FACTORS INFLUENCING STUDENT MIDWIVES' ACADEMIC PERFORMANCE IN SELECTED CAMPUSES OF KWAZULU-NATAL COLLEGE OF NURSING: EXPLORING STUDENTS' PERSPECTIVES

Ms. Shamin Mahadeo

Dissertation submitted in fulfilment of the requirements for the Degree in Master of Health Sciences in Nursing in the Faculty of Health Sciences at the Durban University of Technology

Supervisor : Dr T.S.P. Ngxongo

Date : June 2020

Declaration

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

2020 June 19

Signature of student Date

Approved for final submission

2020 June 19

Dr T.S.P. Ngxongo Date

RN, RM, D Nursing

i

Abstract

Introduction and background

Midwifery training prepares student midwives from diverse cultural and social backgrounds and beliefs to render competent care to mothers and babies. Midwifery training should aim to produce qualified midwives who are able to practice midwifery independently as prescribed by the South African Nursing Council (SANC).

The education of student midwives demands more than the traditional lecture method of teaching. Practical skills are of importance, but cannot be practiced without the theoretical knowledge. Therefore, midwifery lecturers are faced with a challenge of ensuring an education that is firmly grounded in theory and practice. The ability to apply theoretical knowledge to clinical performance is fundamental in creating competent midwives. The average pass rate of 9.6%-31% for theory examinations, recorded for the past few years, is evidence of the high failure rate in the SANC R254 midwifery programme across South Africa. This has an implication on the production of an adequate number of competent midwives to render quality midwifery services.

Aim of the study: The aim of the study was to describe the factors that, according to student midwives' perspectives, could have influenced their academic performance, thus resulting in repeated failure in the R254 midwifery programme in selected campuses of the KwaZulu-Natal College of Nursing (KZNCN).

Objectives of the study: The objectives of the study were to explore and describe student, lecturer and institutional related factors that could have influenced the academic performance of the student midwives in the R254 programme, in selected campuses of the KZNCN, and to describe student midwives' perspectives regarding the factors that could facilitate their academic performance.

Method: A non-experimental, quantitative, descriptive, survey design was undertaken, guided by the Empowered Holistic Nursing Education (EHNE) theory. In September and October 2018, data was collected from 122 student midwives of the R254 programme from four campuses in UMgungundlovu and eThekwini Districts in KwaZulu-Natal, using self-administered questionnaires.

Findings: The study findings revealed that the student midwives'-related factors that could have influenced academic performance pointed to personal factors, study habits and self-interest. The lecturer-related factors included the student-lecturer relationship, teaching strategies and remedial work, while the institution-related factors were the availability of human and material resources. The majority of the respondents highlighted student motivational factors, a positive student-teacher relationship and study habits especially group study, as the factors that could facilitate the academic performance of students of the R254 midwifery programme.

Conclusion: The findings from the current study confirm that several factors related to the lecturers, students and the institution influenced academic performance of student midwives. These findings concur with and are supported by studies conducted in an international and national context. The interconnectedness of the five principles of the EHNE theory in facilitating academic performance is also evident in the findings of the current study.

Recommendations: The recommendations based on this study are that:
1) student midwives should take cognisance of self-interest when deciding on a career path, 2) lecturers should use a variety of teaching and assessment strategies to accommodate the different needs of student midwives, and ensure remedial work is done before reassessment and 3) nursing teaching institutions should ensure adequate supplies of material and human resources for teaching and learning.

Dedication

I dedicate this dissertation to the following: Firstly, my grandson, Ishveer Mahadeo, who survived surgery at two (2) days old for a Diaphragmatic Hernia despite a Hypoplastic lung. You are the heart and soul of my life. Secondly, my late nephew, Kivash Jaggernath (26), called to rest too soon. Your commitment and hard work in achieving your qualification as a Chartered Accountant was admirable and you inspired me to take on this task. Rest in peace, son. Thirdly to my late father, Mr. Motilal Mahabeer who would have been proud of this achievement.
Fourthly, to my now late husband, Narotham Mahadeo, without whom this study would not have been possible.

'Knowing myself to be ignorant, I urge you, 'O Lord' to bestow on me the strength, wisdom and knowledge' (Hanuman Chalisa).

Acknowledgements

I would like to thank the following, without whom this study would not have been possible:

The Lord Almighty for seeing me through the calamities of my life and bringing me to this point.

Professor. M.N. Sibiya for affording me this opportunity and for your expert knowledge.

My dear supervisor, Dr T.S.P. Ngxongo. You are the epitome of your name Patience. Thank you for your patience and tolerance in supporting me through my academic and personal issues. Your professional guidance and knowledge were always welcomed and highly appreciated and your continuous motivation encouraged me to stay the course.

Dr. S.Z. Mthembu, Principal of KZNCN, for granting permission to conduct this study at the chosen KZNCN campuses.

The Principals of the chosen campuses for permission to engage with the R254 midwifery students at your campuses.

The Department of Health (Directorate for Health Research and Knowledge Management) for allowing this study to materialise.

Statistician, Dr Gill Hendry, for your skilled analysis and presentation of data.

Ms. T. Shah, for your expert editing of this dissertation.

My dear late husband, Mr. Narotham (Roop) Mahadeo. Thank you for having being the chauffeur through my life and through this journey. Your support was and is invaluable.

My children, Reshen Mahadeo and Andrisha Mahadeo, who lovingly took care of me during my illness. Andrisha, you mothered me like a child when I was ill and saying thank you is not enough. In addition, thank you, Andrisha and Nishal (son–in–law) for looking after Ishveer. Thank you Reshen and Junitha (daughter–in–law) for the support during this study, including the information technology support.

My 84-year-old mum for your care during my illnesses. You are a gem in my life.

My niece, Sonam Soni, for always enquiring about my progress.

The rest of my family, brothers and sister, brother-in law and sisters–in–law. Thank you for being there for me in times of need and always. I love you all immensely.

My friends and colleagues at work for always motivating me to continue through the many times when I felt like quitting. May you all be blessed forever and kept in the Lord's fold.

Table of Contents

DECLARATION……i
ABSTRACT……..…ii
DEDICATION…… iv
ACKNOWLEDGEMENTS……..…v
TABLE OF CONTENTS……...vi
LIST OF TABLES……...x
LIST OF FIGURES……xi
LIST OF APPENDICES……..….xii
GLOSSARY OF TERMS…….xiii
LIST OF ACRONYMS……xvii
CHAPTER OUTLINE…….xviii

CHAPTER 1: OVERVIEW OF THE STUDY……...1

1.1 Introduction……1
1.2 Midwifery training and practice in South Africa……...3
1.2.1 The R425 training programme……....4
1.2.2 The R254 training programme……....5
1.2.3 New midwifery training programmes in South Africa……...8
1.3 The KwaZulu-Natal College of Nursing……9
1.4 Advances made in midwifery training in South Africa……10
1.5 Factors influencing academic performance of students……11
1.6 Research problem…….12
1.7 Research question……..13
1.8 Research aim……..…….13
1.9 Research objectives……...13
1.10 Research design……14
1.11 Significance of the study……....14
1.12 Chapter summary……..14

CHAPTER 2: LITERATURE REVIEW……15

2.1 Introduction……15
2.2 Rationale for literature review…….……..……....15
2.3 Strategies used to search literature……..……...15

2.4 Approaches to midwifery training……....16
2.4.1 Midwifery training in international countries……16
2.4.1.1 Training in the United States of America……..17
2.4.1.2 Training in the United Kingdom……17
2.4.1.3 Training in Australia……18
2.4.2 Training in national countries…..……19
2.5 Academic performance of student nurses/midwives……20
2.5.1 International perspectives regarding academic performance…..……20
2.5.2 South African perspectives regarding academic performance……..25
2.5.3 KwaZulu-Natal perspectives regarding academic performance…..……....25
2.6 Chapter summary…..……..……....26

CHAPTER 3: RESEARCH METHODOLOGY……..……27
3.1 Introduction……..……...27
3.2 Research design……..……...27
3.2.1 Non-experimental design……..……27
3.2.2 Quantitative design……..……...27
3.2.3 Descriptive design……..……28
3.3 Theoretical framework……..……..…..28
3.3.1 Empowered Holistic Nursing Education theory (EHNE)……....28
3.3.2 How the EHNE theory was used to guide the study…….……...30
3.3.2.1 Formulation of study objectives……..……..30
3.3.2.2 Selection and modification of the questionnaire……....31
3.3.2.3 Interpretation and presentation of results……31
3.4. Research paradigm……...…31
3.4.1 Study setting……32
3.4.2 Study population……..35
3.4.3 Sample and sampling process……..35
3.4.4 Data collection instrument……36
3.5 Pre-testing of data collection tool and research process…….……37
3.6 Data collection……..38
3.6.1 Data collection process……...38
3.6.2 Data analysis……....38
3.7 Validity and reliability……....39

3.8 Ethical considerations……..……...39
3.9 Chapter summary……...40

CHAPTER 4: PRESENTATIONOF RESULTS…….…..…...41
4.1. Introduction……..……...41
4.2 Statistical analysis used……..……...41
4.3 Statistical analysis used……..……41
4.4 Presentation of results……..……..43
4.4.1 Demographic data……..……..43
4.4.2 Motivation to study midwifery……..…44
4.4.3 Study habits……..…45
4.4.4 Self-interest factors……..48
4.4.5 Lecturer related factors……...49
4.4.6 Institution related factors……51
4.4.7 Correlation of factors with demographic variables……..53
4.5 Chapter summary……..……54
CHAPTER 5: DISCUSSION OF RESULTS……....55
5.1 Introduction……..55
5.2. Overview of the research discussion……..55
5.3 Demographic characteristics……56
5.3.1Gender……...56
5.3.2 Age……57
5.3.3 Marital status……58
5.3.4 Actual number of years of experience as a registered nurse……..…58
5.4 Discussion based on the five principles of the EHNE theory……...59
5.4.1 Motivation for studying midwifery……59
5.4.2 Study habits……..62
5.4.3 Self-interest factors……..65
5.4.4 Lecturer related factors……...67
5.4.5 Institute related factors……70
5.9 Chapter summary……72

CHAPTER 6: SUMMARY OF FINDINGS, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS……73
6.1 Introduction……...73
6.2 Summary of the study……73
6.3 Summary of findings……...74
6.3.1 Student related factors with regard to their study habits and self-interest……..74
6.3.2 Lecturer and institution related factors that may have affected academic performance…….……..…76
6.3.3 Positive factors that may facilitate academic performance for students of the R254 midwifery programme……76
6.4 Conclusion…….……..…77
6.5 Limitations of the study……..78
6.6 Recommendations……...79
6.6.1 Policy development and implementation……....79
6.6.2 Institutional management and practice……79
6.6.3 Nursing education……..……..80
6.6.4 Further research…….……..81
REFERENCES…….82

List of tables

Table 1.1 SANC three-year publication of R254 midwifery examination results……...7
Table 2.1 Comparison of midwifery training in international countries……..16
Table 2.2 Comparison of midwifery training in national countries……..….19
Table 4.1 Distribution of questionnaires to and return from four study sites……42
Table 4.2 Age and years of experience of respondents……..44
Table 4.3 Motivation to study midwifery……..…...44
Table 4.4 Responses on statements regarding study habits……..……46
Table 4.5 Responses on statements regarding self-interest……..…48
Table 4.6 Lecturer related factors affecting learning……50
Table 4.7 Results on institutional factors……...52
Table 4.8 Standard deviation for correlation between all factors with demographic variables ……..……..……...54

List of figures

Figure 3.1EHNE theory……..……..……..30
Figure 3.2 Map of KZN districts……..…….34
Figure 4.1 Demographic data for study respondents……...43
Figure 4.2 Findings for one sample t-test on motivation to study midwifery……45
Figure 4.3 Graphical presentation for one sample test results on study habits……...47
Figure 4.4 Graphical presentation for one sample test results on self-interest……49
Figure 4.5 Graphical presentation for one sample test results on lecturer related factors……..51
Figure 4.6 Graphical presentation for one sample test results on institutional related factors……..53
Figure 5.1 Diagram illustrating motivation to study midwifery……60
Figure 5.2 Diagram illustrating self-interest factors……..66
Figure 5.3 Diagram illustrating lecturer related factors……68

List of appendices

Appendix 1a DUT ethics clearance certificate……..….92
Appendix 1a DUT IREC full approval……..93
Appendix 2a letter requesting permission from KZN Provincial DOH……...94
Appendix 2b Permission letter from KZN Provincial DOH……..95
Appendix 3a letter requesting permission from the KZNCN……...96
Appendix 3b Permission letter from the KZNCN…….…….97
Appendix 4a Sample letter used to request permission from selected nursing campus……..…98
Appendix 4b Permission letter from selected nursing campus……...99
Appendix 4c Permission letter from selected nursing campus……100
Appendix 4d Permission letter from selected nursing campus……....101
Appendix 4e Permission letter from selected nursing campus……102
Appendix 5a Letter of information to students……....103
Appendix 5b Consent form……105
Appendix 6 2015-2016 R254 midwifery results published by SANC……..…106
Appendix 7 Certificate from professional statistician…….……...107
Appendix 8 Certificate from professional editor……..108
Appendix 9 Data collection instrument (questionnaire)……....109
Appendix 10 Composite data analysis report……..113

Glossary of terms

Academic performance is defined by Yunlok (2010: 1) as *the information and skills that students have learnt in a subject or a course, an indication of how well students have performed in the various evaluation items set for them based on some "educational criteria determined by professional educators*".

Accoucheur is defined in the Webster's New World College Dictionary (2014) as "*a male who assists women in childbirth*". In this study, student accoucheur refers to a male student midwife who is training to become a registered accoucheur with the SANC on completion of his training.

Achievement is defined in the Oxford Dictionary as something, or education done successfully with the use of effort, skill or courage (Oxford University Press 2019). In education institutions, students are said to be achieving when they acquire the knowledge, skills, attitudes and attributes that will prepare them to lead happy and successful lives (Education Evolving 2016: 1). Student achievement is used as a measure of academic content a student has learned in a predetermined amount of time (Education Evolving 2016: 1).

Campaign for the Accelerated Reduction of Maternal and Child Mortality in Africa-(CARMMA) is an initiative of the South African Department of Health which was introduced in 2012 where a National Strategic Plan was formulated to accelerate the reduction of maternal and child mortality in Africa (South Africa. Department of Health 2012: 6).

Clinical accompaniment means a structured process by a nursing education institution to facilitate directed assistance and support to the learners by a nurse educator at the clinical facility to ensure the achievement of learning outcomes (SANC 2013: 1).

Clinical facility refers to a continuum of services which promote health and provide care to individuals and groups and used for clinical learning opportunities for student midwives (SANC 2013: 2)

Clinical learning: refers to the form of learning through which students learn how to apply the abstract concepts of nursing theory into the real situations. (Bifftu, Dachew, Tiruneh, Ashenafie, Tegegne, and Worku 2018: 2). The SANC (2013: 2) goes further to define **clinical learning opportunities as "***the range of learning experiences, including work-*

integrated and service learning, available in a healthcare setting, which may also include other experiential learning sites where a learner has the opportunity to gain the required clinical skills"

Clinical Practice/Learning is described by SANC n.d. (under provisions of the Nursing Act, 2005) as "*part of the educational process that takes place in any practice setting in hospital or community*".

Clinical supervision is defined by SANC (2013: 2) as the help and support extended to the learner by the professional nurse, midwife or staff nurse in a clinical facility with the aim of developing a capable and independent practitioner.

Facilitator is defined in the Oxford Dictionary as "*someone or something that assists to make an action or process easy or easier*" (Oxford University Press 2019). In nursing education, a facilitator (clinical **facilitator)** is a registered **nurse**, involved in current **nursing** practice, who is engaged to facilitate student learning in and off campus, that is in the clinical setting. The facilitator assists the student to obtain the necessary knowledge, skills and attributes to meet the defined standards of the NEI (nursing education institute) and of the nursing regulatory body (Preceptor Manual, Charles Darwin University, 2018: 4)

International Confederation of Midwives (ICM) is "*an accredited non-governmental organization representing midwives and midwifery worldwide to achieve common goals in the care of mothers and newborns*". The International Confederation of Midwives (ICM) supports, represents and strengthens professional associations of midwives worldwide. There are currently 143 Member Associations, representing 124 countries (International Confederation of Midwives: 2018: 1)

Learning is defined in the Oxford Dictionary as "*the acquisition of knowledge or skills through study, experience or being taught*" (Oxford University Press: 2019)

Learner Midwife, according to the Nursing Act 33 of 2005, refers to a person registered as such in terms of Section 32 (South Africa. Department of Health 2005: 5). The term is used interchangeably with 'student midwife'.

Lecturer is defined in the Oxford Dictionary as *"a person who delivers lecturers, especially as an occupation at a university or higher education institute*" Oxford

University Press: 2019). According to the South African Department of Health (2005: 5), a Nursing lecturer is a person registered under Section 31 of the Nursing Act No. 33 of 2005, with an additional qualification in Nursing Education.

Maternal death is the "*death of a woman whilst pregnant or within 42 days of termination of pregnancy regardless of the gestational age and location of the pregnancy, from any cause associated with or aggravated by the pregnancy or its management but not from inadvertent or incidental causes*" (World Health Organization 2010: 1).

Midwife is "*a person who has been admitted to a midwifery educational programme, duly recognized in a country in which it is located and has successfully completed the prescribed course and obtained the necessary qualifications to be registered and/or legally licensed to practice midwifery*" (International Confederation of Midwives' Council 2017: 1)

Nursing Education Institute (NEI) refers to any nursing education institution accredited by the SANC in terms of the Nursing Act No. 33 of 2005 (South Africa. Department of Health 2005: 6).

Nursing Programme: Collins English Dictionary defines a programme as a series of actions or events that are planned to be done. A nursing programme refers to "*A focussed and planned set of learning content and competencies leading to a South African Nursing qualification*" (South Africa. Department of Health 2005: 5)

Qualification denotes fitness for purpose through fulfilment of necessary conditions such as attainment of a certain age, taking of an oath, completion of required schooling or training, or acquisition of a degree or diploma (Business Dictionary 2009). South Africa. Department of Health (2005: 5) refers to qualification as "*a formal recognition and certification of learning achievement awarded by an accredited educational institution*".

South African Nursing Council (SANC) is the body that is entrusted to set and maintain standards of nursing education and practice in South Africa. It is an autonomous, financially independent, statutory body, initially established by the Nursing Act, 1944 (Act No. 45 of 1944), and currently operating under the Nursing Act No. 33 of 2005 (SANC: 2005)

Student Nurse refers to any person who is enrolled in a nursing education institute and registered with SANC under Section 32 of the Nursing Act 33 of 2005 (Department of Health 2005: 5). The term is used interchangeably with 'learner' which according to the Nursing Act 33 of 2005 means a person registered as such in terms of section 32 (South Africa. Department of Health 2005: 5). In the current study, the student nurse will be referred to as student midwife.

Theory is the actual knowledge which is taught to students which may be acquired by various means such as lectures, research, assignments or case studies.

Theory and Clinical Integration refers to the association between theory and practice, where the main purpose of theory is to improve the practice to positively influence the health and quality of life of clients (Saleh et al. 2019: 18)

List of acronyms

ACRONYM	FULL TERM
CM	Certified Midwife
CARMMA	Campaign for the Accelerated Reduction of Maternal and Child Mortality in Africa
CNM	Certified Nurse-Midwife
CPM	Certified Professional Midwife
DipHE	Diploma in Higher Education
DoH	Department of Health
DUT	Durban University of Technology
EHNE	Empowered Holistic Nursing Education
ESMOE	Essential Steps in Managing Obstetric Emergencies
EOST	Emergency Obstetric Simulation Training
HoD	Head of Department
ICM	International Confederation of Midwives
IREC	Institutional Research Ethics Committee
KZN	KwaZulu-Natal
KZNCN	KwaZulu-Natal College of Nursing
MTT	Ministerial Task Team
NARM	North American Registry of Midwives
NCLB	No Child Left Behind
NEI	Nursing Education Institution
NHS	National Health System
NMC	Nursing and Midwifery Council
NQF	National Qualification Framework
SANC	South African Nursing Council
SAQA	South African Qualifications Authority
SDG	Sustainable Development Goals
WHO	World Health Organization
UK	United Kingdom
UKZN	University of KwaZulu-Natal
USA	United States of America

CHAPTER OUTLINE

CHAPTER NUMBER AND TITLE	DESCRIPTION/CONTENTS
Chapter 1: **Overview of the study**	Provides a brief overview of the study. It highlights the research problem statement, research questions, aims, objectives and the significance of the study.
Chapter 2: Literature review	Presents the literature review, highlighting strategies used to search the literature. Global, national and local context regarding approaches to midwifery training and views of various authors regarding the factors influencing student nurses' academic performance are presented with emphasis on student midwives.
Chapter 3: **Research methodology**	Presents the research methodology, paradigm and the theoretical framework that was used to guide the study. A detailed description of the entire research process is provided, and ethical issues are presented.
Chapter 4: **presentation of results**	Presents the results obtained from the analysis of data.
Chapter 5: **Discussion of results**	Discusses and supports the study results with relevant literature in relation to the research objectives.
Chapter 6: Summary of findings, conclusion, limitations and recommendations of the study	This is the final chapter presenting the summary and the limitations of the study, conclusion and recommendations drawn from the study results.

CHAPTER 1 : OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND

"A Nation thrives when mothers survive; we must strive to keep them alive" (Sirleaf, E.J. cited in South Africa. Department of Health 2011-2013: i). This is a profound statement which defines the priority of midwifery care which is to ensure that mothers and babies live. One of the three elementary building blocks of the health system as reported in the "*Saving Mothers 2011-2013 Report on Confidential Enquiries into Maternal Deaths in South Africa"*, is that there must be knowledgeable and skilled health care providers or human resources (South Africa. Department of Health. 2011-2013: vii). This includes student midwives who must train to become professional midwives to make a significant contribution towards saving mothers and babies throughout pregnancy, labour and the puerperium.

The key finding of the Saving Mothers' Report of 2011-2013 was that there were 4452 maternal deaths in South Africa by the 15th May 2014, and that about 89% of the deaths which occurred as a result of obstetric haemorrhage and 67% from hypertension complications were possibly and probably preventable (South Africa. Department of Health 2011-2013: v). However, in the 2014-2016 Saving Mothers' Report, a remarkable decrease is noted in the non-pregnancy related infections (47%) and 22% in the obstetric haemorrhage related maternal deaths (South Africa. Department of Health 2014-2016: 3). Nevertheless, there is an increase of 14% in maternal deaths related to hypertensive diseases of pregnancy (South Africa. Department of Health 2014-2016: 3). The trend of deaths in private hospitals was the same as that in public hospitals.

The common health care provider avoidable factors included incomplete clinical assessment, late referral of patients, not following standard protocols and failure to manage abnormalities detected (South Africa. Department of Health 2011 2013: vi). A noteworthy contributory factor to maternal deaths was a lack of appropriately trained doctors and nurses that is 15.6% and 8.8% respectively (South Africa. Department of Health 2011-2013: vi).

According to the World Health Organization (WHO 2018: 1), globally, around 830 women die daily from preventable pregnancy and childbirth causes. One of the targets

of the Sustainable Development Goals (SDG) is to decrease the world maternal death ratio to less than 70 per 100 000 live births, and the maternal mortality rate should not be more than two (2) times the world-wide average in any country (WHO 2018: 1). Thus, at the United Nations General Assembly 2015, the Secretary-General launched the "*Global Strategy for Women's, Children's and Adolescent's Health, 2016-2030*", which aims to end all avoidable deaths (WHO 2015: 3), emphasizing care and commitment to quality health delivery. To achieve this, the South African National Department of Health (2011-2013: ix) included among their recommendations, training of midwives on skills drills to equip them for action in the real situation namely, Essential Steps in Managing Obstetric Emergencies (ESMOE) and Emergency Obstetric Simulation Training (EOST), and an evaluation and accreditation system to check on appropriate theoretical and clinical skills.

Furthermore, the South African Department of Health (2012: 6) stated in its National Strategic Plan for a Campaign on Accelerated Reduction of Maternal and Child Mortality in Africa (CARMMA) that, "*South Africa cares: no woman should die while giving life*". Therefore, midwives should be skilled, competent and safe practitioners to ensure a healthy mother and baby at the end of each pregnancy which again emphasizes the importance of midwifery training.

A midwife is a person who has undergone training in a recognized midwifery educational programme in any country and has effectively completed the prescribed course, procuring the necessary qualification, to be registered and/or legally licensed to practice midwifery (International Confederation of Midwives (ICM) 2017: 1). The training of midwives should strive to produce qualified midwives who are able to practice midwifery independently, as prescribed by the SANC. Midwifery training prepares student midwives from diverse cultural and social backgrounds and beliefs to render competent care to mothers and babies. The education of student midwives demands more than the traditional lecture method of teaching (George, Lakra and Kamath 2017: 1). Practical skills are important but cannot be practiced without the theoretical knowledge. Therefore, midwifery lecturers are faced with a challenge of ensuring an education which is firmly grounded in theory and practice (George, Lakra and Kamath 2017: 1).

The ability to apply theoretical knowledge to clinical performance is fundamental in creating competent practitioners. The student midwives are deemed competent practitioners after passing theoretical examinations set by the SANC. According to the

South Africa. Department of Health (2014: 2), "*competence" encompasses the capability to integrate the professional attributes including, but not limited to, "knowledge, skills, judgment, values and beliefs*" required by a midwife to function in all situations. The SANC attests to this, stating that competence incorporates "*knowledge, psychomotor, communication and decision-making skills, enabling an individual to perform at an expected level of proficiency*", thus preventing maternal and neonatal deaths (SANC n.d.: 3). Competence may also be defined by the student's ability to display professional skills or behaviours. (Alshammari, Saguban, Pasay-an and Altheban 2018: 1).

Student midwives are required to pass a clinical examination which is prescribed by SANC but set by the NEI. The SANC can only register a person as a midwife after that person has received education and training at a nursing education institution that is accredited to provide the programme. The trainee must meet the requirements of the accredited programme which includes theoretical and clinical education and training and has been assessed and found to be competent in all exit level outcomes of the programme (South Africa. Department of Health 2014: 4).

Student midwives come from diverse backgrounds. Although they may have comparable abilities and are in the same learning environment, their academic performance is dynamic and variable. Each student is an individual with diverse learning styles at his or her own pace. There may be factors which may either encourage or encumber learning abilities and experiences (George, Lakra, and Kamath 2017: 1).

1.2 MIDWIFERY TRAINING AND PRACTICE IN SOUTH AFRICA

The predominantly nurse-based health care system in South Africa is legislated by prescripts laid down by the SANC in the Nursing Act No.33 of 2005, outlining the scope of practice in order to manage the health care needs of the people (SANC: 2005: 34).

Up until 2019, there were two SANC regulations in South Africa that governed the training of basic student midwives:

- The R425 regulations relating to the approval of and the minimum requirements for the education and training of a nurse (general, psychiatric and community) and midwife leading to registration and

- The R254 regulation of 14 February 1975 as amended by No. R 55 of 17 January 1997, which is the one-year Diploma leading to registration as a midwife.

Both the above qualifications are to be phased out with effect from 2019 and new qualifications have been proposed by the SANC that are due to commence in 2020. The focus of the study was on the R254 programme as the observed problem occurred in this programme.

The third regulation concerns a **post basic** midwife and that is regulation R212.

1.2.1 The R425 training programme

The R425 pertains to the basic nurse training programme which is done over a period of four years and has four major modules: General Nursing, Community Nursing Science, Psychiatry and Midwifery. The Midwifery module is a six months' modular course done in the first half of the fourth and final year of study. Most students who enrol for the R425 programme are directly from high school, post-matriculation, with no nursing experience or background. A small percentage of students are in-service students who are either enrolled nurses or nursing auxiliaries, who meet the minimum requirements. This course commenced in 1985. The curriculum provides for the personal and professional development of the student so that respect for human dignity is cultivated and the student is able to diagnose the 'health needs of the individual, family group and community at large(SANC 1988: 2) Training in this comprehensive module equips the student to manage any health care unit efficiently and effectively. The student is able to develop an enquiring mind and approach health problems scientifically and rationally. This type of training will enable the student to practice in any health care setting to render efficient, comprehensive care to consumers of health care (SANC 1988: 2).

Subjects in the R425 consist of the following. Fundamental Nursing Science which is done in the first year. Natural and Biological sciences in the first year, general nursing science over the second and third years, community nursing science over the first three years, social sciences over first three years, ethos and professional practice in the third year, and midwifery and psychiatric nursing sciences in the fourth year. Pharmacology is taught in all levels of training.

The majority of students in this programme do not have difficulty in passing the midwifery module. Research has not been done in this area, however, in the current researcher's experience most of these students are fresh out of secondary school and appear to cope better with the theoretical component of midwifery compared to the R254 student midwives.R425 students are younger with less family responsibilities in contrast to R254 students who are older (some almost near retirement age) with more family responsibilities especially of children and grandchildren. The R254 student midwives have followed a longer route to get to midwifery training that is, first completing enrolled nurse training and then R683 bridging course to become registered nurses. These students(R254) have to leave their homes and families to get to the training centres increasing their responsibilities for taking care of their families. The entry requirement into midwifery training does not delimit the score of their senior certificate /matric or stipulate the subjects required, except that they need to have passed, unlike the R425 who have to have a score of 25 points or more and subjects are stipulated (however R425 is outside the scope of this study).

1.2.2 The R254 training programme

The R254 programme of 14 February 1975 as amended by regulation No. R 55 of 17 January 1997 is a standalone midwifery programme done over a period of one year. The course originated in 1970. R254 was approved by the Minister of Health in terms of the then Nursing Act (Act 69 of 1957) which has now been amended by the Nursing Act No. 33 of 2005. As per the regulation, the admission requirements are proof of current registration with SANC as a general nurse or a psychiatric nurse, or proof of current enrolment as a nurse. The registration or enrolment must be maintained throughout training (SANC 1975: 1-2). The course extends over one year for the registered or psychiatric nurse and over two years for the enrolled nurse. However, midwifery training for the enrolled nurse is currently not in practice. The curriculum consists of the ethical foundations of nursing, legislation governing the practice of midwifery, medico-legal risks, microbiology, parasitology and pharmacology. The following subjects make up the core curriculum: Social Sciences, Natural Sciences (Biophysics and Chemistry), Biological Sciences (Anatomy and Physiology), Science and Art of Midwifery which encompasses the ante-natal, intrapartum, post-partum and neonatal care. Mother craft, Preventive and Promotive Health, Family planning (Fertility regulation), Professional Practice, Nursing Administration, Nursing Education and Record keeping are also included (SANC 1975: 3).

The teaching of the programme is face-to-face, based on a block system of at least three (3) blocks of 3-4 weeks' duration. The minimum number of lectures prescribed by SANC is 340 periods of 40 minutes each, which is 227 hours of instruction. The minimum clinical hours are 960 as per the SANC (1975: 6-10). The lecturer and students are in direct contact with each other and clinical facilitators are available in most institutions for clinical supervision. Various teaching strategies are used including practical demonstrations. The practical requirements include examination of 30 normal pregnant women, 15 abnormal pregnancies, witnessing five (5) normal and five (5) abnormal deliveries and conducting 15 deliveries personally. The student is also expected to complete 15 vaginal internal examinations verified by a registered midwife or doctor, perform and suture three (3) episiotomies and first and second-degree tears. The student must also nurse at least 15 post-natal mothers and babies and 5 sick neonates.

Competencies required include the following: implementing high quality midwifery care for health care users in ante-natal, intra-partum, post-partum and neonatal domains. The midwife should be skilled in diagnosing the health needs of the mother and baby and in preventing diseases related to the confinement. She also needs to be well versed in providing family planning care and monitoring the progress of pregnancy, labour, puerperium and the neonate (SANC 1991: 2)

The students write three papers for the theoretical examination, conducted by the SANC and one clinical examination conducted by the NEI at the end of the prescribed period of training. The three papers are as follows:

- Paper one comprises ante-natal and intra-partum care
- Paper two comprises the neonate and puerperium and
- Paper three comprises the ancillary subjects which include family planning, ward administration and education, mother craft and vital statistics.

The minimum standard pass mark for each of the four examinations is 50%. However, the mark for practical examination is constituted from 25% of the continuous practical assessments and 75% of the final practical examination which is conducted by the NEI. Should the students fail the initial examination, they are given two more chances to re-write the final Midwifery examination (SANC 2007: 10). If they are still unsuccessful for the third time, they are required to repeat the whole year if they still wish to pursue the programme, according to the SANC (2007: 10). Records have shown that students in

this programme usually pass the clinical examinations well but fail the theory examinations. The average pass rate for the three examination papers in 2015 and 2016 was very low (9.6%-31.6%) for the first entry examinations (SANC 2015/2016). Table 1.1 presents the results for 2015-2018 examinations. Repeat entries have a higher failure rate compared to first time candidates. Although the number of repeat entries is smaller, the percentage failure is higher. Appendix 6 presents the results for the R254 across 32 colleges in South Africa for the 2015 and 2016 SANC examinations.

The students who have failed are required to extend training by six (6) months for revision and repeat examinations. Students from the government sector who were formerly released on study leave use their annual leave for this purpose as there are no opportunities to extend the study leave for failed examinations in the government sector. However, students are granted study leave for the day before and the day of the examination. The November 2018 SANC results for the R254 midwifery examinations still indicates a high failure rate for all three papers. Table 1.1. summarizes these results.

Table1.1: Summary of SANC three-year publication for R254 examination results indicating the number and percentage failures for all three papers (SANC: 2015/2016, SANC 2018).

Examination	November 2015		May 2016		November 2018	
	First Entry	Repeat Entry	First Entry	Repeat Entry	First Entry	Repeat Entry
Paper 1	31.6% (n=13)	75% (n=72)	20.9% (n=145)	44.7% (n=72)	14.1% (n=58)	31.3% (n=30)
Paper 2	30.8% (n=131)	75% (n=27)	25.5% (n=177)	48.6% (n=68)	19.5% (n=80)	34.9% (n=53)
Paper 3	9.6% (n=41)	45.6% (n=31)	29.1% (n=202))	58. 3% (n=35)	16.1% (n=66)	20.7% (n=47)

1.2.3 New Midwifery Training Programmes in South Africa

The new nursing programmes that provide a qualification in midwifery include: Regulation R174: The Bachelor's Degree in Nursing and Midwifery which is a professional degree at National Qualifications Framework (NQF) level 8 with 480 South African Qualifications Authority (SAQA) credits. On successful completion of this qualification, the learner is eligible for registration with the SANC as a professional nurse and midwife. Successful registration will license a nurse to practise as a professional nurse and midwife. To access this qualification, the student should be in possession of a National Senior Certificate or an equivalent qualification at exit level 4 (SANC 2014: 1-10).

Regulation R1479: Advanced Diploma in Midwifery is a new qualification that, according to SANC (2014: 1), does not replace any other qualification and is not replaced by any other qualification. It is offered at NQF level 7 and comprises 120 SAQA credits. The principal purpose of the qualification is to produce knowledgeable, autonomous and critical thinking midwives who will provide scientific, safe and all-inclusive quality midwifery care to individuals, families and communities within the permissible legal and ethical framework. On successful completion of this qualification, the learner is eligible for registration with the SANC as a midwife. In order to enrol into this programme, students must have already completed an appropriate diploma or equivalent qualification in Nursing as a General Nurse at NQF level 6 (SANC 2014: 1-10).

A Postgraduate Diploma: /Midwife/Accoucheur Specialist is an NQF level 8 qualification with 120 SAQA credits. The purpose of this midwifery qualification is to fortify and expand the students' knowledge and profiency in midwifery as a specialty. It enables the Midwife/Accoucheur Specialist to undertake advanced reflection and progress by means of a systematic survey of current thinking, practice and research methods in their chosen area of practice. The qualification aims to develop a Midwife/Accoucheur Specialist who will use expert facts to augment patient care. The Postgraduate Diploma Midwife/Accoucheur Specialist programme was developed to enable the graduate to function as a leader who is clinically focused, service-orientated, independent and creative.

The Nurse/Midwife/Accoucheur Specialist will be able to render comprehensive, scientific nursing/midwifery care, as determined by the appropriate legislative and

ethical framework. The minimum requirements to access this programme are: an appropriate Bachelors' Degree in Nursing and Midwifery(R174) Advanced Diploma in Midwifery (R1479) and Diploma in nursing (R171). Two years' post-basic experience as a professional nurse and/or midwife, including the community service year allows a student to enter the programme (SANC 2014: 1-20).

1.3 THE KWAZULU-NATAL COLLEGE OF NURSING (KZNCN)

The KwaZulu-Natal College of Nursing (KZNCN) is a public nursing college accredited by the SANC and administered under the Department of Health in KwaZulu-Natal (KZN), South Africa. The KZNCN is a single nursing college comprising eleven main campuses and twelve sub-campuses. However, it is in a state of dynamism as sub-campuses have merged into main campuses. Currently, as at January 2020, there are four (4) sub-campuses left. The main campuses are Addington, Benedictine, Charles Johnson Memorial (CJM), Edendale, Greys, King Edward V111, Madadeni, Ngwelezane, Port Shepstone, Prince Mshiyeni and R.K. Khan, located in the various districts in KZN. The head office is in Pietermaritzburg in uMgungundlovu district. The present organogram consists of the following: College Principal, Vice Principal of North and South Campuses, Vice Principal: Primary Health Care, Vice Principal: Examinations (including curriculum development) and two examination officers. KZNCN is affiliated with the University of KwaZulu-Natal (UKZN) and the University of Zululand.

The vision of KZNCN is "*to lead with excellence by producing competent nurses and midwives capable of rendering optimal and quality health care to the people of KZN province, and globally*" (KZNCN 2014: 1). The mission of KZNCN is to train student nurses and midwives who will proficiently enhance individual, family and community-based health care in a culturally diverse society. This is achieved by offering an integrated, evidence-based approach to teaching, learning, and employing appropriately qualified and competent staff. A fundamental function is to promote the correlation of theory and practice and research in all levels of care i.e. community, primary health, district, regional and tertiary levels of care (KZNCN 2014: 1)

KZNCN addresses the health needs of KwaZulu-Natal province, focussing on the professional, legal and ethical foundations of nursing. The training programmes comprise of theoretical and clinical components with students being placed in community and hospital setting. The programmes which are offered are the new R171:

Diploma in nursing, the existing R425 and R254 which are in the process of being phased out. Post basic courses (R212) include child nursing science, critical care, emergency care, operating theatre technique, ophthalmology and orthopaedic nursing science and of concern is diploma in advanced midwifery and neonatal science. Students must possess a qualification in basic midwifery to access the post basic courses.

1.4 ADVANCES MADE IN MIDWIFERY TRAINING IN SOUTH AFRICA

A National Nursing Summit was held in April 2011 in Johannesburg to address the challenges of meeting the health care needs of South Africans (South Africa. Department of Health 2012/13-2016/17: 15). One of the objectives of this summit was to *"Promote and maintain a high standard and quality of Nursing and Midwifery education and training*" (South Africa. Department of Health 2012/13-2016/17: 17). Four of the major challenges identified were **nursing education and training**, resources in nursing, positive practice environment, and nursing human resources for health (South Africa. Department of Health 2012/13-2016/17: 9). Hence, the birth of the National Strategic Plan for Nurse Education, Training and Practice 2012/13-2016/17. A Ministerial Task Team (MTT) was established and mandated to address the nursing education and training standards. In his address, the then Honorable Minister of Health, Dr. Motsoaledi stated that the National Strategic Plan would ensure that nurses of high caliber were trained to meet the healthcare needs of all South Africans (South Africa. Department of Health 2012/13-2016/17: 5).

One of the recommendations of this strategic plan was that students should undergo a rigorous selection process, so that suitable candidates enter the profession. Practical 'hands on' training should be encouraged, by placing students in a variety of health settings for clinical experience. (South Africa. Department of Health 2012/13-2016/17: 5). This would enhance the correlation of theory and practice. The availability of clinical preceptors and clinical facilitators/supervisors form an integral part of the strategic plan (South Africa. Department of Health 2012/13-2016/17: 10). A second vital aspect of the plan was to decrease maternal, neonatal and child mortality by increasing the output of nurse specialists, like advanced midwives. However, to access entry to the training programme for advanced midwifery, a basic midwifery qualification is an essential requirement.

The SANC's document on Nursing Education and Training Standards (under the provisions of the Nursing Act No. 33 of 2005) states that graduates must acquire the established competencies in nursing and midwifery practice. The standard for Midwifery training must allow for continuity of care and integrate theory and practice with 50% for each (SANC 2005: 7). Student midwives must continue in the clinical areas after their theoretical examinations to consolidate competencies, which would facilitate achieving the goal of increasing life expectancy at birth.

Poorgholami, Ramezanli, Jahromi and Jahromi (2016: 57) expressed the importance of monitoring students' clinical performance and their perception of their skills and abilities. They also reported on the significance of the role that educators (lecturers) played in recognizing the educational needs of students, and ways to help them develop. Lecturers also influence the transition of students to professionals, therefore identifying factors that could influence student midwives theoretical and ultimately clinical performance is stressed. The researcher intended to describe factors that could have influenced student midwives' academic performance in selected colleges of nursing of KZNCN, with no intention to establish a cause effect relationship.

1.5 FACTORS INFLUENCING ACADEMIC PERFORMANCE OF STUDENTS

Stock, Lynam, and Cachia (2018: 434) defined academic achievement according to assessment grades (grade point average). The assumption is that the higher the grade point average or percentage pass rate, the greater the chances for employment. Their study was conducted on undergraduate psychology students in the United Kingdom, and they defined academic success as the completion of the education process, acquisition of knowledge and development of skills in readiness for the working market (Stock, Lynam, and Cachia, 2018: 434). Two themes were identified, namely intrinsic and extrinsic. Intrinsic encompassed motivation, self-directed learning and personal skills (Stock, Lynam, and Cachia, 2018: 434). Extrinsic factors included the curriculum and availability of student support systems. Students undergo assessments in accordance with predetermined educational criteria.

In keeping with (Stock, Lynam, and Cachia, 2018), Kapur (2018: 21), stated that it is vital to perform well academically and obtain good grades in order to attain educational qualifications and to enhance one's skills and abilities. (Kapur 2018: 21) agree that various factors influence academic performance, with some of these factors resulting in

the student achieving well theoretically, while others result in the student performing poorly. In the study on factors influencing the students' academic performance in secondary schools in India, Kapur (2018: 19) attests that the factors that influence the academic performance of the students are:

"*attitude of the students, school resources, leadership aspects, skills and abilities of the teachers, classroom environment, role of parents, social circle, psychological and health related factors, motivating and encouraging students, visual and hearing impairments, counselling and guidance services, development of study skills, time management, home environment, teaching-learning methods, approachability and professionalism of lecturers*".

Kapur (2018:19) further identified the following factors that could influence the academic performance of the students:

"financial position of their families and conditions of poverty, provision of tuitions and assistance at home, occurrence of conflicts and disputes, employment opportunities, household chores, needs and requirements of other family members and violent and criminal acts"

1.6 RESEARCH PROBLEM

The researcher, who is a midwifery lecturer in one of the KZNCN campuses, had observed poor academic performance in the formative and summative examinations of students in the R254 midwifery programme at her college. Such performance accounted for the high failure rate in the final written examinations conducted by the SANC in the R254 programme. The failure rate in the R254 programme appeared to be a universal problem across South Africa. This was evident in the SANC publications of the midwifery results on several occasions. Appendix 6 is one of the documents released by the SANC which presents 2015 and 2016 results showing evidence of the high failure rate for midwifery examinations in the R254 programme on first and repeat attempts.

Failure prolongs the period of completion for the students who must repeat the examinations, and this has untoward implications for the student, service delivery and training colleges. According to the SANC (2007: 10), the student who has failed the examination is required to extend training by six (6) months for remedial work before

sitting for the repeat examination. The conditions of service for the public servants do not allow for the extension of study leave beyond the stipulated duration of the training programme (South Africa. Department of Health n.d.: 144). The student uses her/his own vacation leave and sometimes unpaid leave for this purpose. The student takes much longer to return to her/his place of work, and this has a negative impact on service delivery. Facilitating revision for repeat students increases the workload for nursing colleges. Describing the factors which could have influenced the academic performance could indicate the areas of learning that need to be strengthened in order to facilitate better academic outcomes and ultimately positive achievement in the R254 programme.

1.7 RESEARCH QUESTION

The study aimed to answer one research question that is: *'What are the factors that could have been influencing the academic performance of student midwives resulting in the ongoing failure rate in the R254 programme in selected campuses of the KZNCN?*'

1.8 RESEARCH AIM

The aim of the study was to explore and describe the factors that, according to the student midwives' perspectives could have been influencing their academic performance resulting in the ongoing failure rate in the R254 programme in selected campuses of the KZNCN.

1.9 RESEARCH OBJECTIVES

The objectives of the study were to:

- Explore and describe student-related factors that could have influenced academic performance of the student midwives in the R254 programme at selected campuses of the KZNCN.
- Determine lecturer-related factors that could have influenced academic performance of the student midwives in the R254 programme at selected campuses of the KZNCN.
- Determine institution-related factors that could have influenced academic performance of the student midwives in the R254 programme at selected campuses of the KZNCN.

- Describe student midwives' perspectives regarding the factors that could facilitate academic performance for students of the R254 Midwifery training programme.

1.10 RESEARCH DESIGN

A non-experimental, quantitative, descriptive survey was undertaken to explore and describe the student midwives' perspective of the factors that could have influenced their academic performance at selected campuses of the KZNCN.

1.11 SIGNIFICANCE OF THE STUDY

The researcher acknowledges that several factors that influence theoretical achievements of students, including student midwives, have been identified by researchers and are described in the literature. The study aimed to discover which of these predetermined factors could have influenced academic achievement of the student midwives in the R254 programme. Ascertaining these factors will assist nursing education institutions and student midwives to institute strategies to overcome the negative factors and build on the positive factors These strategies will ensure that the NEIs timeously produce competent, qualified midwives without prolonging training or drop out due to repeated failure of students. Consequently, it will have a constructive effect on provision of quality midwifery services. Academic performance and pass rates are essential for NEI's as the Department of Education has set throughput, graduation, pass and dropout rates that are to be achieved by all NEIs. This is part of the quality monitoring for the effectiveness and efficiency of NEIs.

1.12 CHAPTER SUMMARY

This chapter introduced the reader to the background of the problem, the aim and objectives of the study. Concerns about the theoretical and practical performance of student midwives were also presented. The significance of the study was explained and the research design was briefly articulated. In Chapter 2, the relevant literature, which assisted in gaining insight and understanding of the problem, and affirmed relevance of the study, will be reviewed.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 1 introduced the reader to the study and elaborated on the research problem. Midwifery training in South Africa together with the initiatives of the South African Department of Health were explained. Chapter 2 presents a review of the literature, relevant to the study.

2.2 RATIONALE FOR THE LITERATURE REVIEW

The literature review was conducted to identify the research gap between the existing research and the current research. The literature search revealed that there were no studies conducted on SANC R254 student midwives and therein was the research gap which made this study relevant. The review of the literature also familiarized the researcher with the existing ideas, theoretical and practical issues hence avoided unintended replication of the study (Burns and Grove 2005: 133). The recommendations for improvement, from the previous studies, enlightened the current researcher as to possible solutions.

2.3 STRATEGIES USED FOR THE LITERATURE SEARCH

An online literature search was conducted for scholarly, peer reviewed journal articles and other sources on factors affecting academic performance of student nurses. Various databases, search engines and websites were accessed, namely Google Scholar, Semantic Scholar, KZN Health website, Uzspace. Uzulu, Science and Education publishing, SANC website, Sciencedirect, Sacredheart.edu, Sciencepubco, Pdxscholar, Researchgate, NCBI (Pubmed), Journalagent, Sapub.org, Sciedu.ca, Eajournals, Slideshare.net, World conferences.net.

Journals of Nursing were perused but did not yield any information on theoretical performance. Key search words and terms used were academic achievement, factors influencing academic performance, midwifery outcomes, student nurses, learning, midwifery training, theoretical learning, global (international) and national approaches to midwifery training, academic/educational attainment.

2.4 APPROACHES TO MIDWIFERY TRAINING

There was evidence in the literature that different approaches to midwifery training were practiced in different countries. International and national midwifery training methods were explored. The different styles were compared to the South African approach. Some of these differed completely and others were somewhat similar. Eleven international countries were examined, including the United States of America (USA), United Kingdom (UK) and Australia. In addition, midwifery training in ten (10) African countries was compared (Tables 2.1 and 2.2).

2.4.1 Midwifery training in International countries

The literature review revealed that midwifery training differed from country to country. Minimum entry requirements for training, number of years of study required, curriculum, minimum number of supervised births required, license to practice and regulation of the programme were compared. Table 2.1 presents the training in international countries:

Table 2.1 Comparison of Midwifery Training in International Countries. (Day-Stirk, Laski, and Mason. 2014.United Nations Population Fund: 52-196)

Country	Minimum entry requirements for training	Number of years for training	Standardized curriculum	Minimum number of supervised births	License required to practice	Programme regulated by Government
Afghanistan	Grade 10+	2	Yes in 2010	25	No	Yes
Bangladesh	Grade 12+	3	Yes in 2012	20	Yes	Yes
Benin	Grade 12+	3	Yes in 2010	40	No	No
Bolivia	Grade 12+	5	Yes in 2012	60	No	Yes
Brazil	Grade 12+	4	Yes in 2011	20	Yes	Yes
China	Grade 12+	3	Yes in 2013	Not stipulated	No	No
India	Grade 12+	4	Yes in 2004	20	Yes	Yes
Mexico	Grade 12+	3	Yes in 2013	80	Yes	Yes

2.4.1.1 Midwifery training in the United States of America

'*There are three professional designations for midwives in the US: "Certified Nurse-Midwife (CNM), Certified Midwife (CM) and Certified Professional Midwife (CPM)*" (Vedam, Stoll, MacDorman and Declercq 2018: 3). The CNM and CM are trained through university-based nursing programmes and obtain a Master's degree in Midwifery. They are "direct entry" midwives straight out of high school without a prior nursing credential or training. The university course runs over three (3) years, after which they can attend deliveries as a primary midwife. The CPM is already trained as a nurse and then pursues a qualification in midwifery. Tower (2015: 4-5) concurs with Vedam et al (2018) regarding the categories of US midwives and states that the CPM practices autonomously after satisfying the standards set by the North American Registry of Midwives (NARM). Their focus is out of hospital care. However, the training of the CNM conflicts with the view of Vedam et al (2018) in that Tower (2015: 4-5) states that they are trained both in nursing and midwifery. The Certified Midwife (CM) is the 'direct entry' midwife without any nursing qualification (Tower 2015: 4-5).

2.4.1.2 Midwifery training in the United Kingdom

One of two routes may be undertaken to obtain a midwifery qualification in the United Kingdom (UK). A three-year Pre-Registration Midwifery Degree course is offered in higher education institutes. According to Richard (2015: 1) graduates in related fields may attend an accelerated programme of 18 months, for example registered nurses or those with many years of experience.

The second course is a Midwifery Diploma Higher Education (DipHE). Both the courses offer theory and supervised practice. After completion, candidates register with the Nursing and Midwifery Council (NMC) as a midwife (Richard 2015: 1)

Training follows a modular course outline and includes principal subjects like Biological Sciences, Applied Sociology, Psychology and Professional Practice, which is similar to the R254 Midwifery training in South Africa. The NMC is the governing body which sets the standard for entry depending on whether it is a degree or diploma (Richard 2015: 1) The NMC is similar to SANC.

Cheng and Catling (2018: 14) state that, in the National Health Service (NHS) in the United Kingdom, midwives are overseen by the NMC. Midwifery training extends over three (3) years, resulting in a Degree in Midwifery which allows midwives to practice in any NHS hospital or birthing center (Cheng and Catling 2018: 14). This equates to the 'direct entry' of USA and Australia. The course is divided equally with 50% theory and 50% clinicals in keeping with midwifery training requirements in South Africa as recommended by SANC. The curriculum includes pharmacology, critical care, normal and abnormal midwifery which is akin to what is taught in KZNCN.

2.4.1.3 Midwifery training in Australia

There are two (2) pathways to becoming a midwife in Australia. A Bachelor of Midwifery degree is available in most states. This is a three (3) year undergraduate course which can be accessed by students with no nursing background and is known as the "direct entry" midwife (Department of Health. New South Wales Government 2018: 1). The Bachelor of Midwifery students do not have any previous nursing training or experience. They enter the midwifery training programme straight from high school (Department of Health. New South Wales Government 2018: 1).

The second route is to complete a Bachelor of Nursing degree at a University and then do midwifery as a postgraduate course. Both degrees offer a mix of theory and clinical experiences across a range of midwifery settings to provide broad exposure to the different areas of midwifery practice (Department of Health. New South Wales Government 2018: 1). This is similar to the training in the United States.

According to the Review of Australian Government Health Workforce Programmes: Nursing and Midwifery Education (2013: 3), until the year 2000 midwifery was a post basic course following a qualification in basic nursing. In 2000, the "direct entry" for midwifery was established with students only obtaining a midwifery qualification, which limited their scope of practice. A third type of midwifery training is described and that is to pursue a combined Bachelor's degree in Nursing and Midwifery (Review of Australian Government Health Workforce Programmes: Nursing and Midwifery Education 2013: 3).

2.4.2 Training in National Countries

It is noted that apart from Afghanistan (grade 10+) the entry requirements are the same for both international and national countries i.e. grade 12+. In comparison to other countries, South Africa is the only country that does not have a standardized curriculum although the SANC provides the directive for Midwifery training. Only three National countries including South Africa have just one year of training in contrast to other countries ranging between 2-5 years. Although China has not stipulated the number of supervised deliveries, South Africa has the lowest number compared to other countries i.e. only 15, with Burundi the highest at 240. This low number of supervised deliveries for South Africa may be a contributory factor on the clinical competencies of student midwives demonstrating a lack of experience. Table 2.2. presents the comparison of Midwifery Training in National Countries

Table 2.2 Comparison of Midwifery Training in National Countries (Day-Stirk, Laski, and Mason. United Nations Population Fund 2014: 52-196)

Country	Minimum entry requirements for training	Number of years for training	Standardized curriculum	Minimum number of supervised births	License required to practice	Programme regulated by Government
Angola	Grade 12+	4	Yes: year unknown	50	Yes	Yes
Botswana	Grade 12+	2	Yes in 2011	52	Yes	Yes
Burundi	Grade 12+	3	Yes in 2012	240	No	Yes
Cameron	Grade 12+	3	Yes in 2013	85	No	Yes
Central African Republic	Grade 12+	3	Yes in 2009	50	No	Yes
Democratic Republic of Congo	Grade 12+	3	Yes in 2013	50	No	No
Ethiopia	Grade 12+	4	Yes in 2010	20	Yes	Yes
Nigeria	Grade 12+	3	Yes in 2006	130	Yes	Yes
South Africa	Grade 12+	1	No	15	Yes	Yes
Zambia	Grade 12+	1	Yes in 2010	20	Yes	Yes
Zimbabwe	Grade 12+	1	Yes in 2013	30	Yes	Yes

2.5 ACADEMIC PERFORMANCE OF STUDENT NURSES/MIDWIVES

2.5.1 International perspectives regarding academic performance of student nurses/midwives

Student nurses/midwives must be trained into professional nurses to meet the health care needs of any country (Alos, Caranto and David 2015: 60). Training requires qualified lecturers who will facilitate learning and guide the transition from students into graduates who are the manpower for a country's economic and social development (Alos, Caranto and David 2015: 60). Employers consider academic performance as a major factor in prospective employees, and for future career opportunities. Alos, Caranto and David (2015: 61) identified school-related factors and non-school related factors that influenced nursing students' academic performance. The school-related factors included:

Unqualified or inadequately trained teachers, inadequate facilities and poorly maintained instructional materials. Lesson preparation and presentation were important and the better prepared a lesson was, the better the students' academic performance. Skilled teachers with "mastery" of their subject had a positive effect on academic performance. Following a time schedule and a structured programme made it easier for students to study (Alos, Caranto and David 2015: 61).

In the USA the Federal education legislation called "No Child Left Behind" (NCLB) underlined the importance of having highly qualified teachers in every classroom in every school, and is based on the premise that teacher excellence is vital to realizing improved student performance (Alos, Caranto and David 2015: 62).

The non-school related factors included:

Poverty, illiterate parents, poor health and malnutrition. One of the most important recommendations from this research was that after studying, students should test themselves by writing what they have learnt and should not do last minute swotting.

Similarly, Mushtaq and Nawaz Khan (2012: 18) discussed internal and external classroom factors that influenced academic performance of student nurses. According to Mushtaq and Nawaz Khan (2012: 18), the internal factors encompassed:

Competence in English, class schedules, class size, English textbooks, and class test results. The study also noted that *learning facilities, homework, class environment, and*

complexity of course material, teacher's role in class, technology and examination systems also affected academic scores, some positively and others negatively. Students' competence in English had the most positive effect i.e. students who were competent in English performed better academically as examinations were written in English (Mushtaq and Nawaz Khan 2012: 18). The external factors were:
Extracurricular activities, family, work, and social problems. The more the family and social commitments, the more negative the impact on learning. The availability of learning facilities such as *library resources, computer laboratory, adequate classrooms, and clinical laboratories* also had a positive effect on learning and academic performance as stated by Mushtaq and Nawaz Khan (2012: 18).

According to Jayanthi, Balakrishnan, Ching, Latiff and Nasirudeen (2014: 752) self-esteem, motivation and perseverance in higher education are influenced by academic performance. Poor academic performance impacts negatively on the cost of education and admission opportunities for higher degrees. This study by Jayanthi et al. (2014: 757) identified *demographic, socio-economic, family and school factors* as indicators that affected academic performance of student nurses, which concurs with findings of Alos, Caranto and David (2015: 61). The authors found that poor economic background, family commitment and stressors and lack of educational resources negatively impacted on academic performance, which is also commensurate with results of Mushtaq and Nawaz Khan (2012). Jayanthi et al. (2014: 754) found that female students performed better than male students and there was no significant relationship between age and academic performance. Nationality and academic performance were also researched, and findings indicated that the international students fared much better than the local students. According to Jayanthi et al. (2014: 756), international students received scholarships, which may have been a significant motivational factor to do well academically, otherwise they would not receive funding for the next year.

Clinical competence is essential in nursing, and the integration of cognitive, emotional and psychomotor skills is crucial to provide holistic care (Hakimzadeh, Ghodrati, Karamdost, Ghodrati and Mirmosavi 2013: 728). These researchers suggested that students' belief in their own abilities contributed to academic success and was related to *curriculum, clinical learning environment, self- efficacy and interest.* Students who were able to cope with the curriculum and showed interest in learning fared better academically. Akhu-Zaheya, Shaban and Khater (2015: 44) stated that student nurses

encountered different academic stressors such as *assignments, examinations and grades*. Academic stress is caused by the complexity and intensity of the programmes and midwifery is one such programme as the responsibility now becomes multi-fold in looking after mother, baby and family. However, a high degree of pressure can motivate a student to perform well.

Poorgholami et al. (2016: 57) expressed the importance of monitoring students' clinical performance after correlation with theory, and the students' perception of their skills and abilities. According to Poorgholami et al. (2016: 57), educators played a significant role in recognizing the educational needs of students, and helping the students develop. Students who experienced academic problems also encountered challenges in correlating theory with practice.

A study conducted by Xiao, Wu, Lin and Zhang (2014: 401) found that achieving success in the final examinations was important to both the student and the nursing school. Students would graduate into professionals who are able to provide safe care for the public, whilst the academic success of students indicated the excellence of the nursing programmes and promoted the status of the nursing school, maintaining its certification with the relevant authority. The success of the nursing school will appeal to new students (Xiao et al. 2014: 401). Similarly, Ghasemi, Moonaghi and Heydari (2018: 7079) explained that "academic engagement" indicated the quality of educational programmes. This study indicated that student-related factors, like *enthusiasm and interest, intellectual concentration and extracurricular activities* affected academic performance of student nurses/midwives. The more motivated and self-directed a student nurse is, the better the academic outcome. This reflects the findings of (Hakimzadeh et al. 2013)

The fact that academic performance of student nurses was an area of concern for many researchers and a priority for lecturers, who wanted to make a difference globally, was pointed out by Alshammari et al. (2018: 60). Internal and external factors were identified, with the internal being *student-related* and the external related to the *environment beyond the students' control* (Alshammari et al. 2018: 61) The study by Alshammari et al. revealed that the teacher-related factors had the greatest impact on academic performance and respondents felt that *teaching approaches, student-teacher affiliation and communication obstacles* hindered their learning (Alshammari et al. 2018:

68). The significance of the study was that nursing school administrators and lecturers could plan and implement interventions to improve academic performance (Alshammari et al 2018: 60). The use of the Empowered Holistic Nursing Education (EHNE) theory (Love 2014: 51-55) would be useful in this respect because the principles can be applied, that is assessing the prior knowledge of the nursing students at the start of a new programme like midwifery training or at the beginning of a new lesson.

In a study by George, Lakra and Kamath (2017: 1), it was stated that the evolution of student nurses and student midwives into professionals required skills in behavioural, medical and biological sciences, thus again generating the intensity and complexity of a nursing programme leading to educational stress. Lecturers must go beyond the traditional theoretical teaching to juggle their various roles of theoretical and clinical supporters, administrators and researchers. Positive factors influencing the theoretical performance of student nurses/midwives were identified as:
Well qualified lecturers, proper physical facilities, availability of teaching and learning material and sound student personnel management, which concurred with the findings of Alos, Caranto and David (George, Lakra and Kamath 2017: 1). The most important positive factor was *the management and supervision by the head teacher* (George, Lakra and Kamath 2017: 1).

Factors affecting the performance of professional nurses were researched by Awases, Bezuidenhout and Roos (2013: 108). They stated that improving the productivity and performance of health care workers was a challenge for many African countries. Knowledge, skills and motivation of individual employees is important in providing quality care to consumers of health care (Awases, Bezuidenhout and Roos 2013: 111). Therefore, students who graduate from training programmes must be knowledgeable and skilled. The researchers suggested that nursing managers establish shortfalls in knowledge and skills of prospective employees at appraisal interviews and institute interventions to improve them.

A study on the correlation of the academic and clinical performance of student nurses was done by Buhat-Mendoza, Mendoza, Tianela and Fabella (2014: 82). It was noted that theoretical knowledge acquired in the classroom is necessary to enhance the clinical performance of student nurses, similar to the findings of Poorgholami et al. (2016). Good academic performance does not always reflect clinical competence and

vice-versa. The study found that poor academic performance resulted in poor clinical practice. Buhat-Mendoza et al. (2014: 89) stated that student selection and admission criteria as well as attrition factors needed to be revisited.

Nwambo, Ilo, Agbapuonwu and Nwankwo (2016: 258) studied student nurses' insight into the variables affecting academic performance. The study specified that the training and academic performance of any student nurse is the core to producing capable, multi-skilled nurses of high calibre, able to meet the health needs of any country. This concurs with the findings of Alos, Caranto and David (2015: 60). Student nurses encountered multi-faceted circumstances and conflicts which affected their academic performance (Nwambo et al 2016: 258). Major findings of the study were that about 50% of the respondents fared poorly theoretically and the researchers felt that this could improve if they identified factors that affected academic performance. The socio-demographic variables included *gender, age, marital status, parental income, occupation and educational level of parents*. The study by Nwambo et al (2016: 258) used Maslow's hierarchy of needs as their theoretical framework and found that meeting basic needs of the students had a positive influence on academic outcomes. Nwambo et al (2016: 258) indicated that *improving amenities and making the environment safe at the institution of learning* yielded a positive influence on academic performance. Negative factors identified, included:
Improper time management, undesirable attitude and approaches towards learning and absenteeism in theoretical and clinical areas (Nwambo al. 2016: 258).

Yigzaw, Ayalew, Kim, Gelagay, Dejene, Gibson, Teshome, Broerse and Stekelenburg (2013: 152) found that newly qualified midwives lacked confidence and suggested the presence of gaps in the curriculum. The study indicated that there were widespread problems with *quality and adequacy of teachers, educational resources, and the teaching and learning process*, reflecting the findings of Alos, Caranto and David, Jayanthi et al and Hakimzadeh et al. Clinical learning experiences were deficient, which impacted negatively on academic performance. The implication of the study was that the curriculum needed to be revisited so that graduating midwives would be more competent and thus improve the quality of health care to the nation. The study recommended that internal quality assurance systems be strengthened to improve the teaching-learning process and attainment of essential theoretical and clinical competencies (Yigzaw et al. 2013: 152).

2.5.2 South African perspectives regarding academic performance of student nurses/midwives

In addition to determining the factors that affected undergraduate student nurses' performance, Fakude (2012: 4) investigated whether students were interested in *working hard, achieving good marks, and up to meeting intellectual challenges*. The value of the study was that it brought insight into understanding the factors which contributed to poor academic performance of student nurses, who would be encouraged to improve their academic performance (Fakude 2012: 7). The themes that had a negative impact were *economic difficulties, inaccessibility of lecturers, participation in political activities, drug and alcohol abuse, large number of students at university resulting in a lack of individual attention, and communication in the English language,* as mentioned in other studies cited (Fakude 2012: 49-52). Further themes included *availability of teaching and learning facilities, pressure from peers, transition to university lifestyle, students' internal locus of control, requesting help from lecturers and aspiration to achieving high grades.*

2.5.3 KwaZulu-Natal perspectives regarding academic performance of student nurses/midwives

There is no literature specific to R254 programme. Only two studies were found, one expounding the relationship between English and first year nursing students' academic results and the other on factors contributing to success in anatomy and physiology of first year student nurses of KZNCN. From these two studies, it was also noted that competence in English was a major factor which affected academic performance (Manson 2014: 69-70; Langtree, Razak, and Haffejee 2018: 92).

Dube and Mlotshwa (2018: 1) conducted a study on factors influencing academic performance of enrolled student nurses. The findings revealed the following factors as fostering academic performance, namely:
Interest and participation of parents in students' education, lecturers' assistance and support, and adequate learning facilities. Negative responses included:
Poor family background, undesirable peer group pressure and use of the English medium for teaching. This is proportionate with studies conducted by Alos, Caranto and David (2015: 62) and Mushtaq and Nawaz Khan (2012: 18). The recommendations made by Dube and Mlotshwa (2018: 1) were that the entry requirements be increased

to select students with higher secondary school academic scores, early identification of at–risk students, improve learning facilities and recruit appropriately qualified nursing lecturers.

2.6 CHAPTER SUMMARY

This chapter examined previous studies which were conducted on factors affecting academic performance. Commonalities that emerged from most of these studies indicated that the factors were divided into school-related and non-school related factors, which were further categorised as internal and external factors. Chapter 3 will discuss research methodology and other related processes that were used to conduct the study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

In Chapter 2, the relevant literature was reviewed, expounding international, national and local findings. In Chapter 3, the research methodology encompassing the research design, study setting, study population, sampling, data analysis and the theoretical framework will be presented.

3.2 RESEARCH DESIGN

A research design is a plan for addressing a research question, including specifications for enhancing the study's integrity (Polit and Beck 2012: 99). The research design focuses on the product and all the steps in the process to achieve the anticipated outcome (De Vos, Strydom, Fouche and Delport 2011: 144). A non-experimental, quantitative, descriptive, survey design was employed for the current study with the aim of describing the R254 student midwives' perspective of factors that could have influenced their academic performance.

3.2.1 Non-experimental design

Brink, van der Walt, and van Rensburg (2012: 112) explain that studies are said to be non-experimental when there is no manipulation of the independent variable, no interventions used or the setting controlled. The current study was non-experimental as it fits this description.

3.2.2 Quantitative design

According to Polit and Beck (2012: 763), quantitative research is the investigation of the phenomena that lend themselves to precise measurement and quantification, often involving a vigorous and controlled design. Quantitative research incorporates logistic, deductive reasoning as the researcher examines particulars to make generalisations about the phenomenon (Polit and Beck 2012: 763). In the current study, the researcher examined the student midwives' perspectives in order to make generalization about the factors that influence student midwives' academic performance in selected campuses of KZNCN.

3.2.3 Descriptive design

According to Creswell (2014: 176), a descriptive research approach is used to develop a complex picture of the problem which involves reporting multiple perspectives, identifying the many factors involved in a situation, and generally sketching the larger picture that emerges. The descriptive design allowed the researcher to explore and describe the midwives' perspectives on the factors that influenced their academic performance. These perspectives enabled the researcher to make recommendations on the facilitation of academic performance of student midwives in the R254 programme.

3.3 THEORETICAL FRAMEWORK GUIDING THE STUDY

Theories are statements about how things are connected. They assist in explaining why things happen as they do; in sorting out the world and making sense of it; in guiding people on how to behave and predict what might happen (Henning, van Rensburg and Smit 2004: 14). On the other hand, a theoretical framework is the overall conceptual/theoretical underpinnings of a study (Polit and Beck 2012: 142). A theoretical framework provides orientation to the study and positions the research in the discipline or subject in which the researcher is working. It also enables the researcher to theorise about the research, to make explicit the assumptions about interconnectedness of the way things are related in the world (Henning, van Rensburg and Smit 2004: 25). The current study used the Empowered Holistic Nursing Education (EHNE) theory (Love: 2014: 47) as a theoretical framework to guide the study.

3.3.1 Empowered Holistic Nursing Education (EHNE) Theory

The EHNE nursing theory was developed between 2008 and 2014 by Dr. Katie Love for use in undergraduate level of nursing education, where students are first being socialized into nursing professional practice. It is based upon the philosophy that students need to "*experience holism and empowerment in the classroom to not only have a positive learning experience, but to integrate holism and empowerment in their own professional practice*". Examination of power structures and cultural perspectives is supportive of diverse student populations and therefore diverse patient populations (Love: 2014: 47). Love identified and described five EHNE principles that are the basis of this theory.

The five principles are:

- *Prior knowledge*: *Knowledge and experience* that the student brings is the foundation from where learning begins. Student midwives are expected to bring basic knowledge from their General Nurse training which they should apply to Midwifery, especially to the medical conditions which occur during pregnancy (Love: 2014: 49).
- *Meet them where they are*: *responding to the diverse learning needs of students, in a mutually reciprocal relationship and where the teacher and student learn from each other*. Teacher considers individual learning needs and adapts teaching to meet all learners' needs (Love: 2014: 49).
- *Interconnectedness*: *Being linked to one another, being present, and rising together*. Teacher and student establish a relationship and will work together in trying to achieve positive academic outcomes. Again, individual needs are taken into consideration (Love: 2014: 49).
- *Self-Care*: C*aring for ourselves so we may nurture others*. Keeping ourselves knowledgeable, competent and healthy so that we can render optimal care to others. Looking after oneself will enhance the ability to look after others. Keeping updated with current trends is important (Love: 2014: 49). If both lecturers and student midwives are well there will be less absenteeism from both so that learning is not disrupted.
- *Contextual Teaching and Learning*: Addressing the environmental factors that influence readiness to learn, such as "*mind-body-spirit imbalance", morals and beliefs, with ethnically appropriate education and holism*. Transcultural nursing, both in the theoretical and clinical area, will provide holistic nursing to all people of the country. Maintaining cultural practices at birth and of new-borns will help to sustain traditions, within the safety of medical interventions (Love: 2014: 49).

This theory is likened to a growing tree which is sustained by its roots, giving life to its trunk, branches and leaves. Likewise, the student midwife who has a strong foundation of nursing background can grow in Midwifery and give off her best to mother and child. Figure 3.1 is a diagrammatic presentation of the five principles of the EHNE theory.

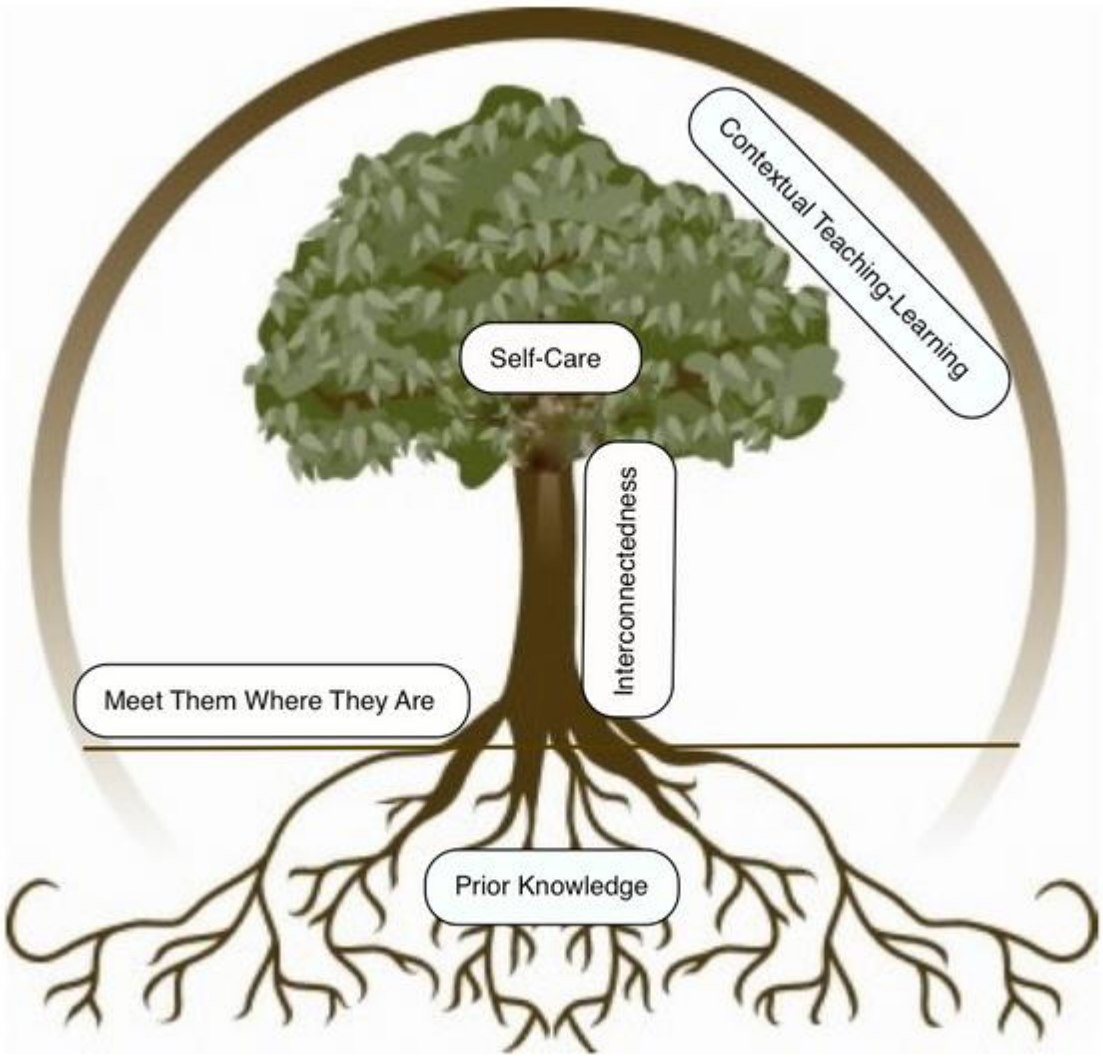


Figure 3.1: EHNE Holistic theory (Love: 2014: 49).

3.3.2 How the EHNE Holistic Theory was used to guide current study

The theory was used as a guide to explore and describe the factors that could have influenced student midwives' academic performance in selected campuses of KZNCN. The five principles described in the EHNE Holistic Theory guided the formulation of the study objectives, selection and modification of the questionnaire, interpretation, discussion and presentation of data, drawing of conclusions and recommendations from the study.

3.3.2.1 Formulation of study objectives

Determining relevant study objectives to achieve the aim of the study was guided by the theory. The principles of *meeting students where they are and self-care* of the EHNE contribute not only to a positive learning experience, but also to the integration of holism

and empowerment in their own professional practice. Therefore, one objective of the study was to explore student-related factors. To incorporate the principles of *interconnectedness and contextual teaching and learning,* objectives to determine lecturer and institution related factors were included.

3.3.2.2 Selection and modification of the questionnaire

The theory also guided the development of the questionnaire that was used for data collection. Information on previous learning which assisted establishing *prior knowledge* was included, while several questions included in the questionnaire were designed to establish the principles of *meeting students where they are, interconnectedness between the lecturer and the student, self-care and contextual teaching and learning.* Modification included grouping of the statements in the questionnaire under each of the five principles of the theory (Appendix 9).

3.3.2.3 Interpretation and presentation of results

Interpretation of results was also guided by the theory. As presented in Chapter 5, the discussion of results, the five principles of the EHNE Theory were used to interpret the results and structure the presentation. These are summarised in the final chapter (Chapter 6), based on the study objectives.

3.4 RESEARCH PARADIGM

A paradigm is a global view, providing a universal viewpoint on the intricacies of the world. It is a way of looking at natural phenomena that encompass a set of philosophical assumptions and that guides one's approach to inquiry (Polit and Beck 2012: 11-13). The positivist paradigm is closely allied with "*quantitative research and its fundamental assumption is that there is a reality out there that can be studied and known"*. On the other hand, the naturalistic paradigm, sometimes referred to as constructivist paradigm, is closely allied with "*qualitative research and assumes that reality is not a fixed entity but rather a construction of the individual participating in the research, and that many constructions are possible*" (Polit and Beck 2012: 12). The researcher's position was aligned with the positivist paradigm, believing that there is a reality out there that can be known and studied namely, the factors that influence academic performance of the student midwives in the R254 programme. This paradigm was embraced, based on three philosophical assumptions namely:

- *Ontology*: a belief about the nature of reality, encompassing natural causes and effects (Polit and Beck 2012: 12).
- *Epistemology*: The independent relationship between the researcher and respondent i.e. the research findings are not prejudiced by the researcher (Polit and Beck 2012: 13).
- *Methodology*: The best method to obtain evidence involving deductive processes, statistical analysis and checking if research findings can be generalized to other phenomena (Polit and Beck 2012: 13). It also involves the precise procedures and directions as to how the study should be conducted to achieve the envisioned outcome or stated purposes (Creswell 2014: 24-25).

In the current study, ontology was characterized by the belief that there were student midwife and lecturer-related factors that could have influenced academic performance of the student midwives in the R254 training programme. The epistemological premise in the current study was that the student midwives' perspectives would best describe the factors that influenced their academic performance and that using a structured tool was an ideal method to gather data regarding this phenomenon. Thus, data for the current study was gathered from the student midwives, using self-administered questionnaires. The researcher believed that the nature of reality was inherently meaningful and that the participants had the ability to describe the factors that influenced their own academic performance (Creswell 2014: 24-25). They also believed that the study method and processes adopted, that is the methodology, were ideal to achieve the study objectives.

3.4.1 Study setting

The study was conducted in uMgungundlovu and eThekwini Districts in the province of KZN in South Africa. Figure 3.2 is a map of KZN health districts showing uMgungundlovu and eThekwini districts. The KZNCN is a government institution. The College is located in Pietermaritzburg in uMgungundlovu District and is affiliated to the University of KwaZulu-Natal and University of Zululand. It has a total of 25 campuses, which include eleven main campuses and four sub-campuses. However, amalgamation of sub-campuses is ongoing as is the move to higher education and change in qualifications. As explained in previous chapters the R254 Midwifery programme is being phased out and a new qualification which is the Advanced Diploma in Midwifery is evolving. The eleven main campuses offer training for the R425 (Regulations relating to the approval

of and the minimum requirements for the education and training of a nurse (General, Psychiatric and Community) and Midwife leading to registration). The sub-campuses which offer training for the R683 programme (Regulations relating to the minimum requirements for a bridging course for enrolled nurses leading to registration as a general nurse or a psychiatric nurse), which has also been phased out.

The R254 midwifery training programme was offered by ten of the eleven main campuses, and two sub-campuses. The campuses are in the different districts throughout the KZN province. Campuses that offered the R254 programme in the two selected districts (UMgungundlovu and eThekwini) were included in the study. Initially, these included three campuses in eThekwini District and two campuses in uMgungundlovu District. However, by the time of data collection one of the campuses in eThekwini district had already phased out the R254 programme. The four campuses that were included in the study were assigned codes in the form of numbers (1-4) which are used throughout the study to ensure anonymity and confidentiality. Figure 3.2 displays a map of the KNZ districts.

eThekwini and uMgungundlovu districts were chosen because they are both a mixture of urban and rural communities therefore the selection of students would be from diverse backgrounds. uMgungundlovu comprises of smaller towns like Mooi river, Richmond and Impendle and larger cities like Pietermaritzburg. eThekwini was formed from seven previously independent local councils and tribal land and is comprised of 92 different areas including Chatsworth (R.K. Khans campus) and Umlazi (Prince Mshyeni campus)

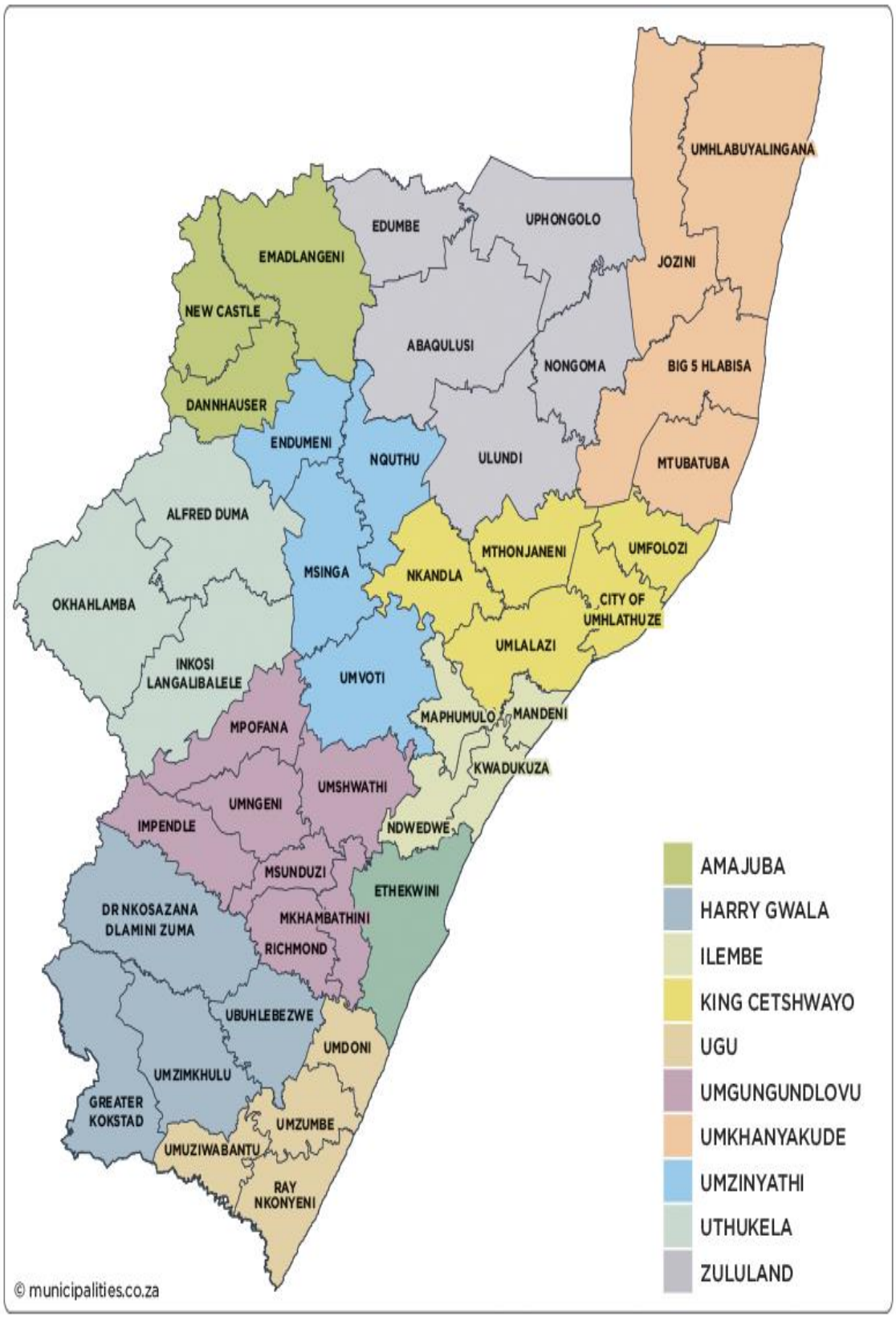


Figure 3.2: Map showing KZN districts (Medical School UKZN: n.d.).

3.4.2 Study population

The target population was the student midwives of the R254 programme, in the chosen campuses. The R254 is an annual programme offered for a minimum of 12 months. The total population of R254 student midwives in the ten campuses was 445. Each of the campuses had one intake of 25-30 students for the R254 programme per year and, therefore, there was always one group at a given point. The intakes for a new group differed from campus to campus but it was either at the beginning of the year (January) or mid-year (June). Therefore, the total population of R254 student midwives in the four campuses was 125-130 students per year. Notwithstanding that some students could opt not to take part in the study or could not be present during data collection, the minimum number of respondents would be 125.

The study aimed to assess factors that could have influenced the academic performance of students in the formal assessments, that is the formative and summative evaluations and informal assessments throughout the training period. Horejsi and Garthwait (2002: 210) attest that ongoing monitoring and frequent evaluations of the students' performance are necessary to determine if the student is making progress, to document learning, to identify strengths and areas of performance that may need special attention and remedial work, and to inform whether the student will be able to pass the final examinations.

The respondents in the current study were students who had been training for six months or longer and some of them were students who were repeating the final examinations. Therefore, all the respondents had been exposed to some formal and informal assessments, were aware of their academic progress, performance and achievements and therefore, able to comment on factors that could have affected their academic performance.

3.4.3 Sample and sampling process.

Sampling is the choice of individuals or groups, events, behaviours or other elements which are used in the study (Burns and Grove 2009: 721). The aim was to include all (100%) of the student midwives who were registered for the R254, in the four selected campuses at the time of the study, and who met the minimum inclusion criteria, whether they were first time or repeating the programme.

Inclusion criteria

Student midwives of the R254 Programme who had been in the programme for a minimum of six months were included. This ensured that the students had been in the programme for an adequate period and had some formal and informal assessments which made them aware of their academic performance.

Exclusion criteria

Student midwives of the R254 programme who had been in the programme for less than six months were excluded because these students would not have had enough exposure to learning and did not have an adequate number of assessments to inform them about their academic performance. All other student nurses and student midwives of R425 programme.

3.4.4 Data collection instrument

The instrument that was used for data collection was developed by the researcher, guided by the five principles of the EHNE theory, and two questionnaires that were used in two studies by Alos, Caranto and David (2015) and Dela- Cruz and Guido (2013). The two studies were available online and there was no restriction on the use. However, each fell short in satisfying all the objectives of the study but were useful when combined. Therefore, the researcher decided to select some element from each of these questionnaires that would be relevant for the current study and used them to develop a new questionnaire (Appendix 9).

The study by Alos, Caranto and David (2015) was done in a College of Nursing in Benguet State University (BSU), La Trinidad, Benguet, Philippines on the factors affecting the academic performance of the student nurses of BSU. In this study, the researchers used a self-reporting questionnaire to gather data from fourth year student nurses on the factors affecting academic performance of nursing students. The factors included personal conditions, study habits, home-related aspects, school-related aspects, and teacher-related aspects. According to these authors the instrument is already considered valid and reliable since it was already used by Bastian (1995) and used as a reference by Chadya (2008) in his research on factors affecting the academic performance of the intermediate grade pupils in Filipino at Easter College, Baguio City (Alos, Caranto and David 2015: 61). The statements in their instrument were grouped

into *personal conditions, study habits, home-related aspects, school-related aspects and teacher-related aspects* (Alos, Caranto and David 2015: 63).

The study by Dela- Cruz and Guido (2013: 89-92) investigated factors affecting academic performance of BS astronomy technology students. The instrument used was a researcher-made questionnaire with a scale to measure the responses of the students on the formulated factors that could possibly affect academic performance of BS Astronomy Technology students. The factors were: *course, study habits, learning styles, motivation, performance, and social factors*. It was designed and patterned to obtain adequate information regarding the possible factors that could affect the academic performance of the BS Astronomy Technology students (Dela-Cruz and Guido 2013: 89-92). This was validated by the different professionals and experts in the field. The instrument was validated through a pre-test. In addition, the researchers sought advice from the different professionals in the field of astronomy, psychology and education and then fused their comments and recommendations which helped the researchers in enhancing the questionnaire (Dela-Cruz and Guido 2013: 88).

The questionnaire that was developed for the current study consisted of two sections as follows: Section 'A' included the demographic information and Section 'B' focused on the factors that, according to EHNE theory could have influenced academic performance. The participants were asked to respond to the statements by selecting an appropriate response from the Likert scale, ranging from "*strongly agree*" to "*strongly disagree*".

3.5. PRE-TESTING OF DATA COLLECTION TOOLS AND RESEARCH PROCESSES

A pre-test was done on five (5) student midwives in one of the campuses in uMgungundlovu district, in preparation for the larger study. Data from the pre-test questionnaire was analysed and interpreted in order to identify any flaws in the entire research process, allowing for corrections to be made before the main study (Polit and Beck 2012: 737). There were no problems noted with the questionnaire which was analysed by the statistician to check the appropriateness of the construct validity. No changes were made to the questionnaire and it appeared that the questions were unambiguous and easily understood. Although the main campus that was used as the

pilot site was included in the study, all the pilot respondents, data and findings were not included in the main study.

3.6. DATA COLLECTION

3.6.1 Data collection process

Data collection commenced after receiving ethical clearance/approval from Durban University of Technology Ethics Committee, Rec 34/18 and ethical clearance number IREC 041/18 (Appendices1a and 1b) and permission to collect data from relevant gatekeepers (Appendices 2b, 3b and 4b, c, d, e). The following process was followed to recruit the participants and for data collection:

The researcher liaised with the heads of midwifery departments at the selected campuses, arranged a date and time and met with the prospective respondents, who were given information about the study before recruiting them. Information letters were also prepared and given to the prospective respondents (Appendix 5a) during the information giving session. The respondents who were interested in taking part in the study were requested to sign informed consent (Appendix 5b). The questionnaires and a sealable envelope were distributed to all the respondents who agreed to participate in the study. The respondents could complete the questionnaires in their own time and most questionnaires were collected on the same day. The researcher, who is an academic tutor in one of the KZNCN campuses, separated her role as a researcher from that of an educator during all communication with the respondents. The questionnaire was self-administered, which allowed the respondents to complete them in privacy and in the absence of the researcher and contained no information that could make the researcher link the respondent to the information provided**.**

Data was collected over a period of two months during September and October of 2018.

3.6.2 Data analysis

The Version 22 of SPSS was used to analyse data. The researcher sought the assistance of a professional statistician who guided the data analysis. Descriptive statistics in the form of frequencies and percentages were used to collate and describe data and bar graphs were used where applicable to illustrate data e.g. standard deviation. Selected aspects of data were triangulated in order to establish if any relationship existed between factors identified, for example, between demographic information and factors identified in Section B (study habits, personal attributes etc.).

Pearson's correlation measured how variables or rank orders were related. One sample t-test was used to measure whether there was any significant variance between the mean and scalar values.

3.7 VALIDITY AND RELIABILITY

Validity is *"how well an instrument measures what it is supposed to measure*" (Polit and Beck 2012: 236). Therefore, a pre-test study was conducted in one nursing campus to ascertain whether the instrument measured what was required by the researcher. The pilot study addressed the content validity of the questionnaire (Polit and Beck 2012: 237). Reliability was assessed by asking an independent researcher to test the questionnaire at a later stage (Polit and Beck 2012: 237). Reliability, face and content validity were addressed by requesting midwifery education experts (midwifery lecturers) to examine and comment on the tool. No changes were made to the questionnaire.

3.8 ETHICAL CONSIDERATIONS

Ethical clearance was requested from DUT's Institutional Research Ethics Committee (IREC) (Appendices 1a and 1b). Subsequently permission was obtained from KZN Department of Health Provincial Research Committee (Appendix 2b) and the Head of School for KZNCN (Appendix 3b) and the Principals of the selected campuses (Appendices 4b-4e). The ethical principles of beneficence, respect for human dignity and justice, were maintained.

Beneficence*:* To observe the principle of beneficence, no dangerous instruments or specialized procedures were used. Respondents were reassured that there was no threat to their test and examination results, and they could withdraw without prejudice or penalty at any time. To protect the respondents from exploitation, they were assured that whatever information they provided would not be used against them in any way (Polit and Beck 2012: 153). All information remained confidential.

Respect for Human Dignity: The student had the right to decide whether to participate, without being penalized. They could seek clarification or refuse to give information. The researcher also respected traditional aspects. There was no coercion and no incentives were offered in any way. The researcher endeavoured to ensure that respondents understood that participation was voluntary. Separate information sheets and consent

forms were given ensuring privacy and confidentiality (Appendices 5a and 5b). The researcher fully disclosed the nature of the research (Polit and Beck 2012: 153).

Justice: Respondents right to fair treatment and privacy was respected. The selection of respondents was based on the study requirements and was done without discrimination (Polit and Beck 2012: 155). Confidentiality was ensured, and no personal details were violated. All agreements made with respondents were honoured.

All electronic based information will be secured with a private code only known to the researcher and the paper-based information will be stored in a locked cupboard at the researcher's home to ensure confidentiality. All information will be stored for five years. Thereafter, all electronic-based information will be erased, and the paper-based information destroyed by shredding.

3.9 CHAPTER SUMMARY

In this chapter the research methodology was outlined and the research design, study setting, sampling, data collection and analysis were described. The application of the EHNE theory was explained.

In Chapter 4, the results and analysis of data collected will be presented.

CHAPTER 4: PRESENTATION OF RESULTS

4.1 INTRODUCTION

In Chapter 3, the research methodology and the data collection process were described. The structure of the questionnaire was outlined, and the ethical considerations were explained. The application of the EHNE theory (Love: 2014) was clarified. In Chapter 4 the findings of the study, based on the data analysis are presented. Data was collected using a survey questionnaire divided into the following sections: Section A included the demographics such as gender, marital status, age and number of years of experience as a registered nurse. Section B included the following factors: motivation, study habits, self-Interest, lecturer-related factors and institute-related factors. These factors were predetermined, based on literature reviewed and according to the principles of the EHNE theory.

4.2 STATISTICAL ANALYSIS USED

The tests used in the analysis included descriptive statistics, One sample t-test and Kruskal Wallis test. Descriptive statistics such as frequency, percentage, minimum and maximum formed the basis of data analysis. These were used, where applicable, to describe the basic features of the data and to provide simple summaries about the sample and the measures. The means and standard deviations were also included. Frequencies are represented in tables or graphs. Calculations, such as percentages, are based on the total number of responses for that element. Although the total population is 122, where there were 118 responses that was regarded as 100% and missing elements are not included.

One sample t-test is used to test whether a mean score is significantly different from a scalar value. For each of the Likert scale questions/items, univariate analysis was done using one-sample t-test to test for significant agreement/disagreement to the statement (i.e. whether the average score is significantly different from a neutral/central score of 3). Thereafter, factor analysis was conducted to ascertain if there were any groupings within each section. If there were, single factor measures which are reliable were formed and used for further analysis.

The Kruskal Wallis Test is non-parametric equivalent to ANOVA, a test for several independent samples that compares two or more groups of cases in one variable. The Kruskal-Wallis test was used to determine if there were statistically significant differences between groups of an independent variable on a continuous or ordinal dependent variable. According to McDonald 2015: the most common use of the Kruskal Wallis test is when there is one nominal variable and one measurement variable, an experiment that is usually analyzed using one-way ANOVA, but the measurement variable does not meet the normality assumption of a one-way ANOVA. In the current study Kruskal Wallis test was used to test all the factors for significant differences/correlations with demographic variables.

4.3 SAMPLE REALISATION

The sample size, based on the total population, was 122. However, 130 questionnaires were distributed to safeguard against attrition and spoilt questionnaires. A total of (94%, n=122) questionnaires were returned (6%, n=8 attrition). Data cleaning was done, when all questionnaires were checked for completeness and for any discrepancies, inconsistencies, inaccuracies and omissions. Based on extent and nature of errors, the questionnaires were grouped either as having minor or major errors. The intention was to identify the questionnaires that were spoilt and could not be used. The documents with major errors were to be regarded as spoilt and discarded and those with minor changes could be included. Although there were several questionnaires where all questions were not answered, there were no questionnaires that had major errors. Therefore, data from all returned questionnaires was analysed. Table 4.1 presents the number of questionnaires distributed, those that were returned and analysed from each study site.

Table 4.1: Distribution of questionnaires to and returns from the four study sites

Study site		NUMBER OF QUESTIONNAIRES			
	Distributed	Returned	Not Returned	Spoilt	Analysed
1	35	32	3	0	
2	30	27	3	0	
3	35	33	2	0	
4	30	30	0	0	
Total	**130**	**122**	**8**	**0**	**122**

Where 35 questionnaires were distributed, students who were repeating the final examinations were included.

4.4 PRESENTATION OF RESULTS

4.4.1 Demographic Data

The majority of the respondents were females (88.5%, n=108) and (11.5%, n= 14) were males. The majority (52.5%; n=64) were married, followed by single at 42.6%; n=52) and the least were the divorced/separated and the widowed, each of which made (2.5%; n=3) of the total respondents (Figure 4.1).

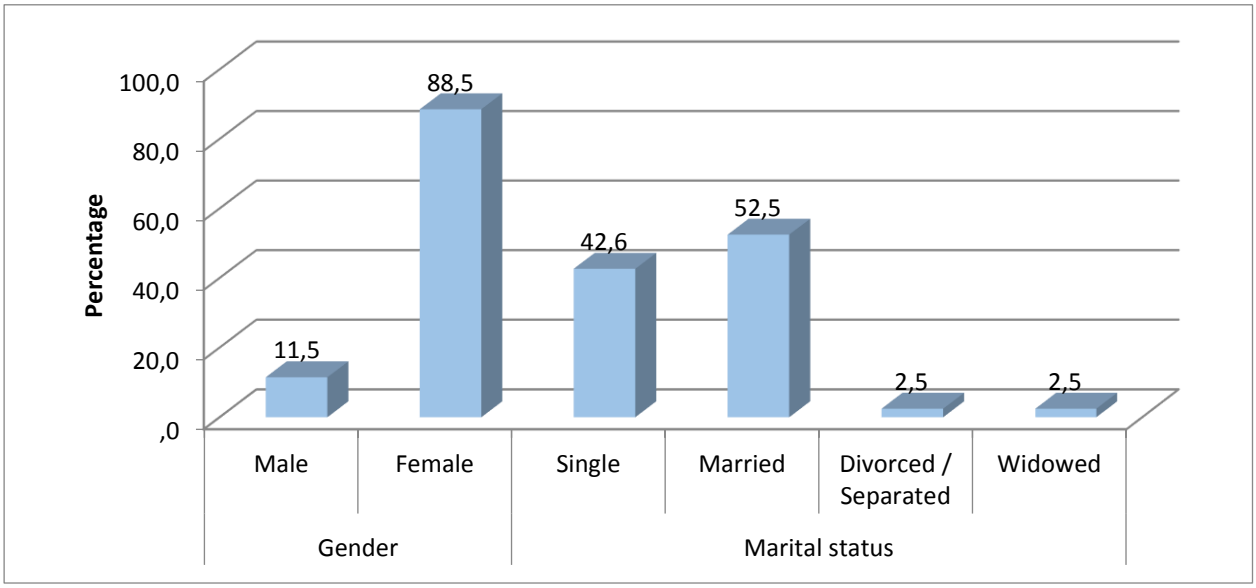


Figure 4.1: Demographic data for the study participants

The minimum age for the participants was 25 years and the maximum was 62 years, giving the mean of 43.15 and standard deviation of 7.161. The participants' years of experience, as professional nurses, ranged between 1 and 34 years giving a mean of 6.054 and a standard deviation of 4.2795. Table 4.2 presents these findings.

Table 4.2: Age and years of experience for the participants (n=120-121)

Element assessed	N	Minimum	Maximum	Mean	Std. viation
1. Age	121	25	62	43.15	7.161
2. Actual number of years of experience as a registered nurse	120	1.0	34.0	6.054	4.2795

4.4.2 Motivation to study Midwifery

The majority of the respondents (81.8%; n=99) agreed that they were motivated by the fact that midwifery was a basic qualification needed to access post-basic specialization courses. There were (75.4%; n=89) respondents who agreed that they were passionate about Midwifery. Those who agreed that they were motivated by the occupational specific dispensation should they decide to specialize were (68.1%; n=77) and those that were motivated by colleagues (58.2; n=68). The least number of respondents (25.2%; n=30) were those who agreed that they were motivated by a midwifery qualification that would allow them to progress to a higher salary notch. Table 4.3 presents responses about motivation to study midwifery.

Table 4.3: Motivation to study Midwifery (n=113-122)

Element assessed	Disagree	Neutral	Agree	Total	One sample Test		
					Mean	Std Dev	t
It is a basic qualification needed to access post basic specialization courses	19 (15.7)	3 (2.5)	99 (81.8)	121 (100)	4.28	1.416	9.955
2 A Midwifery qualification will allow me to progress to a higher salary notch	83 (69.7)	6 (5)	30 (25.2)	119 (100)	2.10	1.559	-6.292
I can take advantage of the occupational specific dispensation should I decide to specialize	20 (18.0)	16 (14.2)	77 (68.1)	113 (100)	3.88	1.421	6.552
I am passionate about Midwifery	8 (6.8)	21 (17.8)	89 (75.4)	118 (100)	4.23	1.073	12.435
I have been motivated by colleagues	31 (26.5)	18 (15.4)	68 (58.2)	117 (100)	3.50	1.546	3.468

With test value =3, the findings were in significant agreement if mean>3 and significant disagreement if mean<3. There was significant agreement that the students pursued the midwifery qualification for the following reasons:

- It is a basic qualification needed to access post-basic specialization courses M=4.28, t (121) = -9.955, p<.0005,
- Students can take advantage of the occupational specific dispensation should they decide to specialize M=3.88, t (113) = 6.552, p<.0005,
- The students were passionate about Midwifery M=4.23, t (118) = 12.435, p<.0005 and
- The students have been motivated by colleagues M=3.50, t (117) = 3.468, p<.0005.

However, there was significant disagreement that a midwifery qualification will lead to progression to a higher salary notch, M=2.10, t (118) = -6.292, p<.0005 (Figure 4.2)

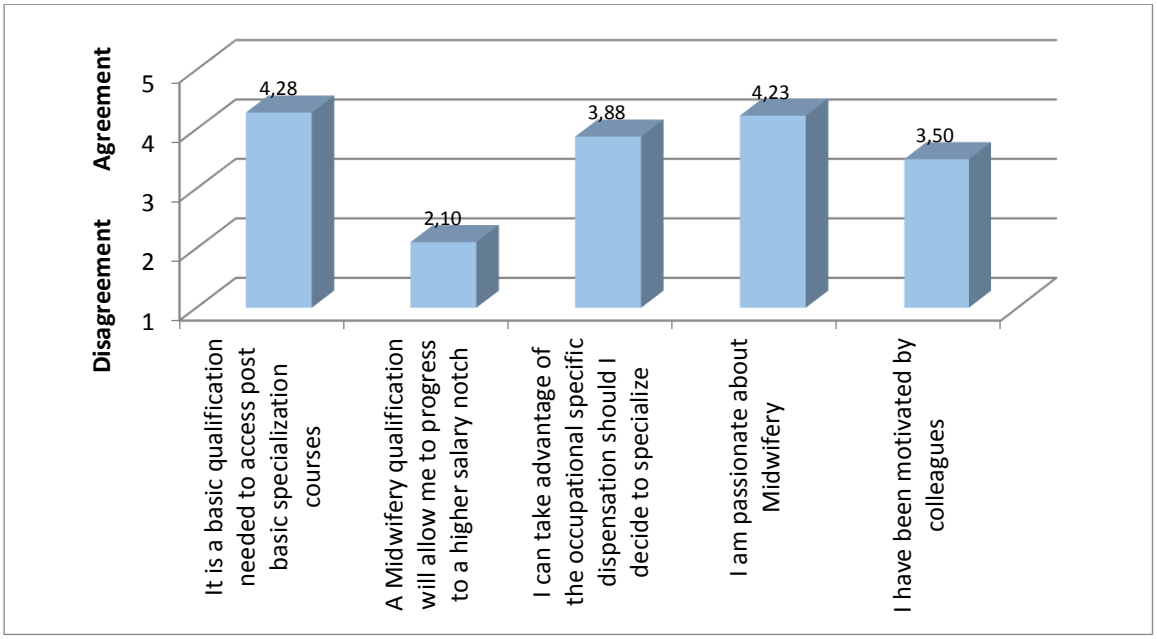


Figure 4.2: Findings for one sample t-test on motivation to study midwifery

4.4.3 Study Habits

There were more respondents who agreed with the majority of the statements that were included in this section (42.2-93.4%; n 51-114). The statements for which there were more respondents who disagreed were: *preferring to study alone* (49.5%; n=59), *being distracted by sport or television programmes* (51.2%; n=62) and *only*

studying for tests and examinations the day before (67.8%; n=82). The one statement for which there were more respondents who were neutral was *leading class discussions and feedbacks* (43.0%; n=52) Table 4.4 presents responses for all statements on study habits.

Table 4.4: Responses to statements regarding study habits (n=119-122)

Element assessed	Disagree	Neutral	Agree	Total	One sample Test		
					Mean	Std Dev	t
Prefer to study alone	59 (49.5)	12 (10.1)	47 (40.4)	119 (100)	2.69	1.528	-2.220
Prefer to study in a study group	8 (6.6)	10 (8.2)	104 (85.2)	122 (100)	4.43	1.004	15.780
Take the leadership role in study groups	22 (18.2)	48 (39.7)	51 (42.2)	121 (100)	3.35	1.101	3.468
Lead class discussions and feedbacks	28 (23.1)	52 (43.0)	41 (33.8)	121 (100)	3.11	1.102	1.073
Volunteer readily for leading project work in class	29 (24.2)	29 (24.2)	62 (51.7)	120 (100)	3.39	1.252	3.426
Complete assignments and practical requirements on time	6 (5.0)	5 (4.1)	111 (91.0)	122 (100)	4.53	.883	19.171
Seek help when experiencing difficulty with assignments.	4 (3.3)	2 (1.7)	112 (94.9)	118 (100)	4.65	.789	22.764
Think and read in English when studying and adhere to the 'English policy'	10 (8.4)	6 (5.0)	103 (86.5)	119 (100)	4.36	1.023	14.518
Seek clarity when I do not understand	5 (4.1)	3 (2.5)	114 (93.4)	122 (100)	4.70	.810	23.250
Use study time in class profitably	8 (6.6)	10 (8.3)	104 (85.1)	121 (100)	4.31	1.015	14.148
Am distracted by sport or television programmes	62 (51.2)	12 (9.9)	47 (38.8)	121 (100)	2.67	1.508	-2.412
Am distracted by family and home commitments	31 (25.6)	13 (10.7)	77 (63.6)	121 (100)	3.57	1.395	4.495
Have a designated, conducive place for study	18 (14.9)	13 (10.7)	90 (74.4)	121 (100)	3.93	1.283	8.008
Follow a scheduled study time table	23 (19.3)	11 (9.2)	85 (71.4)	119 (100)	3.77	1.258	6.702
Use a read and write method to recall information	4 (3.3)	9 (7.5)	107 (89.2)	120 (100)	4.59	.804	21.677
Revise theory on the same day of receipt	29 (24.0)	20 (16.5)	72 (59.5)	121 (100)	3.51	1.246	4.524
Only study for tests and examinations the day before	82 (67.8)	11 (9.1)	28 (23.2)	121 (100)	2.15	1.382	-6.773
Diligently complete remedial work	17 (14.7)	31 (26.7)	68 (58.6)	116 (100)	3.72	1.241	6.283
Rely only on past questions to prepare for the examination	48 (40.0)	9 (7.5)	63 (52.5)	120 (100)	3.10	1.585	.691
Request help from my peers when I do not understand	7 (5.8)	3 (2.5)	112 (91.8)	122 (100)	4.59	.916	19.176

The questions asked in this section were to determine respondents' study habits. The responses for almost all the questions were positive, in line with what would be regarded as good study habits. With test value =3, findings were considered significant agreement if mean>3 and significant disagreement if mean<3. There was significant agreement with all the statements except three statements, which included *prefer to study alone*, *distracted by sport or television programmes* and *only study for tests and examinations the day before.* (Figure 4.3)

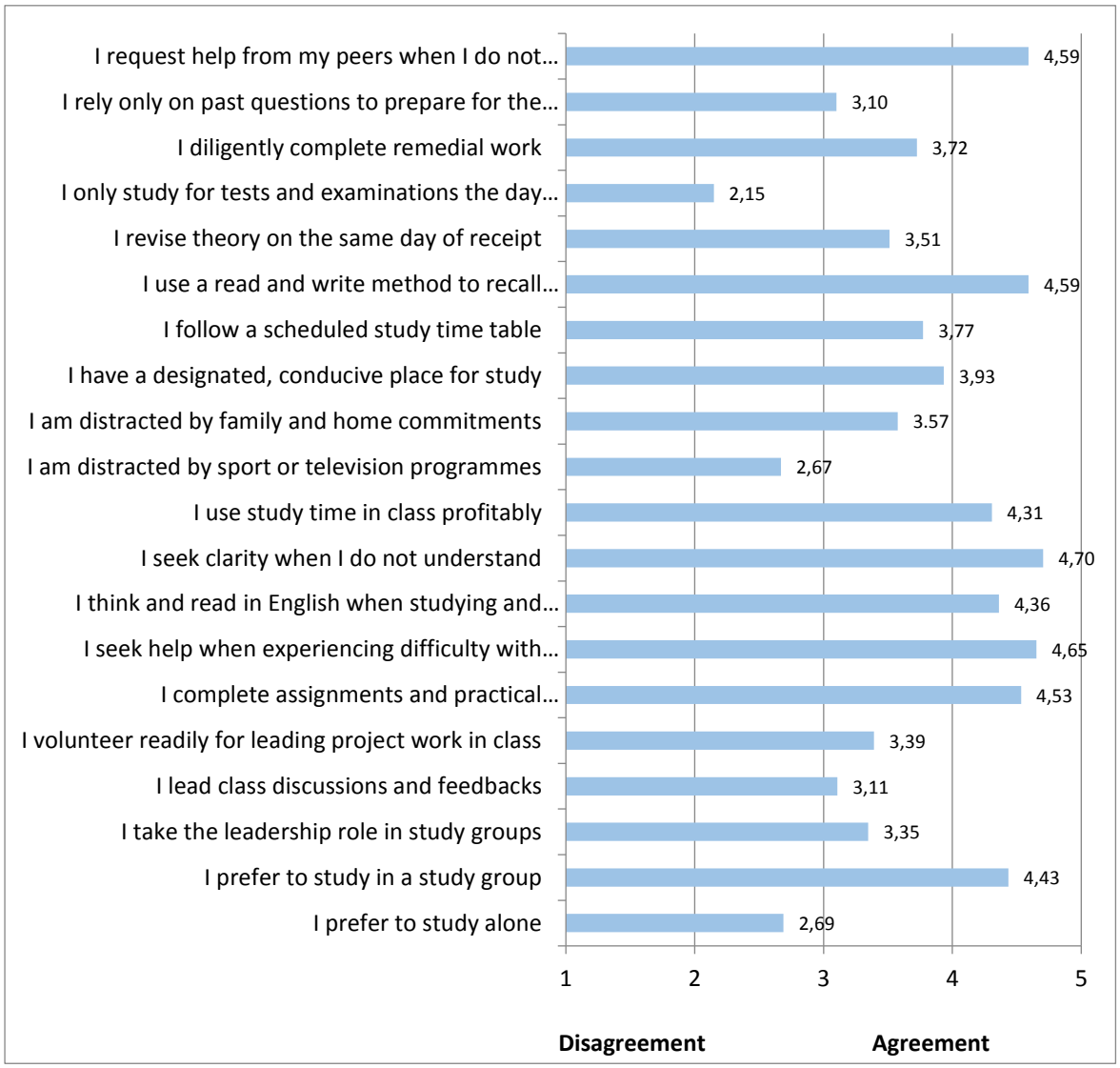


Figure 4.3: Graphical presentation for One Sample Test results on study habits

4.4.4 Self-Interest Factors

There were eight (8) statements regarding self-interest toward learning and studying. There were more respondents that agreed with all the statements included in this section (49.1- 96.7%; n=59-117) than those who disagreed (1.7- 18.9%; n=2-23). The three statements with the majority of responses for respondents who agreed were: *listen attentively in class* (96.7%; n=117), *have a desire to achieve academic awards (*73.5%, N=83*) and obtain textbooks and other necessary requirements* (92.4%; n= 112). The statement with which the least number of respondents agreed was *liking to compete with other students* (49.1%; n=59). Table 4.5 presents responses on self-interest.

Table 4.5: Responses on statements regarding Self Interest (n=120-122)

Statement assessed	**Disagree**	**Neutral**	**Agree**	Total	Mean	Std Dev	t
Prepare myself in advance for the lectures	12 (9.9)	16 (13.2)	93 (76.8)	121 (100)	4.00	1.103	9.973
Listen attentively in class	2 (1.7)	2 (1.7)	117 (96.7)	121 (100)	4.74	.655	29.131
Obtain textbooks and other necessary requirements	4 (3.3)	4 (3.3)	112 (92.4)	120 (100)	4.74	.783	24.361
I like to compete with other students	35 (29.1)	26 (21.7)	59 (49.1)	120 (100)	3.25	1.513	1.810
Generally, understand what is being taught	7 (5.8)	26 (21.7)	87 (72.5)	120 (100)	3.95	.942	11.042
Am able to keep pace with the rest of the class	8 (6.6)	23 (19.0)	90 (74.4)	121 (100)	4.07	.950	12.438
Experience difficulty in the transition from general to midwifery concepts and terminology	23 (18.9)	7 (5.7)	92 (75.4)	122 (100)	3.82	1.318	6.872
Have a desire to achieve academic awards	5 (4.1)	16 (13.3)	83 (73.5)	120 (100)	4.44	.986	16.024

There was significant agreement with all the statements except Q.3.4 *I like to compete with other students*. The responses to this question showed neither significant agreement nor significant disagreement. (Figure 4.4)

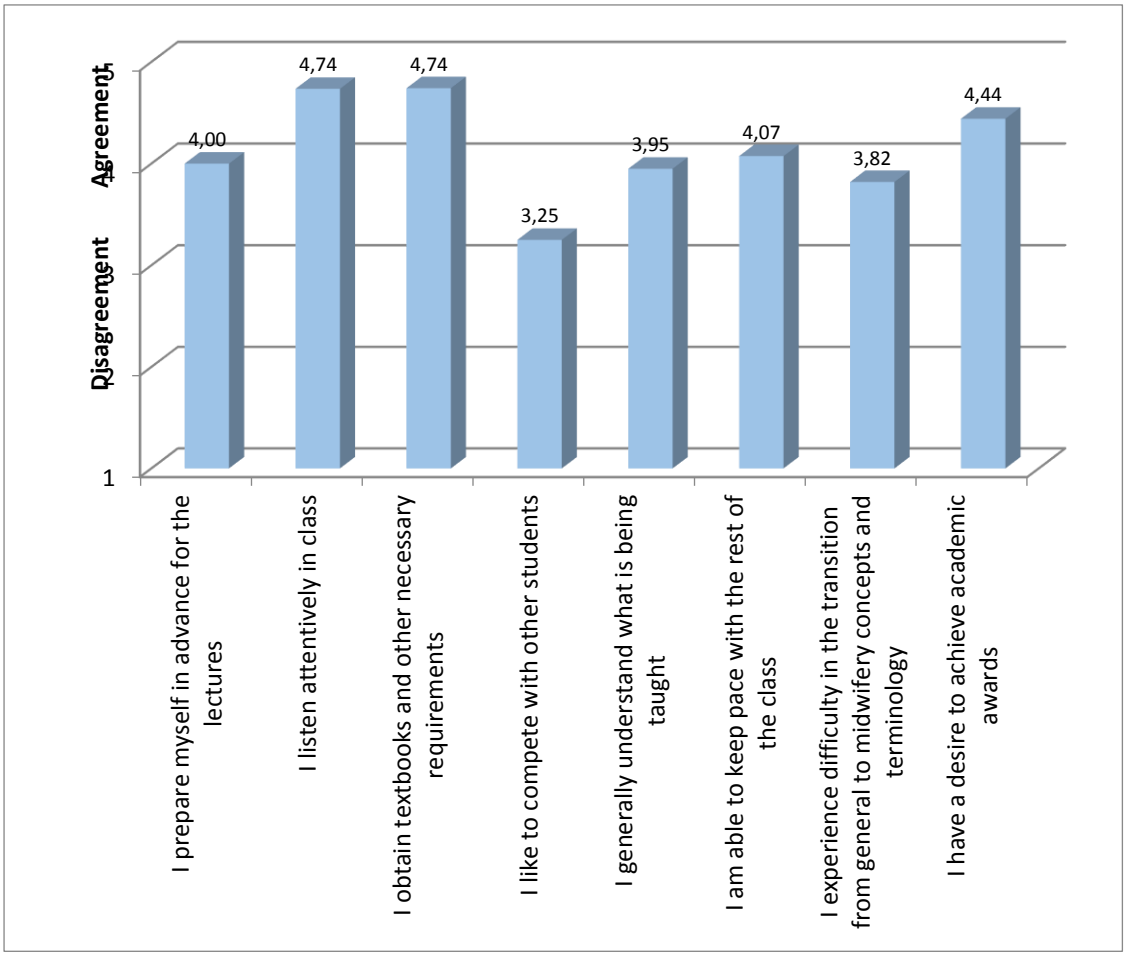


Figure 4.4: Graphical presentation for findings on One Sample Test on self interest

The majority of respondents indicated that they listened attentively and obtained the necessary requirements (mean of 4.74), which was a positive influence on academic performance.

4.4.5 Lecturer-related Factors

The statements included in this section were focused on lecturer-related factors. The results revealed that the majority of the respondents (65.8-90.9%; n=79-111) agreed to all 15 statements that were included in this section. There were few respondents who disagreed (3.3-16.7%; n=4-20%) and few who were neutral

(2.5-17.5%; n=3-21) with these statements. Table 4.6 presents results on lecturer-related factors.

Table 4.6: Lecturer-Related factors affecting learning (n=120-122)

Element assessed	Disagree	Neutral	Agree	Total	Mean	Std Dev	t
Lecturers have a good relationship with students	8 (6.6)	6 (4.9)	108 (88.5)	122 (100)	4.49	.973	16.939
Lecturers are always well prepared for their lessons	10 (8.2)	3 (2.5)	109 (89.4)	122 (100)	4.52	.998	16.880
Innovative teaching strategies are used	8 (6.6)	12 (9.9)	101 (83.5)	121 (100)	4.31	.983	14.697
Lessons are well presented with use of current trends	8 (6.6)	8 (6.6)	106 (86.9)	122 (100)	4.38	.903	16.845
Lecturers are well versed in the use of teaching aids and technology	8 (6.6)	11 (9.2)	100 (83.3)	120 (100)	4.41	.966	15.974
Lecturers are approachable and available for consultation and assistance	4 (3.3)	7 (5.8)	109 (80.8)	120 (100)	4.63	.779	22.865
I am concerned when lecturer is absent and there is no guidance	20 (16.7)	21 (17.5)	79 (65.8)	120 (100)	3.79	1.365	6.352
I am able to take notes while the lecturer is teaching	10 (8.2)	11 (9.0)	101 (82.8)	122 (100)	4.16	1.053	12.129
Lecturers allow enough time for questions and discussions	6 (6.1)	9 (7.6)	103 (87.3)	118 (100)	4.53	.903	18.348
Lecturers foster and guide self-activity, motivation and learning	4 (3.3)	10(8.2)	108 (88.5)	122 (100)	4.44	.814	19.585
Tests and examinations are marked timeously and feedback given	13 (10.7)	6 (4.9)	103 (84.5)	122 (100)	4.31	1.099	13.180
Areas of weakness are addressed and remedial work contracts are initiated	10 (8.2)	13 (10.7)	99 (81.2)	122 (100)	4.27	1.053	13.331
Clinical accompaniment is done as prescribed	6 (4.1)	8 (6.6)	109 (89.3)	122 (100)	4.64	.873	20.751
Clinical facilitators and lecturers are readily available for consultation	6 (4.9)	5 (4/1)	111 (90.9)	122 (100)	4.64	.901	16.939

The two statements which most respondents agreed with were: *clinical facilitators and lecturers are readily available for consultation* (90.9%; n=111) and *lecturers are well prepared for their lessons* (89.4%, N=109). The statement which the least respondents agreed with was *being concerned when lecturer is absent and there is no guidance* (65.8%; n=79).

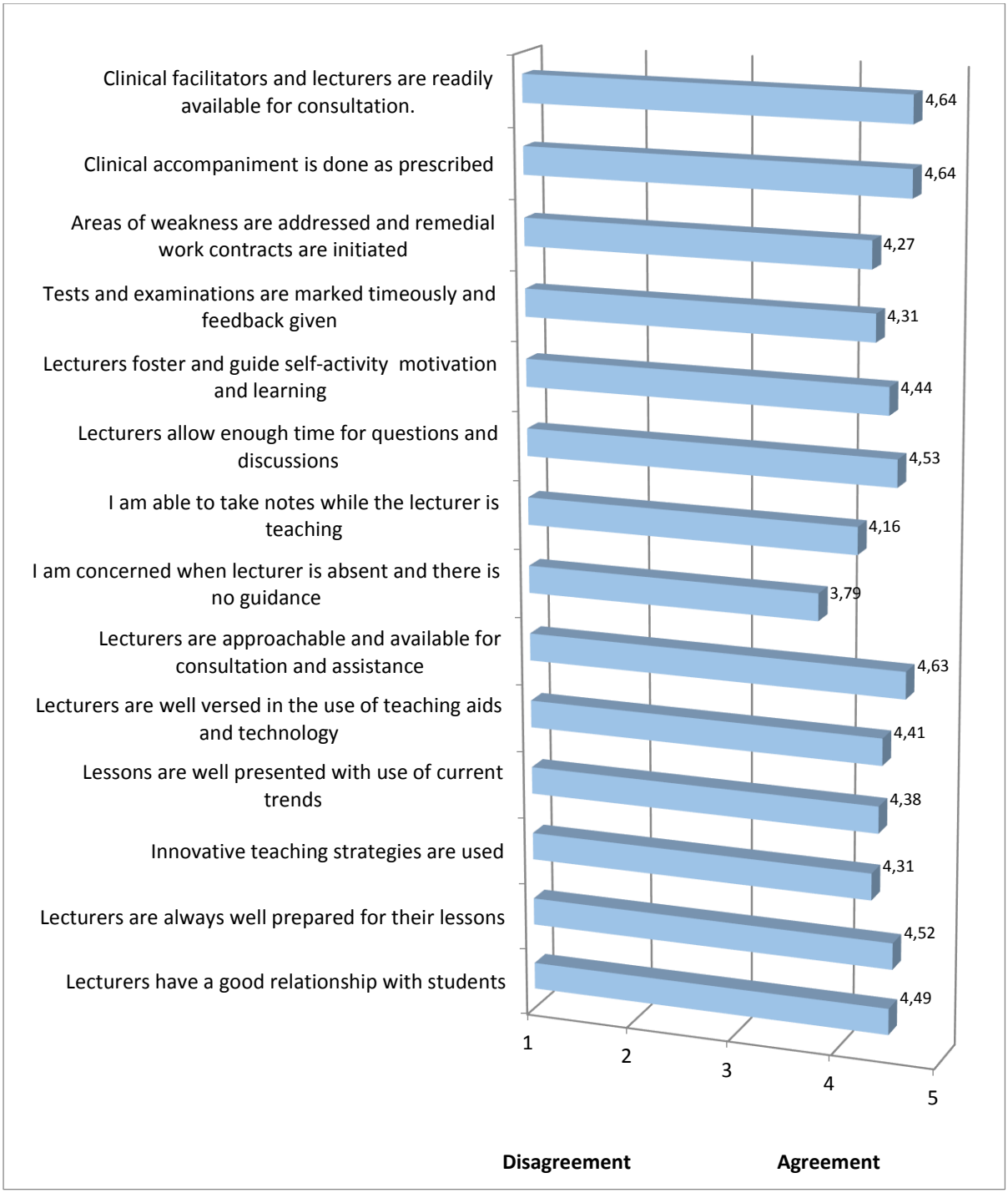


Figure 4.5: Graphical presentation for findings on One Sample Test on lecturer related factors

4.4.6 Institution-related Factors

The seven statements included under this section were in relation to the provision of material and human resources within the NEI that are essential for learning. These included examination rules, library resources, computers, lecturers, classrooms and equipment. There were more respondents

(81.5-97.2%; n=97-116) who agreed to six of the statements included in this section. *Computer resources are available and computer training provided*, was the only statement in this section for which there were more respondents (57.0%, n=56) who disagreed. Table 4.7 presents results on institutional factors.

Table 4.7: Results on Institutional Factors (n = 119)

Statement	**Disagree**	**Neutral**	**Agree**	Total	Mean	Std. Deviation	t
5.1 Examination rules and regulations are explained and given in writing	1 (0.8)	2 (1,7)	116 (97.2)	119 (100)	4.84	.520	38.571
5.2 Library resources are readily available	14 (11.7)	8 (6.7)	97 (81.5)	119 (100)	4.25	1.159	11.788
5.3 Computer resources are available and computer training provided	56 (57.0)	18 (15.1)	45 (40.8)	119 (100)	2.77	1.639	-1.510
5.4 There is a full complement of lecturers	8 (6.6)	11 (9.2)	101 (84.1)	120 (100)	4.40	1.016	15.097
5.5 Classrooms are conducive to learning	5 (4.2)	5 (4.2)	110 (91.6)	120 (100)	4.58	.856	20.266
5.6 Equipment is readily available	7 (5.8)	6 (5.0)	106 (89.1)	119 (100)	4.49	.872	18.607
5.7 Number of students in a class allow for individual attention	6 (5.1)	3(2.5)	110 (92.4)	119 (100)	4.60	.837	20.813

The results of the study revealed significant agreement (4.25-4.84) with all the statements, except one. There was significant disagreement that *computer resources are available and computer training provided* (2.77). Figure 4.6 presents the findings.

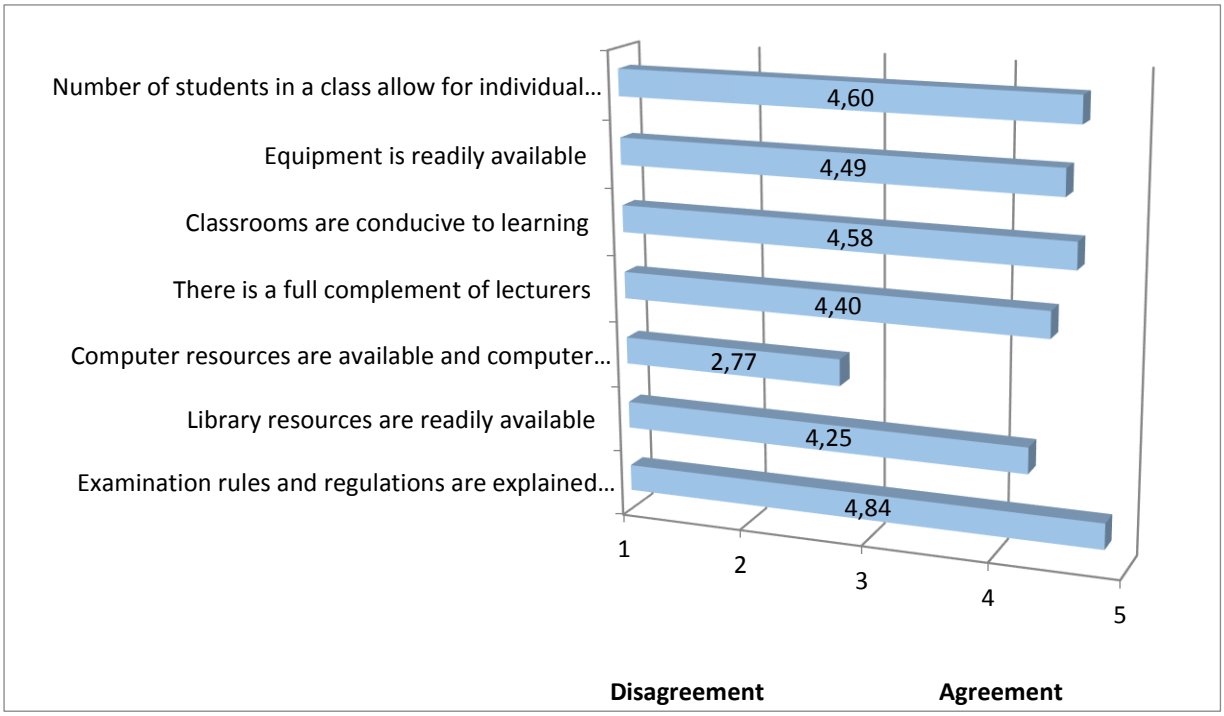


Figure 4.6: Graphical presentation for findings on One Sample Test on institutional related factors

4.4.7 Correlation of Factors with Demographic Variables

Further analysis was done to test all the factors for significant differences/correlations with demographic variables and the findings revealed no significant correlation with age or experience. However, according to results from a Kruskal Wallis test, there is a significant difference in feedback across marital status. Further analysis shows that there is more agreement by single respondents than by married respondents and the feedback is given is .010. Table 4.8 presents a summary of the findings on Kruskal Wallis test, highlighting the findings for standard deviation between the two demographic characteristics, namely gender and marital status with all the factors included.

Table 4.8: Standard deviation for correlations between all factors with demographic variables

Demographic element		STANDARD DEVIATION FOR EACH FACTORS						
		Self	Lecturers	Method	Feedback	Institution	Study	Lead
Gender	Male (14)	.49447	.41049	.41808	.99725	.36669	.29574	.90986
	Female (108)	.63043	.78534	.82463	.96039	.68929	.58855	.92466
Marital Status	Single (52)	.67048	.69483	.80692	.75955	.70217	.73409	.97583
	Married (64)	.59333	.71855	.79222	1.00396	.61457	.39615	.85284
	Divorced / Separated (3)	.00000	.09623	.43301	1.04083	.19245	.54085	1.34715
	Widowed (3)	.25000	2.11695	.86603	2.30940	1.30171	.42857	1.17063
	Total (122)	.61492	.75123	.79357	.96175	.66132	.56500	.92517

4.5 CHAPTER SUMMARY

The results on data analysis were presented in Chapter 4. In Chapter 5, the interpretation of the results is discussed and supported with relevant peer and non-peer reviewed literature in order to draw conclusions from the findings of the current study.

CHAPTER 5: DISCUSSION OF RESULTS

5.1 INTRODUCTION

In the previous chapter the results of the study were presented with the analysis of data. In this chapter the interpretation and discussion of results will be presented, supported by literature sources.

5.2 OVERVIEW OF RESEARCH DISCUSSION

The aim of the study was to to explore and describe the factors that, according to the student midwives' perspectives, influenced their academic performance in the R254 midwifery training programme in selected campuses of the KZNCN. The researcher had one broad question: *What were the factors that could have influenced the academic performance of student midwives in the R254 programme in selected campuses of the KZNCN.* The campuses are referred to as campus 1, 2, 3 and 4 for anonymity and confidentiality. The objectives of the study were to:

- Explore and describe student-related factors that could have influenced academic performance of the student midwives in the R254 programme in selected campuses of the KZNCN.
- Determine lecturer-related factors that could have influenced academic performance of the student midwives in the R254 programme in selected campuses of the KZNCN.
- Determine institution-related factors that could have influenced academic performance of the student midwives in the R254 programme in selected campuses of the KZNCN.
- Describe student midwives' perspectives regarding the factors that could facilitate their academic performance in the R254 Midwifery training programme.

The EHNE theory was used as a framework to guide the study. Data collected included demographic characteristics and responses to a number of statements that were developed in line with the five principles of the EHNE theory which could have influenced academic performance of student midwives. In the current study, the five principles were viewed in relation to their influence on the academic performance of student midwives in the R254 programme. The findings with regard to this were presented in the previous chapter. The first part of the discussion of findings focused on demographic characteristics of the study respondents. Subsequently, the findings of Section B data collection are discussed. This section was based on the five principles of the EHNE theory. Therefore, the discussion of results is also based on the five principles of the EHNE theory.

5.3 DEMOGRAPHIC CHARACTERISTICS

Gender, race, age, marital status, family responsibilities, number of years of experience as a Registered Nurse, motivation, and self-interest were elements that were included because most of the literature sources highlighted them as possible factors that influenced academic performance. However, the current in-depth investigation on whether these factors influenced academic performance of the student midwives in the R254 programme was guided and limited by the provision of the theoretical framework.

5.3.1 Gender

The sample of the current study consisted of 122 respondents of the SANC R254 midwifery training programme. There were 14 males (11.5%) and 108 (88.5%) female respondents. This is in keeping with a historically female-dominated nursing profession.

Different authors have differing opinions regarding the influence of gender on academic performance. According to Jayanthi et al (2014: 755), females have enhanced study skills, put in greater effort and are present in class more often. This is supported by Nwambo et al (2016: 262) who found that there is a substantial gender difference in favour of females achieving higher academic outcomes. Contrarily, Alshammari et al (2017: 65) discovered that there was a significant difference in the effect that gender had on academic performance as indicated by the

t-value of 3.591 and p-value of .000. The study found that male respondents had a significantly higher mean than females. Yigzaw et al (2013: 1) conducted a study on the competence assessment of midwifery students at the point of graduation and indicated that the male students performed better in the correlation of theory and practice in core areas like ante-natal care, partograph and assisted deliveries. It is, therefore, implied that males were performing better in the theoretical component as they showed better understanding of the clinical competencies.

In a study conducted by Beauvais, Stewart, Denisco and Beauvais (2013: 3), the sample that they used consisted of 97% (n=120) female respondents and 3% (n=4) males. However, this study did not compare the academic performance between the two gender groups. Instead, the authors concentrated on factors like emotional intelligence, psychological empowerment, resilience and spiritual wellbeing. The fact that the majority of their respondents were female nurses emphasized the supremacy of females in the nursing profession. Reddy, Gupta and Singh (2017: 1067) investigated factors that affected the academic performance of undergraduate medical students in India. They interviewed 182 students of whom 97 were female and 85 were male, which did not show a significant difference in gender distribution, thus, no substantial difference in the academic performance of either gender was demonstrated.

In the South African study by Dube and Mlotshwa (2018: 4), 80% of their sample of 100 enrolled nursing students was female, but there was no comparison in the performance between male and female students. The sample distribution of the current study and previous studies highlight the dominance of females in the nursing and midwifery professions. The SANC statistics for 2018 for student midwives in South Africa, for the R254 Diploma in Midwifery programme are: females 3176 and males 284 with a total of 3460 (SANC 2018).

5.3.2 Age

In the current study, the minimum age of respondents was 25 years and the maximum was 62. The mean was 43.15 and the standard deviation (SD) was 7. 161. This wide range in the age indicated that the years of experience in nursing varied, which may have impacted on theoretical performance. Dube and Mlotshwa

(2018: 4) do not detail the age range apart from indicating that 91% were above the age of 20 years. The age impact on academic performance was not determined in this study.

With regard to age, Jayanthi et al (2014: 755) discovered that, although the older, more mature students may have a better grade point average, age did not play a significant role in academic performance. This finding was echoed by Alshammari et al (2017: 65). In a study conducted by Okanga, Ogur, and Arudo (2017: 32), one of the findings was that the highest academic performance occurred in the age group 30-39 years and the lowest in 20-29 years age bracket.

5.3.3 Marital status

Regarding marital status in the current study, 42.6% (n=52) of the 122 respondents were single, a marginally higher percentage of 52.5% (n=64) were married. There is no significant difference in the number of single and married responses**.** Authors have divergent opinions regarding the influence of marital status on academic performance. In a study by Alshammari et al (2018), there was no significant difference in the extent of the effect that marital status had on the academic performance as the t-value was 1.813 and the p-value was .166. On the other hand, in a study by Nwambo et al (2016: 262), it was discovered that single nurses were less distracted by family responsibilities as opposed to married nurses, especially those with children although single nurses may also shoulder the responsibilities of having children. The effect of marital status was not examined in the current study.

5.3.4 Actual number of years of experience as a Registered Nurse

Responses from 120 students indicated that the lowest number of years of experience as a Registered Nurse was one (1) year. Although the R254 Midwifery programme is considered to be a basic training programme offered to professional nurses who completed the bridging course, the years of experience should make a difference to the basic nursing care of a pregnant woman.

5.4 DISCUSSION BASED ON THE FIVE PRINCIPLES ON THE EHNE THEORY

The five principles described in the EHNE theory by Love (2014: 49) include: prior knowledge, meet them where they are, interconnectedness, self-care, contextual teaching and learning. All five were used as the basis for data collection and interpretation in the current study. According to Love (2014: 49), students need to experience holism and empowerment in the classroom, not only to have a positive learning experience but also to integrate holism and empowerment in their own professional practice. Lecturers can assess prior knowledge of student midwives to meet individual needs and nurture them into the professionally trained midwives who will be of value to the country's health care demands. This will enable student midwives to connect with patients and put into practice concepts taught and learnt in the classroom.

5.4.1 Motivation for studying Midwifery

Motivation may be either intrinsic or extrinsic and may be the power which awakens the interest and determination amongst student midwives and other students (Saleh, Ashari, and Kosnin 2019: 24). In the current study, one of the intrinsic motivating factors is '*I am passionate about midwifery'* as indicated by 75.4% of the respondents (Figure 5.1). The other intrinsic factor is '*I can take advantage of the OSD*, *should I decide to specialize'* (68.1%). The extrinsic factor which was demotivating that did not score positively was '*A midwifery qualification will allow me to progress to a higher salary notch'*, where only 25.2% agreed (M= 2.10- refer to Figure 5.1).

According to Kapur (2018: 19), motivation refers to providing the foundation to kindle the thinking of individuals so that they comprehend the importance of academic learning. Kapur (2018: 19) further states that one of the factors which leads to poor academic achievement is the deficiency of motivation, resulting in disinterest, lack of passion, and commitment towards learning. In the current study, five (5) items were used to assess respondents' motivation for studying Midwifery.

Figure 5.1 Diagram illustrating Motivation for studying Midwifery (illustration by current researcher)

In the present research, there is a significant agreement that Midwifery is a basic requirement to access post-basic specialization courses as the (mean) M=4.28 was greater than the neutral score of 3, and p value was .001 (Figure 5.1). This may be classed as both intrinsic and extrinsic motivation as obtaining this qualification will allow respondents to ascend the career ladder as stated by (Saleh, Ashari, and Kosnin 2019: 24). Motivation positively impacts on the will to learn and achieve the goals which were set by the respondents.

The SANC Regulation 212 which is: Regulations relating to the course in Clinical Nursing Science leading to registration of an additional qualification (1997) does not state that Midwifery is a compulsory requirement for entry to a post-basic course. Instead, the candidate may have a qualification in Midwifery, Psychiatry or Community Nursing Science where applicable. However, a basic midwifery

qualification is a pre-requisite for Advanced Midwifery and Neonatal Science, Operating Theatre Technique and Emergency Care programmes (SANC 1997). KZNCN's selection criteria for admission to the R212 post-basic courses are current registration as a General nurse and Midwife and/or Psychiatry or Community Nursing Science. If a candidate wants to pursue a qualification in Orthopaedics or Critical Care and does not have a midwifery qualification, then the Nurse Manager has to motivate for the intake of that student (KZNCN 2017: 1).

With regard to progression to a higher salary notch, Midwives who succeed in the R254 programme do not receive a raise in salary. Instead, they are paid a once-off bonus depending on their salary level. Only 14.8% strongly agreed that they would receive an increase in salary and 59% strongly disagreed. Due to the mean value being 2.10 which is lower than the neutral 3, there is a significant disagreement that there would be an increase in the salary notch (Refer to Figure 5.1).

A significant agreement with a mean value of 3.88 and p value<.0005 is noted with regard to the benefit from the Occupational Specific Dispensation (OSD) should they specialize. The OSD which was initiated in July 2007 and commenced in April 2008 for nurses in the public sector, indicated that there would be substantial salary increases for specific specialisations such as Advanced Midwifery (Department of Public Services and Administration 2007: 2). (Refer to Figure 5.1).

Passion for Midwifery returned a mean value of 4.23, indicating a substantial agreement. It is inferred that if student midwives are passionate about Midwifery, they would put in more effort in achieving positive academic outcomes. This factor was not tested in any other study.

(N=45) of the 122 respondents agreed strongly that they were motivated by colleagues (Figure 5.1). However, this factor may not impact on academic achievement.

Lizalde-Hernadez, Marin-Laredo, Valenzuela-Gandarilla, Alvarez-Huante and Dimas-Palacios (2016: 16) mention motivation as one of the factors that affect academic achievement, but do not expand on the type of motivation. The study by

George, Lakra and Kamath (2017: 1) revealed that 50% of their respondents chose nursing due to job security. One of the items included in the descriptive survey by George, Lakra and Kamath (2017: 3) was "*my friends motivate me the most for my studies"* with a factor loading of 0.490, which is less than 0.7, hence an unreliable factor.

According to the EHNE theory, a motivated student will be able to experience positive learning and integrate holism and empowerment into their professional practice

5.4.2 Study Habits

A 20-pronged self- administered questionnaire was used to assess the perception of students regarding their study habits. The Kaiser-Meyer-Olkin sampling adequacy was .673, indicating that the data was satisfactory for successful and reliable extraction. The Bartlett's test of Sphericity demonstrated a p value of <.0005 which disclosed that correlations between items was not too low. The two factors: *study methods* with Cronbach's Alpha value of .742 and *leadership* with an Alpha value of .725 were uncovered through Principal Axis Factoring. These two (2) aspects had >.7 Alpha reading, indicating that they were dependable measures of the influence on academic success. The third factor was *distractions* (sports, television, family and home commitments) which had an Alpha value of .458 and was therefore not dependable.

The One-Sample Test statistics distinguished between the study methods and leadership factors. The values for study methods was M = 4.5301, t (121) =29.912, p <.0005. The statistics for leadership was M =3.2824, t (120) =3.357, p =. 001. Both factors had a significant agreement, but study methods was stronger than leadership.

The comparison between studying alone and studying in a group revealed that there was a significant disagreement that respondents preferred to study alone as indicated by M=2.69, t (119) = -2.220, p=.028. The mean for group study is 4.43, showing a preferential agreement that studying with other students benefited respondents in achieving good grades in the examinations.

The majority of the respondents agreed that they took the lead in study groups, class discussions and project work as indicated by the mean for each one being more than

the neutral score of 3. These statistics appear unrealistic, N=120-121 out of a total of 122 respondents were in strong agreement with taking the leadership roles. According to the researcher's experience, only a few student midwives are willing to take on leadership roles in class.

Magulod (2019: 190) described the different learning styles, namely, visual, tactile, auditory, kinesthetic, group and individual and found that respondents preferred the visual style (read and write method), remembering and understanding information better when they read and wrote (Magulod 2018: 188). Students benefitted from taking lecture notes and handouts.

In the present study, 89.2 % of the respondents stated that they used the visual (read and write) method to recall information. The kinesthetic learning style revealed that students performed better when they were actively involved in the learning process such as role plays, experimentation or field trips. In the teaching of midwifery, simulations like cord prolapse, shoulder girdle dystocia, and twin delivery allow the students to practice 'hands on', giving them valuable experience for real life situations.

Mushtaq, Hussain, Afzal and Gilani (2019: 76) studied student-related factors including group study and distractions similar to the current researcher. The study found that group interaction had a positive influence and distractions had a negative influence on academic performance. Research results of this study revealed that respondents preferred the group learning style (85.2%), and there was a significant agreement that the visual style of *read and write* method of recalling information, positively influenced theoretical performance (M =4.59)
The results of a research project by Ella, Akpabio and Samson-Akpan (2015: 4) found no difference in the influence between the individual and group learning style of study.

In the current study, the total number of respondents (N=122) strongly agreed that they completed assignments and practical requirements as scheduled and (N=118) indicated that they sought help if they experienced difficulty with assignments. The mean equalled 4.53 and 4.65 respectively. In the researcher's experience, not all students complete their assignments timeously and satisfactorily. However, doing

remedial work with the assignments helps the student to learn. Completing assignments assists the students with integrating theory with practice and helps them to consolidate information as assignments are marked and corrected. Alshammari et al (2018: 66) discovered an extensive agreement with completing assignments and requirements timeously and this demonstrated a positive effect on academic performance. George, Lakra and Kamath (2017: 3), in contrast, found that assignments did not help students to learn as the factor loading was 0.495 which is less than .7, making it an unreliable measure. Sibanda, Iwu and Benedict (2015: 109) revealed that submission of assignments was a plus factor for successful academic performance, in addition to taking notes from the board.

In a study conducted by Mthimunye and Daniels (2019: 217-218), respondents who reported regular attendance in class, completed assignments and preferred the kinesthetic learning style indicated that these factors had a significant influence on their academic performance. The researchers also suggested that male students, younger students and those experiencing difficulty with the English Language had difficulty in achieving very good grades and should be monitored and evaluated.

Motivational factors and theoretical abilities of students should be assessed before admission to the course to identify possible “at- risk students” (Mthimunye and Daniels 2019: 217-218). Concurring with the findings of Mthimunye and Daniels (2019), the research of Abou El –Soud, Alkharasi, Alfaouri and Said Al-enzi (2017: 100) revealed that consistent presence in class had the highest mean of 3.95, indicating a high impact on academic performance. A study by Sibanda, Iwu and Benedict (2015: 109) also concurred with the above findings which revealed that daily attendance in class, hard work and study impacted positively on academic achievement.

The current study returned a mean reading of 4.36 (86.5% of respondents) for adhering to the English policy which would facilitate the writing of examinations in English. This would have a positive influence on academic performance and yield a higher percentage pass rate. In the study conducted by Hussain, Afzal and Gilani (2019: 75), the English proficiency was also tested and the mean, M = 3.58 suggested that there was a favourable influence on academic attainment. George,

Lakra and Kamath (2017: 3) used four (4) factors to assess the influence of English, namely difficulty in approaching teachers who did not speak the ethnic language, struggling to understand classes conducted in English, difficulty in speaking English and language problems affecting learning. Apart from difficulty in speaking English (factor loading .719), the other factor loadings were less than .7, making them undependable indicators of the influence on academic performance. In contrast, Abou El –Soud et al (2017: 100) discovered that only 57.3% of their respondents were skilled in the English language, while 38% responded to having difficulty in English, which hindered their learning. A non- significant difference between students from a vernacular medium compared to the English medium was noted by Joykutty, Lakhani, Cruz, Pandit, Bhagat and Deshpande (2012: 29), as at the end of the first year of nursing, the language barrier was removed due to students being taught English. The language of instruction of the curriculum was English.

5.4.3 Self-interest Factors

The self- interest factors scored a mean above the neutral score of 3, indicating that there was agreement that these factors made a substantial impression on academic performance. However, the question on '*I like to compete with other students'* returned a p value of .073, demonstrating neither a significant agreement nor significant disagreement of the effect on academic achievement.

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy specified a value of .709, signifying that data was adequate for successful and reliable extraction. The Bartlett's test of Sphericity revealed a $p < .05$, indicating that correlations among the items were satisfactory and not too low.

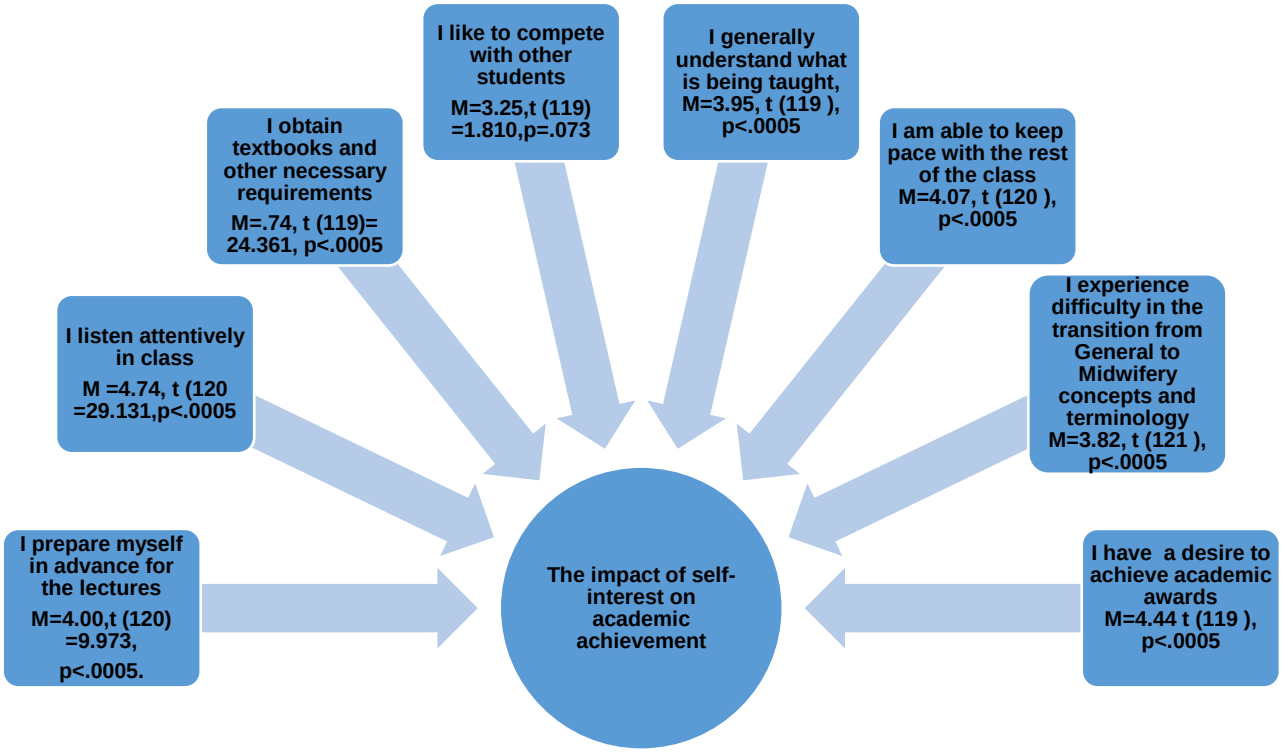


Figure 5.2: Diagram illustrating self-Interest Factors (illustration by current researcher)

One factor was extracted, accounting for 53.29% of the variance in the data. This factor was named SELF and encompassed keeping pace with the rest of the class, listening attentively, understanding content taught and obtaining textbooks and the necessary requirements (Figure 5.2). Cronbach's alpha was used to test the reliability and the result was alpha = .697 which was adequate and reliable. The factor 'Self' is then a dependable indicator of students' perception of their self-interest in their studies. The mean for the factor 'Self' was 4.37, t (121) = 24.674, p<.0005. This showed significant agreement that students are applying themselves and coping with their studies. In applying the EHNE theory, this showed that lecturers met students where they were at the point of learning and connected with them to work together to achieve the goal of passing the final examinations.

Self-interest factors, noted by George, Lakra and Kamath (2017: 3), can be grouped as 'Learning'. This included losing interest in learning due to long clinical hours, studying only if there is liking for the subject, too much extra-curricular activities hindering knowledge acquisition and swotting just to pass. The factor loading for each

was less than .7 indicating unreliable measures of their influence on theoretical performance (George, Lakra and Kamath 2017: 3).

Elsabagh and Elhefnawy (2017: 46917) revealed two aspects of students' perception of self -interest albeit under study habits that had a low impact on academic performance i.e. respondents were lazy to study and studying only when they liked. Some of the respondents of the Abou El –Soud et al (2017: 100) research project indicated that they lacked interest in the Midwifery course. However, this returned the lowest mean of 1.88, proving unreliability.

5.4.4 Lecturer-Related Factors

The mean tested by One-Sample Statistics for all lecturer-related factors was above the neutral of 3, indicating that respondents were satisfied with the lecturer output and perceived these factors to have a positive influence on their academic performance. The p value for all the factors was < .0005 (Figure 5.3), signifying agreement that lecturers enhanced academic achievement. The KMO and Bartlett's test showed .882 sampling adequacy and significance of <.0005. The Principal Axis Factoring method of extraction revealed three (3) factors, namely lecturer, method (teaching methods) and feedback. The alpha value for each was .895, .896 and .748 respectively, which were above the reliable measure of >.7, indicating that these factors were dependable.

Figure 5.3 illustration of Lecturer related factors (illustration by researcher)

In their study, Elsabagh and Elhefnawy (2017: 46917) researched teacher-related aspects and described them in terms of the descriptive equivalent of the impact they made, that is from very high to no impact. Only one (1) item displayed a high impact on academic results and that was that the teacher used the lecture method only. The teachers' expertise and knowledge of the subject, discussion of many topics in a short time, use of audio-visual aids. provision of varied activities, teacher always reprimands and too much memory work scored a low impact, while the teacher is

always not punctual and is often absent from class revealed a **very** low impact on students' theoretical performance (Elsabagh and Elhefnawy 2017: 46917). This research by Elsabagh and Elhefnawy (2017: 46917) echoed the sentiments of the study by Alos, Caranto and David (2015: 62) and they based their survey questionnaire on this study. However, in contrast, lecturer (teacher) having mastery of the subject turned out to have the highest mean of 4.24 and therefore, a **very high** impact on academic output, in the study conducted by Alos, Caranto and David (2015: 62).

In the current study, respondents indicated that lecturers were well prepared for the lessons, used a variety of teaching strategies and aids and fostered the relationship between students and lecturers, which impacted positively on their academic performance (Figure 5.3).

Teacher-related dynamics were researched by Hussain, Afzal and Gilani (2019: 76) who found that the question on the *worthiness of the relationship between lecturers and students* had the highest mean of 4.14. Following closely was *lecturers explaining and clarifying the lesson objectives at the beginning of each lesson* with a mean value of 4.04. These two (2) statements reinforced the importance that lecturers played in the academic life of students (Mushtaq et al 2019: 76). The grand mean for the lecturer (teacher)-related variables was 3.90. Lecturers mastery of the lesson scored a M=3.81, which was below the overall mean, making it untrustworthy.

George, Lakra and Kamath (2017: 3) included lecturer (teacher) associated factors in their cross-sectional survey and discovered that the factor loadings were below .7. These factors encompassed being taught well by the teacher, use of different teaching strategies, teachers were approachable and assisted at all times in students' learning. A further factor was students who displayed interest in acquiring knowledge from instructors who enquired about their personal well-being. Cronbach's Alpha was <.7; therefore, these factors were an untrustworthy measure of the influence on academic accomplishment.

In a study on factors influencing enrolled nurses' academic performance, Dube and Mlotshwa (2018: 1) stated that a sound and caring relationship between students

and lecturers enhanced academic performance. The study further noted the essential role that lecturers played in promoting good academic outcomes (Dube and Mlotshwa (2018: 1). This concurs with the findings of Hussain, Afzal and Gilani (2019: 76). The current study reflects the findings of the above studies.

Concurring with the findings of Dube and Mlotshwa (2018), Abou El-Soud et al (2017: 100) indicated that motivation and reinforcement from lecturers was of paramount importance. Respondents also specified that poor lecturer attendance in class and deficient communication between lecturer and student contributed towards poor academic performance (Abou El-Soud et al 2017: 100). These findings were similar to that of Sibanda, Iwu and Benedict (2015: 109). The study carried out by Alshammari et al (2018: 68) stated that the teacher-related factors topped the list of factors that greatly impacted on academic performance. The inference from this was that teachers played the most important role and influenced good or poor performance in students. The creation of a conducive environment which improved learning emerged as one of the recommendations of this research project.

According to Hernadez et al (2016: 18) students stated that teachers did not demonstrate mastery of their subject areas, perhaps due to recent graduates lacking professional experience. One of their recommendations was to initiate compulsory induction courses for newly qualified teachers, and train them on teaching strategies and perform competency assessments. These revelations mirrored the findings of Hussain, Afzal and Gilani (2019: 76) and of Alos, Caranto and David (2015: 62).

5.4.5. Institute-Related factors

Seven items were tested, and the mean ranged from 2.77 to 4.84. The availability of computer resources proved unreliable as the M=2.77 was lower than the neutral of 3. Explanation of the examination rules and regulations produced the highest mean of 4.84, indicating dependability of institutes regarding examination protocols. N (119-(97.5%) of the respondents agreed that library resources were available and N (120-(98.3%) that there was a full complement of lecturers which implied enhancement of students' academic attainment. Classrooms were considered conducive to learning (M=4.58) and equipment was readily available (M=4.49). Respondents also agreed

that the number of students per class allowed for individual attention by the lecturer (M=4.60).

One-sample test value was 3 and the p values for all factors were <.0005, except for computer resources with a p value of .134 indicating that there is less than a 134/1000 chance of this factor being wrong. Principal axis factoring extracted one (1) factor which is 'Institution' requiring 5 iterations. Cronbach's Alpha =.766 (more than .7) showed reliability of the factor extracted.

Mushtaq and Nawaz Khan (2012: 2) hypothesized that there is a constructive association between learning facilities and academic performance of student nurses. Their study revealed that the mean for the learning facilities variable was 4.2597 and the standard deviation was 0.67713, indicating that there was agreement that the availability of variables like library resources, information technology, equipment and conducive classrooms had a positive effect on learning (Mushtaq and Nawaz Khan 2012: 20).

In a study on how student nurses perceived factors affecting academic achievement, Nwambo et al (2016: 263) examined basic facilities and school's physical situation as affecting academic performance. The provision of proper and adequate ablution services and the distance that students had to travel to school was taken into consideration, as the further away a school was, the more the time was spent on travelling, reducing time for studying. The creation of a harmless, favourable and empowering environment was found to be of paramount importance to improve theoretical performance. This study used the theoretical framework of Abraham Maslow's hierarchy of needs to illustrate that, when basic needs are met, students can concentrate on higher level intellectual needs where motivation to learn escalates (Nwambo et al 2016: 263).

Mushtaq et al (2019: 75) assessed school (institute)-linked factors like, how well respondents used facilities provided by the institute and to what extent the facilities met the standards for physical comfort, for example classroom size, furniture and equipment. The findings revealed that these factors had a major productive influence on theoretical achievement. This concurs with the findings of Nwambo et al (2016) where the elementary needs are met before concentration on higher needs. The

study by Alshammari et al (2018: 66) echoed the findings of the above two studies, indicating that there was a major influence (positive or negative) on academic performance.

In keeping with the above findings, Alos, Caranto and David (2015: 62) reiterated the high impact of school-associated factors on academic performance. The factor with the highest mean value (M=3.74) was that a timetable was adhered to. Other factors included conducive classrooms, accessibility of library resources and fast internet. Elsabagh and Elhefnawy (2017: 46917) adopted their survey questionnaire from Alos, Caranto and David, but had contrasting results in that their findings had a low impact on academic performance.

Fakude (2012: 61) described institute-related factors in a tertiary setting as having a tributary influence on academic outcomes. Their findings were that classrooms were often overcrowded and noisy which hindered learning. The large number of students also made it difficult to access library and computer resources and consultation with lecturers was delayed.

Abou El –Soud et al (2017: 100) found that the nursing curriculum placed too many demands on the students' time, which highly affected theoretical educational outcomes.

5.5 CHAPTER SUMMARY

In Chapter 5, the findings of the research and the application of the EHNE theory were discussed. Literature sources were used to support the findings of the current study. In Chapter 6, the limitations, recommendations, summary and conclusions of the study will be presented.

CHAPTER 6: SUMMARY OF FINDINGS, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

6.1 INTRODUCTION

Chapter 6 is the final chapter of this dissertation. In this chapter a summary of the entire study is presented which includes conclusions, limitations and recommendations.

6.2 SUMMARY OF THE STUDY

The study emanated from the observation by the researcher, who is a midwifery lecturer in one of the KZNCN campuses, that there was poor academic performance in formative and summative evaluations of students in the R254 midwifery programme. Such performance, according to the researcher, accounted for the high failure rate in the final written examinations conducted by the SANC in the R254 programme. The failure rate in the R254 programme appeared to be a universal problem across South Africa, as evident in the SANC publication of the midwifery results on a number of occasions. The study aimed to answer one research question: '*What are the factors that could have influenced the academic performance of student midwives in the R254 programme in selected campuses of the KZNCN?'*

The aim of the study was to describe the factors that, according to the student midwives' perspectives influenced their academic performance. The objectives of the study were to:

- Explore and describe student related-factors that could have influenced academic performance of the student midwives in the R254 programme in selected campuses of the KZNCN.
- Determine lecturer-related factors that could have influenced academic performance of the student midwives in the R254 programme in selected campuses of the KZNCN.
- Determine institution-related factors that could have influenced academic performance of the student midwives in the R254 programme in selected campuses of the KZNCN.

- Describe student midwives' perspectives regarding the factors that may facilitate academic performance of students in the R254 midwifery training programme.

A non-experimental, quantitative, descriptive survey was undertaken guided by EHNE theory (Love: 2014). Data was collected through self-administered questionnaires from 122 student midwives who were registered for the R254 midwifery programme at four campuses in uMgungundlovu and eThekwini Districts in KZN.
The literature reviewed reflected that factors affecting academic achievement could be divided into student-related, lecturer (teacher)-linked and institute-associated.

6.3 SUMMARY OF FINDINGS

The findings from the study were presented in the previous chapter, guided by the theoretical framework. Each of the five principles of EHNE theory (Love: 2014) was used to discuss results which were further supported with relevant literature sources. The summary of the study highlights the achievement of each of the study objectives. As stated by Kapur (2018: 23), in order to achieve good academic outcomes, it is vital for the students to be dedicated and sincere towards their studies, the home and school environmental conditions should be peaceful and amiable, and teachers should be approachable,have a good attitude and implement teaching-learning processes and instructional strategies in a beneficial manner.

6.3.1 Student-related factors with regards to their study habits and self-interest towards their studies

The student-related factors were grouped under three broad headings, namely motivation, study habits and self-interest. With regard to motivation to study midwifery, the majority (75.2%: N=91) responded positively, stating that is a basic qualification to access post-basic specialization courses. 57.6%; n=68 of respondents indicated a passion for midwifery, followed by (50.4%; N=57) who were motivated by the fact that midwifery qualification will allow them to take advantage of the OSD, should they decide to specialize. Motivation by colleagues followed with (38.5%: N=45) and only (15.1%: N=18) agreed that the midwifery qualification would

allow them to progress to a higher salary notch while 60.5% of the respondents disagreed.

Study habits concentrated on study methods, individual or group study, leadership roles in class discussions, 'English Policy', seeking help and distractions. The literature review supported adherence to English as this was the medium of instruction and testing. The majority of the respondents (N=103 (86.5%) agreed that they adhered to speaking and writing in English. This, however, could have a degree of bias as respondents may not have wanted to reveal their language difficulties. 49.5 % (N=59) of respondents disagreed that they preferred to study alone while 40.4 % (N=47) agreed that they preferred to study alone indicating only a slight difference in opinion. A larger proportion (85.2%) preferred to study in a study group. A large number of respondents (N=114(93.4%) sought help and clarity when they did not understand, perhaps indicating that they were attentive in class and made the effort to obtain help to facilitate understanding. 63.6% (N=77) agreed that they were distracted by family and home commitments. Due to the fact that the candidates of the R254 midwifery training are in the higher age group, they do have more family responsibilities, including looking after parents and grandchildren. A small percent of 38.8 were distracted by sport and television programmes. 72 respondents agreed that they revised theory on the same day that they received it while 29 respondents disagreed. 42.2 % (N=51) respondents agreed that they were able to take on leadership roles in study groups. In contrast 18.2 % (N=22) respondents disagreed on taking up leadership roles.

Results for the self–interest factors were as follows: 38.8 % (N=47) agreed with *advance preparation for lectures,* 80.2% (N=97) agreed with *listening attentively* and 86.7% (N=104) agreed with *obtaining textbooks and other requirements*.

A minor percentage (28.3%: N=34) agreed that they preferred competing with other students. 50 (41.7%) - 37(30.8%) of respondents slightly to strongly agreed that they *generally understood what was taught*. A moderate percentage of 36.9% (N=45) – 38.5 % (N= 47) strongly to slightly agreed that they *experienced difficulty in the transition from general to midwifery concepts.* 60.2% (N=83) indicated a strong desire to obtain academic awards.

6.3.2 Lecturer and institution-related factors that may have affected academic performance.

Three factors were extracted through the Principal Axis Factoring method, that is lecturer, teaching methods and feedback. These factors proved to be dependable as their alpha value was above .7. Respondents indicated that they were satisfied with lecturer output and perceived lecturer-related factors to have a positive influence on their academic performance. The teacher's mastery or expertise of the subject, the relationship between lecturer and student and the use of different teaching strategies were highlighted in the assessment of lecturer-related factors. Encouragement, motivation and support from lecturers enhanced student learning.

Institute-related factors were associated with the provision of resources and a conducive environment. The availability of computer and library resources improved academic results. Respondents indicated that examination rules and regulations were explained and that there was a full quota of lecturers which improved their learning. Review of the literature sources supported the positive impact of a favourable environment. Meeting the basic needs of students, according to Maslow's hierarchy of needs, contributed to improving academic output.

6.3.3 Positive factors that may facilitate academic performance for students of the R254 midwifery programme

The following positive factors were identified:

- The motivational factor of the R254 midwifery training programme being a basic requirement for post-basic specialization courses, allowing access to occupational specific dispensation courses.

- Passion for looking after mothers and babies (midwifery) which shows that candidates are interested in the course which will enhance their learning.

- A supportive relationship between lecturer and student, open communication and easy accessibility to lecturers.

- Availability of qualified lecturers with a good command of the subject and mentoring of newly qualified lecturers.

- Assistance with the English language to facilitate writing the examinations.
- Provision of a conducive (encouraging) environment with adequate computer and library facilities.
- Support for the transition from general to midwifery concepts.
- Drawing on personal experiences of pregnancy and childbirth to enlighten the practicality of midwifery.

6.4 CONCLUSION

The study was justified as it addressed the problem of the high failure rate occurring in the SANC R254 midwifery training programme. Results of the literature search revealed that, although there was research on factors affecting academic achievement on other nursing and medical students, there was no literature on the R254 students. This research has contributed to the knowledge of factors that influenced the academic performance of R254 midwifery students. The health system in South Africa is focussing on primary health care and prevention of diseases, with community clinics being the first point of entry into the health system. Therefore, more specialised nurses, namely primary health care, community health nurses and **advanced midwives** are needed to improve the health and wellbeing of communities. In order to specialize, a qualification in basic midwifery is a requirement for most of the post-basic nursing courses.

Perceptions of student midwives included emphasis on the benefits of group study and agreement that there were no adverse lecturer-related factors that affected their academic achievement.

A noteworthy negative factor was the lack of computer resources and training which is disadvantageous when doing research to complement information from lecturers and working on assignments. The fact that the majority of respondents disagreed that they were in competition with other students is an indication that students are interested in their own academic achievements.

Although the R254 is in the last stage of being phased out, there are some students who were not successful in their first attempt at the SANC midwifery examinations

who need to complete their training. The November 2019 SANC R254 Midwifery examination results still reveals a high failure rate, where the pass rate is reflected at 30.9% for the first entry for paper 1 and 58.7% for the repeat entry. Paper 11 pass rate was 18.7% for the first entry and 50.9% for the repeat entry. Paper 111 demonstrated a success rate of 20.8% for the initial entry and 36.1% for the second attempt. These results are evidence of the persistent problem of a high failure rate in the R254 midwifery training programme in the country and support the need for interventions which include recommendations from the current study.

6.5 LIMITATIONS OF THE STUDY

The study cannot be generalized to other existing Nursing courses because the questionnaire was only tested on the R254 midwifery students. These students have followed a longer path to get to midwifery, that is from enrolled nurse to registered nurse through the bridging R683 programme and therefore, cannot be compared to the R425 programmers who have had a shorter path to midwifery, which is a six months modular course which is separate from the administration and family planning that the R254 programmers do. The R425 students are usually younger in age and have fewer responsibilities than the older R254 students. However, the study may be applicable to the new R1479 midwifery course as the R683 students are eligible to enrol for this course.

The study may have been more beneficial if a retrospective study of the academic performance of the respondents in the R683 course was done to compare with the performance in the R254 programme. Lecturer input on factors affecting student midwives' academic performance may have also enriched the study. In retrospect, examination of the matric English results of respondents would have helped to categorize potential students at risk for 'failure'.

There are other variables which could have an impact on academic performance but were not included in this study, namely financial aspects, distance travelled to and from the academic institution, whether students lived in the nurses' residence or not and family commitments. These factors may have influenced the findings of the study.

6.6 RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made with regard to policy development and implementation, institutional management and practice, nursing education and further research.

6.6.1 Policy development and implementation

Currently, nursing education has made a transition into higher education and the R254 Midwifery programme is in the process of being phased out, hence no new policies can be developed concerning this course. The new Midwifery course which is being developed will have its own policies, and is governed by regulation No.1479 under the Nursing Act 33 of 2005(SANC 2014). This regulation is related to the education and training of a learner, leading to registration in the category, midwife (DOH 2019: 41). The admission requirement is registration with SANC as a General Nurse, and the duration is one (1) year. 60% of the formative clinical assessments are to be done in 'real life situations', emphasizing the correlation of theory and practice. However, a recommendation is made for professional nurses to have between 4-5 years of clinical experience to consolidate their general training, before being admitted to the midwifery programme.

6.6.2 Institutional management and practice

Provisions of the necessary resources like library and computer facilities and a conducive physical environment for learning are some of the recommendations for institutional management and practice.

Improving the process and channels of communication between lecturers and student midwives will enhance the academic and other support that the students receive. Recommendations regarding this support include: strengthening the clinical supervision and accompaniment that student midwives receive to facilitate the correlation of theory with practice, understanding and performing the practical aspects well to help with the theory component, appeals to the clinical facilities to provide preceptors to assist the students, and clinical placement to ensure that all areas of midwifery are covered so that holistic learning takes place.

Clear, concise procedure guidelines should be made available to student midwives and they should be allowed to practice in the clinical skills laboratory before performing procedures on a patient. Skills drills and ESMOE training should be emphasized to make learning theory easier.

6.6.3 Nursing Education

Communication is a two-way process, hence strengthening the communication between lecturers and student midwives is necessary to assist students in reaching their goals. The focus of the teaching method has to shift to a more interactive learner-centred approach. The student midwife must be more 'hands on' in order to assimilate theory with practice and vice -versa. Lecturers should become sensitive to the individual learning needs and styles and adapt the support that they give to suit specific needs. Interviews with problematic students should be conducted to identify the reasons and take appropriate action. The transition to the difficult midwifery terminology and concepts must be facilitated and explained in a manner that is easily understood.

The head lecturer or Head of Department of Midwifery should mentor lecturers, ensuring that they are competent before assessing students. Internal moderation of test and examination questions and marked scripts must be done for consistency and fairness to students. Peer review and HOD review of lecturers should be conducted to improve the teaching and facilitation process. In-service education on different teaching strategies and use of visual aids should be offered so that appropriate teaching methods are used. Institutions should ensure that teaching resources are available and in good working condition.

It is recommended that an information technology instructor be employed by nursing institutions so that midwifery students acquire computer and information literacy skills to enhance their academic performance.

Multi-lingual learning and writing examinations in the language which is easily understood and comfortable for the student would be an ideal situation. However, this would have to be discussed at a much higher, perhaps governmental level. It would facilitate learning and improve academic performance as English second

language learners are at a disadvantage, as they have to think in their vernacular and then express themselves in English.

6.6.4 Further research

Further research on the forecasters of academic success would be valuable in helping student midwives overcome the factors which hinder their learning. As mentioned previously, research into the students' R683 examination results may provide some insight into students who struggled academically. Research into computer and language support programmes may make a difference to examination results. A study on factors, not mentioned in this current study, may also be useful in revealing factors that affect academic performance, and possible recommendations made to overcome hindering factors.

Additional research into teaching methodologies by midwifery lecturers will assist in determining the best strategies to be used for midwifery teaching.

REFERENCES

Abou El–Soud, F.A., AlKharasi, W.G., Alfaouri, A.A. and Al-Enzi, E.S. 2017. Reflections of nursing students' perceptions toward factors influencing their academic performance. *Journal of Education and Practice,*8(26): 96-107.

Akhu-Zaheya, L. M., Shaban, I. A. and Khater, W. A. 2015. Nursing students' perceived stress and influences in clinical performance. *International Journal of Advanced Nursing Studies,* 4(2): 44-48.

Alos, S. B., Caranto, L. C. and David, J.J.T. 2015. Factors affecting the academic performance of the student nurses of BSU. *International Journal of Nursing Science,*5(2): 60-65

Alshammari, F., Saguban, R, R., Pasay-an, E., Altheban, A.and. and Al-Shammari, L. 2018. Factors affecting the academic performance of student nurses: A cross-sectional study. *Journal of Nursing Education and Practice,*8(1): 60-80.

Australian Department of Health, New South Wales Government. 2015.Becoming a Registered Midwife. Available: https://www.health.nsw.gov.au/priorities/pages/default.aspx (Accessed 20 March 2018).

Australian Department of Health.2013. Review of Australian Government Health Workforce Programmes: Nursing and Midwifery Education. Available: https://www1.health.gov.au/internet/publications/publishing.nsf/Content/work-review-australian-government-health-workforce-programs-toc~chapter-7-nursing-midwifery-workforce%E2%80%93education-retention-sustainability (Accessed 20 March 2018).

Awases, M. H., Bezuidenhout, M.C. and Roos, J.H. 2013. Factors affecting the performance of professional nurses in Namibia. *Curationis,* 36(1), Art # 108:1-8.

Beauvais, A. M., Stewart, J. G., DeNisco, S. and Beauvais, J. E. 2013. Factors related to academic success among nursing students: A descriptive correlational research study. *Nurse Education Today*, 34(6): 918-923.

Bifftu, B. B., Dachew, B. A., Tiruneh, B.T., Kelkay, M. M. and Bayu, N.H. 2016. Perceived clinical competence among undergraduate nursing students in the University of Gondar and Bahir Dar University, Northwest Ethiopia: A cross-sectional institution-based study. *Advances in Nursing,2016, Article ID 9294673: 1-7*

Brink, H., van der Walt, C., and van Rensburg, G. 2012. *Fundamentals of Research Methodology for Healthcare Professionals*. 3rd ed. Cape Town: Juta.

Buhat-Mendoza, D. G., Buhat-Mendoza, J. N., Tianela, C.T. and Fabella, E. L. 2014. Correlation of the academic and clinical performance of Libyan nursing students. *Journal of Nursing Education and Practice,* 4(11): 82-90.

Burns, N. and Grove, S. K. 2009.*The practice of nursing research appraisal, synthesis, and generation of evidence*. 6th ed. Missouri: Saunders Elsevier.

Cameron, J. 2018. Preceptor Manual, College of Nursing and Midwifery, Charles Darwin University, Australia. 2018. Available: https://www.cdu.edu.au/sites/default/files/health/docs/cdu-bmid-preceptor-manual.pdf (Accessed 11 January 2019).

Cheng.V. and Catling, J.C. 2018. The Role of resilience, delayed gratification and stress in predicting academic performance. *Psychology Teaching Review,* 24(1): 44-52.

Collins English Dictionary.1979. Available: https://www.collinsdictionary.com/dictionary/english (Accessed 11 January 2019)

Creswell, J. W. 2014. *Research Design*. International student edition. *Qualitative, quantitative, and mixed methods approaches*. 4th ed. Los Angeles: SAGE.

Day- Stirk, F., Laski, L. And Mason, E. 2014 *The state of the world's midwifery: a universal pathway, a woman's right to health*, New York City, N.Y.: United Nations Population Fund. Available: https://www.ncbi.nlm.nih.gov/pubmed/25518862 (Accessed 30 march 2019)

Dela Cruz, R.B and Guido, R.M.D. 2013. Factors affecting academic performance of BS Astronomy Technology students. *International Journal of Engineering Research and Technology (IJERT))*, 2(12): 84-94.

De Vos, A. S., Strydom, H., Fouchè, C.B. and Delport, C. S. L. 2011. *Research at grass roots for social sciences and human services profession.* 3rd ed. Pretoria: Van Schaik.

Dube, M.B. and Mlotshwa, P.R. 2018. Factors influencing enrolled nursing students' academic performance at a selected private nursing education institution in KwaZulu-Natal. *Curationis*, 41(1):1-7.

Education Evolving. 2016. Our working definition of student achievement and school quality. Available: https://www.educationevolving.org/files/Definition-Achievement-School-Quality.pdf (Accessed 16 July 2018)

Ella, R.E., Akpabio, I. I. and Samson-Akpan, P.E. 2015. Influence of study habits on undergraduate nursing students' academic performance in University of Calabar, Nigeria. *American Journal of Nursing*,1(3): 1-6

Elsabagh, E.E.M. and Elhefnawy, K.A.H. 2017. Factors affecting the academic performance among female nursing students. *International Journal of Current Research*, 9(2): 46914-46920.

Fakude, X.S. 2012. *Some factors which contribute to poor academic achievement among undergraduate students at a tertiary institution.* M. Educational Psychology, University of Zululand. Available: http://uzspace.unizulu.ac.za/xmlui/handle/10530/1213 (Accessed 12 March 2016).

George, L.S., Lakra, A.J. and Kamath, A. 2017. Factors affecting learning among undergraduate nursing students: cross-sectional survey. *Journal of Clinical and Diagnostic Research*, *11*(11): JC01-JC04:1-4.

Ghasemi, M.R., Moonaghi, H.K.and Heydari, A. 2018. Student-related factors affecting academic engagement: A qualitative study exploring the experiences of Iranian undergraduate nursing students. *Electronic Physician,*10(7): 7078-7085.

Gibson, K. 2009. "Business Dictionary.com", *Reference Reviews.* 23(2): 25-26.

Hakimzadeh, R., Ghodrati, A., Karamdost, N., Ghodrati, H. and Mirmosavi, J. 2013. Factors affecting the teaching-learning in nursing education. *GSE (Global Summit of Education) Journal of Education,2013:* 174-184.

Henning, E., Van Rensburg, W. and Smit, B. 2004. *Finding your way in qualitative research.* Pretoria: Van Schaik.

Horejsi, C. R. and Garthwait, C. L. 2002. *The social work practicum: A guide and workbook for students.* 2nd ed. Boston: Allyn and Bacon.

International Confederation of Midwives' Council. 1954. Available: www.internationalmidwives.org (Accessed 15 October 2017)

International Confederation of Midwives' Council. 2017. ICM *International definition of the midwife.* Available: https://www.internationalmidwives.org/assets/files/definitions-files/2018/06/eng-definition_of_the_midwife-2017.pdf (Accessed 15 October 2017)

Jayanthi, S. V., Balakrishnan, S., Ching, A.L.S., Latiff, N.A.A. and Nasirudeen, A.M.A. 2014.Factors contributing to academic performance of students in a tertiary institution in Singapore. *American Journal of Educational Research*, 2(9): 752-758.

Joykutty, A., Lakhani, R., Cruz, P., Pandit, J., Deshpande, V. and Bhagat, S. 2012. *A study of the selected factors influencing the academic performance of first year basic B.SC. nursing students of colleges affiliated to Maharashtra University of Health Sciences, Nashik*. Virginia Henderson Global Nursing e-Repository. Available: https://www.nursingrepository.org/bitstream/10755/550468/3/research.pdf (Accessed 4 March 2018)

Kaiser-Meyer-Olkin. 2017. *KMO Test – How to interpret properly*. Available: https://www.statisticshowto.com/kaiser-meyer-olkin/ (Accessed 4 March 2018)

Kapur, R. 2018. Factors influencing the student's academic performance in secondary schools in India. Available:

https://www.researchgate.net/publication/325035669_Factors_Influencing_Performance_and_Job_Satisfaction_of_Teachers_in_Secondary_Schools_in_India (Accessed 16 February 2020).

KwaZulu-Natal. Department of Health. n.d. Study leave agreement entered into, by and between the KwaZulu-Natal Department of Health, for and on behalf of the KwaZulu-Natal Provincial Government and the Employee. Government Printer, Province of KwaZulu-Natal Health Services

Langtree, E.M., Razak, A. and Haffejee, F. 2018. Factors causing stress among first-year students attending a nursing college in KwaZulu-Natal, South Africa, *African Journal of Health Professions Education,* 10(2): 90-94.

Lizalde-Hernadez, A., Marin-Laredo, M., Valenzuela-Gandarilla, J., Alvarez-Huante, C.G. and Dimas-Palacios, C. 2016. Academic performance in nursing graduate students. *ECORFAN-Bolivia Journal*, 3(4): 15-22.

Love, K. 2014. A mid-range theory of Empowered Holistic Nursing Education: A pedagogy for a student-centered classroom. *Creative Nursing.* 20 (1): 47–58.

Magulod, G.C. 2019. Learning styles, study habits and academic performance of Filipino university students in applied science courses: Implications for instruction. *Journal of Technology and Science Education,* 9(2): 184-198.

Manson, T.A. 2014. *A Relationship between matriculation English results and academic performance in nursing students at KwaZulu-Natal College of Nursing (KZNCN).* M.Tech., Durban University of Technology. Available: https://www.semanticscholar.org/paper/A-relationship-between-matriculation-English-and-in-Manson/2ce4141b4a3b8bc8b8568790c841f4ef343f68a0 (Accessed 15 October 2016).

Mcdonald, J.H.2014.Handbook of Biological Statistics (3rd ed.) Sparky House Publishing, Baltimore, Maryland, p157-164. Available: https: www.biostathandbook.com/kruskalwallis.html (Accessed 25 August 2018)

Mthimunye, K. and Daniels, F.M. 2019. Predictors of academic performance, success and retention amongst undergraduate nursing students: A systemic review. *South African Journal of Higher Education,* 33(1): 200-220.

Mushtaq, I. and Nawaz Khan, S. N. 2012. Factors affecting students' academic performance. *Global Journal of Management and Business Research,* 12(9): 17-22.

Mushtaq, K., Hussain, M., Afzal, M. and Gilani, S.A. 2019. Factors affecting the academic performance of undergraduate student nurses. *National Journal of Health Sciences,* 4: 71-79.

Nwambo, J.C., Ilo, C.I., Agbapuonwu, N. and Nwankwo, U.C. 2016. Perception of student nurses on variables influencing academic achievement in Nnamdi Azikiwe University, Anambra State Nigeria. *American Journal of Nursing Science,* 5(6): 258-265.

Okanga, A.A., Ogur, J.O. and Arudo, J. 2017. Institutional characteristics influencing Bachelor of Science nursing students' performance in the Nursing Council of Kenya Licensure Examinations in Kenya. *Journal of Education and e-Learning Research,* 4(1): 28-36.

Polit, D.F. and Beck, C.T. 2012. *Nursing research: generating and assessing evidence for nursing practice.* 9th ed. Philadelphia. Lippincott Williams and Wilkins.

Poorgholami, F., Ramezanli, S., Jahromi, M.K. and Jahromi, Z.B. 2016. Nursing students' clinical performance and professional self-concept. *Bangladesh Journal of Medical Science,*15(1): 57-61.

Reddy, V.B., Gupta, A. and Singh, A.K. 2017. A study to assess factors affecting the performance of undergraduate medical students in academic examination in community medicine and public health. *International Journal of Community Medicine and Public Health,*4(4): 1066-1070.

Richard, (no initial).2015. Midwife Training in the UK: The Complete Guide! -How2 Become(blog). Available: https://www.how2become.com/blog/training-to-become-a-midwife/ (Accessed 05 June 2018)

Saleh, S., Ashari, Z.M. and Kosnin, A, M. 2019. Students' motivation to learn, academic achievement, and academic advising: a meta-analysis. *Kemanusiaan Special issue of seventh international graduate conference on engineering, science and humanities,* 17: (1-S) 24–27

Sibanda, L., Iwu, C.G. and Benedict, O.H. 2015. Factors influencing academic performance of university students. *Demography and Social Economy,* 2(24): 103-115.

South Africa. Department: Health (DoH). 2005. *KwaZulu-Natal College of Nursing, Learner Information Guide and Rules.* Pretoria: Government Printer.

South Africa. Department of Health (DoH). 2011-2013. *Saving Mothers: Sixth Report on the Confidential Enquiries into Maternal Deaths in South Africa.* Pretoria: Government Printer.

South Africa. Department of Health (DoH). 2012. *South African National Strategic Plan for a Campaign on Accelerated Reduction of Maternal and Child Mortality in Africa (CARMMA*). Pretoria: Government Printer.

South Africa. Department of Health (DoH). 2012/2013.*The National Strategic Plan for Nurse Education, Training and Practice, 2012/2013 - 2016/2017.* Pretoria: Government Printer.

South Africa. Department of Health. (DOH) 2014. Service *Delivery Improvement Plan 2016/17-2018/19.* Pretoria: Government Printer.

South Africa. Department of Health. 2016. *Kwazulu-Natal College of Nursing Training Plan.* Pietermaritzburg: Government Printer.

South African Nursing Council (SANC).1975. *R254 (Diploma in Midwifery for Registration as a Midwife one-year course, Directive for training).* Pretoria: South African Nursing Council. Available: https://www.sanc.co.za/regulat/Reg-mid.htm (Accessed 20 February 2016)

South African Nursing Council (SANC).1985. *R425 (Regulations Relating to the Approval of and the Minimum Requirements for the Education and Training of a Nurse (General, Psychiatric and Community) and Midwife leading to Registration).* Pretoria: South African Nursing Council. Available: https://www.sanc.co.za/regulat/Reg-4yr.htm (Accessed 20 February 2016)

South African Nursing Council (SANC).1989. *R683 (Regulations Relating to the Minimum Requirements for a Bridging Course for Enrolled Nurses Leading to Registration as a General Nurse or a Psychiatric Nurse*. Pretoria: South African Nursing Council. Available: https://www.sanc.co.za/regulat/Reg-brg.htm(Accessed 20 February 2016)

South African Nursing Council (SANC). n.d. *Under the Provisions of the Nursing Act, 2005. Nursing Education and Training Standards.* Pretoria: South African Nursing Council. Available: https://www.sanc.co.za/pdf/Educ&Train/Nursing%20Education%20and%20Training%20Standards.pdf (Accessed 05 May 2016).

South African Nursing Council (SANC). 2007.*Circular 6 of 2/2007.Re-entry into the Council examination to rewrite failed examination papers/portions.* Pretoria: South African Nursing Council.

South African Nursing Council (SANC). 2014. *Education and training of nursing and midwifery students*. Available: https://www.sanc.co.za/education_and_training.htm (Accessed 05 May 2019)

South African Nursing Council (SANC). 2015. *Examination results (for publication) 2016/02/27 final examination for the diploma in midwifery.* Pretoria: South African Nursing Council. Available: https://www.sanc.co.za/ExamsResults.htm (Accessed 20 February 2016)

South African Nursing Council. (SANC) 2016. *Examination results (for publication) 2016/07/27 final examination for the diploma in midwifery, 2.* Pretoria: South African Nursing Council. Available: https://www.sanc.co.za/ExamsResults.htm (Accessed 20 August 2016)

Statistics, South Africa. 2016. *Population Characteristics, Media Release: Registration of live births improves……but not every pregnancy results in a live birth and not every live birth survives*. Available: http://www.statssa.gov.za/?p=8823 (Accessed 15 October 2017)

Stock, R., Lynam, S. and Cachia, M. 2018. Academic success: The role of mental toughness in predicting and creating success. *Higher Education Pedagogies,* 3: 429-433.

Tower, L. 2015. "Specialising in Normal": An overview of Midwifery in the US. University Honors Theses. Paper 126. Available: https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=1182&content=honorsthe… (Accessed: 30 March 2019).

Vedam, S., Stoll, K., MacDorman, M., Declercq, E., Cramer, R., Cheyney, M., Fisher, T, Butt, E., Yang, T. and Powell Kennedy, H. 2018. Mapping integration of midwives across the United States: Impact on access, equity, and outcomes. *PLoS ONE*. 21;13(2): e0192523. doi: 10.1371/journal.pone.0192523.

World Health Organization,2010. Health Statistics and Information Systems: Definition of Maternal Death. Available: https://www.who.int/healthinfo/statistics/indmaternalmortality/en/ (Accessed 4 April 2018)

World Health Organization.2019. Maternal Mortality: Key facts. Available: https://www.who.int/news-room/fact-sheets/detail/maternal-mortality (Accessed 4 April 2018)

Xiao, H., Wu, W., Lin, Y. and Zhang, X. 2014. Relationship of academic courses and clinical internships to performance on the National Qualified Examination for Registered Professional Nurses (NQEX-RPN). *International Journal of Nursing Sciences,*1: 400-404.

Yigzaw, T., Ayalew, F., Kim, Y.M., Gelagay, M., Dejene, D., Gibson, H., Teshome, A., Broerse, J. and Stekelenburg, J. 2015. How well does pre-service education prepare midwives for practice: competence assessment of midwifery students at the point of graduation in Ethiopia. *BMC Medical Education,*15(130*):*1-10

Yunlok, L. 2019. What is academic performance? Available: https://www.quora.com (Accessed 18 November 2019).

Appendix 1a: IREC Provisional Approval

Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Berwyn Court
Gate 1, Steve Biko Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

8 May 2018

IREC Reference Number: **REC 34/18**

Mrs S Mahadeo
324 Khan Riad
Raisethorpe
Pietermaritzburg
Kwazulu-Natal
3201

Dear Mrs Mahadeo

Factors influencing student midwives' academic performance in selected Campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives

I am pleased to inform you that **PROVISIONAL APPROVAL** has been granted to your proposal REC 34/18 subject to:

- Piloting of the data collection tool. *Please note that should there be any changes to the data collection tool, in a letter signed by the researcher and supervisor, list the changes to the documents and submit to IREC with the final data collection tool. Even when there are no changes to the data collection tool, IREC has to be notified.*
- Obtaining and submitting the necessary gatekeeper permission/s to Institutional Research Ethics Committee (IREC).

PLEASE NOTE THAT THIS IS NOT A FINAL APPROVAL LETTER. KINDLY SUBMIT THE ABOVE MENTIONED DOCUMENTS WITHIN THREE MONTHS TO THE IREC OFFICE. DATA COLLECTION CAN ONLY COMMENCE WHEN IREC ISSUES FULL APPROVAL

The Proposal has been allocated the following Ethical Clearance number **IREC 041/18**. Please use this number in all communication with this office.

Approval has been granted for a period of two years, before the expiry of which you are required to apply for safety monitoring and annual recertification. Please use the Safety Monitoring and Annual Recertification Report form which can be found in the Standard Operating Procedures [SOP's] of the IREC. This form must be submitted to the IREC at least 3 months before the ethics approval for the study expires.

Yours Sincerely

Professor J K Adam
Chairperson: IREC

DUT DURBAN UNIVERSITY OF TECHNOLOGY
2018 -05- 08
INSITUTUTIONAL RESEARCH ETHICS COMMITTEE
P O BOX 1334 DURBAN 4000 SOUTH AFRICA

Appendix 1b: IREC full approval

DUT
DURBAN UNIVERSITY OF TECHNOLOGY

Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Berwyn Court
Gate 1, Steve Biko Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

28 August 2018

IREC Reference Number: **REC 34/18**

Mrs S Mahadeo
324 Khan Road
Raisethorpe
Pietermaritzburg
Kwazulu-Natal
3201

Dear Mrs Mahadeo

Factors influencing student midwives' academic performance in selected Campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives

The Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

Kindly ensure that participants used for the pilot study are not part of the main study.

In addition, the IREC acknowledges receipt of your gatekeeper permission letters.

Please note that FULL APPROVAL is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC SOP's.

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely,

DUT
2018 -08- 28

Professor J K Adam
Chairperson: IREC

Appendix 2a: Letter requesting permission from the Department of Health

324 Khan Road
Raisethorpe
Pietermaritzburg
3201
04 August 2017

The Health Research and Management Component
KwaZulu-Natal Department of Health
Private Bag X9051
Pietermaritzburg
3201

Dear Sir/Madam

Request for permission to conduct a study at the KwaZulu-Natal College of Nursing.

I am presently registered as a Masters Student at the Durban University of Technology, in the Department of Nursing. The proposed title of my research is: **Factors influencing student midwives' academic performance in selected campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives.**

The aim of the study is to describe the factors that influence academic performance of student midwives in selected colleges in KZN. The objectives of the study are to describe the factors that affect the academic performance of student midwives and to determine and describe the sources of the factors identified. Five main campuses of the KZNCN in two Districts will be included in the study. Data will be collected from the student midwives, of the R254 programme using a questionnaire.

I hereby request the permission to conduct the study at the selected campuses. I enclosed a copy of the proposal for your perusal.

Your approval and support will be greatly appreciated.

Yours faithfully,

…… ……..

Mrs.S. Mahadeo(student) Dr.T.S.P. Ngxongo(supervisor)
Contact number: 076 742 3593 Contact number 031 3732609
email: shaminmahadeo123@gmail.com email: thembelihlen@dut.ac.za

Appendix 2b: Permission from Department of Health.

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

330 Langalibalele street,
Private Bag X9051 PMB, 3200
Tel: 033 395 2805/3189/3123 Fax: 033 394 3782
Email: hrkm@kznhealth.gov.za
www.kznhealth.gov.za

DIRECTORATE:
Health Research & Knowledge Management (HKRM)

Reference: HRKM195/18
KZ_201805_023

19 July 2018

Dear Mrs S Mahadeo
(DUT)

Subject: Approval of a Research Proposal

1. The research proposal titled **'Factors influencing student midwives' academic performance in selected Campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives'** was reviewed by the KwaZulu-Natal Department of Health (KZN-DoH).

   The proposal is hereby **approved** for research to be undertaken at RK Khan, King Edward VIII, Edendale, Prince Mshiyeni Memorial and Greys Hospitals' Nursing Campuses.

2. You are requested to take note of the following:
   a. Make the necessary arrangement with the identified facilities before commencing with your research project.
   b. Provide an interim progress report and final report (electronic and hard copies) when your research is complete.

3. Your final report must be posted to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to hrkm@kznhealth.gov.za

For any additional information please contact Ms G Khumalo on 033-395 3189.

Yours Sincerely

Dr E Lutge
Chairperson, Health Research Committee
Date: 19/07/18

Fighting Disease, Fighting Poverty, Giving Hope

Appendix 3a: Letter requesting permission from the KwaZulu-Natal College of Nursing (KZNCN)

324 Khan Road
Raisethorpe
Pietermaritzburg
3201
04 August 2017

The Principal
KwaZulu-Natal College of Nursing
Private Bag X9089
Pietermaritzburg
3200

Dear Sir/Madam

Request for permission to conduct a study at the KwaZulu-Natal College of Nursing.

I am presently registered as a Masters Student at the Durban University of Technology, in the Department of Nursing. The proposed title of my research is: **Factors influencing student midwives' academic performance in selected campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives.**

The aim of the study is to describe the factors that influence academic performance of student midwives in selected colleges in KZN. The objectives of the study are to describe the factors that affect the academic performance of student midwives and to determine and describe the sources of the factors identified. Five main campuses of the KZNCN in two Districts will be included in the study. Data will be collected from the student midwives, of the R254 program using a questionnaire.

I hereby request the permission to conduct the study at the selected campuses. I enclosed a copy of the proposal for your perusal.

Your approval and support will be greatly appreciated.

Yours faithfully,

…….
Mrs.S. Mahadeo (student)
Contact number: 076 742 3593
email: shaminmahadeo123@gmail.com

…….
Dr.T.S.P. Ngxongo (supervisor)
Contact number:083 376 1747/ 031 732609
email: thembelihlen@dut.ac.za

Appendix 3b: Permission from KwaZulu-Natal College of Nursing (KZNCN)

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:
KwaZulu-Natal College of Nursing

Physical Address : 211 Pietermaritz Street , Pietermaritzburg 3200
Postal Address: Private Bag X 9089 Pietermaritzburg 3200
Tel: 033 264 7800 Fax: 033 394 7238 Email: sindizama.mthembu@kznhealth.gov.za
www.kznhealth.gov.za

Reference: Mrs S Maharaj
Date: 11 June 2018

Principal Investigator: Mahadeo Shamin
Durban University of Technology
Student No: 21345120

RE: **Gate Keeper Permission to conduct research at the KZN College of Nursing.**

TITLE: **Factors influencing student midwives academic performance in selected Campuses of KwaZulu-Natal College of Nursing: Exploring Student's Perspective**

Dear Mrs. S. Mahadeo

I have the pleasure in informing you that Gate Keeper permission has been granted to you as per the above request by the Principal of the KZN College of Nursing.

Data Collection site(s):- KZN College of Nursing Campuses

(1) RK Khan **(2) Prince Mshiyeni**
(3) King Edward VIII **(4) Greys**
(5) Edendale

Please note the following:

1. Please ensure that you adhere to all policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
2. This research can only commence once you have received approval from the Provincial Health Research Committee in the KZN Department of Health.
3. Gate keeper permission is therefore granted for you to conduct this research at the above identified campuses after consultation with the Campus Principals.
4. The KwaZulu-Natal College and its NEI's will not be providing you with any resources for this research.
5. You will be expected to provide feedback on your findings to the Principal of the KwaZulu-Natal College of Nursing.

Thank You

DR. S.Z MTHEMBU
PRINCIPAL: KZN COLLEGE OF NURSING

Appendix 4a: Letter requesting permission from the selected nursing campus (sample).

324 Khan Road
Raisethorpe
Pietermaritzburg
3201
04 August 2017

The Principal
----------Nursing Campus
Private Bag X9099
Pietermaritzburg
3200
After Greetings,
Dear Madam

Request for permission to conduct a study at the KwaZulu-Natal College of Nursing.

I am presently registered as a Masters Student at the Durban University of Technology, in the Department of Nursing. The proposed title of my research is: **Factors influencing student midwives' academic performance in selected campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives.**
The aim of the study is to describe the factors that influence academic performance of student midwives in selected campuses in KwaZulu-Natal. The objectives of the study are to describe the factors that affect the academic performance of student midwives and to analyse the sources of the factors identified. Five main campuses of the KwaZulu-Natal College of Nursing in two Districts (uMgungundlovu and eThekwini) will be included in the study. Data will be collected from the student midwives of the R254 programme using a questionnaire.

I hereby request the permission to conduct the study at your campus. I enclosed a copy of the proposal for your perusal.
Your approval and support will be greatly appreciated.

Yours faithfully,

…….
Mrs.S. Mahadeo (student)
Contact number: 076 742 3593
email: shaminmahadeo123@gmail.com

…….
Dr.T.S.P. Ngxongo (supervisor)
Contact number: 031 3732609
email: thembelihlen@dut.ac.za

Appendix 4b: Letter of permission from selected Nursing Campus

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:
KwaZulu - Natal College of Nursing:
Grey's Campus

Postal Address: Private Bag X 9001, Pietermaritzburg, 3200
Physical Address: 201 Townbush Road, Northern Park, Pietermaritzburg, 3200
Tel: 033 897 3503 Fax:033 897 3500 Email: busi.shezi@kznhealth.gov.za
www.kznhealth.gov.za

Reference: Mrs B.E. Shezi
Date: 28 June 2018

Principal Investigator: Mrs Mahadeo Shamin
Student number: 21345120
Durban University of Technology

RE: Greys Campus permission to conduct research study.

TITLE: Factors influencing student midwives' academic performance in selected campuses of KwaZulu-Natal College of Nursing: Exploring student's perspective.

Dear Madam

I have a pleasure to inform you that permission has been granted to conduct your research study: Data collection.

We request to give us a feedback of your research study findings once you have completed.

Thank you

MRS BE SHEZI
CAMPUS PRINCIPAL

28/06/2018
DATE

Fighting Disease, Fighting Poverty, Giving Hope

Appendix 4c: Letter of permission from selected Nursing Campus

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:

Physical Address : R. K. Khan Circle, Chatsworth, 4092
Postal Address : R. K. Khan Campus, Private Bag x 004, Chatsworth, 4030
Telephone : (031) 459 6187 Fax:(031) 401 5229 Email: jaya.reddy@kznhealth.gov.za
www.kznhealth.gov.za

KwaZulu Natal College of Nursing
R. K. Khan Campus

06 June 2018

SUPPORT LETTER TO CONDUCT RESEARCH AT R.K. KHAN CAMPUS

Dear Mrs S Mahadeo

Support is hereby given to you to conduct your research at R.K.Khan Campus:
FACTORS INFLUENCING STUDENT MIDWIVES' ACADEMIC PERFORMANCE IN SELECTED CAMPUSES OF KWAZULU-NATAL COLLEGE OF NURSING: EXPLORING STUDENTS' PERSPECTIVES

Please take cognizance of the following:

1. Permission to conduct research will be granted after you have received permission from Department of Health, Kwazulu-Natal College of Nursing and Ethical clearance from your University.
2. You may only collect data once you have full ethical clearance from the University, permission from the Department of Health as well as permission from Kwazulu-Natal College of Nursing.
3. You must adhere to all policies, procedures, protocols and guidelines of the Department regarding research
5. Please inform our institution before research is commenced
6. Please provide a copy of your research report to the Campus on completion of the study.

Best wishes for your studies

Mrs. J Reddy
Campus Principal

KZN COLLEGE OF NURSING
R.K. KHAN CAMPUS
0 6 JUN 2018
PRIVATE BAG/PRIVAATSAK X004
CHATSWORTH
4030

Fighting Disease, Fighting Poverty, Giving Hope

Appendix 4d: Letter of permission from selected Nursing Campus

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

KWAZULU-NATAL COLLEGE OF NURSING
PRINCE MSHIYENI MEMORIAL CAMPUS
Physical Address: Mangosuthu Highway, Durban, 4000
Physical Address: Private Bag X10, Mobeni, 4060
Tel: +27(031) 907 8313/ 8314 Fax: +27(031) 906 7772 Email: Rozana.Bridgemohan@kznhealth.gov.za
www.kznhealth.gov.za

Directorate: PRINCIPAL OFFICE

Date: 18 June 2018

Mrs. S. Mahadeo
Durban University of Technology
Steve Biko Campus

Dear Mrs.S. Mahadeo

Re: Permission to conduct a research study at Prince Mshiyeni Memorial Campus

Title of the study: Factors influencing student midwives' academic performance in selected campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives.

In response to your request dated 04 June 2018, I am pleased to inform you that your application to conduct a research study at Prince Mshiyeni Nursing Campus has been granted.
I note with appreciation that you have provisional approval from IREC, Durban University of Technology.
Please abide by the stipulations of Kwa – Zulu Natal College of Nursing and KZN Department of Health. Kindly communicate the outcome of your study by submitting a written report to the Prince Mshiyeni Memorial Campus Principal

Thank you

Mrs. R. Bridgemohan
Campus Principal

Fighting Disease, Fighting Poverty, Giving Hope

Appendix 4e: Letter of permission from selected Nursing Campus

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:

Postal Address : Private Bag X9099, Pietermaritzburg, 3200
Physical Address: 29A Havelock Road, Pietermaritzburg, 3201
Tel: 033 3927563 / 033 3459477 Email address: rhona.zondi@kznhealth.gov.za
www.kznhealth.gov.za

KWAZULU-NATAL COLLEGE OF NURSIN
EDENDALE NURSING CAMPUS S2013

Reference: Permission Letter
Enquiries: Mrs. R.T. Zondi
Date: 01 December 2020

Principal Investigator: **Mrs Shamin Mahadeo**
Durban University of Technology
Student number: 21345120

COURSE: **MHSc: Nursing**

RE: **Gatekeeper Permission to conduct research at Edendale Nursing Campus**

TITLE: FACTORS INFLUENCING STUDENT MIDWIVES' ACADEMIC PERFORMANCE IN SELECTED CAMPUSES OF KWAZULU NATAL COLLEGE OF NURSING: EXPLORING STUDENTS' PERSPECTIVES

Dear Mrs Mahadeo

It is acknowledged that the permission was granted verbally in 2018 before data collection by the ex-Principal, you are therefore granted Gate Keeper's permission in writing as per above request by the Principal – Edendale Nursing Campus.

Data Collection Site: **Edendale Nursing Campus**

Please note the following:

1. Please ensure that you adhere to all policies, procedures, protocols and guidelines of the Department of Health with regards to this research.

2. You will be expected to provide feedback on your findings to the Principal – Edendale Nursing campus.

Thank you

R.T ZONDI
EDENDALE NURSING CAMPUS PRINCIPAL

DEPARTMENT OF HEALTH KWA ZULU-NATAL
EDENDALE NURSING CAMPUS S2013
PRINCIPAL
PRIVATE BAG 9099 29 HAVELOCK ROAD
PIETERMARITZBURG PIETERMARITZBURG
3200

GROWING KWAZULU-NATAL TOGETHER

Appendix 5a: Letter of information for student midwives

Thank you so much for agreeing to participate in the study.

Title of the Research Study: Factors influencing student midwives' academic performance in selected campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives.

Principal Investigator/s/researcher: Ms. Shamin Mahadeo MHSc: Nursing Student

Co-Investigator/s/supervisor/s: Dr. TSP Ngxongo: D Nursing (Supervisor)

Brief Introduction and Purpose of the Study: Midwives are persons who are qualified and competent to independently practise midwifery in the manner and to the level prescribed, and who are capable of assuming responsibility and accountability for such practice (Nursing Act 2005: 25). The ability to apply theoretical knowledge to clinical performance is fundamental in creating competent practitioners. The student midwives are deemed competent practitioners after passing theoretical and practical/clinical examinations set by the South African Nursing Council (SANC). The aim of the study is to describe the factors that influence academic performance of student midwives, in selected campuses of nursing of KwaZulu-Natal College of Nursing (KZNCN).

Outline of the Procedures: It is imperative that you understand what the study is about before you sign the consent form to participate. Participation is voluntary and you may choose to withdraw at any stage. The researcher will request you to complete a questionnaire, which will take approximately 20-30 minutes.

Risks or Discomforts to the Participant: The study and the procedure involve no foreseeable risk and discomfort to you.

Benefits: The results from this study will be used to make recommendations to relevant stakeholders such as the nursing institution, the KZNCN, the Department of Health (DoH) and the Department of Education (DoE) to address the factors that influence student midwives' academic performance with a hope of improving midwifery training.

Reason/s why the Participant May Be Withdrawn from the Study: Your participation in this study is voluntary. You may choose not to or at any time withdraw from the study without prejudice or providing any reason for your decision.

Remuneration: There will be no monetary remuneration given to the participants.

Costs of the Study: You will incur no costs for participating in this study.

Confidentiality: The information gathered during the interview will remain strictly confidential. Data collected will be coded so that there is no link to your name. All data collected during the study will be stored in a secure, locked area.

Research-related Injury: There is no foreseeable form of injury that could take place during the study.

Persons to Contact in the Event of Any Problems or Queries: Please contact me the researcher, Ms. Shamin Mahadeo at 033 8973554 (office hours) or Mobile 076 742 3593, my supervisor, Dr.TSP.Ngxongo during office hours at 031-373 2606 or the Institutional Research Ethics administrator on 031-373 2375. Complaints can be reported to the Director: Research and Postgraduate Support, PROF C. NAPIER (carinn@dut.ac.za)

Appendix 5b: Consent form.

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher Ms. Shamin Mahadeo, about the nature, conduct, benefits and risk of this study- Researcher Ethics clearance number……
- I have also received, read and understood the above written information (Participant Letter of information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth and initials will be anonymously processed into a study report.
- In view of the requirements I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available me.

…….... …… …….. ……...

Full Name of Participant **Date** **Time** **Signature / Right Thumbprint**

I, Ms. Shamin Mahadeo herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

…….. ……. ……

Full Name of Researcher **Date** **Signature**

..... …….. ……

Full Name of Witness (If applicable) **Date** **Signature**

..... …… ……

Full Name of Legal Guardian (If applicable) **Date** **Signature**

Appendix 6: Analysis of SANC R254 Midwifery results for November 2015 and May 2016 across South Africa.

NOVEMBER 2015					
		DISTINCTIONS	ORDINARY PASS	**FAIL**	TOTAL
PRACTICAL	FIRST ENTRIES	129 (30.4%)	295 (69.1%)	**1 (0.2%)**	425 (100%)
	REPEAT ENTRIES	1 (14.3%)	6 (85.7%)	**0 (0%)**	7 (100%)
PAPER 1	FIRST ENTRIES	26 (6.1%)	264 (62.3 %)	**134 (31.6%)**	424 (100%)
	REPEAT ENTRIES	0 (0%)	24 (25.0%)	**72 (75.0%)**	96 (100%)
PAPER 11	FIRST ENTRIES	4 (0.9%)	290 (68.3%)	**131(30.8%)**	425 (100%)
	REPEAT ENTRIES	0 (0%)	9 (25.0%)	**27 (75%)**	36(100%)
PAPER 111	FIRST ENTRIES	62 (14.6%)	322 (75.8%)	**41 (9.6%)**	425 (100%)
	REPEAT ENTRIES	1 (1.5%)	36 (52.9%)	**31 (45.6%)**	68 (100%)

MAY 2016

PRACTICAL	FIRST ENTRIES	246 (35.4%)	446 (64.3%)	**2 (0.3%)**	694 (100%)
	REPEAT ENTRIES	1 (6.7%)	14 (93.3%)	**0 (0%)**	15 (100%)
PAPER 1	FIRST ENTRIES	53 (7.7%)	495 (71.5%)	**145 (20.9%)**	693 (100%)
	REPEAT ENTRIES	2 (1.2%)	87 (54.1%)	**72 (44.7%)**	161 (100%)
PAPER 11	FIRST ENTRIES	36 (5.2%)	481 (69.3%)	**177 (25.5%)**	694 (100%)
	REPEAT ENTRIES	2 (1.4%)	70 (50.0%)	**68 (48.6%)**	140 (100%)
PAPER 111	FIRST ENTRIES	29 (4.2%)	462 (66.7%)	**202 (29.1%)**	693 (100%)
	REPEAT ENTRIES	0 (0%)	25 (41.7%)	**35 (58.3%)**	60 (100%)

Appendix 7: Letter from the Professional statistician

Gill Hendry B.Sc. (Hons), M.Sc. (Wits), PhD (UKZN)
Mathematical and Statistical Services
Cell: 083 300 9896
email: hendryfam@telkomsa.net
23 March 2020
Re: Assistance with statistical aspects of the study
Please be advised that I have assisted Mrs S Mahadeo (Student number
21345120), who is presently studying for a Masters in Health Science:
Nursing at DUT, with the analysis of the data for her study.
Yours sincerely
Dr Gill Hendry
Private Consulting Statistician

Appendix 8: Certificate from Professional English Language Editor

EDIT A SHAH (PTY) LTD
REG. NO. 2018/353171/07

10 MAGENTA PLACE
CLARE ESTATE
4091
DURBAN
Tel: 0670937403
Cell: 0834637758
e-mail: tharadevishah@gmail.com

EDITING CERTIFICATE

FACTORS INFLUENCING STUDENT MIDWIVES' ACADEMIC PERFORMANCE IN SELECTED CAMPUSES OF KWAZULU-NATAL COLLEGE OF NURSING: EXPLORING STUDENTS' PERSPECTIVES / Ms. Shamin Mahadeo

I am a freelance editor specialising in proofreading and editing academic documents. I confirm that I have edited this dissertation and the references for clarity, language and layout. I used the track changes/review option in Microsoft Word. I returned the document to the author:

- Ensuring that spelling, grammar, punctuation, line spacing, and font is consistent and correct.
- Checking the List of References for consistency and style and checking entries against online databases to check accuracy of spelling and reference detail.
- Ensuring that all references in the text appear in the List of References and vice versa.

Resolving and accepting the changes in the text and references is the responsibility of the author.

My Qualifications and Experience:

- 30 years' experience as a research librarian at the University of KwaZulu-Natal and the Durban University of Technology.
- 16 years' experience in editing theses, research reports, teaching materials, journal articles, newsletters.
- Scribing, recording and transcriptions for workshops, seminars, debates.
- Facilitating and lecturing at Workers' College and Durban University of Technology.
- Master's in Library & Information Science, University of KwaZulu-Natal.
- B.Bibl.(Hons) in Library & Information Science, University of South Africa
- Higher Diploma in Education, University of South Africa.
- B.A. University of Durban-Westville

Thara Devi Shah (Director). 16 April 2020

Appendix 9: Data collection instrument

RESEARCH QUESTIONNAIRE

Date: ……

Nursing Campus: [ ] INSERT CODE

Respondent: [ ] INSERT CODE

Title of Research: Factors influencing the Academic Performance of R254 student midwives' in selected campuses of KwaZulu-Natal College of Nursing: Exploring students' perspectives.

Introduction:

The aim of the study is to describe factors that may affect the academic performance of the R254 midwifery students. R254 is the South African Nursing Council Regulations for the Course for the Diploma in Midwifery for Registration as a Midwife. Pretoria: South African Nursing Council.

The benefits of the study are to propose possible interventions to help student midwives deal with factors that may be influencing their academic performance. This will improve their chances of passing basic Midwifery and accessing post basic courses to further their careers.

SECTION A: DEMOGRAPHIC DATA

1. GENDER
Mark your response with an X

Male	Female

2. AGE

Actual age	

3. MARITAL STATUS
Mark your response with an X

Single	Married	Divorced/Separated	Co-Habiting	Widowed

4. ACTUAL NUMBER OF YEARS OF EXPERIENCE AS A REGISTERED NURSE

SECTION B: FACTORS INFLUENCING ACADEMIC PERFORMANCE

Please complete questionnaire by marking the appropriate response with an X.

B1: Motivation for studying Midwifery.
Indicate your level of agreement with the following statements:

Scale		Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
1.1	It is a basic qualification needed to access post basic specialization courses					
1.2	A Midwifery qualification will allow me to progress to a higher salary notch					
1.3	I can take advantage of the occupational specific dispensation should I decide to specialize					
1.4	I am passionate about Midwifery					
1.5	I have been motivated by colleagues					

B2: Study Habits:
Indicate your level of agreement with the following statements:

Scale		Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
2.1	I prefer to study alone					
2.2	I prefer to study in a study group					
2.3	I take the leadership role in study groups					
2.4	I lead class discussions and feedbacks					
2.5	I volunteer readily for leading project work in class					
2.6	I complete assignments and practical requirements on time					
2.7	I seek help when experiencing difficulty with assignments.					
2.8	I think and read in English when studying and adhere to the 'English policy'					
2.9	I seek clarity when I do not understand					
2.10	I use study time in class profitably					
2.11	I am distracted by sport or television programmes					
2.12	I am distracted by family and home commitments					
2.13	I have a designated, conducive place for study					
2.14	I follow a scheduled study time table					

2.15	I use a read and write method to recall information					
2.16	I revise theory on the same day of receipt					
2.17	I only study for tests and examinations the day before					
2.18	I diligently complete remedial work					
2.19.	I rely only on past questions to prepare for the examination					
2.20.	I request help from my peers when I do not understand					

B3: Self Interest:
Indicate your level of agreement with the following statements:

scale		Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
3.1	I prepare myself in advance for the lectures					
3.2.	I listen attentively in class					
3.3.	I obtain textbooks and other necessary requirements					
3.4.	I like to compete with other students					
3.5	I generally understand what is being taught					
3.6	I am able to keep pace with the rest of the class					
3.7	I experience difficulty in the transition from general to midwifery concepts and terminology					
3.8	I have a desire to achieve academic awards					

B4: Lecturer related factors:
Indicate your level of agreement with the following statements:

scale		Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
4.1	Lecturers have a good relationship with students					
4.2.	Lecturers are always well prepared for their lessons					
4..3.	Innovative teaching strategies are used					
4.4.	Lessons are well presented with use of current trends					
4.5.	Lecturers are well versed in the use of teaching aids and technology					

4.6	Lecturers are approachable and available for consultation and assistance					
4.7	I am concerned when lecturer is absent and there is no guidance					
4.8.	I am able to take notes while the lecturer is teaching					
4.9.	Lecturers allow enough time for questions and discussions					
4.10.	Lecturers foster and guide self-activity motivation and learning					
4.11	Tests and examinations are marked timeously and feedback given					
4.12	Areas of weakness are addressed and remedial work contracts are initiated					
4.13	Clinical accompaniment is done as prescribed					
4.14	Clinical facilitators and lecturers are readily available for consultation.					

B5: Institute Related Factors:
Indicate your level of agreement with the following statements:

Scale		Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
5.1.	Examination rules and regulations are explained and given in writing					
5.2.	Library resources are readily available					
5.3.	Computer resources are available and computer training provided					
5.4.	There is a full complement of lecturers					
5.5	Classrooms are conducive to learning					
5.6	Equipment is readily available					
5.7	Number of students in a class allow for individual attention					

Thank you for your participation:

Appendix 10: Composite Analysis report

Report on statistical analysis – Shamin

Methodology and report instructions

For each of the questions the frequency tables and or graphs are given. The tables include written in a format suitable for the thesis. Relevant results were used for reporting using information from this report only. All other instructions/explanations were not pasted into the final work. All tables of analysis output (that are relevant) from SPSS are put into appendices and not the chapter. The tables in this report were used for interpreting and reporting results only.
At the start of the results chapter/or in the methodology section, you need to detail which stats tests are used in the analysis. Those tests used in this analysis are outlined briefly below. You will need to GOOGLE these tests to get more info to include in your thesis chapter on methodology.

Tests used in the analysis

- Descriptive statistics including means and standard deviations, where applicable. Frequencies are represented in tables or graphs.
- Kruskal Wallis Test: Non parametric equivalent to ANOVA. A test for several independent samples that compares two or more groups of cases in one variable.
- Mann Whitney U Test: Non parametric equivalent to the independent samples t-test.
- Pearson's correlation: Correlations measure how variables or rank orders are related. Pearson's correlation coefficient is a measure of linear association.
- One sample t-test: Tests whether a mean score is significantly different from a scalar value.

Note: In SPSS a p value given as .000 is very small and reported as p<.0005; a p value of e.g. .017 is reported as p=.017

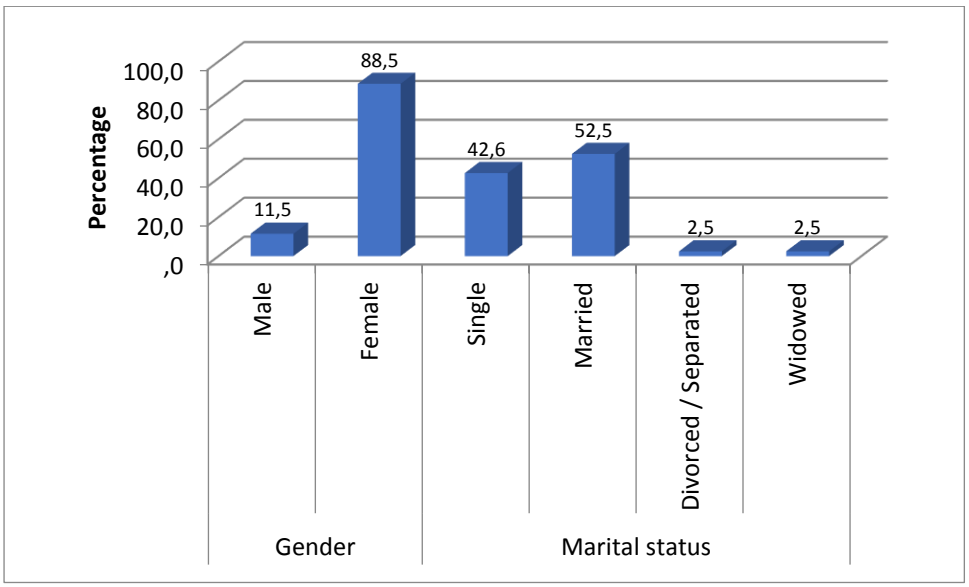
Demographics

1. GENDER

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	14	11.5	11.5	11.5
	Female	108	88.5	88.5	100.0
	Total	122	100.0	100.0	

3. MARITAL STATUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	52	42.6	42.6	42.6
	Married	64	52.5	52.5	95.1
	Divorced / Separated	3	2.5	2.5	97.5
	Widowed	3	2.5	2.5	100.0
	Total	122	100.0	100.0	



Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
2. AGE	121	25	62	43.15	7.161
4. ACTUAL NUMBER OF YEARS OF EXPERIENCE AS A REGISTERED NURSE	120	1.0	34.0	6.054	4.2795
Valid N (listwise)	120				

Section B

For each of the Likert scale questions/items, univariate analysis was done to test for significant agreement/disagreement to the statement (i.e., average score is sig different from a neutral/central score of 3). Test used in one-sample t-test.
Application of factor analysis was done to see if there are any groupings within each section. If there were, single factor measures that are reliable were formed and used for further analysis.

1.1 It is a basic qualification needed to access post basic specialization courses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	13.1	13.2	13.2
	Slightly disagree	3	2.5	2.5	15.7
	Neutral	3	2.5	2.5	18.2
	Slightly agree	8	6.6	6.6	24.8
	Strongly agree	91	74.6	75.2	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

1.1 It is a basic qualification needed to access post basic specialization courses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	13.1	13.2	13.2
	Slightly disagree	3	2.5	2.5	15.7
	Neutral	3	2.5	2.5	18.2
	Slightly agree	8	6.6	6.6	24.8
	Strongly agree	91	74.6	75.2	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		

1.2 A Midwifery qualification will allow me to progress to a higher salary notch

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	72	59.0	60.5	60.5
	Slightly disagree	11	9.0	9.2	69.7
	Neutral	6	4.9	5.0	74.8
	Slightly agree	12	9.8	10.1	84.9
	Strongly agree	18	14.8	15.1	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

1.3 I can take advantage of the occupational specific dispensation should I decide to specialize

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	15	12.3	13.3	13.3
	Slightly disagree	5	4.1	4.4	17.7
	Neutral	16	13.1	14.2	31.9
	Slightly agree	20	16.4	17.7	49.6
	Strongly agree	57	46.7	50.4	100.0
	Total	113	92.6	100.0	
Missing	System	9	7.4		
Total		122	100.0		

1.4 I am passionate about Midwifery

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.4	3.4
	Slightly disagree	4	3.3	3.4	6.8
	Neutral	21	17.2	17.8	24.6
	Slightly agree	21	17.2	17.8	42.4
	Strongly agree	68	55.7	57.6	100.0
	Total	118	96.7	100.0	
Missing	System	4	3.3		
Total		122	100.0		

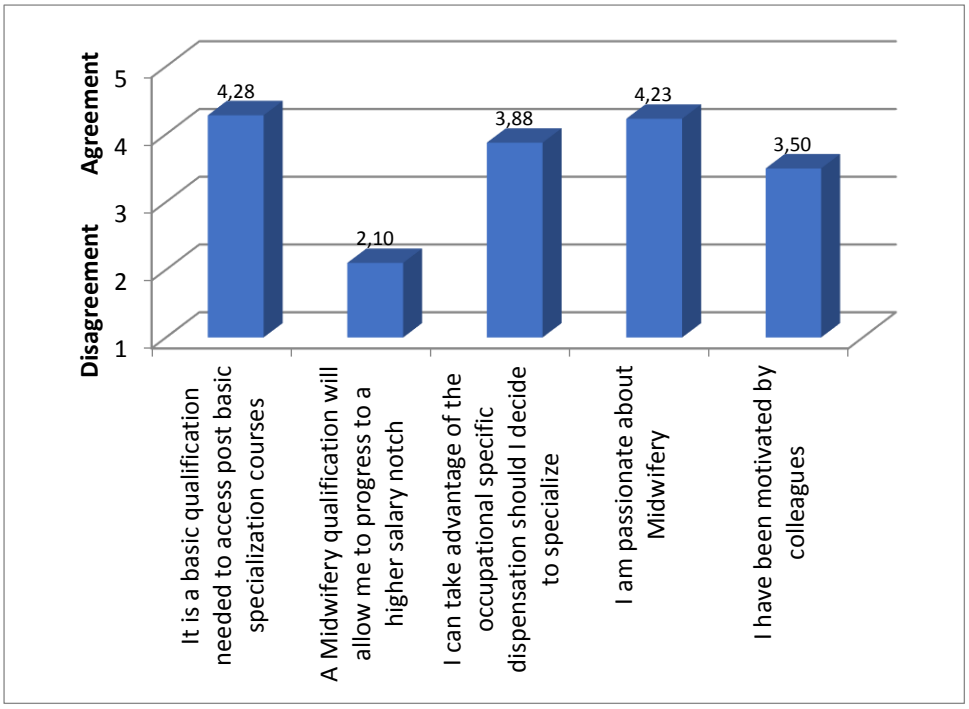
1.5 I have been motivated by colleagues

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	24	19.7	20.5	20.5
	Slightly disagree	7	5.7	6.0	26.5
	Neutral	18	14.8	15.4	41.9
	Slightly agree	23	18.9	19.7	61.5
	Strongly agree	45	36.9	38.5	100.0
	Total	117	95.9	100.0	
Missing	System	5	4.1		
Total		122	100.0		

How to interpret and report results using the following output tables.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
1.1 It is a basic qualification needed to access post basic specialization courses	121	4.28	1.416	.129
1.2 A Midwifery qualification will allow me to progress to a higher salary notch	119	2.10	1.559	.143
1.3 I can take advantage of the occupational specific dispensation should I decide to specialize	113	3.88	1.421	.134
1.4 I am passionate about Midwifery	118	4.23	1.073	.099
1.5 I have been motivated by colleagues	117	3.50	1.546	.143



One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
1.1 It is a basic qualification needed to access post basic specialization courses	9.955	120	.000	1.281	1.03	1.54
1.2 A Midwifery qualification will allow me to progress to a higher salary notch	-6.292	118	.000	-.899	-1.18	-.62
1.3 I can take advantage of the occupational specific dispensation should I decide to specialize	6.552	112	.000	.876	.61	1.14
1.4 I am passionate about Midwifery	12.435	117	.000	1.229	1.03	1.42
1.5 I have been motivated by colleagues	3.468	116	.001	.496	.21	.78

All significant results are in red. Only those are reported as follows... Interpret as sig agreement if mean>3 in top table; sig disagreement if mean<3.
These show that the average score is significantly different from a neutral score of 3. Looking at the top table, 1.2 shows sig disagreement and the others all sig agreement.
Report as:

There is significant disagreement that a midwifery qualification will lead to progression to a higher salary notch, M=2.10, t (118) = -6.292, p<.0005.
There is significant agreement that: Midwifery is needed to access post basic specialization courses, M=4.28, t (120) = 9.955, p<.0005; *(report others in between)* and respondents have been motivated by colleagues, M=3.50, t (116) = 3.468, p=.001.

Study habits

2.1 I prefer to study alone

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	43	35.2	36.1	36.1
	Slightly disagree	16	13.1	13.4	49.6
	Neutral	12	9.8	10.1	59.7
	Slightly agree	31	25.4	26.1	85.7
	Strongly agree	17	13.9	14.3	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

2.2 I prefer to study in a study group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Slightly disagree	4	3.3	3.3	6.6
	Neutral	10	8.2	8.2	14.8
	Slightly agree	21	17.2	17.2	32.0
	Strongly agree	83	68.0	68.0	100.0
	Total	122	100.0	100.0	

2.3 I take the leadership role in study groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	6.6	6.6	6.6
	Slightly disagree	14	11.5	11.6	18.2
	Neutral	48	39.3	39.7	57.9
	Slightly agree	30	24.6	24.8	82.6
	Strongly agree	21	17.2	17.4	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

2.4 I lead class discussions and feedbacks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	13	10.7	10.7	10.7
	Slightly disagree	15	12.3	12.4	23.1
	Neutral	52	42.6	43.0	66.1
	Slightly agree	28	23.0	23.1	89.3
	Strongly agree	13	10.7	10.7	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

2.5 I volunteer readily for leading project work in class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	12	9.8	10.0	10.0
	Slightly disagree	17	13.9	14.2	24.2
	Neutral	29	23.8	24.2	48.3
	Slightly agree	36	29.5	30.0	78.3
	Strongly agree	26	21.3	21.7	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

2.6 I complete assignments and practical requirements on time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Slightly disagree	3	2.5	2.5	4.9
	Neutral	5	4.1	4.1	9.0
	Slightly agree	26	21.3	21.3	30.3
	Strongly agree	85	69.7	69.7	100.0
	Total	122	100.0	100.0	

2.7 I seek help when experiencing difficulty with assignments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Slightly disagree	1	.8	.8	3.4
	Neutral	2	1.6	1.7	5.1
	Slightly agree	22	18.0	18.6	23.7
	Strongly agree	90	73.8	76.3	100.0
	Total	118	96.7	100.0	
Missing	System	4	3.3		
Total		122	100.0		

2.8 I think and read in English when studying and adhere to the 'English policy'

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.4	3.4
	Slightly disagree	6	4.9	5.0	8.4
	Neutral	6	4.9	5.0	13.4
	Slightly agree	30	24.6	25.2	38.7
	Strongly agree	73	59.8	61.3	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

2.9 I seek clarity when I do not understand

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Slightly disagree	2	1.6	1.6	4.1
	Neutral	3	2.5	2.5	6.6
	Slightly agree	12	9.8	9.8	16.4
	Strongly agree	102	83.6	83.6	100.0
	Total	122	100.0	100.0	

2.10 I use study time in class profitably

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	4.1	4.1	4.1
	Slightly disagree	3	2.5	2.5	6.6
	Neutral	10	8.2	8.3	14.9
	Slightly agree	35	28.7	28.9	43.8
	Strongly agree	68	55.7	56.2	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

2.11 I am distracted by sport or television programmes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	42	34.4	34.7	34.7
	Slightly disagree	20	16.4	16.5	51.2
	Neutral	12	9.8	9.9	61.2
	Slightly agree	30	24.6	24.8	86.0
	Strongly agree	17	13.9	14.0	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

2.12 I am distracted by family and home commitments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	13.1	13.2	13.2
	Slightly disagree	15	12.3	12.4	25.6
	Neutral	13	10.7	10.7	36.4
	Slightly agree	38	31.1	31.4	67.8
	Strongly agree	39	32.0	32.2	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

2.13 I have a designated, conducive place for study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	12	9.8	9.9	9.9
	Slightly disagree	6	4.9	5.0	14.9
	Neutral	13	10.7	10.7	25.6
	Slightly agree	37	30.3	30.6	56.2
	Strongly agree	53	43.4	43.8	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

2.14 I follow a scheduled study time table

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	10	8.2	8.4	8.4
	Slightly disagree	13	10.7	10.9	19.3
	Neutral	11	9.0	9.2	28.6
	Slightly agree	45	36.9	37.8	66.4
	Strongly agree	40	32.8	33.6	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

2.15 I use a read and write method to recall information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Slightly disagree	3	2.5	2.5	3.3
	Neutral	9	7.4	7.5	10.8
	Slightly agree	18	14.8	15.0	25.8
	Strongly agree	89	73.0	74.2	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

2.16 I revise theory on the same day of receipt

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	10	8.2	8.3	8.3
	Slightly disagree	19	15.6	15.7	24.0
	Neutral	20	16.4	16.5	40.5
	Slightly agree	43	35.2	35.5	76.0
	Strongly agree	29	23.8	24.0	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

2.17 I only study for tests and examinations the day before

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	59	48.4	48.8	48.8
	Slightly disagree	23	18.9	19.0	67.8
	Neutral	11	9.0	9.1	76.9
	Slightly agree	18	14.8	14.9	91.7
	Strongly agree	10	8.2	8.3	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

2.18 I diligently complete remedial work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	7.4	7.8	7.8
	Slightly disagree	8	6.6	6.9	14.7
	Neutral	31	25.4	26.7	41.4
	Slightly agree	26	21.3	22.4	63.8
	Strongly agree	42	34.4	36.2	100.0
	Total	116	95.1	100.0	
Missing	System	6	4.9		
Total		122	100.0		

2.19 I rely only on past questions to prepare for the examination

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	33	27.0	27.5	27.5
	Slightly disagree	15	12.3	12.5	40.0
	Neutral	9	7.4	7.5	47.5
	Slightly agree	33	27.0	27.5	75.0
	Strongly agree	30	24.6	25.0	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

2.20 I request help from my peers when I do not understand

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Slightly disagree	3	2.5	2.5	5.7
	Neutral	3	2.5	2.5	8.2
	Slightly agree	19	15.6	15.6	23.8
	Strongly agree	93	76.2	76.2	100.0
	Total	122	100.0	100.0	

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
2.1 I prefer to study alone	119	2.69	1.528	.140
2.2 I prefer to study in a study group	122	4.43	1.004	.091
2.3 I take the leadership role in study groups	121	3.35	1.101	.100
2.4 I lead class discussions and feedbacks	121	3.11	1.102	.100
2.5 I volunteer readily for leading project work in class	120	3.39	1.252	.114
2.6 I complete assignments and practical requirements on time	122	4.53	.883	.080
2.7 I seek help when experiencing difficulty with assignments.	118	4.65	.789	.073
2.8 I think and read in English when studying and adhere to the 'English policy'	119	4.36	1.023	.094
2.9 I seek clarity when I do not understand	122	4.70	.810	.073
2.10 I use study time in class profitably	121	4.31	1.015	.092
2.11 I am distracted by sport or television programmes	121	2.67	1.508	.137
2.12 I am distracted by family and home commitments	121	3.57	1.395	.127
2.13 I have a designated, conducive place for study	121	3.93	1.283	.117
2.14 I follow a scheduled study time table	119	3.77	1.258	.115
2.15 I use a read and write method to recall information	120	4.59	.804	.073
2.16 I revise theory on the same day of receipt	121	3.51	1.246	.113
2.17 I only study for tests and examinations the day before	121	2.15	1.382	.126
2.18 I diligently complete remedial work	116	3.72	1.241	.115
2.19 I rely only on past questions to prepare for the examination	120	3.10	1.585	.145
2.20 I request help from my peers when I do not understand	122	4.59	.916	.083


I request help from my peers when I do not understand
4,59
I rely only on past questions to prepare for the examination
3,10
I diligently complete remedial work
3,72
I only study for tests and examinations the day before
2,15
I revise theory on the same day of receipt
3,51
I use a read and write method to recall information
4,59
I follow a scheduled study time table
3,77
I have a designated, conducive place for study
3,93
I am distracted by family and home commitments
3.57
I am distracted by sport or television programmes
2,67
I use study time in class profitably
4,31
I seek clarity when I do not understand
4,70
I think and read in English when studying and adhere to the 'English policy'
4,36
I seek help when experiencing difficulty with assignments.
4,65
I complete assignments and practical requirements on time
4,53
I volunteer readily for leading project work in class
3,39
I lead class discussions and feedbacks
3,11
I take the leadership role in study groups
3,35
I prefer to study in a study group
4,43
I prefer to study alone
2,69
1
2
3
4
5
Disagreement
Agreement

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2.1 I prefer to study alone	-2.220	118	.028	-.311	-.59	-.03
2.2 I prefer to study in a study group	15.780	121	.000	1.434	1.25	1.61
2.3 I take the leadership role in study groups	3.468	120	.001	.347	.15	.55
2.4 I lead class discussions and feedbacks	1.073	120	.285	.107	-.09	.31
2.5 I volunteer readily for leading project work in class	3.426	119	.001	.392	.17	.62
2.6 I complete assignments and practical requirements on time	19.171	121	.000	1.533	1.37	1.69
2.7 I seek help when experiencing difficulty with assignments.	22.764	117	.000	1.653	1.51	1.80
2.8 I think and read in English when studying and adhere to the 'English policy'	14.518	118	.000	1.361	1.18	1.55
2.9 I seek clarity when I do not understand	23.250	121	.000	1.705	1.56	1.85
2.10 I use study time in class profitably	14.148	120	.000	1.306	1.12	1.49
2.11 I am distracted by sport or television programmes	-2.412	120	.017	-.331	-.60	-.06
2.12 I am distracted by family and home commitments	4.495	120	.000	.570	.32	.82
2.13 I have a designated, conducive place for study	8.008	120	.000	.934	.70	1.16
2.14 I follow a scheduled study time table	6.702	118	.000	.773	.54	1.00
2.15 I use a read and write method to recall information	21.677	119	.000	1.592	1.45	1.74
2.16 I revise theory on the same day of receipt	4.524	120	.000	.512	.29	.74
2.17 I only study for tests and examinations the day before	-6.773	120	.000	-.851	-1.10	-.60
2.18 I diligently complete remedial work	6.283	115	.000	.724	.50	.95
2.19 I rely only on past questions to prepare for the examination	.691	119	.491	.100	-.19	.39
2.20 I request help from my peers when I do not understand	19.176	121	.000	1.590	1.43	1.75

Report all except q4 and q19 –some are agreement and some are disagreement.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.673
Bartlett's Test of Sphericity	Approx. Chi-Square	301.911
	df	78
	Sig.	.000

KMO of .673 indicates that the data was adequate for successful and reliable extraction
Bartlett's test – p<.05 – indicates that correlations between items are not too low

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.078	23.677	23.677	2.497	19.207	19.207	2.364
2	1.886	14.505	38.181	1.435	11.042	30.249	1.777
3	1.615	12.426	50.607	.880	6.772	37.021	.892
4	1.078	8.292	58.899				
5	.885	6.805	65.704				
6	.807	6.210	71.914				
7	.768	5.906	77.821				
8	.641	4.931	82.751				
9	.610	4.695	87.446				
10	.518	3.983	91.429				
11	.478	3.677	95.105				
12	.366	2.815	97.920				
13	.270	2.080	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Three factors were extracted which account for 50.61% of the variance in the data

Pattern Matrix

	Factor		
	.742	.725	.458
	1	2	3
2.9 I seek clarity when I do not understand	.689		
2.6 I complete assignments and practical requirements on time	.667		
2.7 I seek help when experiencing difficulty with assignments.	.595		
2.15 I use a read and write method to recall information	.585		
2.8 I think and read in English when studying and adhere to the 'English policy'	.518		
2.20 I request help from my peers when I do not understand	.448		
2.10 I use study time in class profitably	.426		
2.4 I lead class discussions and feedbacks		.928	
2.3 I take the leadership role in study groups		.654	
2.5 I volunteer readily for leading project work in class		.556	
q2.11R			.543
q2.12R			.455
q2.17R			.404

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

The factors need to be given labels – you decide what works for the groups of items. The factors are tested for reliability using Cronbach's alpha. Alpha >.7 is considered to indicate a reliable measure

F1 Study methods (STUDY) alpha = .742
F2 Leadership (LEAD) alpha = .725
F3 Distractions (DIST) alpha - .458

The last factor is not reliable and will not be used further.
Single measures are formed for this factor by averaging scores for the items in the factor
One-sample t-test is applied to the single measure to test for sig agreement/disagreement...

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
STUDY	122	4.5301	.56500	.05115
LEAD	121	3.2824	.92517	.08411

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
STUDY	29.912	121	.000	1.53005	1.4288	1.6313
LEAD	3.357	120	.001	.28237	.1158	.4489

Report both as sig agreement –LEAD is not as strong as STUDY…

Self Interest

3.1 I prepare myself in advance for the lectures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	5.7	5.8	5.8
	Slightly disagree	5	4.1	4.1	9.9
	Neutral	16	13.1	13.2	23.1
	Slightly agree	46	37.7	38.0	61.2
	Strongly agree	47	38.5	38.8	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

3.2 I listen attentively in class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.6	1.7	1.7
	Neutral	2	1.6	1.7	3.3
	Slightly agree	20	16.4	16.5	19.8
	Strongly agree	97	79.5	80.2	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

3.3 I obtain textbooks and other necessary requirements

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Slightly disagree	1	.8	.8	3.3
	Neutral	4	3.3	3.3	6.7
	Slightly agree	8	6.6	6.7	13.3
	Strongly agree	104	85.2	86.7	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

3.4 I like to compete with other students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	28	23.0	23.3	23.3
	Slightly disagree	7	5.7	5.8	29.2
	Neutral	26	21.3	21.7	50.8
	Slightly agree	25	20.5	20.8	71.7
	Strongly agree	34	27.9	28.3	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

3.5 I generally understand what is being taught

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Slightly disagree	4	3.3	3.3	5.8
	Neutral	26	21.3	21.7	27.5
	Slightly agree	50	41.0	41.7	69.2
	Strongly agree	37	30.3	30.8	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

3.6 I am able to keep pace with the rest of the class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Slightly disagree	7	5.7	5.8	6.6
	Neutral	23	18.9	19.0	25.6
	Slightly agree	41	33.6	33.9	59.5
	Strongly agree	49	40.2	40.5	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

3.7 I experience difficulty in the transition from general to midwifery concepts and terminology

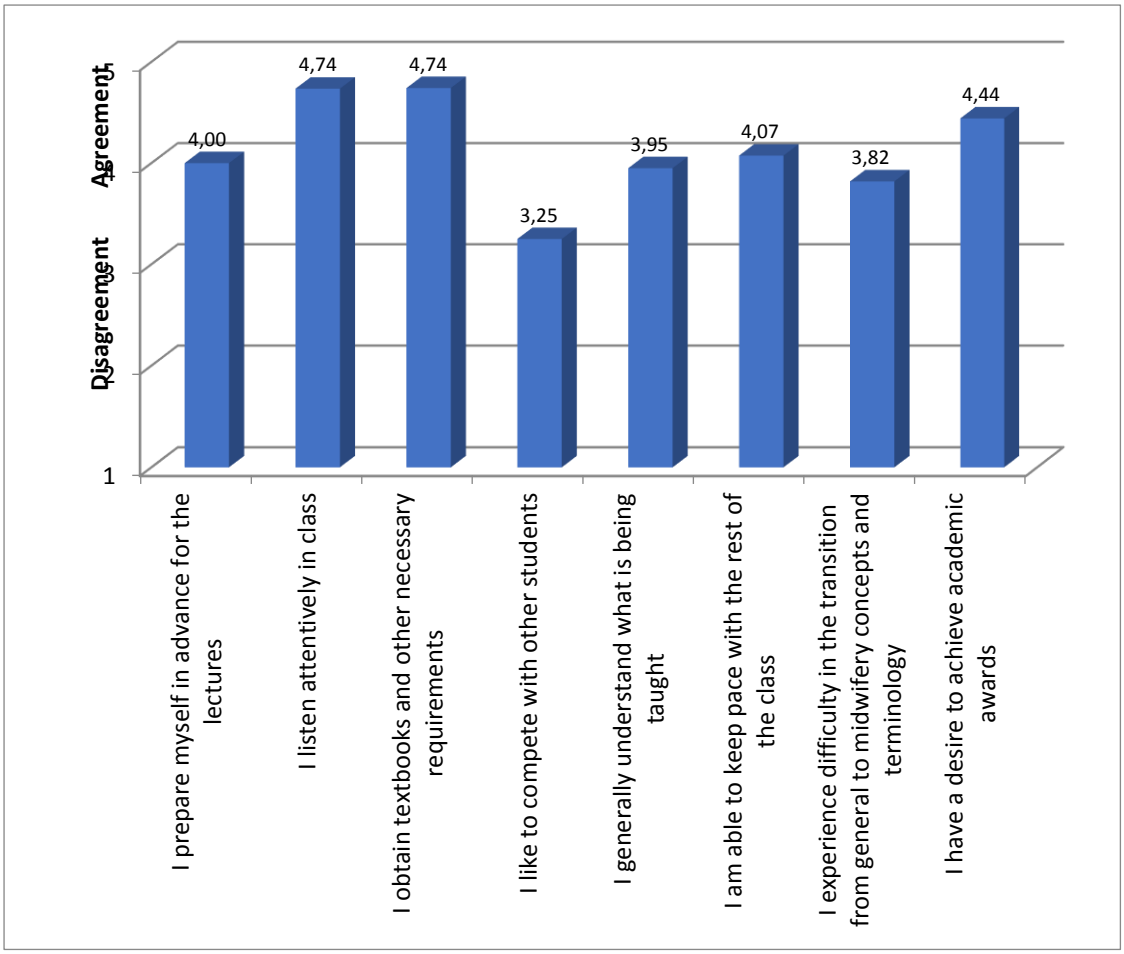
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	11.5	11.5	11.5
	Slightly disagree	9	7.4	7.4	18.9
	Neutral	7	5.7	5.7	24.6
	Slightly agree	47	38.5	38.5	63.1
	Strongly agree	45	36.9	36.9	100.0
	Total	122	100.0	100.0	

3.8 I have a desire to achieve academic awards

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Slightly disagree	1	.8	.8	4.2
	Neutral	16	13.1	13.3	17.5
	Slightly agree	16	13.1	13.3	30.8
	Strongly agree	83	68.0	69.2	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
3.1 I prepare myself in advance for the lectures	121	4.00	1.103	.100
3.2 I listen attentively in class	121	4.74	.655	.060
3.3 I obtain textbooks and other necessary requirements	120	4.74	.783	.071
3.4 I like to compete with other students	120	3.25	1.513	.138
3.5 I generally understand what is being taught	120	3.95	.942	.086
3.6 I am able to keep pace with the rest of the class	121	4.07	.950	.086
3.7 I experience difficulty in the transition from general to midwifery concepts and terminology	122	3.82	1.318	.119
3.8 I have a desire to achieve academic awards	120	4.44	.986	.090



All red are sig agreement... Q3.4 shows neither sig agreement nor sig disagreement.
Q3.7 was reverse coded to be in line with the other questions.
Then factor analysis was applied. Items that have low communality or loading or cross load are removed along the process.
The following is the most valid and reliable that could be found with this data.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.709
Bartlett's Test of Sphericity	Approx. Chi-Square	81.475
	df	6
	Sig.	.000

KMO of .709 indicates that the data was adequate for successful and reliable extraction
Bartlett's test – $p<.05$ – indicates that correlations between items are not too low

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.132	53.293	53.293	1.521	38.017	38.017
2	.745	18.622	71.915			
3	.649	16.230	88.145			
4	.474	11.855	100.000			

Extraction Method: Principal Axis Factoring.

One factor was extracted which accounts for 53.29% of the variance in the data

Factor Matrix[a]

	Factor
	1
3.6 I am able to keep pace with the rest of the class	.690
3.5 I generally understand what is being taught	.642
3.2 I listen attentively in class	.570
3.3 I obtain textbooks and other necessary requirements	.555

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 8 iterations required.

This factor is tested for reliability using Cronbach's alpha. Alpha>.7 is considered to indicate a reliable measure

F1 Self (SELF) alpha = .697 (this is adequate – nearly .7)

Single measures are formed for this factor by averaging scores for the items in the factor

One-sample t-test is applied to the single measure to test for sig agreement/disagreement...

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
SELF	122	4.3736	.61492	.05567

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
SELF	24.674	121	.000	1.37363	1.2634	1.4839

There is sig agreement that students are applying themselves and coping, M=4.37, t (121) = 24.674, p<.0005.

Lecturer related

4.1 Lecturers have a good relationship with students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Slightly disagree	4	3.3	3.3	6.6
	Neutral	6	4.9	4.9	11.5
	Slightly agree	22	18.0	18.0	29.5
	Strongly agree	86	70.5	70.5	100.0
	Total	122	100.0	100.0	

4.2 Lecturers are always well prepared for their lessons

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Slightly disagree	6	4.9	4.9	8.2
	Neutral	3	2.5	2.5	10.7
	Slightly agree	18	14.8	14.8	25.4
	Strongly agree	91	74.6	74.6	100.0
	Total	122	100.0	100.0	

4.3 Innovative teaching strategies are used

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Slightly disagree	5	4.1	4.1	6.6
	Neutral	12	9.8	9.9	16.5
	Slightly agree	32	26.2	26.4	43.0
	Strongly agree	69	56.6	57.0	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

4.4 Lessons are well presented with use of current trends

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Slightly disagree	7	5.7	5.7	6.6
	Neutral	8	6.6	6.6	13.1
	Slightly agree	35	28.7	28.7	41.8
	Strongly agree	71	58.2	58.2	100.0
	Total	122	100.0	100.0	

4.5 Lecturers are well versed in the use of teaching aids and technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Slightly disagree	8	6.6	6.7	7.5
	Neutral	11	9.0	9.2	16.7
	Slightly agree	21	17.2	17.5	34.2
	Strongly agree	79	64.8	65.8	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

4.6 Lecturers are approachable and available for consultation and assistance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Slightly disagree	3	2.5	2.5	3.3
	Neutral	7	5.7	5.8	9.2
	Slightly agree	18	14.8	15.0	24.2
	Strongly agree	91	74.6	75.8	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

4.7 I am concerned when lecturer is absent and there is no guidance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	15	12.3	12.5	12.5
	Slightly disagree	5	4.1	4.2	16.7
	Neutral	21	17.2	17.5	34.2
	Slightly agree	28	23.0	23.3	57.5
	Strongly agree	51	41.8	42.5	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

4.8 I am able to take notes while the lecturer is teaching

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	4.9	4.9	4.9
	Slightly disagree	4	3.3	3.3	8.2
	Neutral	11	9.0	9.0	17.2
	Slightly agree	45	36.9	36.9	54.1
	Strongly agree	56	45.9	45.9	100.0
	Total	122	100.0	100.0	

4.9 Lecturers allow enough time for questions and discussions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.6	1.7	1.7
	Slightly disagree	4	3.3	3.4	5.1
	Neutral	9	7.4	7.6	12.7
	Slightly agree	18	14.8	15.3	28.0
	Strongly agree	85	69.7	72.0	100.0
	Total	118	96.7	100.0	
Missing	System	4	3.3		
Total		122	100.0		

4.10 Lecturers foster and guide self-activity motivation and learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Slightly disagree	3	2.5	2.5	3.3
	Neutral	10	8.2	8.2	11.5
	Slightly agree	35	28.7	28.7	40.2
	Strongly agree	73	59.8	59.8	100.0
	Total	122	100.0	100.0	

4.11 Tests and examinations are marked timeously and feedback given

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	4.1	4.1	4.1
	Slightly disagree	8	6.6	6.6	10.7
	Neutral	6	4.9	4.9	15.6
	Slightly agree	28	23.0	23.0	38.5
	Strongly agree	75	61.5	61.5	100.0
	Total	122	100.0	100.0	

4.12 Areas of weakness are addressed and remedial work contracts are initiated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Slightly disagree	6	4.9	4.9	8.2
	Neutral	13	10.7	10.7	18.9
	Slightly agree	29	23.8	23.8	42.6
	Strongly agree	70	57.4	57.4	100.0
	Total	122	100.0	100.0	

4.13 Clinical accompaniment is done as prescribed

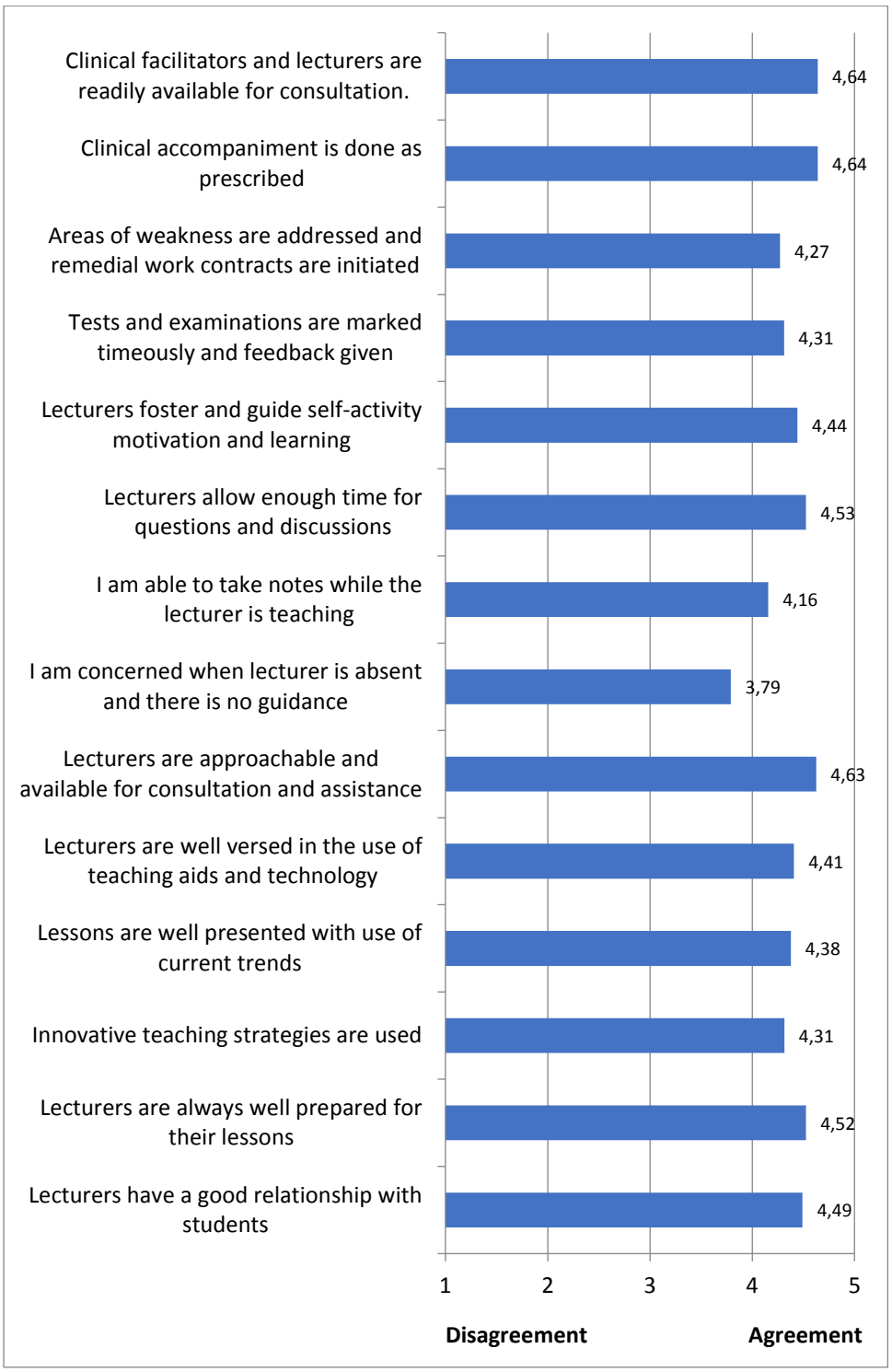
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Slightly disagree	2	1.6	1.6	4.1
	Neutral	8	6.6	6.6	10.7
	Slightly agree	10	8.2	8.2	18.9
	Strongly agree	99	81.1	81.1	100.0
	Total	122	100.0	100.0	

4.14 Clinical facilitators and lecturers are readily available for consultation.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Slightly disagree	2	1.6	1.6	4.9
	Neutral	5	4.1	4.1	9.0
	Slightly agree	12	9.8	9.8	18.9
	Strongly agree	99	81.1	81.1	100.0
	Total	122	100.0	100.0	

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
4.1 Lecturers have a good relationship with students	122	4.49	.973	.088
4.2 Lecturers are always well prepared for their lessons	122	4.52	.998	.090
4.3 Innovative teaching strategies are used	121	4.31	.983	.089
4.4 Lessons are well presented with use of current trends	122	4.38	.903	.082
4.5 Lecturers are well versed in the use of teaching aids and technology	120	4.41	.966	.088
4.6 Lecturers are approachable and available for consultation and assistance	120	4.63	.779	.071
4.7 I am concerned when lecturer is absent and there is no guidance	120	3.79	1.365	.125
4.8 I am able to take notes while the lecturer is teaching	122	4.16	1.053	.095
4.9 Lecturers allow enough time for questions and discussions	118	4.53	.903	.083
4.10 Lecturers foster and guide self-activity motivation and learning	122	4.44	.814	.074
4.11 Tests and examinations are marked timeously and feedback given	122	4.31	1.099	.100
4.12 Areas of weakness are addressed and remedial work contracts are initiated	122	4.27	1.053	.095
4.13 Clinical accompaniment is done as prescribed	122	4.64	.873	.079
4.14 Clinical facilitators and lecturers are readily available for consultation.	122	4.64	.901	.082


Clinical facilitators and lecturers are readily available for consultation.
4,64
Clinical accompaniment is done as prescribed
4,64
Areas of weakness are addressed and remedial work contracts are initiated
4,27
Tests and examinations are marked timeously and feedback given
4,31
Lecturers foster and guide self-activity motivation and learning
4,44
Lecturers allow enough time for questions and discussions
4,53
I am able to take notes while the lecturer is teaching
4,16
I am concerned when lecturer is absent and there is no guidance
3,79
Lecturers are approachable and available for consultation and assistance
4,63
Lecturers are well versed in the use of teaching aids and technology
4,41
Lessons are well presented with use of current trends
4,38
Innovative teaching strategies are used
4,31
Lecturers are always well prepared for their lessons
4,52
Lecturers have a good relationship with students
4,49
1
2
3
4
5
Disagreement
Agreement

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
4.1 Lecturers have a good relationship with students	16.939	121	.000	1.492	1.32	1.67
4.2 Lecturers are always well prepared for their lessons	16.880	121	.000	1.525	1.35	1.70
4.3 Innovative teaching strategies are used	14.697	120	.000	1.314	1.14	1.49
4.4 Lessons are well presented with use of current trends	16.845	121	.000	1.377	1.22	1.54
4.5 Lecturers are well versed in the use of teaching aids and technology	15.974	119	.000	1.408	1.23	1.58
4.6 Lecturers are approachable and available for consultation and assistance	22.865	119	.000	1.625	1.48	1.77
4.7 I am concerned when lecturer is absent and there is no guidance	6.352	119	.000	.792	.54	1.04
4.8 I am able to take notes while the lecturer is teaching	12.129	121	.000	1.156	.97	1.34
4.9 Lecturers allow enough time for questions and discussions	18.348	117	.000	1.525	1.36	1.69
4.10 Lecturers foster and guide self-activity motivation and learning	19.585	121	.000	1.443	1.30	1.59
4.11 Tests and examinations are marked timeously and feedback given	13.180	121	.000	1.311	1.11	1.51
4.12 Areas of weakness are addressed and remedial work contracts are initiated	13.331	121	.000	1.270	1.08	1.46
4.13 Clinical accompaniment is done as prescribed	20.751	121	.000	1.639	1.48	1.80
4.14 Clinical facilitators and lecturers are readily available for consultation.	20.107	121	.000	1.639	1.48	1.80

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	Approx. Chi-Square	960.422
	df	66
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.770	56.421	56.421	6.439	53.655	53.655	5.775
2	1.210	10.081	66.501	.899	7.493	61.147	5.300
3	.912	7.600	74.101	.599	4.988	66.136	3.877
4	.731	6.091	80.193				
5	.530	4.416	84.609				
6	.431	3.592	88.201				
7	.370	3.081	91.283				
8	.291	2.426	93.709				
9	.259	2.160	95.870				
10	.193	1.611	97.481				
11	.171	1.427	98.908				
12	.131	1.092	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Pattern Matrix[a]

	Factor		
	1	2	3
4.2 Lecturers are always well prepared for their lessons	.884		
4.9 Lecturers allow enough time for questions and discussions	.853		
4.1 Lecturers have a good relationship with students	.796		
4.14 Clinical facilitators and lecturers are readily available for consultation.	.653		
4.13 Clinical accompaniment is done as prescribed	.611	.358	
4.10 Lecturers foster and guide self-activity motivation and learning	.537		
4.4 Lessons are well presented with use of current trends		.978	
4.5 Lecturers are well versed in the use of teaching aids and technology		.901	
4.6 Lecturers are approachable and available for consultation and assistance		.677	
4.3 Innovative teaching strategies are used		.625	
4.11 Tests and examinations are marked timeously and feedback given			.927
4.12 Areas of weakness are addressed and remedial work contracts are initiated			.617

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

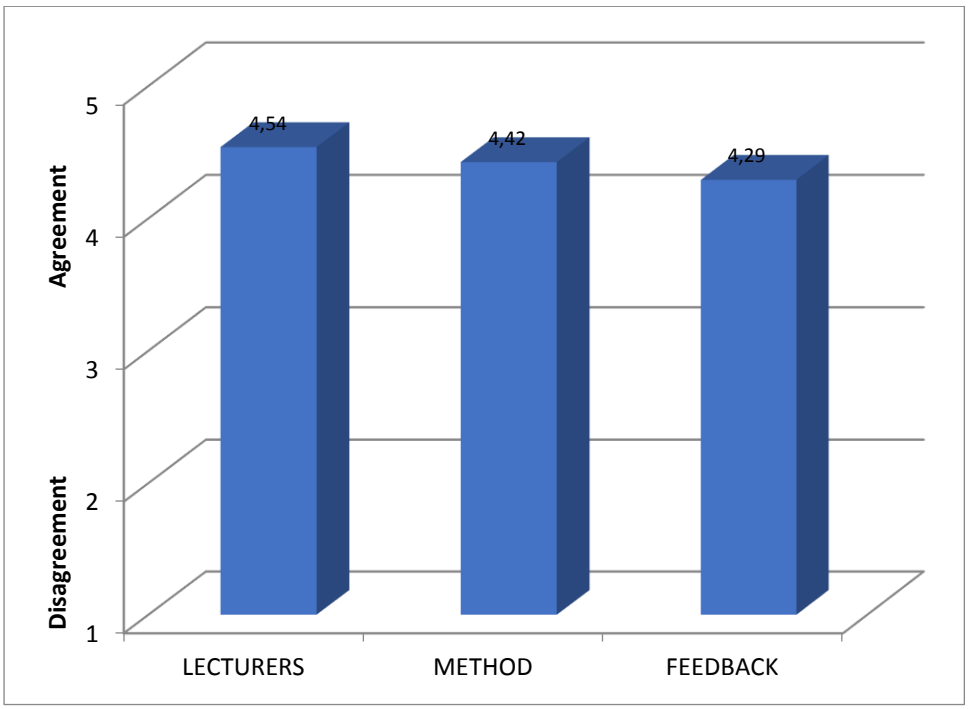
F1 Lecturers (LECTURER) ALPHA=.895
F2 Teaching methods (METHOD) ALPHA=.896
F3 Feedback/follow up (FEEDBACK) ALPHA=.748

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
LECTURERS	122	4.5385	.75123	.06801
METHOD	122	4.4249	.79357	.07185
FEEDBACK	122	4.2910	.96175	.08707

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
LECTURERS	22.621	121	.000	1.53852	1.4039	1.6732
METHOD	19.832	121	.000	1.42486	1.2826	1.5671
FEEDBACK	14.827	121	.000	1.29098	1.1186	1.4634



Institution

5.1 Examination rules and regulations are explained and given in writing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Neutral	2	1.6	1.7	2.5
	Slightly agree	11	9.0	9.2	11.8
	Strongly agree	105	86.1	88.2	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

5.2 Library resources are readily available

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	4.9	5.0	5.0
	Slightly disagree	8	6.6	6.7	11.8
	Neutral	8	6.6	6.7	18.5
	Slightly agree	25	20.5	21.0	39.5
	Strongly agree	72	59.0	60.5	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

5.3 Computer resources are available and computer training provided

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	45	36.9	37.8	37.8
	Slightly disagree	11	9.0	9.2	47.1
	Neutral	18	14.8	15.1	62.2
	Slightly agree	16	13.1	13.4	75.6
	Strongly agree	29	23.8	24.4	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

5.4 There is a full complement of lecturers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Slightly disagree	4	3.3	3.3	6.7
	Neutral	11	9.0	9.2	15.8
	Slightly agree	22	18.0	18.3	34.2
	Strongly agree	79	64.8	65.8	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

5.5 Classrooms are conducive to learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Slightly disagree	2	1.6	1.7	4.2
	Neutral	5	4.1	4.2	8.3
	Slightly agree	22	18.0	18.3	26.7
	Strongly agree	88	72.1	73.3	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

5.6 Equipment is readily available

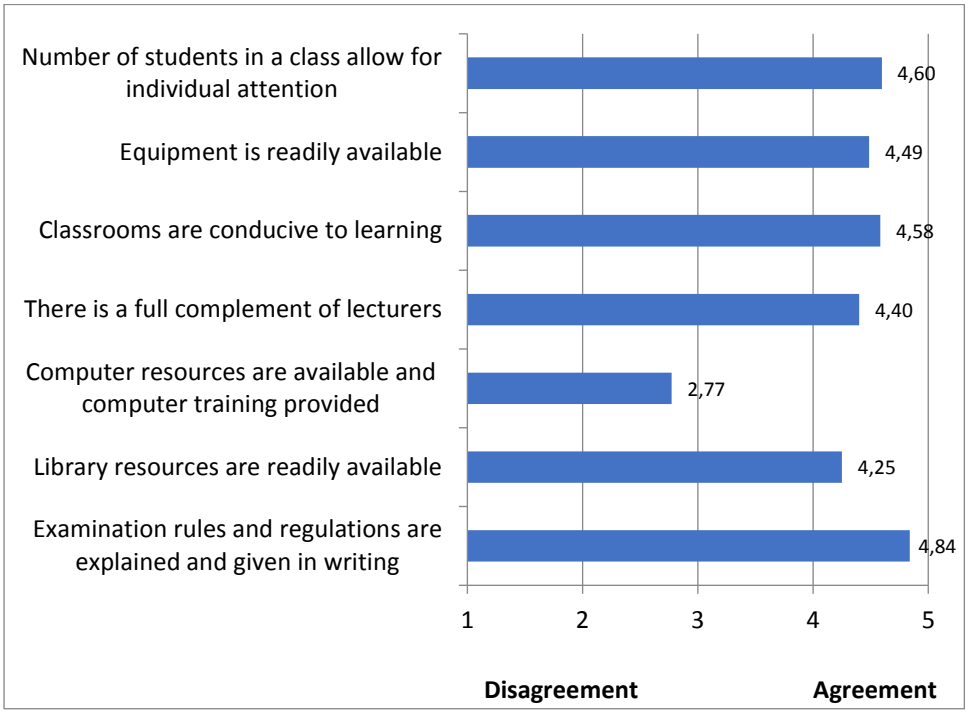
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Slightly disagree	6	4.9	5.0	5.9
	Neutral	6	4.9	5.0	10.9
	Slightly agree	27	22.1	22.7	33.6
	Strongly agree	79	64.8	66.4	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

5.7 Number of students in a class allow for individual attention

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.6	1.7	1.7
	Slightly disagree	4	3.3	3.4	5.0
	Neutral	3	2.5	2.5	7.6
	Slightly agree	22	18.0	18.5	26.1
	Strongly agree	88	72.1	73.9	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
5.1 Examination rules and regulations are explained and given in writing	119	4.84	.520	.048
5.2 Library resources are readily available	119	4.25	1.159	.106
5.3 Computer resources are available and computer training provided	119	2.77	1.639	.150
5.4 There is a full complement of lecturers	120	4.40	1.016	.093
5.5 Classrooms are conducive to learning	120	4.58	.856	.078
5.6 Equipment is readily available	119	4.49	.872	.080
5.7 Number of students in a class allow for individual attention	119	4.60	.837	.077



One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
5.1 Examination rules and regulations are explained and given in writing	38.571	118	.000	1.840	1.75	1.93
5.2 Library resources are readily available	11.788	118	.000	1.252	1.04	1.46
5.3 Computer resources are available and computer training provided	-1.510	118	.134	-.227	-.52	.07
5.4 There is a full complement of lecturers	15.097	119	.000	1.400	1.22	1.58
5.5 Classrooms are conducive to learning	20.266	119	.000	1.583	1.43	1.74
5.6 Equipment is readily available	18.607	118	.000	1.487	1.33	1.65
5.7 Number of students in a class allow for individual attention	20.813	118	.000	1.597	1.44	1.75

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.733
Bartlett's Test of Sphericity	Approx. Chi-Square	184.051
	df	15
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.883	48.052	48.052	2.303	38.380	38.380
2	.851	14.180	62.231			
3	.709	11.820	74.051			
4	.648	10.804	84.855			
5	.626	10.437	95.292			
6	.282	4.708	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix[a]

	Factor
	1
5.6 Equipment is readily available	.758
5.5 Classrooms are conducive to learning	.721
5.4 There is a full complement of lecturers	.636
5.7 Number of students in a class allow for individual attention	.571
5.2 Library resources are readily available	.499
5.1 Examination rules and regulations are explained and given in writing	.480

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 5 iterations required.

F1 INSTITUTION Alpha = .766

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
INSTITUTION	120	4.5181	.66132	.06037

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
INSTITUTION	25.146	119	.000	1.51806	1.3985	1.6376

Testing all these factors for sig differences/correlations with demographic variables.

Group Statistics

	1. GENDER	N	Mean	Std. Deviation	Std. Error Mean
SELF	Male	14	4.4286	.49447	.13215
	Female	108	4.3665	.63043	.06066
LECTURERS	Male	14	4.6190	.41049	.10971
	Female	108	4.5281	.78534	.07557
METHOD	Male	14	4.6964	.41808	.11174
	Female	108	4.3897	.82463	.07935
FEEDBACK	Male	14	4.4286	.99725	.26653
	Female	108	4.2731	.96039	.09241
INSTITUTION	Male	14	4.6786	.36669	.09800
	Female	106	4.4969	.68929	.06695
STUDY	Male	14	4.6939	.29574	.07904
	Female	108	4.5088	.58855	.05663
LEAD	Male	14	3.5714	.90986	.24317
	Female	107	3.2445	.92466	.08939

No sig differences across gender

		N	Mean	Std. Deviation
SELF	Single	52	4.3894	.67048
	Married	64	4.3490	.59333
	Divorced / Separated	3	4.2500	.00000
	Widowed	3	4.7500	.25000
	Total	122	4.3736	.61492
LECTURERS	Single	52	4.5692	.69483
	Married	64	4.5328	.71855
	Divorced / Separated	3	4.8889	.09623
	Widowed	3	3.7778	2.11695
	Total	122	4.5385	.75123
METHOD	Single	52	4.5288	.80692
	Married	64	4.3216	.79222
	Divorced / Separated	3	4.7500	.43301
	Widowed	3	4.5000	.86603
	Total	122	4.4249	.79357
FEEDBACK	Single	52	4.5385	.75955
	Married	64	4.1250	1.00396
	Divorced / Separated	3	4.1667	1.04083
	Widowed	3	3.6667	2.30940
	Total	122	4.2910	.96175
INSTITUTION	Single	52	4.5385	.70217
	Married	62	4.5161	.61457
	Divorced / Separated	3	4.5556	.19245
	Widowed	3	4.1667	1.30171
	Total	120	4.5181	.66132
STUDY	Single	52	4.4904	.73409
	Married	64	4.5740	.39615
	Divorced / Separated	3	4.3810	.54085
	Widowed	3	4.4286	.42857
	Total	122	4.5301	.56500
LEAD	Single	51	3.1438	.97583
	Married	64	3.4036	.85284
	Divorced / Separated	3	3.5556	1.34715
	Widowed	3	2.7778	1.17063
	Total	121	3.2824	.92517

According to results from a Kruskal Wallis test, there is a significant difference in FEEDBACK across marital status, $\chi 2\ (2) = 6.792$, $p=.034$. Further analysis shows that there is more agreement by singles than by married people that feedback is given, .010.
No sig correlation with age or experience