4, Action 9.1) and competencies (Baker & Lattuca 2010:810) such as scientific writing skills.

Scientific writing is a technique of conveying accurate information in a clear and logical manner (Senkevitch et al 2011:159). Skills in scientific writing include paraphrasing, logical links between paragraphs, correct spelling and punctuation and avoiding plagiarism, among other things. Students who lack scientific writing skills may fail to succeed in thesis proposal writing (Rohwer et al 2017:1-4) and drop out from doctoral studies. Universities should therefore develop and implement programmes for academic writing skills (see Table 5.4, Action 9.1) for those students who lack these skills. Such research information includes the ability to formulate the research topic, the ability to systematically search the literature, an understanding of a literature review, and ethical consideration in research, among other things (Bukusi, Manabe & Zunt 2018:42-47; Arend 2009:77-83). Research-related courses can be offered on these noted topics.

Self-determination is essential in the development of critical thinking skills. Students who are motivated can successfully conduct research to completion (Lee 2008:28;

Gupta & Mili 2017:2). Respondents confirmed the importance of self-determination as a contribution to their success (see Section 3.20.1). Studies also indicated that research students need determination to develop HOTS and contribute to their own development as research scholars (Chiappetta-Swanson & Watts 2011:7-8; Roets et al 2017:2). Institutions should provide opportunities for the development of HOTS (see Table 5.4, Action 9.1), but students themselves should also be responsible for their own progress and success (Peelo 2010:48).

STRATEGY 10 Binding contracts that stipulate the responsibility of students doing research

There are no clear guidelines in research supervision (Switzer & Perdue 2011:12) leaving both the supervisor and the student guessing their actual responsibility in the doctoral research process (McCallin & Nayar 2012:63-66). It is therefore important that responsibilities and parameters are defined, so that the supervisor and the student become aware of what is expected of each party involved in the thesis proposal writing process (Lee 2012:40-42).

As soon as possible after admission into the programme, the student should be encouraged to discuss and agree with their supervisor on the specific role each will play and the expectation of both parties (Barnes et al 2012:36).

Intervention/Actions

Universities should develop a binding contract (see Table 5.4, Action 10.1) that stipulates the responsibility of the student during thesis proposal writing. Such a contract should include areas such as the timeline for completion of the degree (DeClou 2016:177), timeliness of submission of assignments, and frequency of supervisor/student communication (David 2017:16; Inouye & McAlpine 2017:1), effective time management (Hjelm 2015:175), the need to utilise resources such as

library and peer support (Kara & Karen 2016:1; Lambert & Machin 2016:26), and attending research training (Fatumo et al 2014:1).

5.7 NON-HUMAN RESOURCES

5.7.1 Libraries

While libraries are essential to research (Hicks 2015:219), it is vital for these libraries to be accessible. Participants indicated a lack of research materials in libraries and an inability to access the available materials (see Section 3.16).

STRATEGY 11: Provide access to research resources

Universities should provide students access to research resources. Doctoral students under this study expressed challenges related to a lack of non-human resources such as research journals, e-books, reference books and the internet (see Section 3.15.1). Furthermore, studies have indicated that graduate students usually struggle to find research information that can easily be accessed because they do not know how to access it (Maher et al 2014:1). Students should be trained on how to use library catalogues and how to conduct a literature search. The lack of resources, such as those named, can affect the quality of research produced by the student, especially during thesis proposal writing.

Interventions/Actions

Institutions should be well equipped with current and relevant research sources (see Table 5.4, Action 11.1) (Ghalib 2016:24; Mahwasane 2016:262). The success of research is determined by the availability of current sources of information (Singh & Khan 2015:1-2). It is important that universities should train students in how to access research information, subscribe to research journals and utilise interlibrary sourcing (see Table 5.4, Action 11.2) (Saunders 2015:286) in order for students to easily access research information.

Universities should also provide technology such as internet access to enable students to access research information. Access to computers, e-journals, data bases, e-books is essential for quality research as well as communication between students and research supervisors (Egesimba et al 2011:30).

5.7.2 Finances

Most students have to balance work and research in order to finance their studies. Working while studying results in students having to drop out from their studies (Lovitts 2008:312). In some cases the students have to work in order to finance their studies, since the student is usually the bread winner who also has to provide for other family needs, including medical issues (Alkandari 2014:1).

Doctoral research requires time commitment where the student spends adequate time engaged in studies. In the case where the student is employed, they may be under pressure and end up dismissing their studies or having poor research productivity (Martinsuo & Turkulainen 2011:110). Brown and Watson (2010:402-403) noted that students who worked part time or full time experienced tension during doctoral studies and ended up dropping out from their studies.

STRATEGY 12: Implement a bursary system

Universities need to develop qualifying criteria for bursaries and communicate such information to students.

Interventions/Actions

There is a need to assist students who work and study by proving necessary financial assistance in order for them to succeed in their studies. Institutions should provide financial assistance (see Table 5.4, Action 12.1) in the form of grants and scholarships to students who qualify in order relieve the stress they have to endure in order to attain

doctoral degrees. Universities should also communicate the requirements to qualify for study bursaries to prospective students.

After the literature review on the strategies and action plans was completed, the researcher came up with a draft intervention strategy and action plan to be validated by the eight panellists who agreed to participate. The draft intervention strategy and action plan is presented in Table 5.4.

Table 5.4: Draft Intervention Strategy And Action Plan

STRATEGY 1: SUPERVISION BY COMPETENT SUPERVISORS
ACTION STATEMENT 1.1: Recruit competent research supervisors that adhere to the appointment criteria
Method: Assess CV of supervisors before employment specifically pertaining to:
Highest academic qualifications
Years of experience in supervision
Number of doctoral students completed
Number of masters students completed
Number of research publications
Field of expertise
Responsible Persons
A dedicated team of professors appointed by the dean within each faculty
Deans of faculties
Heads of each department
The faculty administrators
Timeframe
After CVs of applicants are received
During the shortlisting process
ACTION STATEMENT 1.2: Develop a formal training for research supervisors
Method: Develop a training programme for research supervisors that must include:
Supervisor /student relationship

Cultural sensitivity
How to share constructive feedback
Online feedback
Responsible Persons
An appointed team of experienced professors in each department in collaboration with the training office in an institution
Deans of each faculty
An appointed team of experienced supervisors
Timeframe
Within 30 days after the approval of the strategic intervention and action plan for implementation
Within 60 days after the approval of the strategic intervention and action plan for implementation
Within 90 days after the approval of the strategic intervention and action plan for implementation
ACTION STATEMENT 1.3: Provide resources for training of supervisors
Method: Provide resources that should include the following
Research training facilitators
Institutionalised guidelines on supervision
Policy on co-supervision
Institution research student support services
Responsible Persons
Deans of each faculty that provides doctoral programmes
Heads of departments of postgraduate programmes
Department of continuing education
Timeframe

Before every new supervisor is assigned to a research student
Within 14 days of a supervisor being employed
Within 30 days after new supervisor is employed
Within 60 days after new supervisor is employed
ACTION STATEMENT 1.4. Implement training of supervisors
Method: Provide time for supervisors to attend training programmes
Supervisors must be provided with time to attend training programmes
Responsible Persons
Deans of each faculty that provide supervision to doctoral students
Heads of departments with registered doctoral students
Timeframe
Within 30 days after the approval of the strategic intervention and action plan for implementation
Within 60 days after the approval of the strategic intervention and action plan for implementation
Action statement 1.5: Implement a supervision policy that includes guidelines on supervision
Method: Develop a policy that includes guidelines to manage supervision including but not limited to
Frequency of supervisor/student meetings
Number of students allocated to supervisor
Supervisor capacity
Balance supervision and other institutional responsibilities
Responsible Persons
A team of appointed experienced supervisors
Deans of each faculty that provide doctoral education

Heads of each department with registered doctoral programmes
Timeframe
Within 30 days after the approval of the strategic intervention and action plan for implementation
Within 60 days after the approval of the strategic intervention and action plan for implementation
Within 90 days after the approval of the strategic intervention and action plan for implementation
Action statement 1.6 Develop a formal mentoring programme
Method: Develop a formal mentoring programme for supervisors that includes:
Defining the roles of the mentor and mentee
The responsibilities of a mentor
The responsibilities of a mentee
The duration of each mentoring cycle
Responsible persons
A team of appointed experienced supervisors
Head of department of continuing education
Timeframe
14 days after the approval of the strategic intervention and action plan for implementation
30 days after the approval of the strategic intervention and action plan for implementation
STRATEGY 2: ACHIEVE A REALISTIC STUDENT/SUPERVISOR RATIO OF SEVEN STUDENTS PER SUPERVISOR

ACTION STATEMENT 2.1: Implement a recruitment plan to recruit supervisors as well as students to allow for a realistic student/supervisor ratio
Method 2.1.1: Review the capacity of supervisors based on
The student/supervisor ratio
Niche areas of supervisors compared to student interest
Specific skills and competencies of supervisors
Number of students the supervisor has graduated
Responsible persons
Postgraduate programme coordinators in each institution
Deans of Faculties
Heads of each department
Timeframe
Before student admission
Before student registration
Within 30 days after student registration
Method 2.1.2: Admit students according to the capacity of supervisors
Review number of available supervisors before students admission

Implement group supervision to increase the number of students that can be admitted
Responsible persons
Registrars
Postgraduate programme coordinators
Deans of faculties
Heads of departments
Timeframe
Before student admission
During the selection process
STRATEGY 3: SUPERVISOR ALLOCATION ACCORDING TO THEIR FIELD OF EXPERTISE
ACTION STATEMENT 3.1: **Allocate supervisors to students according capability of supervisor expertise**
Method : Allocate students to supervisors who are experts in the focus area relevant to the study content of the student
Review CVs of supervisors before student allocation
Supervisors to select students for supervision
Students to select supervisors from a list provided to them
Responsible persons
Master's and doctoral programme coordinators responsible for allocation of supervisors in each department/ school/faculty

Deans of each faculty
Heads of departments
Timeframe
During student registration
Within 14 days after student registration
STRATEGY 4: TIMELY ALLOCATION OF SUPERVISORS
Action statement 4.1: Allocate supervisors in a timely manner
Method 4.1.1: Instate a supervisor allocation team to appoint supervisors
Responsible persons
Postgraduate programme coordinators responsible for allocation of supervisors in each department/ school/faculty
Deans of each faculty
Heads of each department
Timeframe
During student registration
Within 14 days after a student registers
Method 4.1.2: Communicate the name and details of the student/supervisor to both parties
Responsible persons

Doctoral programme coordinators responsible for allocation of supervisors in each department/ school/faculty
Deans of faculties
Heads of departments
Timeframe
Within 7 days after a student registers
Within 14 days after a student registers
STRATEGY 5: PROVIDE SUPPORT FOR SUPERVISORS
Action statement 5.1. Provide supervisory support
Method: Provide resources to support supervisors:
Technical editors
Language editors
IT personnel
Research assistants
Responsible persons
Deans of postgraduate studies
Heads of departments
Heads of specific support departments eg IT, etc

Timeframe
Before students are allocated a supervisor
As needed
STRATEGY 6. ENSURE LIBRARY SUPPORT FOR REGISTERED STUDENTS
Action statement 6.1. Appoint subject librarians to support research students within their study areas
Method: Allocate subject-specific librarians to individual faculties, departments, research areas eg health, education, nutrition
Responsible persons
Chief librarians
Deans of faculty
Timeframe
Before student admission
Action statement 6.2. Provide continuing education training for librarians to enhance their subject knowledge and expertise
Method: Develop in-service training programmes for librarians
Responsible persons
Specialists in developing training programmes
Chief librarian
Personnel from training department

Timeframe
During the librarians orientation period
Within 60 days after librarian is employed
Within 90 days after librarian is employed
Action statement 6.3. Employ more library support staff
Method: Recruit library support staff:
Recruit student workers to assist with cataloguing
Recruit graduate assistants to help research students with finding research material
Responsible persons
Chief librarian
HR personnel
Timeframe
Within 30 days after a needs assessment of the number of support staff needed is done
STRATEGY 7. PEER SUPPORT PROGRAMMES FOR DOCTORAL STUDENTS
Action Statement 7.1: Develop peer support programmes
Method: Develop peer support programmes for registered students
Responsible persons

A selected team of professors in collaboration with the training office of the institutions
Personnel from department of continuing education
Heads of departments
Timeframe
Within 30 days after the approval of the strategic intervention and action plan for implementation
Within 60 days after the approval of the strategic intervention and action plan for implementation
STRATEGY 8: IMPLEMENT A STUDENT RECRUITMENT AND SELECTION PLAN
Action statement 8.1: Implement selection and recruitment criteria to enhance student success
Method: Implement student selection criteria that addresses:
Language proficiency assessment by students taking a language proficiency written exam and interview
Methodical knowledge by reviewing previous research work done by the student
Scientific writing skills assessment using an assessment tool
Prior research experience eg masters dissertation with a mark of at least 65%
Responsible persons
Personnel from admissions department
Personnel from English department
Deans and Heads of departments

Timeframe
During the recruitment of students
During student application or admission process
STRATEGY 9. SUPPORT PROGRAMMES TO ASSIST STUDENTS WITH THE DEVELOPMENT OF RESEARCH SKILLS AND COMPETENCIES
Action statement 9.1 Provide research courses or workshops to assist students to achieve the prerequisite requirements
Method 9.1.1: Students to take an entry English language (language of instruction) proficiency exam to be assessed for:
English composition skills
Scientific writing skills
Responsible persons
Department of English personnel
Other
Timeframe
During application phase
Before student commences with research proposal writing
Method 9.1.2. Implement programmes for language literacy to students who get less than 60% in the entry exam. Students will need to take and pass English courses before registering for research proposal writing

Responsible persons
Department of English
Department of continuing education and personnel responsible for English training
Timeframe
Within 30 days after failing the language proficiency exam
Within 90 days after failing the language proficiency exam
Method 9.1.3. Develop and implement research-related training courses or workshops for registered doctoral students including:
Academic writing skills training
Research proposal writing
Research methodology training
Research ethics training
Literature searches training
Literature review training
Paraphrasing training
Higher-order thinking skills development training
Responsible persons

Heads of postgraduate and research studies
Deans of faculties
Training office personnel
Timeframe
Students should be mandated to attend at least one research workshop before starting research proposal writing
STRATEGY 10. BINDING CONTRACT TO STIPULATE THE RESPONSIBILITY OF RESEARCH STUDENTS
Action statement 10.1 Implement the compulsory signing of a student/supervisor agreement contract
Method: Develop and implement contract system where students and supervisors sign an agreement to stipulate responsibilities which should include:
Frequency of communication with supervisor
Frequency of supervisor/student meetings
Best method of communicating
Problem-solving process
Students responsibilities
Supervisor responsibilities
Responsible persons
A team of experienced supervisors

Heads of departments
A team of student representatives
Deans of faculties
Timeframe
During allocation of research supervisors
14 days after student registration
30 days after student registration
STRATEGY 11. PROVIDE ACCESS TO RESEARCH RESOURCES
Action statement 11.1. Ensure adequate research resources
Method. Provide adequate resources for research that include:
Up to date scholarly research journals
E-books
Internet research resources
Reference material
Responsible persons
University finance department in collaboration with:
Chief librarian

Doctoral research coordinators
Heads of departments
Timeframe
Before students admission
Within 30 days of student registration
Within 60 days of students admission
Action statement 11.2. Training opportunities for students on how to access resources
Method: Develop and implement training workshops for students to:
Use of the library catalogue
Conduct a literature search
Online search for research information
Responsible persons
Chief librarian
Department of training personnel
Department of continuing education
Timeframe: Mandate students to attend at least one training:
During student orientation

Before starting research
Within 30 days after registration
STRATEGY 12 BURSARY SYSTEM
Action statement 12.1: Implement a bursary system to support qualifying students
Method: 12.1.1. Develop a strict qualifying criteria for bursary allocation
Responsible persons
Department of student finance in collaboration with:
Research supervisors
Department of student affairs
Deans of postgraduate studies
Heads of department
Timeframe
Annually
Method 12.1.2. Communicate the requirements to qualify for study bursaries to prospective doctoral students
Responsible persons
Personnel from the department of finance/scholarships/grants
Research supervisors

Timeframe
During student registration
During students orientation
Within 30 days after registration

5.7 CONCLUSION

The chapter described the development of the strategic intervention and action plan (Phase 3). The data from Phase 1 and Phase 2, as well as a thorough literature review was used for the development of the strategic intervention and action plan. This plan will be used by nursing institutions of graduate studies to assist students in transitioning from being master's-prepared students with little or no knowledge of thesis proposal writing, to expert doctoral students capable of writing thesis proposals. The next chapter will describe the validation of the developed strategic intervention and action plan by the deans of nursing institutions in Phase 4 of this research study.

CHAPTER 6
PHASE 4: THE VALIDATION PROCESS

6.1 INTRODUCTION

The purpose of Phase 4 was to validate the draft strategic intervention and action plan that was developed to assist the doctoral nursing students to succeed in thesis proposal writing. It was validated by members of the FUNDISA to enhance the possibility for implementation in higher education institutions that offer doctoral degrees in nursing. Students were included in the development, and the nursing deans (expert research supervisors) assisted in the validation to ensure enhanced stakeholder participation. The chapter includes a description of Phase 4, the e-Delphi technique used for validation, and all aspects illustrated in Table 6.1.

Table 6.1: Phase 4

Design	Technique	Objective	sample	purpose
Qualitative	Delphi	Validate the developed strategic intervention and action plan	A purposeful sample of experienced research and supervision experts from FUNDISA	To validate the developed strategic intervention and action plan

6.2 QUALITATIVE DESIGN

Qualitative research is an empirical design that is used when there is a lack of understanding why a population is affected by a crisis (Tashakkori & Teddlie 2010:1). In the case of this study, it related to the challenges that doctoral nursing students face when they are writing their thesis proposal. The qualitative design is also exploratory as it explores information from the perception of both individuals and groups, and creates narratives rather than numeric data (Odena & Burges 2017:577). Qualitative data results can be presented in tables, graphs and using other usually quantitative methods (Morse & Niehaus 2016:1).

Key strengths of gathering qualitative data are that it provides perspective and detailed information about those affected. The process of collecting qualitative data requires a limited number of participants and can be carried out with limited resources (Morgan 2014:1), such as the Delphi design that was used for the validation of the strategic intervention and action plan.

6.3 POPULATION

The target population relevant to the validation of the developed draft strategic intervention was the 22 university deans of nursing who were members of the FUNDISA. This population was suitable because it comprised of experienced research supervision experts.

6.4 SAMPLING

A purposive sampling technique was used to find volunteers to participate in the validation process. According to Creswell (2014:1), purposive sampling is a non-probability sampling method of recruiting study participants. It is also known as subjective, judgemental or selective sampling. This technique is used in cases where the participants have the same characteristics (Creswell 2014:1), such as research and supervision experts who are capable of validating an intervention strategy and action plan. Another characteristic was that the chosen deans were those who had given permission for their doctoral students to take part in Phase 1 and Phase 2 surveys of this study. Eight respondents were asked to volunteer to validate the strategic intervention and action plan. Of the eight respondents who were invited to participate, only seven responded even after follow-up reminder e-mails in round one. However, during the second round, all eight participants responded.

6.5 THE DELPHI TECHNIQUE

The Delphi technique is a method that utilises expert opinions on a research problem, instruments or plan where no other data are available (Linstone & Turoff 2011:1712-1719). This was the case with the developed scientific-based strategic intervention and action plan. The Delphi technique can be defined as a process of gathering expert views through a series of interactive surveys with the aim of arriving

at a group consensus (Meijering, Kampen & Tobi 2013:1607-1614). The Delphi technique is also an organised process of sending questions or rounds of questions to experts in order to obtain an agreement to ensure that all panellists have an equal opportunity to provide their individual inputs until all reach consensus and agree on the final product (Junger, Brearley, Payne, Mantel-Teeuwisse, Lynch, Scholten & Radbruch 2013:897-910; Hsu & Sandford 2007:344).

The number of respondents in a Delphi technique is insignificant; what is important is that the respondents should be experts in the area of study (Habibi, Sarafrazi & Izadyar 2014:8-13). However, it is also important to note that suggestions pertaining to size are available. Akins, Tolson and Cole (2005:5) suggest that despite the absence of a standard number of respondents, the most common number of respondents usually falls between 10 - 100. Depending on the purpose of the specific Delphi, more than one group of experts can be included (Avella 2016:312). In this study, one group of experts was sufficient as the experts were all deans of nursing schools or departments at universities, thus expert researchers and research supervisors. The eight respondents who volunteered to partake were regarded as sufficient within this context.

6.5.1 Advantages of the Delphi technique

The following advantages of the Delphi method, as described by Yang, Zeng and Zhang (2012:77-89), motivated the researcher to use this technique:

The Delphi method is flexible as the researcher can design a Delphi study by synthesising information from the literature review or from data analysis of a study (Yang et al 2012:78). In this context, the draft strategic intervention and action plan was developed from a thorough literature review as well as from the qualitative and quantitative data analysis obtained in Chapters 3 and 4.

Another advantage was that the Delphi approach was cost effective. The study was conducted via e-mailing Google Forms®, which had the advantages of online questionnaires (Vasantha Raju & Harinarayana 2016:1) as described in Section 4.6.1.1.

The Delphi method is also anonymous thereby allowing the participants to respond honestly or not to respond if they prefer not to (see Annexures E & F). Furthermore, anonymity and confidentiality allow participants to freely state their opinions (Grove et al 2014:1) because it is important that respondents are not aware of the identity of other participants (Kim & Aktan 2014:460) in order to prevent group bias (Gjoligaj 2014:1). Anonymity was observed as described in Section 3.9.5.

6.5.2 Disadvantages of the Delphi technique

The Delphi technique, despite the advantages, also has disadvantages as described by Avella (2016:310). The disadvantages are addressed as follows:

If experts are not carefully selected the results of the study may be flawed. A purposive sampling technique was used to select members of the FUNDISA who are experts in research supervision. Using the purposive technique meant that the participants were suitably qualified research and supervision experts and were willing to participate. The FUNDISA members are deans of nursing of the 22 South African universities and universities of technology that offer graduate nursing programmes. These deans were knowledgeable and competent in research and research supervision, and therefore reckoned as experts suitable for this study.

The duration of the study, if too long, can frustrate participants resulting in a lack of motivation and low response rate. Participants were invited to participate via the recruitment letter; those who were willing clicked on the link and only those who volunteered to participate were included in the study (see Annexures E & F). Moreover, although the original Delphi method tends to be lengthy (Dalkey & Helmer 1963:459), the researcher reduced the study time by using modified Delphi techniques (details are presented in Chapter 7). Since the strategic intervention and action plan did not need to be developed by the panellists but was already drafted by the researcher, the process was shortened. The experts were presented with a draft strategic intervention and action plan which was developed by the researcher from the review of literature as well as the qualitative and quantitative data analyses (see Chapters 3 & 4), as suggested by Avella (2016:305-321). As a result, the necessity for the experts to generate the strategic intervention and action plan was removed.

Research tools that are poorly designed can yield unintended results due to a lack of clarity. In order to create a research tool that would yield good results the draft strategic intervention and action plan was designed by the researcher with the assistance of the research supervisor before submitting it to the experts for pre-testing. Six research supervisors familiar to the researcher and the supervisor assisted in pre-testing (Avella 2016:305).

6.6 PRE-TESTING

According to Polit and Hungler (2013:38), a research instrument should be pre-tested in order to assess language relevance and to check that the questions are understood by those who are supposed to respond to them (Hilton 2015:21-34). The draft strategic intervention and action plan was pre-tested for appropriateness by the research supervisor, and six research supervision experts; three colleagues each of both the supervisor and the researcher who did not participate in the Delphi process.

The six academics were purposefully selected due to their expertise in research tool development, their willingness to assist, and for being research supervisors in their universities. The academics suggested that some questions were similar and needed to be removed or changed. Other questions needed adjustment as they were not clear and needed to be improved (see Table 6.2).

Table 6.2: Old questions and new or revised questions

Old question	New/revised question
1. In the boxes provided please **check** all items that should be included	1. In the boxes provided please **tick** all items that should be included
2. No space for justification of answers given	2. **Added**: Please justify your answer.
3. **No instructions** on comments and suggestions	3. **Added to instructions**: Please provide recommendations for improvement or suggestions in the spaces provided
4. Question 101 similar to 103	4. Question 103 was changed

After pre-testing and implementing the suggested changes, the questionnaire was distributed by e-mail via Google Forms® to all eight participants (see Table 6.3). Illustrated in Table 6.3 is an example to Illustrate how the draft strategic intervention

action plan with the embedded validation tool appeared. The complete tool is attached as Annexure H.

Table 6.3: Sample strategic intervention and action plan with validation tool

Dear valued panelist, thank you for your willingness to participate in the validation process. Your answers and opinions are requested for the validation of this Strategic Intervention and Action plan to facilitate the transition of students from master's degree nursing studies to PhD/Doctoral thesis proposal writing. In the boxes provided, please click all items that should be included in the Strategic Intervention and Action Plan. Please provide recommendations for improvement or suggestions in the spaces provided and remember to click the submit button before you exit the survey.		
STRATEGY 1: SUPERVISION BY COMPETENT SUPERVISORS		
1. Include or exclude Strategy 1	Include	Exclude
2. Please justify your answer		
3. ACTION STATEMENT 1.1: Recruit competent research supervisors that adhere to the appointment criteria; Include or exclude action statement 1.1	Include	Exclude
4. Please justify your answer		
5. Method: Assess CV of supervisors before employment specifically pertaining to: (**Click all that apply**)		
• Highest academic qualifications		
• Years of experience in supervision		
• Number of doctoral students completed		
• Number of masters students completed		

• Number of research publications	
• Field of expertise	
• Other	
6. Responsible Persons: (Choose the most appropriate)	
• A dedicated team of experienced professors appointed by the dean within each faculty	
• Dean of faculty	
• Head of each department	
• The faculty administrator	
• Other	
7. Timeframe: (Choose the most appropriate)	
• After CVs of applicants are received	
• During the shortlisting process	
• Other	
8. Comments and suggestions for improvement:	

The researcher included her contact information, that of the supervisor and the UNISA ethics department in the recruitment letter to the respondents (see Annexure E and F) in case they had any questions or needed clarification.

6.7 TRUSTWORTHINESS

Trustworthiness comprises of using different ways to collect data in order to get a comprehensive picture of what is being studied (Polit & Beck 2017:21). The aspects that need to be adhered to are credibility, dependability, confirmability and

transferability (Nowell et al 2017:1-13). These were observed by the researcher in both the development of the strategic intervention and action plan.

6.7.1 Credibility

Credibility in qualitative research indicates that the reporter presents the opinions and perceptions of the respondents as clearly as possible (Portugal 2017:1; Botma, Greeff, Mulaudzi & Wright 2010:1). It also reflects how well the data analysis addresses the focus of the study (Polit & Beck 2017:8-10). In this study, credibility was enhanced by the researcher asking the deans to validate the strategic intervention and action plan. These individuals were all experts in research supervision by virtue of being deans of nursing departments in institutions that conduct research.

6.7.2 Dependability

Dependability refers to the consistency of data over time and over circumstances (Polit & Beck 2017:39). By using a validation tool that was reviewed by the experienced supervisor and deans of nursing who are experts in research, it enhanced credibility and in the process determined the dependability of the strategic intervention and action plan.

6.7.3 Confirmability

Confirmability relates to the objectivity of the gathered data and the potential to compare the data's accuracy, relevance and interpretation among independent people (De Vos et al. 2011:152-153; Moule & Goodman 2014:190). By using the Delphi technique, the researcher was able to remain neutral as she had no way of influencing the participants, namely the deans of nursing, as they validated the strategic intervention and action plan in the privacy of their computers and at their own time. The Delphi technique also allowed the participants to be involved in all rounds of the validation process until a consensus among all panellists had been reached.

6.7.4 Transferability

Transferability refers to the extent to which the research findings can be applied or generalised to other contexts or populations (De Vos et al 2011:153). As suggested by Polit and Beck (2017:40), the complete data trail and description of the process that were followed as provided by the researcher will make it possible for other researchers to evaluate the data and transfer the findings to similar contexts (Moule & Goodman 2014:189).

6.8 ETHICAL CONSIDERATIONS

The ethical considerations as described in Sections 3.9 and 4.9 were applied. Ethical approval was obtained from the Health Research Ethics committee at UNISA (see Annexure A) and the eight universities who agreed to have their doctoral students participate in this study. Participants received a recruitment letter (see Annexures E & F) with a link that allowed them access to the draft strategic intervention and action plan if they volunteered to participate; by them accessing the questionnaire, it was an indication that they consented to take part. They were at liberty not to access the questionnaire by not clicking on the link if they did not want to participate. The respondents were provided with a full description of the research study purpose and received information on how to progress if they agreed to participate in the study.

Since the Google Forms® software program provides the researcher with only raw data, there was no way that the researcher could link specific responses to individual participants, thereby allowing participants to remain anonymous. The Google Forms® program does not require respondents to enter identifying personal information, thereby guaranteeing privacy and confidentiality.

6.9 DATA GATHERING (VALIDATION PROCESS)

Data collection for the validation of the strategic intervention and action plan was done using the Google Forms® link sent via e-mail to all the respondents who had been purposefully selected. The cover page of the invitation letter contained the

invitation to participate and a reinstatement of the purpose of the study (see Annexures E & F).

By clicking on the link, it was an indication that the respondent consented to the study as they had an option not to click on the link after opening the e-mail if they did not wish to participate. Using Google Forms® via e-mail was an efficient way of collecting data which has several advantages as described in Section 4.6.1.1.

The survey questionnaire consisted of the draft strategic intervention and action plan (see Table 5.4) that was to be validated by the seven panellists who agreed to participate. The researcher added a section to the draft strategic intervention and action plan where the respondents (the deans of nursing) could add responses by checking each strategy they believed should be included in the action plan tool (see Table 6.3). Another section was added where respondents could add suggestions for improvement of the action plan.

6.10 DATA ANALYSIS

The first round of raw data, with the answers to the validation tool that was embedded in the draft strategic intervention and action plan, were received two weeks after providing possible panellists with the invitation via the recruitment letter. Seven sets of data were received via Google Form®. The respondents were requested to respond to each strategic intervention, every action to be taken, and decide whether they were important enough to be included for assisting students in successfully transitioning from master's to doctoral thesis proposal writing. They were also asked to indicate who should be responsible for each action statement as well as the timeframe for completing each action statement (see Table 6.3).

A suggestion and comment section allowed respondents to give recommendations and suggestions for improvement of any section of the strategic intervention and action statement. The responses from the experts were analysed and are presented in Section 6.11.

6.11 FINDINGS FIRST ROUND

According to de Mello Pereira and Titonelli Alvim (2015:177), the panellists' agreement of 75% is appropriate in order for consensus to have been reached. The findings were analysed strategy by strategy and for each individual action statement, including the responsible person/s and timeframe. The software embedded in the Google Forms® was used for analyses.

6.11.1 Strategy 1: Supervision by competent supervisors

There was a general consensus by the respondents as to the need to include supervision by competent supervisors as a strategic intervention to assist doctoral students during their thesis proposal writing (see Table 6.3). All seven respondents (f=100%) agreed that supervision by competent supervisors should be included.

6.11.1.1 Action statement 1.1: Supervision by competent supervisors

Hundred percent consensus was reached by respondents (n=7) that recruiting supervisors who adhere to the appointment criteria was essential in order to have research supervisors who will be able to assist doctoral research students during the thesis proposal writing phase. The respondents were also in agreement (n=7; f=100%) as to the persons responsible to recruit supervisors, as well as the timeframe when the recruitment must be carried out (see Table 6.4).

Table 6.4: Strategy 1 and Action statement 1.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 1			
Supervision by competent supervisors	100%	7	**Yes**
Action Statement 1.1			
Recruit competent research supervisors that adhere to the appointment criteria	100%	7	**Yes**
Method			

Assess CVs of supervisors before employment specifically pertaining to:	100%	7	**Yes**
- Highest academic qualifications	100%	7	**Yes**
- Years of experience in supervision	100%	7	
- Number of doctoral students completed	100%	7	
- Number of masters students completed	100%	7	
- Field of expertise	100%	7	
- Number of research publications	100%	7	
Responsible person/s for action			
- A dedicated team of professors from all departments appointed by the dean	85.7%	6	**Yes**
- Deans of faculties	0%	0	
- Heads of each department	14.3%	1	
- The faculty administrators	0%	0	
Timeframe			
- After CVs of applicants are received	85.7%	6	**Yes**
- During shortlisting	85.7%	6	

6.11.1.2 Action statement 1.2: Develop a formal training programme for research supervisors

All seven respondents (f=100%) agreed to include the development of a formal supervisor training programme in order to enhance research supervisors' competence. Agreement was also reached on who the responsible persons for the development of the training programme should be. Consensus was, however, not reached as to the timeframe when the action statement must be completed (see Table 6.5).

Table 6.5: Strategy 1 and Action Statement 1.2

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 1			
Supervision by competent supervisors	100%	7	**Yes**
Action plan 1.2			
Develop a formal training programme for research supervisors	100%	7	**Yes**
Method			
Develop a formal training programme for research supervisors that must include	100%	7	**Yes**
- Supervisor/student relationship	100%	7	**Yes**
- Cultural sensitivity	85.7%	6	
- How to share constructive feedback	100%	7	
- Online feedback	100%	7	
Responsible person/s for action			
- An appointed team of experienced professors in each department	100%	7	**Yes**
- Deans of faculties	0%	0	
- Appointed team of experienced supervisors	51.7%	4	
Timeframe			
- Within 30days after the approval of the strategic intervention and action plan for implementation.	71.4%	5	**No**
- Within 60 days after the approval of the strategic intervention and action plan for implementation.	0%	0	
- Within 90 days after the approval of the strategic intervention and action plan for implementation.	14.3%	1	

6.11.1.3 Action statement 1.3: Provide resources for training of supervisors

Hundred percent (n=7) consensus was reached that the provision of resources for the training of supervisors must be included as an action statement. The consensus was also reached as to who would oversee the provision of the training resources,

as well as the specific timeframe for the completion of the action statement (see Table 6.6).

Table 6.6: Strategy 1 and Action Statement 1.3

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 1			
Supervision by competent supervisors	100%	7	**Yes**
Action plan 1.3			
Provide resources for training of supervisors	100%	7	**Yes**
Method			
Provide resources that should include the following:	100%	7	**Yes**
- Research training facilitators	100%	7	**Yes**
- Institutionalised guidelines on supervision	100%	7	
- Policy on co-supervision	100%	7	
- Institution research student support services	100%	7	
Responsible person/s for action			
- Deans of each faculty that provide supervision to doctoral students.	85.7%	6	**Yes**
- Heads of each department with registered doctoral students	71.4%	5	
- Department of continuing education	71.4%	5	
Timeframe			
- Before every new supervisor is assigned to a research student	100%	6	**Yes**
- Within 14 days of a supervisor being employed	0%	0	
- Within 30 days of a supervisor being employed	0%	0	
- Within 60 days of a supervisor being employed	0%	0	

6.11.1.4 Action statement 1.4: Implement training programmes for supervisors

All seven respondents (n=7; f=100%) consented to implement supervisors' training programmes as one of the action plans for supervisors to be competent. There was

also a general consensus as to the responsible persons for the implementation of the action statement. A consensus was not reached on the specific timeframe of when the action plan would be carried out (see Table 6.7).

Table 6.7: Strategy 1 and Action Statement 1.4

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 1			
Supervision by competent supervisors	100%	7	**Yes**
Action plan 1.4			
Implement training programmes for supervisors	100%	7	**Yes**
Method			
Supervisors must be provided with time to attend training Research supervisors must attend one training opportunity per year.	100%	7	**Yes**
Responsible person/s for action			
- Deans of each faculty that provide supervision to doctoral students	85.7%	6	**Yes**
- Heads of departments of postgraduate studies	71.4%	5	
Timeframe			
- One training opportunity per year	57.1%	4	**No**
- Two training opportunities per year	57.1%	4	

6.11.1.5 Action statement 1.5: Implement a supervision policy that includes guidelines on supervision

Agreement was reached by all respondents (f=100%) in terms of including the implementation of a supervision policy that includes guidelines on supervision. Consensus was also reached on who would develop the supervision policy as well as the specific timeframe for the completion of the action statement (see Section 6.8).

Table 6.8: Strategy 1 and Action Statement 1.5

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 1			
Supervision by competent supervisors	100%	7	**Yes**
Action plan 1.5			
Implement a supervision policy that includes guidelines on supervision	100%	7	**Yes**
Method			
Develop a policy that includes guidelines to manage supervision including but not limited to:	100%	7	**Yes**
- Frequency of supervisor/student meetings	85.7%	6	**Yes**
- Number of students allocated to supervisor	100%	7	
- Supervisor capacity	100%	7	
-Balance supervision with other institutional responsibilities	100%	7	
Responsible person/s for action			
- A team of appointed experienced supervisors	100%	7	**Yes**
-Deans of each faculty that provides doctoral education	85.7%	6	
- Heads of each department with registered doctoral programmes	85.7%	6	
Timeframe			
- Within 30 days after the approval of the strategic intervention and action plan for implementation.	14.3%	1	**Yes**
- Within 60 days after the approval of the strategic intervention and action plan for implementation.	0%	0	
- Within 90 days after the approval of the strategic intervention and action plan for implementation.	85.7%	6	

6.11.1.6 Action statement 1.6: Develop a formal mentoring programme

All respondents (f=100%) agreed that developing a formal mentoring programme must be included in the action plan (see Table 6.9). Consensus was also reached on who must be responsible for the development of this mentoring programme. There was, however, a lack of agreement as to the timeframe when the action statement must be achieved (see Table 6.9).

Table 6.9: Strategy 1 and Action Statement 1.6

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 1			
Supervision by competent supervisors	100%	7	**Yes**
Action plan 1.6			
Develop a formal mentoring programme	100%	7	**Yes**
Method			
Develop a formal mentoring programme for supervisors that includes:	100%	7	**Yes**
- Defining the role of a mentor and mentee	100%	7	**Yes**
- The responsibility of a mentor	57.1%	4	
- The responsibility of a mentee	57.1%	4	
- The duration of each mentoring cycle	100%	7	
Responsible person/s for action			
- A team of appointed experienced supervisors	85.7%	6	**Yes**
- Heads of each department of continuing education	85.7%	6	
Timeframe			
- Within 14 days after the approval of the strategic intervention and action plan for implementation.	57.1%	4	**No**
- Within 30 days after the approval of the strategic intervention and action plan for implementation.	0%	0	

6.11.2 Strategy 2: Achieve a realistic supervisor-student ratio

All the participants (f=100%) agreed to include a supervisor/student ratio of seven students per supervisor as a realistic achievement (see Table 6.10).

6.11.2.1 Action statement 2.1: Implement a recruitment plan to recruit supervisors as well as students to allow for a realistic student/supervisor ratio

The participants reached consensus (f=100%) as far as including a recruitment plan to recruit supervisors as well as students to allow for a realistic student-supervisor ratio. They also agreed on the persons responsible for the action statement as well as the specific timeframe in which to fulfil the action plan (see Table 6.10).

Table 6.10: Strategy 2 and Action Statement 2.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 2			
Achieve a realistic supervisor/student ratio of seven students per supervisor	100%	7	**Yes**
Action plan 2.1			
Implement a recruitment plan to recruit supervisors as well as students to allow for a realistic student/supervisor ratio	100%	7	**Yes**
Method			
Review the capacity of supervisors based on:	100%	7	**Yes**
- The student/supervisor ratio	100%	7	**Yes**
- Niche areas of supervisors compared to student interest	100%	7	
- Specific skills and competencies of supervisors	100%	7	
- Number of students the supervisor has graduated	100%	7	
Responsible person/s for action			
- Postgraduate programme coordinators in each	100%	7	**Yes**

institutions			
- Deans of faculties	57.1%	4	
- Heads of each department	42.9%	3	
Timeframe			
- Before student admission	100%	7	**Yes**
- Before student registration	0%	0	
- Within 30 days after student registration	0%	0	

6.11.2.2 Action statement 2.2: Admit students according to the capacity of the supervisors

There was a general consensus among the respondents (n=7; f=100%) to include the admission of students according to the capacity of the supervisors in the intervention and action plan. They also agreed as to who must be responsible for the completion of the action statement (see Table 6.10). There was, however, no consensus reached as to the specific timeframe for the completion of the action statement (see Table 6.11).

Table 6.11: Strategy 2 and Action Statement 2.2

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 2			
Achieve a realistic supervisor/student ratio of seven students per supervisor	100%	7	**Yes**
Action plan 2.2			
Admit students according to capacity of supervisors	100%	7	**Yes**
Method			
Review number of available supervisors before student admission	85.7%	6	**Yes**
Implement group supervision to increase the number of students that can be admitted	85.7%	6	**Yes**
Responsible person/s for action			
- Registrars	85.7%	6	**Yes**

- Postgraduate programme coordinators	100%	7	
- Deans of faculties	85.7%	6	
- Heads of departments	71.4%	5	
Timeframe			
- Before student admission	71.4%	5	**No**
- During the selection process	71.4%	5	

6.11.3 Strategy 3: Appropriate supervisor-students allocation according to niche areas and expertise

All seven respondents (f=100%) unanimously agreed to include supervisor allocation according to their field of expertise as one of the strategies on the action plan (see Table 6.12).

6.11.3.1 Action statement 3.1. Allocate supervisors to students according to supervisors' capability and expertise

Respondents reached consensus (n=7; f=100%) concerning the inclusion of the allocation of supervisors according to their capability and expertise. They also agreed on who the persons responsible must be (n=7; f=100%), as well as the timeframe (n=6; f= 85.7%) for completion of the action statement (see Table 6.12).

Table 6.12: Strategy 3 and Action Statement 3.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 3			
Supervisor allocation according to their field of expertise	100%	7	**Yes**
Action plan 3.1			
Allocate supervisors to students according to supervisors capability and expertise	100%	7	**Yes**
Method			
Allocate students to supervisors who are experts in	100%	7	**Yes**

the focus area relevant to the study content of the student			
- Review CVs of supervisors before student allocation	100%	7	**Yes**
- Supervisors to select students for supervision	100%	7	
- Students to select supervisors from a list provided to them	85.7%	6	
Responsible person/s for action			
- Masters and doctoral programme coordinators responsible for allocation of supervisors in each department/school/faculty	100%	7	**Yes**
- Deans of each faculty	14.3%	1	
- Heads of departments	14.3%	1	
Timeframe			
- During student registration	85.7%	6	**Yes**
- Within 14 days after student registration	14.3%	1	

6.11.4 Strategy 4: Timely allocation of supervisors

All respondents (f=100%) consented to the inclusion of timely allocation of supervisors as one of the strategies of the action plan (see Table 6.13).

6.11.4.1 Action statement 4.1: Allocate supervisors in a timely manner

The inclusion of the allocation of supervisors in a timely manner as one of the action statements was agreed upon by all respondents (n=7; f=100%). There was also consensus as to those who must be responsible for completing the action statement. The respondents did not reach consensus as to the timeframe for the completion of the action statement (see Table 6.13).

Table 6.13: Strategy 4 and Action Statement 4.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 4			
Timely allocation of supervisors	100%	7	**Yes**
Action plan 4.1			
Allocate supervisors in a timely manner	100%	7	**Yes**
Method			
Instate a supervisor allocation team to appoint supervisors	100%	7	**Yes**
Responsible person/s for action			
- Postgraduate programme coordinators responsible for allocation of supervisors in each department/school/faculty	100%	7	**Yes**
- Deans of each faculty	57.1%	4	
- Heads of departments	14.3%	1	
Timeframe			
- Before student registration	28.6%	2	**No**
- Within 14 days after a student registers	57.1%	4	

6.11.4.2 Action statement 4.2: Communicate the names and details of the student/supervisor to both parties

Respondents unanimously agreed (n=7; f=100%) to include the action statement on the communication of the names and details of the student/supervisor to both parties (see Table 6.14). There was also consensus as to the persons who must be responsible for the communication. Respondents did not agree to the specific timeframe for the completion of the action statement (see Table 6.14).

Table 6.14: Strategy 4 and Action Statement 4.2

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 4			
Timely allocation of supervisors	100%	7	**Yes**
Action plan 4.2			
Communicate the names and details of the student/supervisors to both parties	100%	7	**Yes**
Responsible person/s for action			
- Doctoral programme coordinators responsible for allocation of research supervisors in each department/school/faculty	100%	7	**Yes**
- Deans of each faculty	14.3%	1	
- Heads of departments	14.3%	1	
Timeframe			
- Within 7 days after student registration	42.9%	4	**No**
- Within 14 days after student registration	57.1%	5	

6.11.5 Strategy 5: Provide support for supervisors

Hundred percent (n=7) of respondents agreed that the provision of support for supervisors should be included as one of the strategies (see Table 6.15).

6.11.5.1 Action statement 5.1: Provide supervisory support

Respondents reached a general consensus (n=7; f=100%) as far as the need for the provision of support for research supervisors. They also agreed on the persons responsible as well as the timeframe for carrying out the action statement (see Table 6.15).

Table 6.15: Strategy 5 and Action Statement 5.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 5			
Provide support for supervisors	100%	7	**Yes**
Action plan 5.1			
Provide supervisory support	100%	7	**Yes**
Method			
Provide resources to support supervisors:			**Yes**
- Technical editors	85.7%	6	**Yes**
- Language editors	85.7%	6	
- IT personnel	85.7%	6	
- Research assistants	85.7%	6	
Responsible person/s for action			
- Deans of postgraduate studies	85.7%	6	**Yes**
- Heads of departments	14.7%	1	
- Heads of specific support departments eg IT, etc	85.7%	6	
Timeframe			
- Before students are allocated a supervisor	71.4	5	**Yes**
- As needed	85.7	6	

6.11.6 Strategy 6: Ensure effective library support for registered students

Respondents reached consensus (n=7; f=100%) on the need to include library support for registered students as one of the strategies (see Table 6.16).

6.11.6.1 Action statement 6.1: Appoint subject librarians to support research students within their study areas

Hundred percent (n=7) of the respondents consented to support research students within their study areas by appointing subject librarians. They also reached a agreement concerning the persons responsible for the appointment of subject

librarians, as well as the timeframe for completion of the action statement (see Table 6.16).

Table 6.16: Strategy 6 and Action Statement 6.1

Include or exclude statement	Responses		Consensus
	F=%	**n**	
Strategy 6			
Ensure library support for registered students	100%	7	**Yes**
Action plan 6.1			
Appoint subject librarians to support research students within their study areas	100%	7	**Yes**
Method			
Allocate subject-specific librarians to individual faculties, departments, research areas (eg health education, nutrition):	100%	7	**Yes**
Responsible person/s for action			
- Chief librarians	85.7	6	**Yes**
- Deans of faculties	100%	7	
Timeframe			
- Before student admission	100%	7	**Yes**
- other			

6.11.6.2 Action statement 6.2: Provide continuing education training for librarians to enhance their subject knowledge and expertise

Consensus among respondents (f=100%) was reached in terms of the need to provide continuing education training for librarians to enhance their subject knowledge and expertise. Respondents also agreed on the persons who must be responsible for developing the continuing education training as well as the timeframe for the completion of the action statement (see Table 6.17).

Table 6.17: Strategy 6 and Action Statement 6.2

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 6			
Ensure library support for registered students	100%	7	**Yes**
Action plan 6.2			
Provide continuing education training for librarians to enhance their subject knowledge and expertise	100%	7	**Yes**
Method			
Develop in-service training programmes for librarians	100%	7	**Yes**
Responsible person/s for action			
- Specialists in developing training programmes	85.7%	6	**Yes**
- Chief librarian	57.1%	5	
- Personnel from training department	85,7%	6	
Timeframe			
- During the librarians orientation period	100%	7	**Yes**
- Within 60 days after librarian is employed	0%	0	
- Within 90 days after librarian is employed	0%	0	

6.11.6.3 Action statement 6.3: Employ more library support

Six respondents (f=85.7%) consented to include the employment of more library support staff in the action plan (see Table 6.18). There was also consensus as far as the persons who must be responsible to carry out the action statement, as well as the timeframe for the completion of the action statement (see Table 6.18).

Table 6.18: Strategy 6 and Action Statement 6.3

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 6			
Ensure library support for registered students	100%	7	**Yes**
Action plan 6.3			

Employ more library support staff	85.7%	6	**Yes**
Method			
Recruit library support staff:			
- Recruit student workers to assist with cataloguing	85.7%	6	**Yes**
- Recruit graduate assistants to help research students with finding research material	71.4%	5	
Responsible person/s for action			
- Chief Librarian	100%	7	**Yes**
- HR personnel	85.7%	6	
Timeframe			
- Within 30 days after a needs assessment of the number of support staff needed is done	85.7%	6	**Yes**

6.11.7 Strategy 7: Peer support programmes for doctoral students

All respondents (f=100%) concurred to including peer support programmes for doctoral students as one of the strategies (see Table 6.19).

6.11.7.1 Action statement 7.1: Develop peer support programmes

Six respondents (n=6; f=85.7%) reached consensus to include the development of support programmes for research students. There was agreement on the persons who must be responsible as well as the specific timeframe for the completion of the action statement (see Table 6.19).

Table 6.19: Strategy 7 and Action Statement 7.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 7			
Peer support programmes for doctoral students	100%	7	**Yes**
Action plan 7.1			
Develop peer support programmes	85.7%%	6	**Yes**
Method			

Develop peer support programmes for registered students	75%	3	**Yes**
Responsible person/s for action			
- A selected team of professors in collaboration with the training office of the institutions	85.7%	6	**Yes**
- Personnel from the department of continuing education	85.7%	6	
- Heads of departments	14.3%	1	
Timeframe			
- Within 30 days after the approval of the strategic intervention and action plan for implementation.	100%	6	**Yes**
- Within 60 days after the approval of the strategic intervention and action plan for implementation.	0%	0	

6.11.8 Strategy 8: Student recruitement and selection criteria

Seven respondents (f=100%) agreed to include the implementation of a student recruitment and selection plan as one of the strategies (see Table 6.20).

6.11.8.1 Action statement 8.1: Implement selection and recruitment criteria to enhance student success

Hundred percent (n=7) respondents consented to the implementation of selection and recruitment criteria to enhance student success. There was a general consensus as to who the persons responsible should be as well as the timeframe for completion of the action statement (see Table 6.20).

Table 6.20: Strategy 8 and Action Statement 8.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 8			
Implement a student recruitment and selection plan	100%	7	**Yes**
Action plan 8.1			

Implement selection and recruitment criteria to enhance student success	100%	7	**Yes**
Method			
Implement student selection criteria that addresses:			**Yes**
- Language proficiency assessment by students taking a language proficiency written exam and interview	100%	7	
- Methodical knowledge by reviewing previous research work done by the student	85.7%	6	
- Scientific writing skills assessment using an assessment tool	85.7%	6	
- Prior research experience eg masters dissertation with a mark of at least 65%.	100%	7	
Responsible person/s for action			
- Personnel from admissions department	100%	7	**Yes**
- Personnel from English department	85.7%	6	
- Deans and Heads of departments	85.7%	6	
Timeframe			
- During recruitment of students	71.4%	5	**Yes**
- During student application or admission process	85.7%	6	

6.11.9 Strategy 9: Support programmes to assist students with the development of related research skills and competencies

Six of the seven respondents (f=85.7%) concurred to include support programmes to assist students with the development of research skills and competencies (see Table 6.21).

6.11.9.1 Action statement 9.1: Provide research courses or workshops to assist students to achieve the prerequisite requirements

Respondents (n=6; 85.7%) agreed to include the provision of research courses or workshops to assist students in achieving the prerequisite requirements. There was

a consensus as to the timeframe as well as the persons responsible for the completion of the action statement (see Table 6.21).

Table 6.21: Strategy 9 and Action Statement 9.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 9			
Support programmes to assist students with the development of research skills and competencies.	85.7%	6	**Yes**
Action plan 9.1			
Provide research courses or workshops to assist students to achieve the prerequisite requirements	85.7%	6	**Yes**
Method			
Students to take an entry English language (language of instruction) proficiency exam to be assessed for:			**Yes**
- English composition skills	85.7%	6	
- Scientific writing skills	85.7%	6	
Responsible person/s for action			
- Department of English personnel	85.7%	6	**Yes**
- Other	14.3%	6	
Timeframe			
- During application phase	14.3%	1	**Yes**
- Before student commences with research proposal writing	85.7%	6	

6.11.9.2 Action statement 9.2: Implement programmes for language literacy for students who get less than 60% in the entry exam

Six respondents (f=85.7%) consented to include programmes for language literacy for students who get less than 60% in their entry exam. They also reached a consensus on who the person responsible should be, as well as the timeframe for the completion of the action statement (see Table 6.22).

Table 6.22: Strategy 9 and Action Statement 9.2

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 9			
Support programmes to assist students with the development of research skills and competencies			
Action plan 9.2			
Implement programmes for language literacy to students who get less than 60% in the entry exam.	85.7%	6	**Yes**
Method			
Implement programmes for language literacy. Students will need to take and pass English courses before registering for research proposal writing		6	**Yes**
Responsible person/s for action			
- Department of English	85.7%	6	**Yes**
- Department of continuing education and personnel responsible for English training	85.7%	6	
Timeframe			
- Within 30 days after failing the English proficiency exam	16.7%	1	**Yes**
- 90 days after failing the English proficiency exam	83.3%	6	

6.11.9.3 Action statement 9.3: Implement research-related courses for students

Six (f=85.7%) respondents reached consensus as far as including the implementation of research-related courses for research students in the action plan. They also agreed which persons would be responsible, as well as the timeframe for the completion of the action statement (see Table 6.23).

Table 6.23: Strategy 9 and Action Statement 9.3

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 9			
Support programmes to assist students with the development of research skills and competencies	85.7%	6	**Yes**
Action plan 9.3			
Implement research-related courses for students	85.7%	6	**Yes**
Method			
Develop and implement research-related training courses or workshops for registered doctoral students including:			**Yes**
- Academic writing skills training	85.7%	6	**Yes**
- Research proposal writing	85.7%	6	
- Research methodology training	85.7%	6	
- Research ethics training	85.7%	6	
-Literature searches training	85.7%	6	
- Literature review training	85.7%	6	
- Paraphrasing training	85.7%	6	
- Higher-order thinking skills developing training	85.7%	6	
Responsible person/s for action			
- Heads of postgraduate and research studies	85.7%	6	**Yes**
- Deans of faculties	14.3%	1	
- Training office personnel	85.7%	6	
Timeframe			
- Students should be mandated to attend at least one research workshop before starting research proposal writing	85.7%	6	**Yes**

6.11.10 Strategy 10: Binding contract that stipulate the responsibility of students doing research

Hundred percent (n=7) of respondents consented to the inclusion of the binding contract to stipulate the responsibility of research students as one of the strategies (see Table 6.24).

6.11.10.1 Action statement 10.1: Implement the compulsory signing of a student/supervisor agreement contract

Consensus (f=100%) was reached over the inclusion of the compulsory signing of a student/supervisor agreement contract. Respondents also stipulated who the person responsible should be, as well as the timeframe for completion of the action statement (see Table 6.24).

Table 6.24: Strategy 10 and Action Statement 10.1

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 10			
Binding contract to stipulate the responsibility of research students	100%	7	**Yes**
Action plan 10.1			
Implement the compulsory signing of a student/supervisor agreement contract	100%	7	**Yes**
Method			
Develop and implement contract system where students and supervisors sign an agreement to stipulate responsibilities which should include:			
- Frequency of communication with supervisor	100%		**Yes**
- Frequency of supervisor/student meetings	100%		
- Best method of communicating	100%		
- Problem-solving process	85.7%		
- Student responsibilities	100%		

- Supervisor responsibilities	100%		
Responsible person/s for action			
- A team of experienced supervisors	100%		**Yes**
- Heads of departments	14.3%		
- A team of student representatives	85.7%		
- Deans of faculties	85.7%		
Timeframe			
- During allocation of research supervisors	100%		**Yes**
- 14 days after student registration	0%		
- 30 days after student registration	0%		

6.11.11 Strategy 11: Provide access to research resources

Seven respondents (f=100%) agreed to include the provision of research resources as a strategy (see Table 6.25).

6.11.11.1 Action statement 11.1. Ensure adequate research resources

All respondents (f=100%) agreed to include the assurance of adequate research resources as an action statement. They also consented as to who the person responsible should be, as well as the specific timeframe for the completion of the action statement (see Table 6.25).

Table 6.25: Strategy 11 and Action Statement 11.1

Include or exclude statement	Responses		Consensus
	F=%	**n**	
Strategy 11			
Provide access to research resources	100%	7	**Yes**
Action plan 11.1			
Ensure adequate research resources	100%	7	**Yes**
Method			
Provide adequate research resources that include:			**Yes**
- Up to date scholarly research journals	100%	7	**Yes**

- E- books	100%	7	
- Internet research resources	100%	7	
- Reference materials	100%	7	
Responsible person/s for action			
- University finance department in collaboration with:	100%	7	**Yes**
- Chief librarian	100%	7	
- Doctoral research coordinators	100%	7	
- Heads of departments	57.1%	4	
Timeframe			
- Before students admission	85.7%	6	**Yes**
- Within 30 days of student registration	0%	0	
- Within 60 days after student registration	0%	0	

6.11.11.2 Action statement 11.2: Training opportunities for students on how to access resources

All seven respondents (f=100%) agreed to include training opportunities for students on how to access resources as an action statement. They also agreed on the responsible person for the completion of the statement, as well as the specific timeframe for the action statement (see Table 6.26).

Table 6.26: Strategy 11 and Action Statement 11.2

Include or exclude statement	Responses		Consensus
	F=%	n	
Strategy 11			
Provide access to research resources	100%	7	**Yes**
Action plan 11.2			
Training opportunities for students on how to access resources	100%	7	**Yes**
Method			
Develop and implement training workshops for students to:			**Yes**

- Use of the library catalogue	100%	7	**Yes**
- Conduct a literature search	100%	7	
- Online search for research information	100%	7	
Responsible person/s for action			
- Chief librarian	100%	7	**Yes**
- Department of training personnel	85.7%	6	
- Department of continuing education	85.7%	6	
Timeframe: Mandate students to attend at least one training			
- During student orientation	100%	7	**Yes**
- Before starting research proposal writing	85.7%	6	
- Within 30 days after registration	0%	0	

6.11.12 Strategy 12: Implement a bursary system

Hundred percent (n=7) of respondents consented to include a bursary system as a strategy (see Table 6.27).

6.11.12.1 Action statement 12.1: Implement a bursary system to support qualifying students

All respondents (f=100%) reached consensus to include the implementation of a bursary system to support qualifying students. They also agreed on the responsible person to carry out the action statement. No consensus, however, was reached concerning the specific timeframe for carrying out of the action statement (see Table 6.27).

Table 6.27: Strategy 12 and Action Statement 12.1

Include or exclude statement	**Responses**		**Consensus**
	F=%	**n**	
Strategy 12			
Bursary system	100%	7	**Yes**
Action plan 12.1			
Implement a bursary system to support qualifying	100%	7	**Yes**

students			
Method			
Develop strict qualifying criteria for bursary allocation	100%	7	**Yes**
Responsible person/s for action			
- Department of student finance in collaboration with:	100%	7	**Yes**
- Research supervisors	100%	7	
- Department of student affairs	85.7%	6	
- Deans of postgraduate studies	100%	7	
- Heads of departments	14.3%	1	
Timeframe			
- Annually	71.4%	5	**No**

6.11.12.2 Action statement 12.2: Implement bursary system

Hundred percent (n=7) agreement was reached to include the implementation of the bursary system in the action statements. They also agreed about who the person responsible for carrying out the action statement must be. However, no consensus was reached concerning the specific timeframe for the completion of the action statement (see Table 6.28).

Table 6.28: Strategy 12 and Action Statement 12.2

Include or exclude statement	**Responses**		**Consensus**
	F=%	**n**	
Strategy 12			
Bursary system	100%	7	**Yes**
Action plan 12.2			
Implement a bursary system	100%	7	**Yes**
Method			
Communicate the requirements to qualify for study bursaries to prospective doctoral students	100%	7	**Yes**
Responsible person/s for action			

- Personnel from the department of finance/ scholarships/grants	100%	7	**Yes**
- Research supervisors	14.3%	1	
Timeframe			
- During student registration	28.6%	2	**No**
- During student orientation	57.1%	4	
- Within 30 days after student registration	0%	0	

6.12 CONCLUDING REMARKS

From the data obtained, it was clear that the panellists agreed on the strategies to be implemented, the action statements, as well as who must take responsibility in achieving the outcome. However, in terms of the timeframe within which to achieve the expected results, consensus was often not reached. This issue was addressed in round two where the focus was to reach consensus on the timeframe, but also pertaining to whether students should select supervisors or the other way around.

Although spaces for justification of answers as well as recommendations or suggestions were provided on the validation tool, none of the panellists provided recommendations or justifications.

6.13 FINDINGS FROM THE SECOND ROUND

Participants did not reach consensus on some aspects of the action statements. Therefore, a second questionnaire, which included all questions from the first round where consensus was not reached was sent to respondents with an explanation letter for the need of the second round, as well as instructions for how to complete the questionnaire (see Annexure F).

During the first round, the respondents had not reached consensus concerning when the development of a formal training programme for supervisors should be implemented (see Table 6.5). During round two, six participants (f=75%) agreed to

implement the action within 60 days after approval to implement the strategic and action plan (see Table 7.1).

Table 6.7 indicates that the respondents had not agreed as to when the supervisors' training should be implemented. The question was reworded and during round two seven respondents (f=85.7%) agreed to have supervisors' training implemented within 60 days after approval of the strategic intervention and action plan for implementation (see Table 7.1).

The question concerning the development of a mentoring programme for supervisors (see Table 6.9) had to be reworded to indicate that the action was a one-time activity. After the adjustment, a consensus was reached. Seven of the eight respondents (f=85.7%) agreed that the development of the mentoring programme should be done within 60 days after the approval of the strategic intervention and action plan (see Table 7.1).

All the respondents (f=100%) consented to admit students according to supervisors' capacity (see Table 6.11), but they did not agree on the timeframe for implementing the action plan. During round two (see Table 7.1), panellists agreed to implement the action plan before students are admitted.

Another aspect the respondents had not agreed on in round one was whether the supervisor should choose the student to supervise or whether the student should select the supervisor (see Table 6.12). During the second round, all eight respondents agreed that the students should select their supervisor from the list of available research supervisors (with the niche area included) (see Table 7.1).

Concerning timely student/supervisor allocation (see Table 6.13), all eight respondents (f=100%) agreed during round two that the timely allocation should be done within 14 days after a student registers (see Table 7.1).

Respondents had not agreed as to when communication of the student/supervisor details should take place (see Table 6.14). During round two, seven respondents (f=85.7%) agreed that the timeframe for communication of the names and details to

students/supervisors should be done within 14 days after a student registers (see Table 7.1).

The implementation of the bursary system (see Table 6.27) was another area where consensus was reached. During the second round, seven of the eight respondents (f=85.7%) agreed that the implementation of the bursary should be done annually.

Table 6.28 indicates that respondents did not reach an agreement as to when the bursary system should be communicated to students. After the question was reworded during round two, seven respondents (f=85.7%) agreed that the requirements to qualify for a bursary should be communicated to prospective students (see Table 7.1) after students have successfully completed writing their research proposal.

6.14 CONCLUSION

In this chapter, the research methodology and designs used in the fourth phase of the study were discussed. The validation process of the strategic intervention and action plan was discussed. The Delphi technique that was utilised for validation of the strategic intervention and action plan was also described. The ethical considerations to which the researcher complied in the study were also discussed.

Chapter 7 describes the final recommendations of the study.

CHAPTER 7
CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

Chapter 7 presents the recommendations and conclusions derived from the research findings as well as the validated strategic intervention and action plan for implementation.

7.2 CONCLUSIONS

The strategic intervention and action plan (see Table 7.1) was validated by the deans of universities and universities of technology offering doctoral nursing programmes. All stakeholders, namely the students (Phases 1 & 2) and the research supervisors (Phase 4), were included to finalise the validated strategic intervention and action plan for implementation. The strategic intervention and relevant actions to be taken can be summarised as described in the sections that follow.

7.2.1 Supervision by competent supervisors

Doctoral students have to be supervised by competent supervisors in an attempt to increase the throughput rates of registered doctoral students. Institutions should therefore employ supervisors after assessing their CVs paying attention to their (1) Highest academic qualifications, (2) Years of experience in supervision, (3) Number of doctoral and masters students that the supervisors had supervised to completion, (4) The supervisor's field of expertise, and (5) The number of research publications done by the supervisor (see Strategy 1, Action statement 1.1, Table 7.1). It was agreed that the deans of the applicable faculties should be responsible for appointing a team of professors that would be responsible for assessing the CVs of the prospective supervisors during the shortlisting period.

To enhance the competency of supervisors, universities must develop training programmes for research supervisors that include aspects such as the (1)

supervisor/student relationship, (2) cultural sensitivity pertaining to (3) the sharing of constructive feedback as well as constructive feedback in the online environment (see Strategy 1, Action statement 1.2, Table 7.1).

It is recommended that a team of professors must be appointed in each department to develop a formal training programme within 60 days after the launch of the strategic intervention and action plan. Institutions should provide resources for the training of supervisors, such as (1) Research training facilities, (2) Institutionalised guidelines on supervision, (3) Policy on co-supervision, and (4) Institution research students support services. It was agreed that these resources should be provided by the deans of each faculty before a new supervisor is assigned to a research student (see Strategy 1, Action statement 1.3, Table 7.1).

It was recommended that the deans of each faculty should implement training programmes for supervisors by providing available time for each supervisor to attend one training opportunity per year (see Strategy 1, Action statement 1.4, Table 7.1).

Universities should appoint experienced supervisors to work in collaboration with deans of faculties and heads of each department to develop and implement a policy that includes guidelines to manage supervision, including but not limited to (1) Frequency of supervisor/student meetings, (2) Number of students allocated to a supervisor, (3) Supervisor capacity, and (4) Balance supervision with other institutional responsibilities. It was agreed that the supervision policy should be implemented within 90 days of introducing the strategic intervention and action plan (see Strategy 1, Action statement 1.5, Table 7.1).

It was recommended that experienced supervisors, in collaboration with heads of departments of continuing education, should be appointed to develop a formal mentoring programme for supervisors that includes (1) Defining the role of a mentor and a mentee, as well as (2) The duration of each mentoring programme within 60 days after the launch of the strategic intervention and action plan (see Strategy 1, Action statement 1.6, Table 7.1).

7.2.2 Achieve a realistic supervisor/student ratio of seven students per supervisor

Two action plans were agreed upon in order to achieve a realistic supervisor/student ratio of seven students per supervisor. It was recommended that universities' postgraduate coordinators should implement a recruitment plan to recruit supervisors as well as students in order to allow for a realistic student/supervisor ratio. Universities should therefore review the capacity of supervisors based on: (1) The student/supervisor ratio, (2) Niche areas of supervisors compared to student interest, (3) Specific skills and competencies of supervisors, and (4) The number of students the supervisor has graduated before students are admitted (see Strategy 2, Action statement 2.1, Table 7.1).

In order to achieve a realistic supervisor/student ratio it was recommended that university registrars, in collaboration with deans of faculties and postgraduate programme coordinators, should review the number of available supervisors before students are admitted into a doctoral programme (see Strategy 2, Action statement 2.2, Table 7.1).

7.2.3 Allocation of supervisors according to their field of expertise

It was agreed that master's and doctoral programme coordinators responsible for the allocation of supervisors should allocate supervisors to students during student registration and according to supervisors' capacity and expertise. It was recommended that the CVs of the supervisors should be reviewed for the supervisor's focus area and its relevance to the study content of students.

During round one it was not clear whether the students should select supervisors or the other way around. However, during the second round it was agreed that students must select from the list of available supervisors, with their niche area included.

7.2.4 Timely allocation of supervisors

It was recommended that in order to have a timely allocation of supervisors, postgraduate programme coordinators responsible for the allocation of supervisors should allocate supervisors within 14 days of student registration (see Strategy 4, Action plan 4.1, Table 7.1). It was also agreed that the same coordinators should be responsible for communicating the names and details of the student/supervisors to both parties (see Strategy 4, Action plan 4.2, Table 7.1).

7.2.5 Provide support for supervisors

It was agreed that the deans of postgraduate studies in collaboration with heads of specific support departments should provide support for research supervisors. Such support would include: (1) Technical editors, (2) Language editors, (3) IT personnel, and (4) Research assistants, and this support should be provided as needed (Strategy 5, Action plan 1, Table 7.1).

7.2.6 Ensure library support for registered students

In order to ensure library support for registered research students, it was recommended that the chief librarian and deans of faculties should appoint subject librarians by allocating subject-specific librarians to individual faculties, departments and research areas before student admissions (see Strategy 6, Action plan 6.1, Table 7.1).

It was also agreed that personnel from training departments and specialists in developing training programmes should develop in-service training programmes. These continuing education training programmes for librarians to enhance their subject knowledge and expertise should be provided during the librarians' orientation period (see Strategy 6, Action 6.2, Table 7.1).

Another recommendation to ensure library support for students was the employment of more library support staff. It was agreed that the chief librarian and human resource personnel should recruit and employ support staff in the form of student

workers to assist with cataloguing within 30 days after a needs assessment of the number of support staff needed (Strategy 6, Action plan 6.3, Table 7.1).

7.2.7 Peer support programmes for doctoral students

It was recommended that a team of professors in collaboration with personnel from the department of continuing education be appointed to develop and implement peer support programmes. It was agreed that these peer support programmes for registered students should be developed and implemented within 30 days of launching the strategic intervention and action plan (see Strategy 7, Action plan 7.1, Table 7.1).

7.2.8 Implement a student recruitment and selection plan

To enhance student success, institutions must appoint personnel from the English department, admissions department, and deans and heads of departments to implement student selection criteria. The criteria should address (1) Language proficiency assessment by students taking a language proficiency written exam and interview, (2) Methodical knowledge by reviewing previous research work done by student, (3) Scientific writing skills assessment using an assessment tool, and (4) Prior research experience, such as a master's dissertation with a mark of at least 65%. The student recruitment and selection plan must be implemented during student application or admission (see Strategy 8, Action plan 8.1, Table 7.1).

7.2.9 Support programmes to assist students with the development of research skills and competencies

It was recommended that students should take an entry English language proficiency exam to be assessed for: (1) English composition skills, and (2) Scientific writing skills. It was also agreed that the department of English should provide research courses or workshops to assist students with the development of research skills and competencies and to achieve the prerequisite requirement before students commence research writing (see Strategy 9, Action plan 9.1, Table 7.1).

It was also agreed that in the case where the student gets less than 60% in the language literacy assessment exam, the department of English and the department of continuing education or similar should implement programmes for language literacy within 90 days after the student has failed the English proficiency exam (see Strategy 9, Action plan 9.2, Table 7.1).

It was recommended that the heads of postgraduate and research studies and training office personnel should develop and implement research-related training courses or workshops for registered doctoral students. Such courses must include (1) Academic writing skills training, (2) Research proposal writing, (3) Research methodology training, (4) Research ethics training, (5) Literature searches training, (6) Literature review training, (7) Paraphrasing training, and (8) HOTS developing training. It was agreed that students should be mandated to attend at least one of the research workshops or training before starting research (see Strategy 9, Action plan 9.3, Table 7.1).

7.2.10 Binding contract to stipulate the responsibility of research students

It was recommended that a team of experienced supervisors, together with deans of faculties and a team of student representatives should develop a binding contract to stipulate the responsibilities of research students. It was agreed that the contract system where students and supervisors sign an agreement to stipulate responsibilities should include the (1) Frequency of communication with supervisor, (2) Frequency of supervisor/student meeting, (3) Best method of communicating, (4) Problem-solving process, (5) Student responsibilities, and (6) Supervisor responsibilities. This contract should be signed during supervisor allocation (see Strategy 10, Action plan 10.1, Table 7.1).

7.2.11 Provide access to research resources

It was agreed that the university should ensure adequate research resources for research students. Before students' admission, the university finance department, in collaboration with the chief librarian and doctoral research coordinators, must ensure the provision of resources. Adequate research resources must include: (1) Up to

date scholarly research journals, (2) E-books, (3) Internet research resources, and (4) Reference materials (see Strategy 11, Action plan 11.1, Table 7.1).

It was also agreed that the chief librarian, with the department of training personnel and the department of continuing education, must develop and implement training opportunities for students on how to access resources. The developed training workshops must include: (1) Use of library catalogue, (2) How to conduct a literature search, and (3) Online search for research information. The student should be mandated to attend at least one training during orientation and before starting research proposal writing (see Strategy 11, Action plan 11.2, Table 7.1).

7.2.12 Bursary system

It was recommended that the department of student affairs, in collaboration with the research supervisors, department of student affairs, and deans of graduate studies, should develop qualifying criteria for a bursary to support qualifying students annually (see Strategy12, Action plan 12.1, Table 7.1).

It was also agreed that personnel from the department of finance, scholarship/grants and research supervisors should communicate the requirements to qualify for study bursaries to prospective students after the students have successfully completed their thesis proposal (see Strategy 12, Action plan 12.2, Table 7.1).

Table 7.1: Validated strategic intervention and action plan

STRATEGY 1: SUPERVISION BY COMPETENT SUPERVISORS		
Action 1.1 Recruit competent research supervisors that adhere to the appointment criteria		
Method	**Responsible person/s**	**Time Frame**
Assess the CVs of supervisors before employment specifically pertaining to: • *Highest academic*	A dedicated team of professors from all departments appointed by the dean	After the CVs of applicants are received/ during shortlisting

qualifications • *Years of experience in supervision* • *Number of doctoral students completed* • *Number of masters students completed* • *Field of expertise* • *Number of research publications*		process
Action 1.2 Develop a formal training programme for research supervisors		
Method	**Responsible person/s**	**Time frame**
Develop a formal training programme for research supervisors that must include • *Supervisor/student relationship* • *Cultural sensitivity* • *How to share constructive feedback* • *Online feedback*	An appointed team of experienced professors in each department	Within 60 days after approval to implement the strategic intervention and action plan
Action 1.3 Provide resources for the training of supervisors		
Method	**Responsible person/s**	**Time frame**
Provide resources that should include the following: • *Research training facilitators* • *Institutionalised guidelines on supervision* • *Policy on co supervision*	Deans of each faculty that provide supervision to doctoral nursing students	Before every new supervisor is assigned to a research student

• *Institution research student support services*		
Action 1.4 Implement training programmes for supervisors		
Method	**Responsible person/s**	**Time frame**
• *Supervisors must be provided with time to attend training* • *Research supervisors must attend one training opportunity per year*.	Deans of each faculty that provide supervision to doctoral nursing students	Within 60 days after approval of the strategic intervention and action plan for implementation
Action 1.5 Implement a supervision policy that includes guidelines on supervision		
Method	**Responsible person/s**	**Time frame**
Develop a policy that includes guidelines to manage supervision including but not limited to: • *Frequency of supervisor/student meetings* • *Number of students allocated to supervisor* • *Supervisor capacity* • *Balance supervision with other institutional responsibilities*	A team of appointed experienced supervisors in collaboration with deans of each faculty that provides doctoral education and heads of each department with registered doctoral programmes	Within 90 days after the approval of the strategic intervention and action plan for implementation
Action 1.6 Develop a formal mentoring programme		
Method	**Responsible person/s**	**Time frame**
Develop a formal mentoring programme for supervisors that	A team of appointed experienced supervisors in	Within 60 days after the approval

includes: • *Defining the role of a mentor and mentee* • *The duration of each mentoring circle*	collaboration with heads of each department of continuing education.	of the strategic intervention and action plan for implementation
STRATEGY 2: ACHIEVE A REALISTIC SUPERVISOR/STUDENT RATIO OF 7 STUDENTS PER SUPERVISORS		
Action 2.1 Implement a recruitment plan to recruit supervisors as well as students to allow for a realistic student/supervisor ratio		
Method	**Responsible person/s**	**Time frame**
Review the capacity of supervisor based on: • *The student/supervisor ratio* • *Niche areas of supervisors compared to student interest* • *Specific skills and competencies of supervisors* • *Number of students the supervisor has graduated.*	Post graduate programme coordinators in each institution	Before student admission
Action 2.2 Admit students according to the capacity of supervisors		
Method	**Responsible person/s**	**Time frame**
• *Review number of available supervisors before student admission* • *Implement group supervision to increase the number of students*	Registrars in collaboration with post graduate programme coordinators and deans of faculties	Before student admission

that can be admitted		
STRATEGY 3: SUPERVISION ALLOCATION ACCORDING TO THEIR FIELD OF EXPERTISE		
Action 3.1 Allocate supervisors to students according to supervisors capability and expertise		
Method	**Responsible person/s**	**Time frame**
Students must select from the list of available supervisors (with their niche area included) who their supervisor must be.	Masters and doctoral programmes coordinators responsible for allocation of supervisors in each department/school/faculty	During student registration
STRATEGY 4: TIMELY ALLOCATION OF SUPERVISORS		
Action 4.1 Allocate supervisors in a timely manner		
Method	**Responsible person/s**	**Time frame**
Instate a supervisor allocation team to appoint supervisors	Postgraduate programme coordinators responsible for allocation of supervisors in each department/school/faculty	Within 14 days after a student registers.
Action 4.2 Communicate the names and details of the student/supervisors to both parties		
Method	**Responsible person/s**	**Time frame**
Doctoral programme coordinators responsible for allocation of supervisors in each department/school/school/faculty	Doctoral programme coordinators responsible for supervisor allocation	Within 14 days after students registration
STRATEGY 5: PROVIDE SUPPORT FOR SUPERVISORS		

Action 5.1 Provide supervisory support		
Method	**Responsible person/s**	**Time frame**
Provide resources to support supervisors: • *Technical editors* • *Language editors* • *IT personnel* • *Research assistants*	Deans of postgraduate studies in collaboration with heads of specific support departments e.g IT etc	As needed
STRATEGY 6: ENSURE LIBRARY SUPPORT FOR REGISTERED STUDENTS		
Action 6.1 Appoint subject librarians to support research students within their study areas		
Method	**Responsible person/s**	**Time frame**
Allocate subject specific librarians to individual faculties, departments, research areas (eg Health, education, nutrition etc).	Chief librarians and deans of faculties	Before student admission
Action 6.2 Provide continuing education training for librarians to enhance their subject knowledge and expertise		
Method	**Responsible person/s**	**Time frame**
Develop in-service training programmes for librarians	Specialists in developing training programmes and personnel from training departments	During the librarians orientation period
Action 6.3 Employ more library support staff		
Method	**Responsible person/s**	**Time frame**
Recruit student workers to assist	Chief librarian and HR	Within 30 days after a needs

with cataloguing	personnel	assessment of the number of support staff needed is done
STRATEGY 7: PEER SUPPORT PROGRAMS FOR DOCTORAL STUDENTS		
Action 7.1 Develop peer support programs		
Method	**Responsible person/s**	**Time frame**
Develop peer support programs for registered students	A selected team of professors in collaboration with the training office of the institutions and personnel from the department of continuing education.	Within 30 days after the strategic intervention and action plan is approved.
STRATEGY 8: IMPLEMENT A STUDENT RECRUITMENT AND SELECTION PLAN		
Action 8.1 Implement selection and recruitment criteria to enhance student success		
Method	**Responsible person/s**	**Time frame**
Implement student selection criteria that addresses: • *Language proficiency assessment by students taking a language proficiency written exam and interview.* • *Methodological knowledge by reviewing previous research work done by the student.* • *Scientific writing skills assessment using an*	Personnel from admissions and English departments together with deans and heads of departments	During student application or admission process

assessment tool • *Prior research experience eg masters dissertation with a mark of at least 65%*		
STRATEGY 9: SUPPORT PROGRAMS TO ASSIST STUDENTS WITH THE DEVELOPMENT OF RESEARCH SKILLS AND COMPETENCIES		
Action 9.1 Provide research courses or workshops to assist students to achieve the prerequisite requirements		
Method	**Responsible person/s**	**Time frame**
Students to take an entry English language (language of instruction) proficiency exam to be assessed for: • *English composition skills* • *Scientific writing skills*	Department of English personnel	Before students commence with research proposal writing
Action 9.2 Implement programmes to language literacy for students who get less than 60% in the entry exam		
Method	**Responsible person/s**	**Time frame**
Implement programmes for language literacy. Students will have to take and pass English courses before registering for research.	Department of English, continuing education and personnel responsible for English training	90 days after failing the English proficiency exam
Action 9.3 Implement research related courses for students		
Method	**Responsible person/s**	**Time frame**
Develop and implement research related training courses	Heads of post graduate and research studies and	Students should be mandated to

or workshops for registered doctoral students including: • *Academic writing skills training* • *Research proposal writing* • *Research methodology training* • *Research ethics training* • *Literature searches training* • *Paraphrasing training* • *Higher order thinking skills developing training*	training office personnel	attend at least one research workshop before starting research proposal writing
STRATEGY 10. BINDING CONTRACT TO STIPULATE THE RESPONSIBILITY OF RESEARCH STUDENTS		
Action 10.1 Implement the compulsory signing of a student/supervisor agreement contract		
Method	**Responsible person/s**	**Time frame**
Develop and implement contract system where students and supervisors sign an agreement to stipulate responsibilities which should include: • *Frequency of communication with supervisor* • *Frequency of supervisor/student meetings* • *Best method of*	A team of experienced supervisors, a team of student representatives as well as deans of faculties	During allocation of research supervisors

communication • *Problem solving process* • *Student responsibilities* • *Supervisor responsibilities*		
Strategy 11 Provide access to research resources		
Action 11.1 Ensure adequate research resources		
Method	**Responsible person/s**	**Time frame**
Provide adequate research resources that include: • *Up to date scholarly research journals* • *E- books* • *Internet research resources* • *Reference materials*	University finance department in collaboration with the chief librarian and doctoral research coordinators	Before student admission
Action 11.2 Training opportunities for students on how to access resources		
Method	**Responsible person/s**	**Time frame**
Develop and implement training workshops for students to: • *Use of the library catalogue* • *Conduct a literature search* • *Online search for research information*	Chief librarian together with the department of training/continuing education personnel	During student orientation or before starting research proposal writing
Strategy 12 Bursary system		
Action 12.1 Implement a bursary system to support qualifying students		

Method	Responsible person/s	Time frame
Develop a strict qualifying criteria for bursary allocation	Department of student finance in collaboration with: • *Research supervisors* • *Department of student affairs* • *Deans of post graduate studies*	Annually
Action 12.2 Implement a bursary system		
Method	**Responsible person/s**	**Time frame**
Communicate the requirements to qualify for study bursaries to prospective doctoral students	Personnel from the department of finance/scholarship/grants	After student has successfully completed their thesis proposal

7.3 RECOMMENDATIONS TO FACILITATE THE IMPLEMENTATION OF THE STRATEGIC INTERVENTION AND ACTION PLAN

The research study contributed to the development of a strategic intervention and action plan using the opinions and views of doctoral nursing students who were in the process of writing their thesis proposals. Moreover, deans of nursing schools or faculties, as expert research supervisors, validated the tool.

It is recommended that the developed strategic intervention and action plan be electronically shared with the chairperson of the FUNDISA. An opportunity to do a presentation and share the study findings and offer an explanation of how all stakeholders were involved throughout the development thereof will be arranged by the researcher. FUNDISA have meetings at regular intervals where all the deans of universities and universities of technology that offer nursing degree programmes

discuss diverse nursing-related issues. A presentation at one such meeting will inform all the FUNDISA members about the implementation possibilities.

The strategic intervention and action plan should also be presented at ANEC (Annual Nursing Education Conference) to ensure that nursing educators, of who many are research supervisors, are informed. This will ensure that the study findings are shared in the public domain.

The researcher must take responsibility to share the strategic intervention and action plan at other nursing conferences and in publications specifically focused on nursing education as it might be relevant to nursing education institutions with similar contexts in other countries in Africa and abroad.

The developed strategic intervention and action plan offers the prospect to assist nursing schools or faculties in supporting doctoral students to succeed in thesis proposal writing, ultimately improving the throughput of doctoral students.

7.4 RECOMMENDATIONS FOR FUTURE RESEARCH

The findings of this research can be utilised to influence further research on academic policy, including research supervision and doctoral students during the thesis proposal writing phase.

Studies on writing a thesis proposal should continue to include doctoral students to develop an understanding of the opportunities and challenges in facilitating the transition of doctoral students from novice to expert researchers. A longitudinal study to test the possible impact of the implementation of the strategic intervention and action plan can also be conducted.

7.5 LIMITATIONS OF THE STUDY

The study was conducted with the voluntary involvement of only eight South African universities and universities of technology which offer doctoral nursing programmes out of a possible 22 institutions. The response rate of both the qualitative and

quantitative phases of the research study was 24.9% each. The researcher received several “unable to deliver” e-mail messages indicating that many prospective participants did not respond due to being unavailable on the provided e-mail addresses. However, the various phases, the inclusion of the nursing deans, a thorough literature review, as well as a thorough literature control to support or contradict the findings balanced the data that were obtained.

7.6 CONCLUSION

The need for doctorally prepared nurses cannot be underestimated. The study highlights the challenges and strengths of doctoral students during the proposal writing phase. The suggested strategic intervention and action plan presented in this study can provide a starting point for improving the throughput rates of doctoral students. The research supervisors and doctoral students can identify potential challenges and deal with them in order to enhance successful completion of doctoral studies.

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ANNEXURE A: Research Ethics Committee approval from UNISA

UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES

REC-012714-039 (NHERC)

12 August 2019

Dear Lynette Zvandasara

Decision: Approval

HSHDC/186/2013 Amended 2019

Student: Lynette Zvandasara

Student No: 6982433

Supervisor: Prof L Roets

Qualification: PhD
Joint Supervisor:

Name: Lynette Zvandasara

Proposal: A strategic Intervention and action plan to facilitate transition from masters` degree studies to doctoral thesis proposal writing

Qualification: PhD

Risk Level: Low risk

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 12 August 2019 to 12 August 2024.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 06/08/2019.

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are*

RECEIVED
2019 -08- 13
Executive Dean
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substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *You are required to submit an annual report by 30 January of each year that indicates that the study is active. Reports should be submitted to the administrator HSREC@unisa.ac.za. Should the reports not be forthcoming the ethical permission might be revoked until such time as the reports are presented.*

Note:
The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof JE Maritz
CHAIRPERSON
maritje@unisa.ac.za

Prof A Phillips
DEAN OF COLLEGE OF HUMAN SCIENCES

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ANNEXURE B: Letter of recruitment to rectors/deans

The Rector/Dean

Dear Prof. _____

REQUEST TO CONDUCT A RESEARCH STUDY

I hereby apply to be granted permission to conduct a research study at your institution. I am a registered Ph D nursing student at the University of South Africa (UNISA). The title of my intended study is "A strategic intervention and action plan to facilitate the transition from master's degree studies to PhD/Doctoral thesis proposal writing".

The purpose of this study is to develop a module to facilitate the transition from masters' degree nursing studies to PhD/ doctoral thesis writing. Students currently registered at your University for either a research proposal module with the intention to obtain a PhD or Doctorate or are registered for a PhD or doctoral degree in nursing will be asked to volunteer to participate. They will be able to withdraw at any stage without any consequences for them. All data will be kept confidential and no personal information will be linked to a specific student or University.

Ethical approval to conduct this study has been obtained from the Higher Degree Committee of the Department of Health Studies at UNISA so as to ensure that this study will be conducted in an ethical manner (see Approval letter attached)

I hope to receive your approval to conduct this study and to communicate with the relevant Nursing Departments / Schools in your University.

Yours Sincerely

Researcher: Lynette Zvandasara
Tel: 012694733920
lzvanda@yahoo.com

Supervisor: Prof Lizeth Roets
Tel: 0124292226
roetsl@unisa.ac.za

ANNEXURE C: Recruitment letter to doctoral students for qualitative data collection

Dear Colleague

I am Lynette Zvandasara RN, MSN, a UNISA doctoral student. I want to invite you to participate in this research study. The title of this study is: “A strategic intervention and action plan to facilitate the transition from master’s degree studies to PhD/Doctoral thesis proposal writing”.

The purpose of this study is to explore the experiences of master’s prepared doctoral nursing students during thesis writing in order to develop a module to facilitate the transition from masters’ studies to doctoral thesis writing,

Your participation in this study means that you are willing to share your experiences with me. To participate in this study you must be able to speak and understand English. The risks to you as a participant in this research study are minimal. These may include possible emotional discomfort when sharing your research experiences. You can choose not to answer a question by answering not applicable (N.A) in the spaces provided. You can also withdraw from the study at any time.

The results of this study may be published in a scientific research journal or presented at professional conferences. Due to the fact that SurveyMonkey™ is a computer software program no identifiable data will be transferred to me as the researcher. I will only receive the raw data. Your participation in this study may not benefit you directly, but might assist research students in thesis proposal writing in future.

Participation is voluntary and no remuneration will be given. Non-participation will not adversely affect you as you can just ignore the invitation to participate.

If you have any questions about this study, you may contact the researcher by phone at 001-269-473-3920 or by email at lzvanda@yahoo.com . You may also contact my thesis promoter Prof Lizeth Roets at +27 12 429 2226 or at roetsl@unisa.ac.za. We would be glad to answer any questions you may have.

If you choose to participate please click on the link http://www.surveymonkey.com/s/Q36DR5C and you will be able to complete the questionnaire. You contributions will be appreciated.

Thank you for your time

Lynette Zvandasara

ANNEXURE D: Recruitment letter to doctoral students for quantitative data collection

Dear Colleague

My name is Lynette Zvandasara, a registered doctoral student at the University of South Africa. I want to invite you to participate in the ***second part*** of my research study with the title: "A strategic intervention and action plan to facilitate the transition from master's degree studies to PhD/Doctoral thesis proposal writing". The study received ethics approval from the Research Ethics Committee, Department of Health studies at UNISA (HSHDC/186/2013).

The purpose of this study is to explore the experiences of master's degree prepared doctoral nursing students during thesis proposal writing in order to develop a strategy to facilitate the transition from masters' studies to doctoral thesis proposal writing.

Your voluntary participation in this study means that you are willing to share your experiences with me. To participate in this study you must be able to write and understand English. Participation is voluntary and no remuneration will be given. Non-participation will not adversely affect you as you can just ignore the invitation to participate. You can also choose not to answer a question by placing not applicable (NA) in the spaces provided. However it will be greatly appreciated if you can answer all questions as honestly as possible. Your participation in this study may not benefit you directly, but might assist research students with thesis proposal writing in the future.

The results of this study may be published in a scientific peer reviewed journal or be presented at professional conferences but due to the fact that Survey Monkey™ is a computer software program, no identifiable data will be transferred to me as the researcher and therefore your identity cannot be revealed. I will only receive the raw data. .

If you have any questions about this study, you may contact the researcher by phone at +263 77 584 7612 or by email at lynzezhou@gmail.com . You may also contact my promoter Prof Lizeth Roets at +27 12 429 2226 or at roetsl@unisa.ac.za. We would be glad to answer any questions you may have.

If you choose to participate please click on this
link **https://www.surveymonkey.com/r/2PBZS8K** and you will have access to the questionnaire and will be able to complete the questionnaire. Your contributions will be greatly appreciated.

Thank you for your time
Lynette Zvandasara

ANNEXURE E: Recruitment letter to FUNDISA for round one of validating the tool

Dear Dean/COD of an institution offering a Masters or Doctoral degree in Nursing

Invitation to Validation of the Strategic Intervention and Action plan

I am Lynette Zvandasara a registered doctoral student at UNISA. The title of my study is: A strategic intervention and action plan to facilitate transition from master's degree studies to PhD/doctoral thesis proposal writing.

The purpose of my study is to explore the experiences of master's prepared doctoral nursing students during thesis proposal writing in order to develop a strategic intervention and action plan to facilitate the transitioning of masters' prepared doctoral students to thesis proposal writing.

You are kindly requested to participate in the validation process of the developed strategic intervention and action plan. You are selected as an expert to participant in this study because you are a dean of nursing, involved in post graduate nursing studies and therefore critical for validation.

Your participation in this study will be voluntary and you can choose not to participate by not clicking on the link that will allow you access to the strategic intervention and action plan. You can withdraw from the study at any time by not submitting your validation at any given time. You will not receive any remuneration for participating in the study and there are no known risks associated with this study.

The knowledge gained from this study may however aid in assisting students who are transitioning from masters' degree to doctoral thesis proposal writing. Your contribution will be highly appreciated. The e-Delphi technique that will be used for the validation process will require from you to participate in all rounds until consensus of all the panelists is reached to the level of 75%. It will be highly appreciated if you can contribute up to the last round to ensure rich and comprehensive inputs

The results of this study may be published in a scientific research journal or presented at professional conferences. Due to the fact that Google forms is a computer software program and no identifiable data will be transferred to me as the researcher. I will only receive the raw data. Your participation in this study may not benefit you directly, but might assist research students in thesis proposal writing in the future.

If you have any questions about this study, you may contact the researcher by phone at +263 77 584 7612 or by email atlynzezhou@gmail.com . You may also contact my thesis promoter Prof Lizeth Roets at +27 12 429 2226 or atroetsl@unisa.ac.za or the Health Research Ethics Committee at UNISA at HSREC@unisa.ac.za . We would be glad to answer any questions you may have.

If you choose to participate please click on the link **https://docs.google.com/forms/d/e/1FAIpQLScNgfvswRN4lKbfb4uWb3YML9qiPZqIt7fC7S6KqLNa5dkweA/viewform?usp=sf_link** and you will be able to complete the strategic intervention and action plan (validation tool). Your contributions will be appreciated.

Thank you for your time

Lynette Zvandasara

ANNEXURE F: Recruitment letter to FUNDISA for round two of validating the tool

Dear Dean/COD of an institution offering a Masters or Doctoral degree in Nursing

Second Round Invitation to Validation of the Strategic Intervention and Action plan

I am Lynette Zvandasara a registered doctoral student at UNISA. The title of my study is: A strategic intervention and action plan to facilitate transition from master's degree studies to PhD/doctoral thesis proposal writing.

I would like to thank you for participating in the first round of the validation process. You are kindly requested to participate in the second round of the validation process of the developed intervention strategy and action plan. The purpose of the second round is for participants to reach a consensus on the aspects of the validation tool that consensus was not reached during the first validation round.

The validation questionnaire for this second round includes all the items from the first round questionnaire; however the questionnaire does not have options for you to respond to questions where consensus was reached during the first validation round. You will only be able to respond to those statements where consensus was not reached.

If you did not participate in the first round but are interested in doing so in this round you are more than welcome to do so. The e-Delphi technique that is being used for the validation process will require from you to participate in all rounds until consensus of all the panellists is reached to the level of 75%. It will be highly appreciated if you can contribute up to the last round to ensure rich and comprehensive inputs

If you have any questions about this study, you may contact the researcher by phone at +263 77 584 7612 or by email at lynzezhou@gmail.com . You may also contact my thesis promoter Prof Lizeth Roets at +27 12 429 2226 or at roetsl@unisa.ac.za or the Health Research Ethics Committee at UNISA at HSREC@unisa.ac.za . We would be glad to answer any questions you may have.

If you choose to participate please click on the link https://docs.google.com/forms/d/e/1FAIpQLSc5C5U0ziBjdR780QD1kCcrcMR_yREach8nKZgqzFaCLv1S2w/viewform and you will be able to complete the second round of the strategic intervention and action plan (validation tool). Your contributions will be appreciated.

Thank you for your time

Lynette Zvandasara

ANNEXURE G: Quantitative questionnaire

Dear Colleague

My name is Lynette Zvandasara, a registered doctoral student at the University of South Africa. I want to invite you to participate in the ***second part*** of my research study with the title: "A strategic intervention and action plan to facilitate the transition from master's degree studies to PhD/Doctoral thesis proposal writing". The study received ethics approval from the Research Ethics Committee, Department of Health studies at UNISA (HSHDC/186/2013).

The purpose of this study is to explore the experiences of master's degree prepared doctoral nursing students during thesis proposal writing in order to develop a strategy to facilitate the transition from masters' studies to doctoral thesis proposal writing.

Your voluntary participation in this study means that you are willing to share your experiences with me. To participate in this study you must be able to speak and understand English. Participation is voluntary and no remuneration will be given. Non-participation will not adversely affect you as you can just ignore the invitation to participate. You can also choose not to answer a question by placing not applicable (NA) in the spaces provided. However it will be greatly appreciated if you can answer all questions as honestly as possible. Your participation in this study may not benefit you directly, but might assist research students with thesis proposal writing in the future.

The results of this study may be published in a scientific peer reviewed journal or be presented at professional conferences but due to the fact that Survey Monkey® is a computer software program, no identifiable data will be transferred to me as the researcher and therefore your identity cannot be revealed. I will only receive the raw data. .

If you have any questions about this study, you may contact the researcher by phone at +263 77 584 7612 or by email at lynzezhou@gmail.com . You may also contact my

promoter Prof Lizeth Roets at +27 12 429 2226 or at roetsl@unisa.ac.za. We would be glad to answer any questions you may have.

If you choose to participate please click on this link **(Will Supply Later)** and you will have access to the questionnaire and will be able to complete the questionnaire. Your contributions will be greatly appreciated.
Thank you for your time
Lynette Zvandasara

Please read the following statements and indicate your choice with a tick in the appropriate space.

Thesis proposal writing:

1. Did you experience problems with choosing **a thesis topic**? **Yes** [ ] **No** [ ]

2. If you experienced **problems with choosing a thesis topic** please describe what you recommend should be done to assist future students with the choice of a topic.

3. Did you experience problems drafting **the problem statement**? **Yes** [ ] **No** [ ]

4. Please justify your answer provided in question 3.

5. Was it easy to find **relevant literature sources**? **Yes** [ ] **No** [ ].

6. Please justify your answer provided in question 5.

7. Did you experience problems conducting a **literature review**? **Yes** [ ] **No** [ ].

8. Please justify your answer provided in question 7.

9. Please indicate with a tick in the appropriate box the extent to which you think seminars, supervisory assistance and written guidelines would have been beneficial to support you in CHOOSING A THESIS TOPIC.					
	5 Strongly agree	**4 agree**	**3 disagree**	**2 Strongly disagree**	**1 undecided**
a. Seminar/workshops					
b. Supervisor assistance					
c. Written guidelines					
10. Please indicate with a tick in the appropriate box the extent to which you think seminars, supervisory assistance and written guidelines would have been beneficial to support you in DRAFTING THE PROBLEM STATEMENT.					

	5 Strongly agree	4 agree	3 disagree	2 Strongly disagree	1 undecided
a. Seminar/workshops					
b. Supervisor assistance					
c. Written guidelines					

11. Please indicate with a tick in the appropriate box the extent to which you think seminars, supervisory assistance and written guidelines would have been beneficial to support you in FINDING RELEVANT LITERATURE SOURCES.

	5 Strongly agree	4 agree	3 disagree	2 Strongly disagree	1 undecided
a. Seminar/workshops					
b. Supervisor assistance					
c. Written guidelines					

12. Please indicate with a tick in the appropriate box the extent to which you think seminars, supervisory assistance and written guidelines would have been beneficial to support you in CONDUCTING THE LITERATURE REVIEW.

	5 Strongly agree	4 agree	3 disagree	2 Strongly disagree	1 undecided
a. Seminar/workshops					
b. Supervisor assistance					
c. Written guidelines					

13. Please indicate with a tick in the appropriate box the extent to which YOU ALREADY HAD the competencies below when you started the writing of your thesis proposal.

	5	4	3	2	1

	Strongly agree	agree	disagree	Strongly disagree	undecided
a. I had the ability to apply research methodology theory.					
b. I had the ability to apply research methodology practice					
c. I had the ability to choose the applicable research design.					
d. I had the ability to choose the applicable research techniques					
e. I was able to do a literature search.					
f. I had the ability to conduct research in an ethical manner					
g. I knew how to protect research participants from any harm					
h. I had the ability to critically analyse the research findings from other studies findings and results.					
i. I knew how to describe the reliability of a study.					
j. I understood the concept of trustworthiness.					
k. I was proficient in English reading and understanding					
l. I was able to compile a scientifically sound research proposal					
m. I was able to write scientifically in English.					

14. If you ARE/WERE NOT COMPETENT in the above research skills, please indicate your level of agreement on the extent to which the following would have helped.					
	5 Strongly agree	**4 Agree**	**3 Disagree**	**2 Strongly disagree**	**1 undecided**
a. Peer workshops					
b. Supervisor assistance					
c. Tutorials					

15. Please write any additional information about HOW YOUR RESEARCH SKILLS could have been best developed prior to embarking on your doctoral studies

16. Please describe what you YOURSELF COULD HAVE DONE to be better prepared for thesis proposal writing

17. The following information is about your supervisor. Please indicate your level of agreement with the following statements about YOUR THESIS SUPERVISOR.					
My supervisor	**5 Strongly agree**	**4 Agree**	**3 Disagree**	**2 Strongly disagree**	**1 undecided**
a. is easily accessible					
b. Has good research reputation					
c. Gives constructive feedback					
d. Has skills and subject knowledge of my research					

topic					
e. Is an expert in the methodology used in my study					
f. Provides feedback within 14 working days					

18. Please add here any additional comments on how a SUPERVISION CAN BE OF MORE ASSISTANCE in the process of thesis proposal writing;

19. Please indicate with a tick in the appropriate box your opinion regarding RESOURCES AVAILABLE TO SUPPORT YOU

	5 Strongly agree	**4 Agree**	**3 Disagree**	**2 Strongly disagree**	**1 undecided**
a. Library facilities are adequate					
b. Library electronic research resources are adequate					
c. Library staff are helpful					
d. Internet resources are adequate					
e. I am able to make maximum benefit from the resources available					

20. Please provide ANY ADDITIONAL INFORMATION that you think can benefit doctoral students to write thesis proposal

ANNEXURE H: Draft strategic intervention and action plan

In the boxes provided, please click all items that should be included in the strategic intervention and action plan. Please provide recommendations for improvement or suggestions in the spaces provided and remember to click on the submit button before exiting the survey.

STRATEGY 1: SUPERVISION BY COMPETENT SUPERVISORS		
1. Include or exclude Strategy 1	Include	Exclude
2. please justify your answer		
3. ACTION STATEMENT 1.1: Recruit competent research supervisors that adhere to the appointment criteria;	Include	Exclude
4. Please justify your answer		
5. Method: Assess CV of supervisors before employment specifically pertaining to: (**Click all that apply**)		

• Highest academic qualifications	
• Years of experience in supervision	
• Number of doctoral students completed	
• Number of masters students completed	
• Number of research publications	
• Field of expertise	
• Other	
6. Responsible Persons (Choose the most appropriate)	
• A dedicated team of experienced professors appointed by the dean within each faculty	
• Dean of faculty	
• Head of each department	
• The faculty administrator	
• Other	
7. Time Frame (Choose the most appropriate)	
• After CVs of applicants are received	

• During the shortlisting process		
• Other		
8. Comments and suggestions for improvement:		
9. ACTION STATEMENT 1.2: Develop and Implement a formal training for research supervisors. Please justify your answer.	Include	Exclude
10. Method: Develop a training programme for research supervisors that must include**: (Click all that apply)**		
• Supervisor /student relationship		
• Cultural sensitivity		
• How to share constructive feedback		
• Online feedback		

• Other	
11. Responsible Persons (Choose the most appropriate)	
• An appointed team of experienced professors in each department in collaboration with the training office in an institution	
• Deans of each faculty	
• An appointed team of experienced supervisors	
• Other	
12. Time frame (Choose the most appropriate)	
• Within 30 days after approval to implement the strategic intervention and action plan	
• Within 60 days after approval to implement the strategic intervention and action plan	
• Within 90 days after approval to implement the strategic intervention and action plan	
• Other	
13. Comments and suggestions for improvement	

14. ACTION STATEMENT 1.3. Provide resources for training of supervisors. Please justify your answer.	Include	Exclude
15. Method: Provide resources that should include the following: (**Click all that apply**)		
• Research training facilitators		
• Institutionalized guidelines on supervision		
• Policy on co-supervision		
• Institution research student support services		
• Other		
16. Responsible Persons: (Choose the most appropriate)		
• Deans of each faculty		

• Heads of departments		
• Department of continuing education		
• Other		
17. Time frame (Choose the most appropriate)		
• Before every new supervisor is assigned to a research student		
• Within 14 days of a supervisor being employed		
• Within 30 days after a new supervisor is employed		
• Within 60 days after a new supervisor is employed		
• Other		
18. Comments and suggestions for improvement		
19. Action statement 1.4: Implement training programmes for supervisors. Please justify your answer.	Include	Exclude

20. Method: Provide time for supervisors to attend training programmes (Click all that apply)	
• Supervisors must be provided with time to attend training programs	
• Research supervisors must attend one training opportunity per year	
21. Responsible persons (Choose the most appropriate)	
• Deans of each faculty that provide supervision to doctoral nursing students	
• Heads of departments that provide supervision to doctoral nursing students	
• Other	
22. Time Frame (Choose the most appropriate)	
• Within 60 days after the approval of the strategic intervention and action plan for implementation	
• Within 30 days after the approval of the strategic intervention and action plan for implementation	
• Other	

23. Comments and suggestions for improvement:		
24. Action statement 1.5: Implement a supervision policy that includes guidelines on supervision. Please justify your answer.	Include	Exclude
25. Method: Develop a policy that includes guidelines to manage supervision including but not limited to: (**Click all that apply**)		
• Frequency of supervisor/supervisor meetings		
• Number of students allocated to supervisor		
• Supervisor capacity		
• Balance supervision with other institutional responsibilities		
• Other		
26. Responsible Persons (Choose the most appropriate)		
• A team of appointed experienced supervisors		

• Deans of each faculty that provides doctoral education		
• Heads of each department with registered doctoral programmes		
• Other		
27. Time frame (Choose the most appropriate)		
• Within 30 days after the approval of the strategic intervention and action plan		
• Within 30 days after the approval of the strategic intervention and action plan		
• Within 30 days after the approval of the strategic intervention and action plan		
• Other		
28. Comments and suggestions for improvement		
29. Action statement 1.6 Develop a formal mentoring programme. Please justify your answer.	Include	Exclude

30. Method: Develop a formal mentoring programme for supervisors that includes: **(Click all that apply)**	
• Defining the role of mentor and mentee	
• The responsibilities of a mentor	
• The responsibilities of a mentee	
• The duration of each mentoring cycle	
• Other	
31. Responsible persons: (Choose the most appropriate)	
• A team of appointed experienced supervisors	
• Heads of departments of continuing education	
• Other	
32.Time frame (Choose the most appropriate)	
• Within 30 days after the approval of the strategic intervention and action plan for implementation	
• Within 60 days after the approval of the strategic intervention and action plan for implementation	
• Other	
33. Comments and suggestions for improvement	

STRATEGY 2: ACHIEVE A REALISTIC STUDENT/SUPERVISOR RATIO OF 7 STUDENTS PER SUPERVISOR		
34. Include or exclude Strategy 2. Please justify your answer.	**Include**	**Exclude**
35. ACTION STATEMENT 2.1: Implement a recruitment plan to recruit supervisors as well as students to allow for a realistic student/supervisor ratio	**Include**	**Exclude**
36. Method 2.1.1: Review the capacity of supervisors based on **(Click all that apply)**		
• The student supervisor ratio		
• Niche areas of supervisors compared to student interest		
• Specific skills and competencies of supervisors		

• Number of students the supervisor has graduated	
• Other	
37. Responsible persons: (Choose the most appropriate)	
• Post graduate programme coordinators in each institution	
• Deans of faculty	
• Heads of each department	
• Other	
38.Time frame (Choose the most appropriate)	
• Before student admission	
• Before student registration	
• Within 30 days after student registration	
• Other	
39. Method 2.1.2: Admit students according to the capacity of supervisors (**Click all that apply)**	
• Review number of available supervisors before students admission	

• implement group supervision to increase the number of students that can be admitted	
• Other	
40. Responsible persons: (Choose the most appropriate)	
• Registrars of graduate students	
• Post graduate programme coordinators	
• Deans of faculties	
• Heads of departments	
• Other	
41. Time frame (Choose the most appropriate)	
• Before admitting research students	
• During the selection of graduate students	
• Other	
42. Comments and suggestions for improvement	

STRATEGY 3: SUPERVISOR ALLOCATION ACCORDING TO THEIR NICHE AREAS AND FIELD OF EXPERTISE		
43. Include or exclude Strategy 3. Please justify your answer.	**Include**	**Exclude**
44. ACTION STATEMENT 3.1: Allocate supervisors to students according to their niche areas and capability of supervisor expertise. Please justify your answer.	**Include**	**Exclude**
45. Method : Allocate students to supervisors who are experts in the focus area relevant to the study content of the student **(Click all that apply)**		
• Review cvs of supervisors before student allocation		
• Supervisors to select students for supervision		
• Students to select supervisors from a list provided them		
• Other		
46. Responsible persons: (Choose the most appropriate)		

• Masters and doctoral programme coordinators responsible for allocation of supervisors in each department/ school/faculty		
• Heads of departments		
• Deans of each faculty		
• Other		
47. Time frame (Choose the most appropriate)		
• During student registration		
• Within 14 days after student registration		
• Other		
48. Comments and suggestions for improvement		
STRATEGY 4: TIMELY ALLOCATION OF SUPERVISORS		
49. Include or exclude strategy 4? Please justify your answer.	**Include**	**Exclude**
50. Action statement 4.1: Allocate supervisors in a timely manner. Please justify your answer.	**Include**	**Exclude**

51. Method 4.1.1. Instate a supervisor allocation team to appoint supervisors **(Click all that apply)**	
• Instate a supervisor allocation team to appoint supervisors	
• other	
52. Responsible persons (Choose the most appropriate)	
• Post graduate programme coordinators responsible for allocation of supervisors in each department/ school/faculty	
• Deans of each faculty	
• Heads of each department	
• Other	
53. Time frame (Choose the most appropriate)	
• During student registration	
• Within 14 days after student registration	
• Other	
54. Method 4.1.2. Communicate the name and details of the student/supervisor to both parties (**Click all that apply)**	
• Communicate the name and details of the student/supervisor to both parties	
• Other	

55. Responsible persons (Choose the most appropriate)		
• Post graduate programme coordinators responsible for allocation of supervisors in each department/ school/faculty		
• Deans of faculties		
• Heads of departments		
• Other		
56. Time frame (Choose the most appropriate)		
• Within 7 days after student registration		
• Within 14 days after student registration		
• other		
57. Comments or suggestions for improvement		
STRATEGY 5: PROVIDE SUPPORT FOR SUPERVISORS		
58. Include or exclude strategy 5? Please justify your answer.	**Include**	**Exclude**
59. Action statement 5.1. Provide supervisory support. Please justify your answer.	**Include**	**Exclude**

60. Method: Provide resources to support supervisors (**Click all that apply)**	
• Technical editors	
• Language editors	
• IT personnel	
• Research assistants	
• Other	
61. Responsible persons (Choose the most appropriate)	
• Deans of postgraduate studies	
• Heads of departments	
• Heads of specific support departments eg IT, etc	
• Other	
62. Time frame (Choose the most appropriate)	
• Before students are allocated a supervisor	
• As needed	

• Other		
63. Comments and suggestions for improvement		
STRATEGY 6. ENSURE LIBRARY SUPPORT FOR REGISTERED STUDENTS		
64. Include or exclude strategy 6? Please justify your answer.	**Include**	**Exclude**
65. Action statement 6.1. Appoint subject librarians to support research students within their study areas. Please justify your answer.	**Include**	**Exclude**
66. Method. Allocate subject specific librarians to individual faculties, departments, research areas eg health, education, nutrition. Please justify your answer.	**Include**	**Exclude**
67. Responsible persons (Choose the most appropriate)		
• Chief librarians		

• Deans of faculty		
• Other		
68. Time frame (Choose the most appropriate)		
• Before student admission		
• Other		
69. Comments or suggestions for improvement		
70. Action statement 6.2. Provide continuing education training for librarians to enhance their subject knowledge and expertise. Please justify your answer.	**Include**	**Exclude**
71. Method: Develop in service training programmes for librarians. Please justify your answer.	**Include**	**Exclude**
72. Responsible persons (Choose the most appropriate)		
• Specialists in developing training programmes.		
• Chief librarian		

• Personnel from training department		
• Other		
73. Time frame (Choose the most appropriate)		
• During the orientation period		
• Within 60 days after a librarian is employed		
• Within 90 days after a librarian is employed		
• Other		
74. comments or suggestions for improvement		
75. Action statement 6.3. Employ more library support staff. Please justify your answer.	**include**	**exclude**
76. Method: Recruit library support staff **(Click all that apply)**		
• Recruit student workers to assist with cataloguing		
• Recruit graduate assistants to help research students with finding research material		
• Other		
77. Responsible persons (Choose the most appropriate)		

• Chief librarian		
• HR personnel		
• Other		
78. Time frame (Choose the most appropriate)		
• Within 30 days after a needs assessment of the number of support staff needed		
• Other		
79. Comments or suggestions for improvement		
STRATEGY 7. PEER SUPPORT PROGRAMMES FOR DOCTORAL STUDENTS		
80. Include or exclude Strategy 7? Please justify your answer.	**include**	**Exclude**
81. Action Statement 7.1: Develop peer support programmes. Please justify your answer.	**Include**	**Exclude**
82. Method: Develop peer support programmes for registered students		
83. Responsible persons (Choose the most appropriate)		

• A selected team of professors in collaboration with the training office of the institutions.		
• Personnel from the department of continuing education		
• Heads of departments		
• Other		
84. Time frame (Choose the most appropriate)		
• Within 30 days after the approval to implement the strategic intervention and action plan		
• Within 60 days after the approval to implement the strategic intervention and action plan		
• Other		
85. Comments or suggestions for improvement		
STRATEGY 8: IMPLEMENT STUDENT RECRUITMENT AND SELECTION CRITERIA		
86. Include or exclude strategy 8? Please justify your answer.	**Include**	**exclude**
87. Action statement 8.1: Implement Selection and recruitment criteria to enhance student success	**Include**	**Exclude**
88. Method: Implement student selection criteria that addresses **(Click all that apply)**		

• Language proficiency assessment by students taking language proficiency written exam and interview.	
• Methodical knowledge by reviewing previous research work done by the student	
• Scientific writing skills assessment using an assessment tool	
• Prior research experience eg masters dissertation with a mark of at least 65%	
• Other	
89. Responsible persons (Choose the most appropriate)	
• Personnel from admission department	
• Personnel from the English department	
• Deans and Head of departments	
• Other	
90. Time Frame (Choose the most appropriate)	
• During recruitment of students	
• During student application or admission	
• Other	
91. Comments or suggestions for improvement	

STRATEGY 9. SUPPORT PROGRAMS TO ASSIST STUDENTS WITH DEVELOPMENT OF RESEARCH SKILLS AND COMPETENCIES		
92. Include or Exclude Strategy 9? Please justify your answer.	**Include**	**Exclude**
93. Action statement 9.1 Provide research courses or workshops to assist students to achieve the prerequisite requirements. Please justify your answer.	**Include**	**Exclude**
94. Method 9.1.1. Students to take an entry English language (language of instruction) proficiency exam to be assessed for **(Click all that apply)**		
• English composition skills		
• Scientific Writing skills		

• Other		
95. Responsible persons (Click all that apply)		
• Department of English		
• Other		
96. Time Frame (Choose the most appropriate)		
• During application phase		
• Before student commences research writing		
• Other		
97. Method 9.1.2. Implement programs for language literacy for students who get less than 60% pass rate.in the entry exam. Please justify your answer.	**Include**	**Exclude**
98. Responsible persons (Choose the most appropriate)		
• Department of English		
• Department of continuing education		
• Other		
99. Time frame (Choose the most appropriate)		

• Within 30 days after failing the language proficiency exam	
• 90 days after failing the language proficiency exam	
• Other	
100. Method 9.1.3. Develop and implement research related courses training or workshops for registered doctoral students **(click all that apply)**	
• Academic writing skills training	
• Research proposal writing	
• Research methodology training	
• Research Ethics training	
• Literature searches training	
• Literature review training	
• Paraphrasing training	

• Higher order thinking skills development training	
• other	
101. Responsible persons: (Choose the most appropriate)	
• Heads of postgraduate and research studies	
• Deans of faculties	
• Training office personnel	
• Other	
102. Time frame (Choose the most appropriate)	
• Students should be mandated to attend at least one research workshop before starting research	
• Other	
103. Comments or suggestions for improvement	
STRATEGY 10. BINDING CONTRACT TO STIPULATE THE RESPONSIBILITY OF RESEARCH STUDENTS	

104. Include or Exclude Strategy 10? Please justify your answer.	**Include**	**Exclude**

105. Action statement 10.1 Implement the compulsory signing of a student/supervisor agreement contract. Please justify your answer.	**include**	**Exclude**
106. Method: Develop and implement contract system where students and supervisors sign an agreement to stipulate responsibility which should include **(Click all that apply)**		
• Frequency of communication with supervisor		
• Frequency of supervisor/student meetings		
• Best method of communicating		
• Problem solving process		
• Students responsibilities		
• Supervisor responsibilities		
• Other		
107. Responsible persons (Choose the most appropriate)		
• A team of experienced supervisors		

• Heads of departments		
• A team of student representatives		
• Deans of faculties		
• Other		
108. Time frame (Choose the most appropriate)		
• During supervisor allocation		
• 14 days after student registration		
• 30 days after student registration		
• Other		
109. Comments or suggestions for improvement		
STRATEGY 11. PROVIDE ACCESS TO RESEARCH RESOURCES		
110. Include or exclude Strategy 11?	**Include**	**Exclude**
111. Action statement 11.1. Ensure adequate research resources. Please justify your answer.	**Include**	**Exclude**

112. Method. Provide adequate resources for research **(Click all that apply)**	
• Up to date scholarly journals	
• E-books	
• Internet research resources	
• Reference material	
• Other	
113. Responsible persons (Choose the most appropriate)	
• University finance department in collaboration with:	
• Chief librarian	
• Doctoral research coordinators	
• Heads of departments	
• Others	
114. Time frame (Choose the most appropriate)	
• Before students' admission	
• Within 30 days of student registration	
• Within 60 days of student admission	

• Other		
115. Comments or suggestions for improvement		
116. Action statement 11.2. Training opportunities for students on how to access resources. Please justify your answer.	**Include**	**Exclude**
117. Method: Develop and implement training workshops for students to **(Click all that apply)**		
• Use of the library catalogue		
• Conduct a literature search		
• Online search for research information		
• Other		
118. Responsible persons (Choose the most appropriate)		
• Chief librarian		
• Department of training personnel		
• Department of continuing education		
• Other		

119.Time frame: Mandate students to attend at least one training **(Choose the most appropriate)**		
• During student orientation		
• Before starting research		
• Within 30 days after registration		
• Other		
120. Comments or suggestions for improvement		
STRATEGY 12: BURSARY SYSTEM		
121. Include or exclude Strategy 12? Please justify your answer.	**Include**	**Exclude**
122. Action statement 12.1: Implement a bursary system to support qualifying students. Please justify your answer.	**Include**	**Exclude**
123. Method: 12.1.1. Develop a qualifying criteria for bursary. Please justify your answer.	**Include**	**Exclude**
124. Responsible persons (Choose the most appropriate)		

• Department of student finance in collaboration with:		
• Research supervisors		
• Department of student affairs		
• Deans of post graduate studies		
• Heads of department		
• Other		
125. Time frame (Choose the most appropriate)		
• Annually		
• Other		
126. Method 12.1.2. Communicate the requirements to qualify for study bursaries to prospective doctoral students. Please justify your answer.		
127. Responsible persons (Choose the most appropriate)		
• Personnel from the department of finance/scholarships/grants		
• Research supervisors		
• Other		

128. Time frame (Choose the most appropriate)	
• During student registration	
• During student orientation	
• Within 30 days after registration	
• Other	
129. Comments or suggestions for improvement **Submit**	

ANNEXURE I: Language editing certificate and Turnitin receipt

Between the lines editing

Leatitia Romero
Professional Copy-Editor, Translator and Proofreader
(BA HONS)

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11 December 2019

To whom it may concern:

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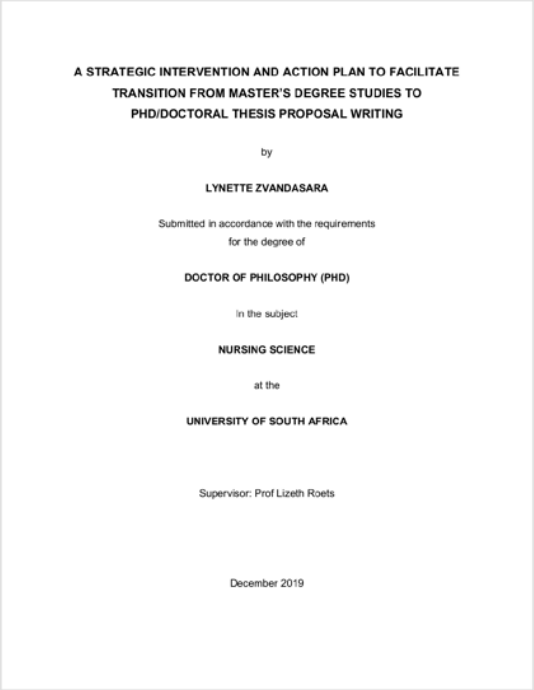

A STRATEGIC INTERVENTION AND ACTION PLAN TO FACILITATE TRANSITION FROM MASTER'S DEGREE STUDIES TO PHD/DOCTORAL THESIS PROPOSAL WRITING

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LYNETTE ZVANDASARA

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