

**STRATEGIES TO IMPROVE ACADEMIC PERFORMANCE OF
STUDENTS IN A CLINICAL NURSING SCIENCE COURSE**

BY

MAKGOTLO THALITHA MAAKE

submitted in accordance with the requirements

for the degree of

DOCTOR OF PHILOSOPHY

in the subject

HEALTH STUDIES

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROFESSOR TE MASANGO

November 2020

DEDICATION

I dedicate this thesis to my late grandmother (MASALATHEBENG JULIAMAAKE), my late father (DITSEPU PHINEASE MAAKE) and my late uncle (MOGALE ISAAC MAAKE) who valued education so much and always wished the best for me. Unfortunately, they could not live to observe and celebrate my success. May their souls rest in peace.

Student number: 30638666

DECLARATION

I declare that **STRATEGIES TO IMPROVE ACADEMIC PERFORMANCE OF STUDENTS IN A CLINICAL NURSING SCIENCE COURSE** is my own work and that all the resources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any institution.



.....

SIGNATURE

MAKGOTLO THALITHA MAAKE

20 December 2020

DATE

ACKNOWLEDGEMENTS

First and foremost, I would like to thank God Almighty for granting me the grace to come up with this study topic, the strength and power I needed to conduct this study. I express my sincere gratitude to the following people who walked with me throughout my doctoral journey towards the successful completion of this study:

- My supervisor, Prof TE Masango; your contribution, guidance and endless support in making corrections has been invaluable.
- University of South Africa; thank you for the permission and funding to pursue this study.
- Limpopo Department of Health, Gauteng Department of Health and Eastern Cape Department of Health ethics committees for granting me permission to conduct the study.
- Research and quality assurance manager of Lilitha Nursing College (Dr Senti); campus head (Mrs Mohlahlo); Rahima campus head of research (Ms T Makgopela); and Limpopo college principal (Ms TV Koma) for speedy approval of my application to conduct the study and coordinating the study participants.
- Mr E Ganyaupfu, for statistical assistance and analysis.
- Ms Leatitia Romero for linguistic revision, editing and formatting.
- Mr Shika, Mr Baloyi and Mr Masogo the librarians for your patience and the accommodative attitude you displayed when I needed your help.
- Ms Mabokachaba and Ms Baloyi for your help with scanning of my documents.
- Dr Sebopetsa, Dr Seroto and Dr Masetla for your contribution and guidance to my study.
- My husband, Davy Mzimba, for your support, encouragement and the care you provided when the study was draining my strength.
- My children Aron, Arnold, Happy and Esther, for filling the gap and taking care of the family when this study demanded me most.
- All the participants; thank you for all your valuable input and participation in this study.

STRATEGIES TO IMPROVE ACADEMIC PERFORMANCE OF STUDENTS IN CLINICAL NURSING SCIENCE COURSE

STUDENT NUMBER: 30638666

STUDENT: MAKGOTLO THALITHA MAAKE

DEGREE: DOCTOR OF PHILOSOPHY IN NURSING

DEPARTMENT: HEALTH STUDIES

SUPERVISOR: PROFESSOR TE MASANGO

ABSTRACT

The purpose of the study was to investigate the reasons for the high failure rate among post-basic students enrolled in a clinical nursing science (CNS) course, and to explore both educators' and students' experiences regarding the programme so that strategies could be developed to improve students' academic performance.

The study was conducted in three public nursing colleges and covered one campus per college at Limpopo (Nursing College A), Gauteng (Nursing College B) and Eastern Cape (Nursing College C).

The researcher followed an exploratory, sequential, mixed-method research design which was implemented over three phases. The researcher started with the qualitative phase whereby data were collected from nine nurse educators teaching the course concerned using semi-structured interviews. Five themes emerged from qualitative data analysis which are: difficulty in understanding the learning material, inadequate educational foundation, short course duration, students' failure to maintain a working relationship and ineffective teaching strategy.

The study revealed that there was inadequate educational foundation in some students enrolled for the course and that affects their ability to understand Internal Medicine and Surgery (IMS). The content for IMS module too broad to orthopaedic and theatre students

and more orientated to Intensive Care Unit and to trauma and emergency students. Strategies used to teach were also ineffective, which result in failure among students to integrate theory and practice. It was also indicated that clinical supervision and accompaniment was also insufficient. The results of the qualitative phase guided the development of a questionnaire for quantitative data collection, which was administered to 150 former students out of the 307 who were recruited. A total of 141 students responded out of the 150 who received the questionnaires from five South African provinces (Gauteng, Limpopo, Eastern Cape, Mpumalanga and Free State). From the 141 completed questionnaires, one was spoiled which gave a total of 140 fully completed questionnaires for analysis.

The researcher developed strategies based on both qualitative and quantitative findings. The developed strategies included curriculum assessment and revision, motivating students to develop positive attitudes towards IMS and nursing research, establishment of a meaningful relationship, development of effective teaching strategies that meet all students' need and establishment of good communicational relationship between the educational facility and clinical setting. These strategies were deemed important in improving students' academic performance as guided by the literature review and recommendations from participants.

Keywords: Academic performance, clinical nursing science, course, dynamics, improve, Internal medicine, strategy, surgery.

TABLE OF CONTENTS

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION.....	Error! Bookmark not defined.
1.2 BACKGROUND INFORMATION TO THE RESEARCH PROBLEM.....	Error! Bookmark not defined.
1.2.1 The source of the research problem	2
1.2.2 Background to the research problem	Error! Bookmark not defined.
1.3 RESEARCH PROBLEM	5
1.4 PURPOSE OF THE STUDY	Error! Bookmark not defined.
1.4.1 Research purpose	Error! Bookmark not defined.
1.4.2 Research objectives	Error! Bookmark not defined.
1.4.3 Research questions	Error! Bookmark not defined.
1.5 SIGNIFICANCE OF THE STUDY	Error! Bookmark not defined.
1.5.1 Benefits for the training institution	Error! Bookmark not defined.
1.5.2 Benefits for the nursing profession.....	Error! Bookmark not defined.
1.5.3 Benefits to the Nursing Administration	Error! Bookmark not defined.
1.5.4 Benefits for the community.....	Error! Bookmark not defined.
1.6 DEFINITIONS OF KEY TERMS.....	Error! Bookmark not defined.
1.6.1 Conceptual definitions.....	Error! Bookmark not defined.
1.6.2 Academic performance	Error! Bookmark not defined.
1.6.3 Clinical nursing science.....	Error! Bookmark not defined.

1.6.4 Course	Error! Bookmark not defined.
1.6.5 Dynamics	Error! Bookmark not defined.
1.6.6 Improve	Error! Bookmark not defined.
1.6.7 Internal medicine	Error! Bookmark not defined.
1.6.8 Strategy	Error! Bookmark not defined.
1.6.9 Surgery.....	Error! Bookmark not defined.
1.7 OPERATIONAL DEFINITIONS.....	Error! Bookmark not defined.
1.7.1 Academic performance	Error! Bookmark not defined.
1.7.2 Clinical nursing science.....	Error! Bookmark not defined.
1.7.3 Course	Error! Bookmark not defined.
1.7.4 Improve	Error! Bookmark not defined.
1.7.5 Internal medicine.....	Error! Bookmark not defined.
1.7.6 Nursing dynamics.....	Error! Bookmark not defined.
1.7.8 Strategy.....	Error! Bookmark not defined.
1.7.9 Surgery.....	Error! Bookmark not defined.
1.8 THEORETICAL FOUNDATIONS OF THE STUDY	Error! Bookmark not defined.
1.8.1 Research paradigm	Error! Bookmark not defined.
1.8.2 Theoretical framework.....	Error! Bookmark not defined.
1.9 RESEARCH METHODOLOGY AND RESEARCH DESIGN	Error! Bookmark not defined.
defined.	
1.9.1 Research design	Error! Bookmark not defined.
1.9.2 Research methodology	Error! Bookmark not defined.
1.10 SCOPE OF THE STUDY	Error! Bookmark not defined.
1.11 STRUCTURE OF THE DISSERTATION	Error! Bookmark not defined.
1.12 SUMMARY.....	Error! Bookmark not defined.

CHAPTER 2
LITERATURE REVIEW

2.1

INTRODUCTION.....Error!

Bookmark not defined.

2.2 THE PURPOSE OF LITERATURE

REVIEW.....Error! Bookmark not defined.

2.3 CLINICAL NURSING SCIENCE COURSE AS A

CONCEPT.....Error! Bookmark not defined.

2.4 THE IMPORTANCE AND RELEVANCE OF THE

COURSE.....Error! Bookmark not defined.

2.5 THE CLINICAL NURSING SCIENCE COURSE IN SOUTH AFRICAN

CONTEXT19

2.5.1 Duration of the

course.....Error! Bookmark not defined.

2.5.2 Entry requirement to the

course.....Error! Bookmark not defined.

2.5.3 Curriculum of the clinical nursing science course.....

..... Error! Bookmark not defined.

2.5.4 Organisation of the

curriculum.....Error! Bookmark not defined.

2.5.5 Teaching and assessing students enrolled in the clinical nursing science

course.....Error! Bookmark not defined.

2.5.6 Assessment strategies.....	Error! Bookmark not defined.
2.5.7 Exit qualification at the end of the course.....	Error! Bookmark not defined.
2.6 THE CLINICAL NURSING SCIENCE COURSE IN AFRICAN CONTEXT.....	Error! Bookmark not defined.4
2.6.1 Namibia.....	Error! Bookmark not defined.
2.6.1.1 Admissirequirements.....	...Error! Bookmark not defined.
2.6.1.2 Curriculum framework.....	<i>Error! Bookmark not defined.</i>
2.6.1.3 Course assessment.....	<i>Error! Bookmark not defined.</i>
2.6.1.4 Exit qualification.....	<i>Error! Bookmark not defined.</i>
2.6.2 Kenya.....	Error! Bookmark not defined.
2.6.2.1 Requirements for admission to course.....	<i>Error! Bookmark not defined.</i>
2.6.2.2 Curriculum organisation.....	<i>Error! Bookmark not defined.</i>
2.6.2.3 Teaching strategies.....	<i>Error! Bookmark not defined.</i>
2.6.2.4 Exit point or qualification.....	<i>Error! Bookmark not defined.</i>

2.6.3 Gambia (West Africa).....	Error! Bookmark not defined.
2.6.3.1 Admission requirements for the course.....	<i>Error! Bookmark not defined.</i>
2.6.3.2 Curriculum organisation.....	<i>Error! Bookmark not defined.</i>
2.6.3.3 Exit outcome.....	<i>Error! Bookmark not defined.</i>
2.7 THE CLINICAL NURSING SCIENCE COURSE IN THE GLOBAL CONTEXT....	Error! Bookmark not defined.
2.7.1 United Kingdom.....	Error! Bookmark not defined.
2.7.1.1 Course name.....	<i>Error! Bookmark not defined.</i>
2.7.1.2 Entry requirements.....	<i>Error! Bookmark not defined.</i>
2.7.1.3 Curriculum organisation.....	<i>Error! Bookmark not defined.</i>
2.7.1.4 Course outline.....	<i>Error! Bookmark not defined.</i>
2.7.1.5 Teaching methods for theory aspect.....	<i>Error! Bookmark not defined.2</i>
2.7.1.6 Clinical teaching and learning methods.....	<i>Error! Bookmark not defined.</i>
2.7.1.7 Exit outcome.....	<i>Error! Bookmark not defined.</i>
2.7.2 Australia.....	Error! Bookmark not defined.

2.7.2.1 Name of the course.....
..... *Error! Bookmark not defined.*

2.7.2.2 Course content.....
..... *Error! Bookmark not defined.*

2.7.2.3 Entry requirements.....
..... *Error! Bookmark not defined.*

2.7.2.3 Specific learning outcomes are as follows:.....
..... *Error! Bookmark not defined.*

2.7.2.4 Curriculum organisation.....
..... *Error! Bookmark not defined.4*

2.7.2.5 Teaching and learning methods.....
..... *Error! Bookmark not defined.*

2.7.2.6 Exit qualification.....
..... *Error! Bookmark not defined.5*

2.7.3

Singapore.....**Error!**
Bookmark not defined.5

2.7.3.1 Name of the course.....
..... *Error! Bookmark not defined.*

2.7.3.2 Entry requirements.....
..... *Error! Bookmark not defined.*

2.7.3.3 Curriculum organisation.....
..... *Error! Bookmark not defined.*

2.7.3.5 Exit outcome.....
..... *Error! Bookmark not defined.*

2.8 ACADEMIC PERFORMANCE OF STUDENTS IN CLINICAL NURSING SCIENCE
COURSE UNIVERSAL CONTEXT.....
..... **Error! Bookmark not defined.**

2.8.1 Global context.....	
.....	Error! Bookmark not defined.
2.8.2 African context.....	
.....	Error! Bookmark not defined.
2.8.3 South African context.....	
.....	Error! Bookmark not defined.
2.9 THE EFFECTS OF STUDENTS' PERFORMANCE IN THE CLINICAL NURSING SCIENCE COURSE.....	
.....	Error! Bookmark not defined.
2.10 FACTORS AFFECTING ACADEMIC PERFORMANCE OF STUDENTS IN THE CLINICAL NURSING COURSE.....	39
2.11 THE RESEARCHER'S PERSPECTIVE.....	
.....	Error! Bookmark not defined.
2.12 CONCLUSION.....	
.....	Error! Bookmark not defined.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 INTRODUCTION.....	
.....	Error! Bookmark not defined.
3.2 OVERVIEW OF SELF-EFFICACY THEORY.....	
.....	Error! Bookmark not defined.
3.2.1 Cognitive process and academic performance.....	
.....	Error! Bookmark not defined.
3.2.2 Motivational processes.....	
.....	Error! Bookmark not defined.
3.2.3 Affective processes.....	
.....	Error! Bookmark not defined.

3.2.4 Selection processes.....	.....
.....	Error! Bookmark not defined.
3.3 SOURCES OF SELF-EFFICACY.....	.....
.....	Error! Bookmark not defined.
3.3.1 Mastery experience.....	.....
.....	Error! Bookmark not defined.
3.3.2 Vicarious experience.....	.....
.....	Error! Bookmark not defined.
3.3.3 Social persuasion.....	.....
.....	Error! Bookmark not defined.
3.3.4 Social presence.....	.....
.....	Error! Bookmark not defined.
3.3.5 Learning community.....	.....
.....	Error! Bookmark not defined.
3.4 USING SELF-EFFICACY THEORY IN THE CURRENT STUDY.....	.....
.....	Error! Bookmark not defined.
3.5 CONCLUSION.....	.....
.....	Error! Bookmark not defined.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1	
INTRODUCTION.....	.....Error!
Bookmark not defined.	
4.2 RESEARCH PARADIGM.....	.....
.....	Error! Bookmark not defined.
4.3 RESEARCH DESIGN.....	.....
.....	Error! Bookmark not defined.

4.3.1 First phase: Qualitative.....	<i>Error! Bookmark not defined.</i>
4.3.1.1 Phenomenology.....	<i>Error! Bookmark not defined.</i>
4.3.2 Second phase: Quantitative.....	Error! Bookmark not defined.
4.3.2.1 Non-experimental research.....	<i>Error! Bookmark not defined.</i>
4.3.3 Third phase: Development of strategies.....	Error! Bookmark not defined.
4.4 RESEARCH METHODS.....	Error! Bookmark not defined.
4.4.1 Setting.....	Error! Bookmark not defined.
4.4.2 Population.....	Error! Bookmark not defined.
4.4.3 Sampling.....	Error! Bookmark not defined.
4.4.3.1 Sampling approach and methods.....	<i>Error! Bookmark not defined.2</i>
4.4.3.2 Eligibility criteria for qualitative phase and quantitative phase.....	63
4.4.3.3 Ethical considerations related to sampling.....	<i>Error! Bookmark not defined.</i>
4.4.3.4 Permissions to conduct the study.....	<i>Error! Bookmark not defined.</i>
4.4.4 Data collection.....	Error! Bookmark not defined.

4.4.4.1 Data collection approach and method.....	
.....	<i>Error! Bookmark not defined.</i>
4.4.4.1.1 Development and testing of the data collection instruments.....	72
4.4.4.1.2 Characteristics of the data collection instruments.....	73
4.4.4.1.3 Pre-testing and review of the data collection instrument.....	74
4.4.4.1.4 Validity and reliability of the data collection instrument.....	76
4.4.4.2 Data collection process.....	
.....	<i>Error! Bookmark not defined.</i>
4.4.4.3 Ethical considerations related to data collection.....	
.....	<i>Error! Bookmark not defined.2</i>
4.4.5 Data analysis.....	
.....	Error! Bookmark not defined.
4.5 RIGOUR OF THE STUDY.....	
.....	Error! Bookmark not defined.
4.5.1 Measures to ensure trustworthiness.....	
.....	Error! Bookmark not defined.
4.5.1.1 Credibility.....	
.....	<i>Error! Bookmark not defined.5</i>
4.5.1.2 Dependability.....	
.....	<i>Error! Bookmark not defined.</i>
4.5.1.3 Transferability.....	
.....	<i>Error! Bookmark not defined.</i>
4.5.1.4 Confirmability.....	
.....	<i>Error! Bookmark not defined.</i>
4.5.1.5 Reflexivity.....	
.....	<i>Error! Bookmark not defined.</i>
4.5.2 Validity and reliability of quantitative data.....	
.....	Error! Bookmark not defined.

4.6 CONCLUSION.....
..... Error! Bookmark not defined.

CHAPTER 5

DATA ANALYSIS, INTERPRETATION AND MERGING OF RESULTS

5.1

INTRODUCTION.....Error!
Bookmark not defined.0

5.2 DATA MANAGEMENT AND

ANALYSIS.....Error! Bookmark not defined.0

5.2.1 Data processing and management in qualitative phase.....Error! Bookmark not defined.0

5.2.2 Phase one: Analysis of qualitative data.....
..... Error! Bookmark not defined.0

5.2.2.1 Sample characteristics.....91

5.3 DATA ANALYSIS PROCESS.....

..... Error! Bookmark not defined.3

5.3.1. Steps of qualitative data analysis.....

..... Error! Bookmark not defined.3

5.3.1.1 Organising and preparing data for analysis.....

..... Error! Bookmark not defined.4

5.3.1.2 Read and look at all the data.....

..... Error! Bookmark not defined.4

5.3.1.3 Coding the data.....

..... Error! Bookmark not defined.4

5.3.1.4 Generating themes and subthemes.....

..... Error! Bookmark not defined.5

5.3.2 Research findings and discussion.....	Error! Bookmark not defined.6
5.4 PHASE TWO: ANALYSIS OF QUANTITATIVE DATA.....	Error!
Bookmark not defined.15	
5.4.1 Data processing and management in quantitative analysis.....	Error! Bookmark not defined.
5.4.2 Return rate and effective response rate.....	Error!
Bookmark not defined.15	
5.4.3 Respondents' demographic profile.....	Error!
Bookmark not defined.16	
5.4.4 Construct validity of items.....	Error!
Bookmark not defined.19	
5.4.5 Scale reliability statistics.....	Error!
Bookmark not defined.23	
5.4.6 Total variances explained.....	
.....	Error! Bookmark not defined.31
5.4.7 Factor loadings.....	Error!
Bookmark not defined.35	
5.4.7.1 Preparedness/Readiness.....	Error!
<i>Bookmark not defined.36</i>	
5.4.7.2 Challenges encountered.....	Error!
<i>Bookmark not defined.39</i>	
5.5 CONFIRMATORY FACTOR ANALYSIS (CFA).....	Error!
Bookmark not defined.	
5.5.1 Latent variable: Readiness.....	
.....	Error! Bookmark not defined.49
5.5.2 Latent variable: Assertiveness.....	
Error! Bookmark not defined.50	

5.5.3 Latent variable: Educators' competences.....
..... **Error! Bookmark not defined.51**

5.5.4 Latent variable: Learning and application.....
..... **Error! Bookmark not defined.54**

5.5.5 Latent variable: Supervision and support.....
..... **Error! Bookmark not defined.56**

5.5.6 Latent variable: Leadership.....
..... **Error! Bookmark not defined.58**

5.6 MERGING AND INTEGRATING RESEARCH FINDINGS.....
..... **Error! Bookmark not defined.60**

5.7 CONCLUSION..........**Error!**
Bookmark not defined.**64**

CHAPTER 6

DEVELOPMENT OF STRATEGIES TO IMPROVE STUDENT NURSES' ACADEMIC PERFORMANCE IN CLINICAL NURSING SCIENCE COURSE

6.1 INTRODUCTION..........**Error!**
Bookmark not defined.**65**

6.2 DEVELOPMENT OF STRATEGIES FOR IMPROVING ACADEMIC PERFORMANCE.....
..... **Error! Bookmark not defined.65**

6.2.1 Benefits of developing academic performance improvement strategies..
..... **Error! Bookmark not defined.66**

6.2.2 The steps to be followed in the development process:.....
..... **Error! Bookmark not defined.66**

6.2.2.1 Strategy improvement team.....
..... *Error! Bookmark not defined.66*

6.2.2.2. Problem presentation.....Error!
Bookmark not defined.67

6.2.2.3. Review and Improve goals.....Error!
Bookmark not defined.67

6.2.2.4. Review and improve strategy.....Error!
Bookmark not defined.67

6.2.2 5. Strategy implementation.....
..... Error! Bookmark not defined.

6.2.2.6 Evaluation.....
..... Error! Bookmark not defined.

**6.3 DEVELOPED STRATEGIES FOR IMPROVEMENT OF ACADEMIC
PERFORMANCE.....Error!**
Bookmark not defined.

6.3.1 Strategy 1: Curriculum assessment and revision of IMS modules.....
.....Error! Bookmark not defined.69

6.3.2 Strategy 2: Motivate students to develop positive attitudes towards IMS and
nursing research.....
..... Error! Bookmark not defined.70

6.3.3 Strategy 3: Establish a meaningful working relationship.....
.....Error! Bookmark not defined.71

6.3.4 Strategy 4: Develop effective teaching strategies that meet all students'
need.....**Error!**
Bookmark not defined.72

6.3.5 Strategy 5: Establish good communicational relationship between the
educational facility and clinical setting.....174

**6.4 VALIDATION OF THE DEVELOPED STRATEGIES BY EDUCATION
EXPERTS.....176**

6.5 CONCLUSION.....	Error!
Bookmark not defined. 77	

CHAPTER 7
CONCLUSIONS AND RECOMMENDATIONS

7.1	
INTRODUCTION.....	Error!
Bookmark not defined. 78	
7.2 RESEARCH DESIGN AND METHO.....	
.....Error! Bookmark not defined. 78	
7.3 SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS.....	Error! Bookmark not defined.
7.3.1 Objective 1: Reasons for high failure rates among post-basic students in IMS and ND.....	Error!
r! Bookmark not defined.80	
7.3.2 Objective 2: To explore and describe post-basic nurse educators’ experiences of students’ performance in IMS and ND.....	181
7.3.3 Objective 3: Views of post-basic students regarding the CNS course.....	18 Error! Bookmark not defined.
7.3.4 Objective 4: Challenges faced by post-basic students in the IMS and ND modules.....	183
7.4 CONCLUSIONS.....	185
7.5 RECOMMENDATIONS.....	185
7.5.1 Difficulty in understanding the learning material.....	185
7.5.2 Students’ lack of interest and commitment.....	185
7.5.3 Students’ failure maintain a working relationship.....	186

7.5.4 Ineffective teaching strategy.....	186
7.5.5 Ineffective clinical accompaniment and preceptorship programme.....	186
7.6 CONTRIBUTIONS OF THE STUDY.....	186
7.6.1 Basic training of student nurses.....	186
7.6.2 Nursing education as a department.....	187
7.6.3 Educational institutions and nursing colleges.....	187
7.6.4 Nursing profession.....	187
7.6.5 The community.....	187
7.7 LIMITATIONS OF THE STUDY.....	187
7.8 CONCLUDING REMARKS.....	188
LIST OF REFERENCES.....	189

LIST OF TABLES

Table 1.1: Students' performance in IMS and ND	5
Table 2.1: Namibian course division.....	25
Table 4.1: Calculation of the variance around college proportion in a simple random sample (SRS)	65
Table 4.2: Calculation of the variance around the proportion in the cluster design.....	66
Table 4.3: Minimum sample size calculation adjusted for the design effect	68
Table 4.4: Minimum sample sizes required per college, adjusted for the design effect (Deff) and relevant proportions.....	70
Table 5.1: Sample demographic profile (N=9).....	92
Table 5.2: Illustration of themes and subthemes	95
Table 5.3: Demographic profiles of respondents	116
Table 5.4: KMO-MSA and Barlett's test of sphericity.....	119
Table 5.5: All variables – Scale reliability statistics.....	123
Table 5.6: Readiness – Scale reliability statistics	126
Table 5.7: Assertiveness – Scale reliability statistics.....	127
Table 5.8: Educators' competencies – Scale reliability statistics.....	128
Table 5.9: Learning and application – Internal consistency and item-total statistics	128
Table 5.10: Supervision and support – Scale reliability statistics.....	129
Table 5.11: Leadership – scale reliability statistics.....	130
Table 5.12: Readiness – Total variance explained	131
Table 5.13: Assertiveness – Total variance explained	132

Table 5.14: Educators’ competencies – total variance explained	133
Table 5.15: Learning and application – Total variance explained	133
Table 5.16: Supervision and support – Total variance explained.....	134
Table 5.17: Leadership – Total variance explained.....	135
Table 5.18: Readiness – rotated factor Matrixa	136
Table 5.19: Assertiveness – rotated factor Matrixa.....	137
Table 5.20: Educators’ competences – rotated factor Matrixa.....	139
Table 5.21: Learning and application – rotated factor Matrixa	141
Table 5.22: Supervision and support – factor Matrixa.....	142
Table 5.23: Leadership – rotated factor Matrixa – first iteration	143
Table 5.24: Leadership – rotated factor Matrixa – second iteration.....	144
Table 5.25: Leadership – rotated factor Matrixa – third or final iteration.....	145
Table 5.26: Readiness standardised estimates	147
Table 5.27: Readiness – CFA model goodness-of-fit statistics.....	148
Table 5.28: Assertiveness standardised estimates	150
Table 5.29: Assertiveness – CFA model goodness-of-fit statistics	151
Table 5.30: Educators’ competences standardised estimates	152
Table 5.31: Educators’ competences – cfa model goodness-of-fit statistics.....	153
Table 5.32: Learning and application standardised estimates	154
Table 5.33: Learning and application – CFA model goodness-of-fit statistics... 	155
Table 5.34: Supervision and support standardised estimates.....	156
Table 5.35: Supervision and support – CFA model goodness-of-fit statistics ..	157
Table 5.36: Leadership standardised estimates.....	159
Table 5.37: Leadership – CFA model goodness-of-fit statistics	160
Table 5.38. Presentation of quantitative findings that emerged from qualitative themes.....	161
Table 5.39. Presentation of common findings that emerged from both qualitative and quantitative analysis.....	162

Table 5.40 Presentation of qualitative and quantitative findings.....	163
--	------------

LIST OF FIGURES

Figure 1.1: Model illustrating the influence of self-efficacy theory on academic performance	12
Figure 2.1: Illustration of compulsory core modules	21
Figure 2.2: Illustration of clinical areas of specialisation	22
Figure 3.1: Model illustrating the influence of self-efficacy theory on academic performance.....	48
Figure 4.1: Distribution plot for calculation	69
Figure 5.1: Qualitative data analysis process.....	93
Figure 5.2: Readiness hypothesised dimension	146
Figure 5.3: Assertiveness hypothesised dimension	149
Figure 5.4: Educators' competences hypothesised dimension	151
Figure 5.5: Learning and application hypothesised dimension	154
Figure 5.6: Supervision and support hypothesised dimension	156
Figure 5.7: Leadership hypothesised dimension	158
Figure 6.1: Diagrammatic representations of developed strategies	169

LIST OF ANNEXURES

Annexure A: Ethical clearance certificate	215
Annexure B: Request letters to conduct the study	217
Annexure C: Permission letters to conduct the study	222
Annexure D: Assessment of data collection instrument	228
Annexure E: Data collection instruments	258
Annexure F: Language editing certificate	321

LIST OF ACRONYMS

ACS	Acute Coronary Syndrome
ACLS	Acute Life Support
AMI	Acute Myocardial Infarction
ACN	Australian College of Nursing
AIWA	American International University of West Africa
Ca⁺⁺	Calcium ions
CCNG	Critical care nursing general
CCNT	Critical care nursing trauma
CFA	Confirmatory factor analysis
CFI	Comparative Fit Index
CHE	Council of Higher Education
CPC	Clinical Placement Coordinator
CPAS	College Principals and Academic Staff
CHWs	Community Health Workers
CPD	Continuing Professional Development
Deff	Design effect
EFA	Exploratory factor analysis

ERCs Ethics Review Committees

HSREC Health Science Research Ethics Committee

HSHDC Health Studies Higher Degrees Committee

IMS Internal Medicine and Surgery

ICN International Council of Nurses

ICU Intensive Care Unit

ICP Intracranial pressure

IV Intravenous

K+ Potassium ions

KMO Keiser-Meyer-Olkin

LCD Liquid Crystal Display

LPNs Licensed Practice Nurses

MSA Measure of Sampling Adequacy

Mg+ Magnesium ions

Na+ Sodium ions

ND Nursing Dynamics

NEA Nurse Educators Association

NHERC National Health Ethics Research Council

NQF National Qualifications Framework

ORTHN Orthopaedic Nursing

OTN Operating theatre Nursing

QSEN Quality and Safety Education for Nurses

REC Research Ethics Clearance

RMSEA Root Mean Squared Error of Approximation

SANC South African Nursing Council

SPSS Statistical Package for Social Sciences

SRS Simple Random Sampling

SEPETBSR Scale of Evaluating Physical Education Teachers Based on
Student Ratings

TLI Tucker-Lewis index

UNISA University of South Africa

UK United Kingdom

USA United States of America

USB Universal Serial Bus

US United States

VIF Variance Inflation Factor

WHO World Health Organization

WHO-EMRO World Health Organization Eastern Mediterranean Regional Office

CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION

This chapter describes the background and statement of the research problem. Moreover, the aim, objectives, research question, theoretical framework and paradigmatic perspective are presented, along with the significance of the study, research design and methods. Key terms are also defined along with the ethical considerations that were upheld, followed by the scope and limitations of the study.

1.2 BACKGROUND INFORMATION TO THE RESEARCH PROBLEM

Nursing forms the backbone of the healthcare system of every country that provides quality healthcare services to the consumers of health care. This requires highly skilled and specialised nurses who will be able to deal with the new trends of diseases that emanate throughout the globe. The trend of diseases experienced by many countries further requires nurse practitioners who can act independently in the absence of the doctor in order to save lives in terms of (R2598) of the South African Nursing Council (SANC).

According to the World Health Organization (WHO) (2015:6), there is a mismatch between education strategies in relation to health systems and population needs, which result in continuous shortages and deficits. It was further reported that the shortage of a skilled health workforce is a global phenomenon that warrants urgent attention since it affects service delivery at hospitals and healthcare centres (WHO 2017a:1). This challenge is a familiar spectacle in Brazzaville, Congo/Victoria Falls and Zimbabwe. Moreover, Namibia also is not exempt from the shortage of a skilled health workforce, as confirmed in the study by Ndikwetepo (2018:13).

A study conducted by McDonnell, Goodwin and Kennedy (2015:792) also cited that due to a shortage of physicians, advanced nurse practitioners, clinical nurse specialist, nurse practitioners and nurse consultants were being used to complement junior doctors in the Netherlands, Taiwan, France, Canada Australia and United States of

America (USA). However, the United Kingdom (UK) Nursing Labour Market Review (2017:26) reported a 6% drop in applicants to nursing courses. The review further indicated that there was a 19% reduction in student nursing applicants from the UK, European Union (EU) and outside the EU (UK Nursing labour market review 2017:25).

South Africa, as one of the developing countries, similarly requires skilled and specialised nurse practitioners who will be able to deal with the health trends of the community in order to meet the needs of the health sector in an advanced manner. The study by Lala, Lala and Dangor (2017:64) indicated that the shortage of trained nurses of all ranks – professional, enrolled and auxiliary – was severe, and they stated that if this trend continues, there is a risk that the entire healthcare system could collapse. Moreover, Becker, citing Regensberg in Moneyweb (2017:2), said: “We have a significant shortage of qualified professional nurses, from the Society of Private Nurse Practitioners of South Africa. And the shortage is about to become critical”.

James (2016:1) highlighted that the only remedy to the nursing shortage is to expand the training platform rapidly or to bring in highly trained nurses from foreign countries, which would be politically problematic for a country with an unemployment rate as high as South Africa.

The proposed plan of action was that countries were urged to train more health workers and improve the effectiveness of community health worker (CHW) programmes, which South Africa has started implementing.

1.2.1 The source of the research problem

The SANC, which is the regulatory body entrusted with setting and maintaining standards of nursing education and practice in the Republic of South Africa, has addressed this scarce resource issue by introducing a clinical nursing science (CNS) course. This course results in an additional qualification in different areas of specialisation, as stipulated in Government Notice Regulation (R212) of 19 February 1993, as amended (SANC R212 of 1993b).

Several universities and nursing colleges have been accredited by SANC to offer the aforementioned CNS course at the provincial level, in accordance with Department of Health's strategic plan to meet the health needs of the population. The CNS course includes a diploma in intensive care nursing, diploma in operating theatre nursing, an advance diploma in midwifery and neonatal nursing science, a diploma in orthopaedic nursing, as well as a diploma in trauma nursing, which are speciality courses.

These diploma courses are run by the Limpopo College of Nursing, Chris Hani Baragwanath Nursing College in Gauteng Province, Ga-Rankuwa College of Nursing, and Lilitha College of Nursing in the Eastern Cape. The course extends over a minimum period of one academic year, and the curriculum consists of Nursing Dynamics (ND) and Internal Medicine and Surgery (IMS), which are compulsory modules and include an area of specialisation in any of the above-mentioned fields. The IMS module carries 16 credits, ND carries 16 credits, speciality courses result in 16 credits, and practica 72 credits, making up a total of 120 credits for the entire course. This CNS course is offered in South Africa, and is equivalent to a higher diploma in perioperative theatre nursing, higher diploma in critical care or intensive care nursing that is practiced in Namibia, an advance diploma in perioperative care in Singapore, and advanced studies in critical care nursing certificate in Canada.

Students who are admitted to this course are those who completed a four-year diploma course in general nursing science, according to SANC (Regulation R425, 1985 as amended), and those who completed a bridging course (Regulation R683, 1989) and have a diploma in midwifery (Regulation R254, 1975).

Research in nursing education suggests that students need to engage in thinking processes that promote reflective thinking, critical thinking, and embodied thinking. Ultimately, students should consider a clinical situation using diverse perspectives (Peixoto & Peixoto 2017:126; Pretorius, Amukugo, Van Dyk & Small 2016:1). This is in line with the objectives of the CNS course (as stipulated in Government Notice R212); the aim is developing and implementing operational leadership, managerial and teaching skills, defining and accepting responsibility for independent nursing practice, decision-making, critical thinking and consultation skills.

The course is executed in accordance with the SANC's Charter for Nursing Practice (2004:10), which stipulates that nurses must be educated and remain competent through lifelong learning and become practitioners who qualify to work independently in the absence of doctors in specific areas. They must also be able to use critical judgment in their field of specialisation.

However, despite the SANC's initiative to solve the nurse specialist shortage by introducing the CNS course, according to the Department of Health, there is still an imbalance between nursing education institutions' output and health service demand (South Africa 2013:17). Rispel and Bruce (2015:1) also indicate that nursing profession is in peril characterised by shortages which is caused by nursing education institution' s output that does not match the health and service demands for nurses. This raised some questions as to what the problem is, why and how to address these imbalances. This prompted the researcher to find out for the answer to the existing imbalances with the intention of resolving the problem through this research study.

1.2.2 Background to the research problem

In searching for the answers to the reasons for the imbalances between the nursing education institutions' output and health service demand, the researcher embarked on an academic journey to attend management meetings and nurse educators' meetings. It was then discovered that there is poor performance among students, especially in IMS and ND, which are compulsory modules for the CNS course. Efforts are made to improve students' academic performance in these two modules in the form of remedial teachings, individual consultation with students, counselling, optional tests, as well as oral tests being carried out according to the rules and regulations of the colleges. It has, however, been noted that these efforts are not commensurate in terms of training institutions 'output evidenced by the examination results in table 1.1.

1.3 RESEARCH PROBLEM

Since 2012 the examination results of IMS and ND as the major subjects in CNS course have remained unsatisfactory as indicated in table 1.1 below. The results for other

nursing colleges are not available. The principals were not ready to give them out due to administrative issues and confidentiality reasons.

Table 1.1: Students' performance in IMS and ND

Year	No of students who wrote ND	Failure rate	Percentage	No of students who wrote IMS	Failure rate	Percentage
2012	55	31	56%	55	38	69%
2013	76	42	55%	76	46	61%
2014	36	12	33%	36	8	22%
2015	80	57	71%	80	28	35%
2016	53	23	43%	35	13	37%

Source: Limpopo College of Nursing examination results 2012 - 2016

It was further affirmed by the National Department of Health (2012/13 - 2016/17: 52) that there is a decline in specialist nursing output leading to reduced capacity for service in tertiary hospitals. It has also been costly for the Department of Health because each student who is enrolled in the course is offered study leave with full pay (one year's salary for every student) hence there has been a review with regard to financing of health professional development and training (National Department of Health 2012/13 - 2016/17: 52).

From the clinical nursing side, poor academic performance would also result in lack of quality patient care hence nursing require expansive knowledge that would enable nurses to perform their duties and render holistic patient care competently, ethically and legally (Singh & Mathuray 2017:123). This poor performance also has an impact on the image of the training institutions.

Therefore, this study intended to explore the reasons for the high failure rate in IMS and ND, and develop strategies that could be implemented to improve students' performance in the CNS course, which will ultimately result in reduced expenditure on these students.

1.4 PURPOSE OF THE STUDY

1.4.1 Research purpose

The purpose of the study was to investigate the reasons for the high failure rate among post-basic students enrolled in a CNS course, and to explore both educators' and students' experiences regarding the programme so that strategies could be developed to improve students' academic performance.

1.4.2 Research objectives

Phase 1 (Qualitative phase)

- To identify the reasons for high failure rates among post-basic students enrolled in IMS and ND.
- To explore the post-basic nurse educators' experiences regarding students' performance in IMS and ND modules.

Phase 2 (Quantitative phase)

- To analyse the views of post-basic students regarding the CNS course.
- To determine the challenges faced by post-basic students in the IMS and ND modules.

Phase 3 (Interpretation phase)

- To develop strategies that can be adopted to improve students' performance in the CNS course.

1.4.3 Research questions

- What are the experiences of post-basic nurse educators with regard to students' performance in the IMS and ND modules?
- What could be the reasons for post-basic students' high failure in the IMS and ND modules?
- What are post-basic students' views about the CNS course?
- What challenges did post-basic students face when studying IMS and ND?

- What strategies can be employed to improve post-basic students' academic performance?

1.5 SIGNIFICANCE OF THE STUDY

1.5.1 Benefits for the training institution

The findings from this research will assist in developing strategies to improve the academic performance of post-basic students. It is also anticipated that the results will assist both the nurse educators and learners in their own immediate environment to reflect on attributes that need to be dealt with that could be a hindrance to good performance. It will also enhance the image of the training institutions.

1.5.2 Benefits for the nursing profession

This study will contribute significantly to the nursing profession at large by addressing challenges experienced in educating and training post-basic students. This could, in turn, enhance the quality of patient care, and these nurses will be able to provide specialised care in the absence of doctors.

1.5.3 Benefits to the Nursing Administration

The Department of Health will particularly benefit as the study could challenge curriculum development policies, thereby reducing the cost of study leave offered without a good outcome.

1.5.4 Benefits for the community

The developed strategies that are intended to improve post-basic students' academic performance will result in the production of specialist nurses for the country, thereby addressing the specialist nursing shortage and mortality rates.

1.6 DEFINITIONS OF KEY TERMS

1.6.1 Conceptual definitions

Conceptual definitions refer to those key abstractly or cognitively constructed discipline-specific ideas or symbols that are more thematically and directly linked to the research topic, rather than to the researcher and the research process as a whole. This definition explains the prevalence of different aspects of a critical variable such as poor academic performance, which is critical in this study (Polit & Beck 2018:49).

The following key terms are identified in this study as critical conceptual variables.

1.6.2 Academic performance

Hornby (2015:6) describes 'academic performance' in terms of how well one does in education, either at school or university.

1.6.3 Clinical nursing science

This is a post-registration course in clinical nursing science, which has been regulated by the SANC in terms of Regulation R212, to train registered nurses and midwives/accoucheurs at accredited universities and nursing colleges, leading to an additional qualification.

1.6.4 Course

Hornby (2015:342) defines a 'course' as a period of study on a particular subject, at a college or university, that leads to an exam or qualification. In terms of Regulation R212, a 'course' means a programme of education and training approved by the council, presented by an approved nursing school, which leads to a clinical nursing qualification that confers on the holder thereof the right to register such qualification as an additional qualification.

1.6.5 Dynamics

According to Hornby (2015:467), dynamics refer to the way in which people act or react to each other in a particular situation.

1.6.6 Improve

According to Hornby (2015:767), to improve is defined as the act of changing something to be better or to become better than before.

1.6.7 Internal medicine

The Oxford Dictionary of Nursing (2016:447) defines 'internal medicine' as a branch in medicine that deals with the diagnosis and treatment of disease without surgical intervention.

1.6.8 Strategy

A strategy is a plan that is intended to achieve a particular purpose (Hornby 2015:1495).

1.6.9 Surgery

Surgery is defined as the treatment of injuries or disorders of the body by incision and manipulation with instruments (Oxford Dictionary of Nursing 2016:815).

1.7 OPERATIONAL DEFINITIONS

According to Polit and Beck (2018:50), an operational definition of a concept specifies the operations that researchers must perform to measure the concept, and these should be congruent with conceptual definitions. The following concepts are defined operationally in the context of this study.

1.7.1 Academic performance

In this study, academic performance refers to the ability of the student nurse to pass and obtain 50% or more in the IMS and ND modules. Academic performance is regarded as students having passed and academically performed according to the rules and regulations of the college, which are based on the predetermined standards of SANC.

1.7.2 Clinical nursing science

This is a course undertaken by registered nurses and midwives/accoucheurs as regulated by the SANC in terms of Regulation R212, leading to an additional qualification in intensive care nursing, theatre nursing, trauma and emergency nursing, as well as orthopaedic nursing.

1.7.3 Course

A course is a series of lessons on speciality subjects, including IMS and ND as compulsory components, usually leading to an additional qualification.

1.7.4 Improve

In this study, to improve means performing becoming better or more excellent than previously.

1.7.5 Internal medicine

In this study, Internal Medicine and Surgery is a subject that offers comprehensive assessment, diagnosis and management of medical and surgical conditions that affect a patient's body system, leading to a diploma as a medical and surgical nurse specialist.

1.7.6 Nursing dynamics

In this study, Nursing Dynamics refers to a subject that deals with the way in which people act and react to others, and to changes and developments taking place in the nursing field.

1.7.7 Strategy

In this study, a strategy refers to a process of planning to improve academic performance.

1.7.8 Surgery

In the context of the study, surgery relates to course content focusing on the management of injuries and disorder by using instruments and suturing materials.

1.8 THEORETICAL FOUNDATIONS OF THE STUDY

1.8.1 Research paradigm

Polit and Beck (2018:738) define a paradigm as the way of looking at the world or a phenomenon, and encompass a set of assumptions that guides one's approach to inquiry. It encompasses the ontological, epistemological, axiological and methodological aspect of the study. The researcher opted for pragmatism, which is defined by Hornby (2015:1167) as thinking about solving problems in a practical and sensible way rather than by having fixed ideas and theories.

The rationale for choosing pragmatism is that it is the philosophical underpinning for mixed-method research. This paradigm allowed the researcher to use multiple approaches to develop knowledge about the phenomenon under study (Almpanis 2016:304). The researcher was able to look into the phenomenon from both postpositivist and constructivist perspectives, thus utilising both qualitative and quantitative approaches to develop knowledge about the research problem (Saunders, Lewis & Thornhill 2016:130; Creswell & Poth 2018:35).

1.8.2 Theoretical framework

Gibson (2016: 3) defines a 'theoretical framework' as a structure that holds or supports a theory of a research project or a set of concepts drawn from the same theory to offer an explanation of the phenomenon under study. The researcher used social science theory, which is an overarching framework for mixed-methods research (Creswell & Creswell 2018:66). From the social science theories, Bandura's self-efficacy theory was deemed relevant, hence the study focused on strategies to improve the academic performance of post-basic students, and the theory is based on efficacy expectations and outcome expectations (Polit & Beck 2018:123). Hence, Bandura (1994:4) states that individuals' belief in efficacy is influenced by cognitive, motivation, affective, selection processes and environmental factors. The researcher developed a self-efficacy model to illustrate the influence of this theory on academic performance, as depicted in Figure 1.1.

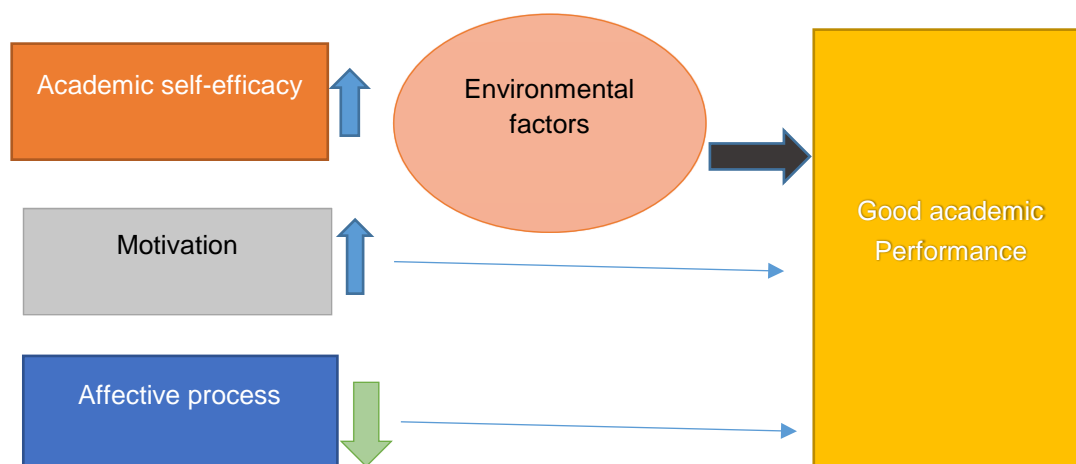


Figure 1.1: Model illustrating the influence of self-efficacy theory on academic performance

The researcher used Bandura's self-efficacy theory to link students' educational background (mastery experience), the vicarious experience (teaching strategies) of nurse educators, social persuasion (motivation) to learn, students' readiness and assertiveness (social presence) within their educational environment as the key determinants of good performance. These components became themes for qualitative data analysis and were then used as variables for the quantitative data. Their impact

was measured, and the findings revealed that they had an influence on academic performance after confirmatory factor analysis took place.

The researcher ultimately agreed with other scholars that self-efficacy influences people's ability to learn, their motivation, and their performance (Meera-Jumana 2015:29; Arbabisarjou, Zare, Ghoreishinia & Shahrakipour 2016:351; Hayat, Shateri, Amini & Shokrpour 2020:10).

1.9 RESEARCH METHODOLOGY AND RESEARCH DESIGN

1.9.1 Research design

The research design is described as the plan or blueprint that provides specific direction for procedures to be carried out in a study (Creswell & Creswell 2018:11; Grove, Gray & Burns 2015:211). The researcher used an exploratory, sequential, mixed-method design as it focuses on collecting, analysing, and integrating findings, and drawing on inferences using both qualitative and quantitative approaches in a single study to gain a better understanding of the research problem (Leedy & Ormrod 2015:329).

The exploratory, sequential, mixed-method design unfolded over three phases, namely the qualitative phase, quantitative phase, and the merging and integration of the results. The researcher chose an exploratory, descriptive, phenomenological research design for the qualitative phase as it focuses on life experiences from the perspectives and views of those directly involved in the phenomenon under study (Polit & Beck 2018:465).

For the quantitative phase, the researcher used a non-experimental, descriptive research design to gain a better understanding of the phenomenon. Little was known about this specific phenomenon and it was explored naturally from a representative sample (Brink, Van der Walt & Van Rensburg 2018:95; Polit & Beck 2018:739).

1.9.2 Research methodology

Polit and Beck (2018:12) describe a research methodology as the “steps, procedures and strategies taken to investigate the problem being studied and to analyse the collected data”. The methodology includes the approach to be followed, the design that outlines the setting, population, sample, and data collection and analysis.

The researcher followed a mixed-methods approach, which included both qualitative and quantitative methods. The qualitative phase was conducted in three South African provinces (Limpopo, Gauteng and Eastern Cape), with one nursing college per province. The population for the qualitative phase comprised nine nurse educators, thus three from each province.

The quantitative method was carried out with professional nurses who were former students, and now clinically placed across the five South African provinces (Limpopo, Gauteng, Eastern Cape, Free State and Mpumalanga). The population was composed of 307 members.

The researcher used purposive and non-probability sampling to select the sample for the qualitative phase and arrived at a sample size of nine participants. The size was determined by data saturation principles of diminishing returns, whereby each additional participant did not supply any new information than the preceding one (Polit & Beck 2018:49).

With regard to the quantitative phase, the researcher used proportional cluster probability sampling as the population was divided into clusters, and sample elements were chosen from each cluster (categories) rather than individually (Polit & Beck 2018:257). The researcher followed a multistage approach to determine the sample in order to overcome the heterogeneity problem within the clusters; the sample included subjects who were divided into clusters of homogeneous groupings (Alvi 2016:26). The approach is discussed in detail in Chapter 4. From the population of 307, the minimum required sample size of 234 was multiplied by the Design effect (Deff) of 0.4401 to get a minimum sample size of 103, using the Minitab statistical software program.

The researcher collected qualitative data through semi-structured interviews through the use of an interview guide (see Annexure E), audio recorder, and writing notes while observing non-verbal cues. This approach was chosen for its flexibility as it enabled the researcher to obtain rich data through probing, asking clarifying questions and presenting summarisations. The data were collected from nine nurse educators who were directly involved in teaching the post-basic CNS course in their areas of work, which was a real world and natural setting.

For the quantitative phase, a structured closed and open-ended questionnaire (see Annexure E) was used to obtain information through written responses from selected respondents who were former students for the course being examined.

With regard to data analysis, the researcher followed the four-step process for qualitative data analysis outlined by Creswell and Creswell (2018:185) to arrive at five themes that were used as variables for the quantitative questionnaire. This was done because there was no intention to determine the relationships between the variables, neither was there any manipulation of the data. A detailed discussion of the research methodology employed in this study is presented in Chapter 4.

The data were ultimately converted into numeric information and analysed using descriptive statistical procedures of exploratory factor analysis. To validate the results, confirmatory factor analysis was also carried out as detailed in Chapter 5. For the third phase, the results of both the qualitative and quantitative phases were merged and integrated, confirming and disconfirming, as indicated in Chapter 5. From the merged results, strategies for the improvement of academic performance were developed, as discussed in Chapter 6.

1.10 SCOPE OF THE STUDY

The study was conducted in three South African provinces, with participants for the qualitative phase selected from one public nursing college from each of the three provinces. The subjects for the quantitative phase were from five South African provinces, namely Limpopo, Gauteng, Mpumalanga, Eastern Cape and Free State.

The aim of using multiple sites and triangulation in this study was to enhance the validity and success of this study and generalise findings.

The study was conducted in public nursing colleges. Furthermore, the subjects for the quantitative phase were former students who enrolled for the CNS course, leading to a speciality in trauma nursing, theatre nursing, orthopaedic and intensive care unit (ICU) nursing with IMS and ND as compulsory subjects; as such, absolute generalisability of the findings is limited.

1.11 STRUCTURE OF THE DISSERTATION

The dissertation consists of seven chapters:

Chapter 1: Orientation to the study

Chapter 2: Literature review

Chapter 3: Theoretical framework

Chapter 4: Research design and methodology

Chapter 5: Data analysis, interpretation and merging of results

Chapter 6: Development of strategies to improve student nurses' academic performance in clinical nursing science course Chapter 7: Conclusions and recommendations

1.12 SUMMARY

The aim of Chapter 1 was to describe the background of the research problem, the purpose of the study, research objectives, research questions, theoretical framework and paradigmatic perspective. Moreover, the significance of the study, definition of key terms, research design and methods, as well as the scope and limitations of the study, were also presented. In Chapter 2, the literature review is discussed in detail.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The success of a study depends on the effective and extensive search for information or known facts about the topic to identify gaps in the phenomenon under study. This chapter addresses the literature review that was performed in relation to the current study. Polit and Beck (2018:733) define a 'literature review' as the critical summary of the topic of interest to put the research problem in context. In this study, the literature review was extensive to gain a detailed understanding of the background and expedite further insight into the phenomenon of interest, as both qualitative and quantitative approaches were used. The key words used to search for literature were: postgraduate diploma, peri-operative nursing, critical care nursing and orthopaedic nursing.

The literature review focuses on critical and current knowledge obtained from academic texts, scholarly conference papers, completed theses, as well as peer reviewed articles and journals to form a basis for the synthesis of previous research on the research topic. The researcher relied on primary sources, namely research reports written by the researchers who conducted them, as well as secondary sources (Polit & Beck 2018:88).

2.2 THE PURPOSE OF LITERATURE REVIEW

According to Polit and Beck (2018:54), a literature review provides a foundation on which to base the evidence of the research project. For the current study, the literature review served the following purpose:

- The researcher was able to identify several factors that contribute to poor performance and possible solutions to improve student nurses' academic performance (Chidiebere, Illo, Agbapuonwu & Nwankwo 2016:263).
- Literature further helped the researcher in filling in the gaps identified by drawing on similarities from other studies and using them as a guide in the development of

strategies to improve academic performance (Havenga & Sengane 2018; Muthimunye & Daniels 2019).

- In addition, literature allowed the researcher to critique the existing published studies by identifying what is known, what is beneficial, and what had negative effects on academic performance (Pinehas, Mulenga & Amadhila 2017; Fajar, Hussain, Sarwar, Afzal & Gilani 2019).

2.3 CLINICAL NURSING SCIENCE COURSE AS A CONCEPT

The CNS course is a postgraduate diploma course regulated by the SANC in terms of Regulation R212 to train registered nurses and midwives/accoucheurs. The CNS course is offered at accredited nursing colleges and some universities, such as the University of Stellenbosch, American International University of West Africa, Birmingham City University, and the University of Sydney as a speciality course. The course leads to an additional qualification in one of the following: child nursing science, community nursing science, gerontological nursing science, midwifery and neonatal nursing science, occupational health nursing science, psychiatric nursing science, as well as medical and surgical nursing science as areas of specialisation.

In terms of the current study, the additional qualification is a diploma in Medical and Surgical Nursing Science with an area of specialisation in operating theatre nursing, critical care nursing (general), critical care nursing (trauma), and orthopaedic nursing. Although the SANC is responsible for conducting examinations for post-registration courses, examination for this course is conducted by the nursing colleges which are affiliated with universities that have departments of nursing science, such as the University of Limpopo, Sefako Makgato University, University of the Witwatersrand, and the University of Stellenbosch. After completing the course, the students are still registered by the SANC for an additional qualification as a clinical nurse specialist and Advanced Nurse Practitioner (Muller & Pera 2016:61).

The primary aim of the course is to offer vocationally directed specialisation and continuing education opportunities to registered nurses and midwives/accoucheurs to qualify for advanced roles and work as clinical experts. The nursing profession is therefore characterised by a defined body of specialised knowledge.

2.4 THE IMPORTANCE AND RELEVANCE OF THE COURSE

- The course provides professional specialisation and continuing education opportunities at various academic levels for registered nurses and midwives/accoucheurs as new trends in diseases emanate and require special care and treatment.
- It also prepares registered nurses and midwives/accoucheurs to practice effectively and compassionately in the changing, uncertain healthcare environment by using advanced professional decision-making skills.
- It develops the registered nurses and midwives/accoucheurs' leadership skills in service of others using advanced knowledge, sound judgement and problem solving skills in caring for individuals in the health sector.
- It further promotes intellectual curiosity, creativity, critical thinking, cultural sensitivity, and commitment to care and continuing professional development (CPD) among nurses and midwives, as stated in the Strategic Plan for Nursing Education, Training and Practice (2012/13 – 2016/17).
- The course also assists in the development of nursing science through research by rendering a scientifically based nursing practice; hence, nursing is an evidence based, theory-driven profession characterised by both art and science (Polit & Beck 2018:3).
- It helps the registered nurses and midwives/accoucheurs to accept responsibility for independent nursing practice by acting in the absence of the doctor in order to save lives, according to regulation R2598 of SANC.

2.5 THE CLINICAL NURSING SCIENCE COURSE IN SOUTH AFRICAN CONTEXT

2.5.1 Duration of the course

The course duration is a minimum of one academic year, which is 44 weeks. The course is undertaken on a full-time basis, and if students fail after completion of the academic year, they have two opportunities to re-register as part-time students.

2.5.2 Entry requirement to the course

The students who qualify for admission into the course must be qualified registered nurses who have either completed the four-year comprehensive degree or a diploma course offered in terms of SANC regulation R425, or a bridging course offered in terms of SANC regulation R683. They should have proof of current registration with SANC as a registered nurse or midwife/accoucher, and be practising as registered nurses in public or private hospitals in South Africa.

The students are expected to have one years' experience as a registered nurse and midwife/accoucher, and at least four months' experience working in the particular field of specialisation in an accredited facility, and have a letter of recommendation from the nurse manager.

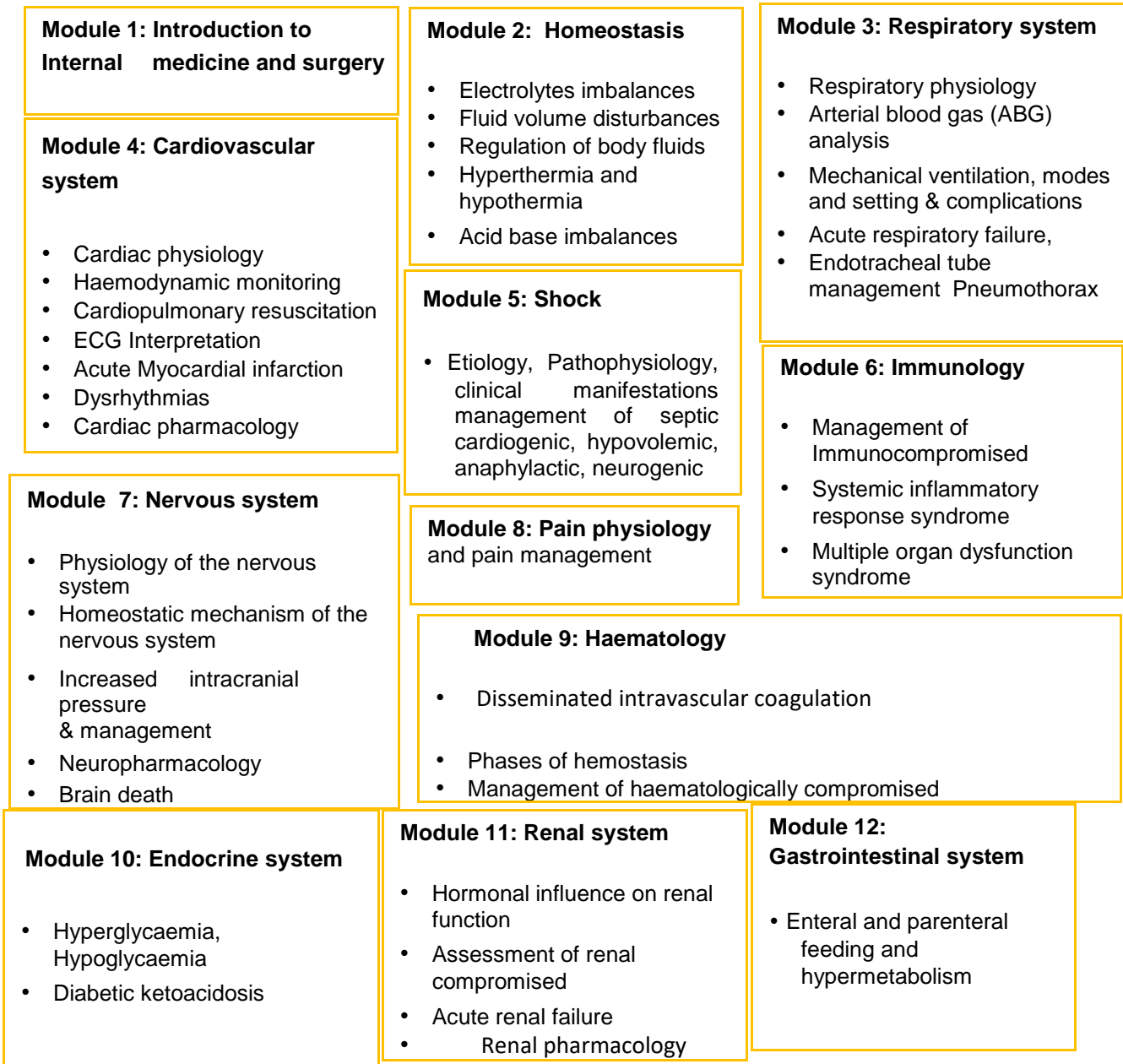
2.5.3 Curriculum of the clinical nursing science course

The curriculum for the CNS course has two compulsory core modules – IMS and ND. These are common to all speciality courses – and one speciality module for operating theatre nursing, orthopaedic nursing, critical care nursing (general), and critical care trauma nursing.

2.5.4 Organisation of the curriculum

The curriculum is divided into four sections with two compulsory core modules which focus on broad-based learning, with a minimum of 80 hours per module (thus 16 credits), as shown in Figure 2.1. The four speciality areas – theatre, critical care (trauma), critical care (general), and orthopaedic nursing – each have a module with 16 credits each.

INTERNAL MEDICINE AND SURGERY COURSE OUTLINE (16 credits)



NURSING DYNAMICS COURSE OUTLINE (16 credits)

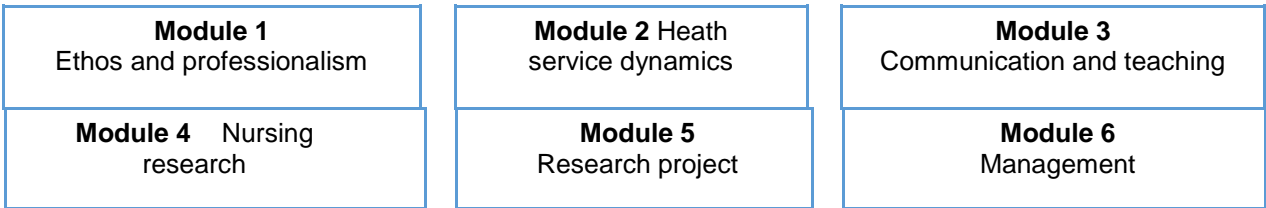


Figure 2.1: Illustration of compulsory core modules

The theoretical aspect of the course is carried out by means of a block system which is four blocks run in consecutive months, alternating with clinical practice. The clinical learning aspect is composed of 720 hours (72 credits) and varies according to the area of specialisation, whereby students are allocated in various units to provide care under the supervision of mentors and clinical accompanists, as illustrated in Figure 2.2. Therefore, the total credits for the entire programme are 120 credits.

Intensive care unit: 80 hrs (8 credits)

- Provision of care to mechanically ventilated patients with
- Fluid and electrolytes imbalance,
 - Cardiovascularly compromised,
 - Endocrine conditions,
 - Neurological conditions
 - Hematologic conditions

Trauma and emergency unit: 80 (8 credits)

- Care for patients with respiratory conditions
- Different types of trauma patients
- Orthopaedic emergencies

Operating theatre :160 hrs (16 credits)

- Anaesthetic considerations, suture techniques
- choosing appropriate equipments
- Monitoring patients under anaesthesia
- Monitoring fluid loss,
- Care of patients with hypothermia

Outpatient department 160 hrs (16 credits)

- Provide care to patients with
- Neurovascular compromise
- Orthopaedic concerns
- Renal compromised patient
- Gastro intestinal compromised patients

Orthopaedic units 400hrs: 40credits

- Provide care to patients with musculoskeletal conditions
- Metabolic disorders, degenerative disorders, metastatic conditions
 - congenital disorders, neurovascular compromised, spinal injured, rehabilitation
 - Psychosocial care to orthopaedic patients
 - Application of different types of casts

Figure 2.2: Illustration of clinical areas of specialisation

2.5.5 Teaching and assessing students enrolled in the clinical nursing science course

The teaching method includes group discussion, facilitation, simulation-based learning, case study, peer group teaching, as well as assignments. Students are given workbooks to complete; the work is marked, and feedback is given back to students.

2.5.6 Assessment strategies

Assessment takes place through written tests at the end of each block, and marks are allocated for each test to contribute to a year mark of 45%. This year mark permits students to enter the examination and students are expected to attain a minimum of 50% to pass each subject.

Students are also expected to do a case presentation. A patient is therefore chosen, their condition is studied, and progress and response to treatment are monitored for one week. Thereafter, the student presents the case to nurse educators.

Continuous assessment is also carried out where students are expected to demonstrate four skills that are critical to each area of specialisation, and marks are allocated as part of clinical assessment. Finally, an examination is conducted at the end of each academic year – typically during May – where students write one paper on ND, another paper on IMS, and two papers in speciality subjects.

2.5.7 Exit qualification at the end of the course

After successfully completing the course, students attain a diploma in Medical and Surgical Nursing with an area of specialisation, either in operating theatre nursing, orthopaedic nursing, critical care nursing (general), or critical care trauma nursing (R212 1993:14).

2.6 THE CLINICAL NURSING SCIENCE COURSE IN AFRICAN CONTEXT

In African countries, this CNS course is offered differently, especially in the sense that the content is speciality bound rather than being composed of medical and surgical nursing components. In the sections that follow, the manner in which the course is presented in various African countries is discussed.

2.6.1 Namibia

A postgraduate diploma in nursing science (specialisation) operating room nursing science. The course extends for a minimum of one year (full-time), and the maximum is two years.

2.6.1.1 Admission requirements

- Bachelor's degree or comprehensive diploma in nursing and midwifery Level 7.
- Or a diploma in general nursing and midwifery Level 6, with two years of uninterrupted work experience in clinical nursing as a registered nurse, with evidence in the form of a portfolio.
- Proof of current registration with the nursing council of Namibia as a registered nurse.

2.6.1.2 Curriculum framework

The course is run over two semesters, as indicated in Table 2.1, with 128 credits.

2.6.1.3 Course assessment

Continuous assessment takes place, with a minimum of two assessments contributing 50% to the final mark for examination entry. Examination assessment is 50% to pass the course.

Table 2.1: Namibian course division**First semester**

Course		Hours	Credits
1	Health Service Management	2	8
2	Foundation of Professional Practice	2	8
3	Operating Room Nursing	4	16
4	Practical Operating Room Nursing	8	8
5	Surgical Human Anatomy	2	8
6	Health Research Methods	4	16
7	Academic Writing for Postgraduate Students	4	8
Total credits		72	

Second semester

	Course	Hours	Credits
1	Health Service Management	2	8
2	Dynamics of Advanced Nursing Practice	2	8
3	Operating Room Nursing	4	16
4	Practical Operating Room Nursing	8	8
5	Surgical Micro-biology	2	8
6	Health Research Project	2	16
Total credits		64	

2.6.1.4 Exit qualification

Operating Theatre Nurse (University of Namibia Prospectus for School of Nursing 2019:62).

2.6.2 Kenya

Diploma in critical care nursing. The course extends for a minimum period of one year.

2.6.2.1 Requirements for admission to course

- Grade 12 certificate or any other equivalent qualification.
- Diploma in general nursing science and midwifery science.
- Proof of registration as a student nurse or a student midwife with the Board.
- Two years' experience as a registered nurse.
- Permission by the Board to enrol in the course.

2.6.2.2 Curriculum organisation

The course curriculum consists of the following subjects:

- Medical and surgical subjects
- Critical care nursing
- Healthcare systems
- Research methodology and interpretation of data
- The law and guidelines governing the practice of nursing and critical care
- Acts and omissions among registered nurses which constitute improper conduct or misconduct.

2.6.2.3 Teaching strategies

Teaching strategies include lectures, demonstrations, and clinical training.

2.6.2.4 Exit point or qualification

Critical Nurse Specialist.

2.6.3 Gambia (West Africa)

The Bachelor of Science in Nursing in Perioperative Nursing Programme and Orthopaedics. The programme comprises four months theory, and eight months practicum, followed by six months of internship at the hospitals, which amount to 18 months in total. The course covers the knowledge underpinning orthopaedic practice and its relevance to nursing.

2.6.3.1 Admission requirements for the course

- Students must provide official transcripts from a basic nursing programme.
- Students must submit a letter from their supervisor verifying at least one full year of full-time experience in nursing practice.

2.6.3.2 Curriculum organisation

The curriculum comprises a theoretical and clinical component, which are divided into four areas, as shown below.

Theory Content

Instrumentation for Perioperative Nursing

- Neuro-musculo-skeletal anatomy & physiology
- Disease processes (congenital, inflammatory, malignant, degenerative and metabolic)
- Infection, pain management,
- Traction and casting principles etc.

- Introduction to a wide range of equipment for use in surgery.
- Basic identification and usage of equipment • Universal case setup, minor and major setup.
- Separation of clean and dirty instruments, care and handling of instruments
- Importance of electrical safety within the medical environment and the rules governing equipment as well as the principles of operation

Practicum I

Practicum II: Perioperative Environment & Recovery

- Clinical Perioperative Nursing I - Surgical Techniques
- Understanding of the concepts of surgery and sterile technique
- Preparation of packs, preparation of surgical area, and assessment of patients

- Anaesthetic considerations, suture techniques, choosing appropriate, anaesthesia, analgesia, judging depth of anaesthesia, monitoring anaesthesia
- Patient care: monitoring, fluid loss, hypothermia.
- Recovery responsibilities, heat source, warm, quiet, analgesia, type of bedding, additional fluids, single house follow up patient care

Clinical Perioperative Nursing III: Clinical Practicum III: Perioperative Aseptic Technique and Infection Control

- Sterile technique: scrub, gowning, gloving, and draping.
- Intra-operative procedures such as cannulations, laparotomy, and suture techniques.
- Instrumentation. Applications of the principles of safe surgery.

- Preparation of the surgeon and patient for surgery.
- Applications of the principles of sterile techniques.
- Safe administration of appropriate local anaesthetic agents.

Clinical perioperative practicum IV

- The preoperative process
- Intraoperative phase and postoperative phase in general surgery
- Gynaecological surgery service, Laparoscopic surgery service
- Genitourinary surgery service, Orthopaedic surgery service
- Otrhinolangological surgery service

2.6.3.3 Exit outcome

Operating Theatre Nurse Specialist (American International University West Africa (AIWA) Health Science Center at the Gambia College of Nursing Part ii curriculum 2014-2018:24).

2.7 THE CLINICAL NURSING SCIENCE COURSE IN THE GLOBAL CONTEXT

Globally, training in the CNS course is defined as a clinical nurse specialist programme that runs as a single speciality course with its own modules. The course is regulated by the International Council of Nurses' (ICN) guidelines on advanced practice nursing (Schober 2020:14). The exit outcome of the programme is a clinical nurse specialist which, according to the World Health Organization Eastern Mediterranean Regional Office (WHO-EMRO), is defined as a nurse who holds a current license as a generalist nurse, and has successfully completed an educational programme that meets the prescribed standard for specialist nursing practice. Such a nurse is authorised to function within a defined scope of practice in a specified field of nursing, as stipulated in the following countries:

2.7.1 United Kingdom

2.7.1.1 Course name

The graduate diploma in critical care nursing is a course that extends for a minimum of one year.

2.7.1.2 Entry requirements

- A pre-registration university nursing degree or equivalent qualification.
- An embedded graduate certificate in this discipline or equivalent qualification.
- Evidence of experience and sufficient achievement to successfully undertake the course and proof of registration with the licensing body, which is ICN.

2.7.1.3 Curriculum organisation

- Critical Care Nursing Theory Section: 4 credits
- Critical Care Nursing Clinical Section: 4 credits
- Grading and evaluation section

2.7.1.4 Course outline

The theory is divided into 17 weeks, and clinical aspects are indicated below.

Week 2: Comfort and Sedation Week 2 continued: Nutritional Support

- Pain, agitation, anxiety, sedation scales
- Delirium, dementia signs & symptoms
- Confusion, pharm and non-pharm therapies

- Assessing nutritional status
- Enteral and parenteral nutrition
- Monitoring nutritional status and determining if needs are met & Quality and Safety Education for Nurses' (QSEN) Competencies

Week 3 & 4: Different Types of Shocks

- Distributive, hypovolemic, cardiogenic & obstructive, aetiology & pathophysiology clinical signs & symptoms, including hemodynamics
- Management – pharmacologic & non pharmacologic
- Evaluation of treatment plan, goals of care
- Nursing care for patients in shock states
- Components, normal values, how values are obtained or calculated,
- Nursing care of the patient with hemodynamic monitoring

Week 4: Hemodynamic Monitoring

- Interpreting hemodynamic values in relationship to shock states
- Vasoactive medications, classifications and names of medications, mechanisms of action and dosage ranges, indications for use and intended effects
- Calculating dosages and infusion rates for vasoactive medications
- QSEN competencies, safe medication administration

Week 5 & 6: Introduction to Dysrhythmias

- Review of conduction system, basics of Electro Cardio Gram (ECG) interpretation, Dysrhythmia: Identification detection, causation, management/interventions
- Refer to Acute Life Support (ACLS) protocols, rapid response and code teams, roles within these teams
- Goals of care, QSEN competencies, safe medication
- Administration for arrhythmias and associated sequelae

Week 7: Cardiac Vascular Systems

- Cardiac assessment, diagnostics, management of ACS/AMI, management of heart failure, coronary artery bypass surgery and QSEN competencies safe medication administration

Week 7 & 8 Respiratory System Airway Management Week 9: ABG Analysis

- Advanced principles of oxygen and ventilation
- Oxyhemoglobin dissociation curve
- Supplemental oxygenation; pulse oximetry
- Acute respiratory failure; acute respiratory distress syndrome
- Acute pneumonia, ventilator associated pneumonia, pulmonary embolism
- Safe medication administration practices

- Mechanical ventilation: Principles of mechanical ventilation
- Ventilator modes and settings
- Ventilator changes effect on blood gases/weaning
- Complications of ventilator
- QSEN competencies as they relate to pulmonary disease, mechanical ventilation and associated care

Week 10: Renal System Disorders

- Renal failure, aetiology of acute kidney, injury/disease, management of AKI, renal, replacement therapies, haemodialysis, continuous renal replacement therapies, peritoneal dialysis fluid & electrolyte
- Management, maintenance of fluid balance, hyper & hypo: identification, management and monitoring

Week 11: Haematologic and Immune System

- Na+, K+, Ca++, Mg+, QSEN competencies safe, medication administration related to alterations
- Kidney function simulation sessions, haematologic and immune disorders, solid organ transplantation
- Safe medication administration related to polypharmacy for immunocompromised patients

Week 12: Endocrine System and Endocrine Disorders

- Hyperglycaemia monitoring and treatment, diabetic ketoacidosis, preventing and treating hypoglycaemia, safe medication administration focused on giving intravenous (IV) insulin followed by subcutaneous insulin, reducing potassium levels and avoiding hypoglycaemia

Week13: Gastrointestinal Concerns in the ICU Week14: Neurologic System

- Acute liver failure
- Gastrointestinal bleeding
- Pancreatitis

- Increased Intracranial Pressure (ICP)
- Stroke management, safe medication administration related to providing thrombolytic medications for ischemic strokes
- Providing oral medications in patients with dysphagia and providing treatments for increased ICP

Week 15: Trauma-related Injuries

- Traumatic injury – penetrating & blunt
- Burns, safe medication administration practices especially related to administering pain medications
- QSEN competencies related to the care of trauma patients and burn patients
 - Roles of the circulating nurse and scrub nurse throughout the pre, intra and postoperative phases of surgery
 - Review of common surgical procedures
 - QSEN competencies as they related to the perioperative settings

Week 16: Operating Room

- Patient care in the operating suite
- Identifying the correct patient for the correct surgery
- Time out infection control measures taken in the operating room suite
- Safety measures employed in the operating room suite

Week 16: Continued Week 17: End of Life Care

- Roles of the circulating nurse and scrub nurse throughout the pre, intra and postoperative phases of surgery
- Review of common surgical procedures
- QSEN competencies as they related to the perioperative settings

- Breaking bad news to patients and/or their families
- Managing the dying patient in the Intensive Care Unit (ICU)
- Ethical and legal issues at the end of life
- QSEN competencies during the end-of-life phase
- Course wrap-up

2.7.1.5 Teaching methods for theory aspect

The teaching aids include blackboards, hand outs, scenarios or simulation, videotapes computer and Liquid Crystal Displays (LCDs).

2.7.1.6 Clinical teaching and learning methods

The teaching and learning methods take place at hospitals/training sites. The content covers cardiac, cardiothoracic surgery, respiratory, haematology, gastrointestinal, renal and wound care, neurologic, trauma and burns, multi-system failure, end of life, behavioural, and professional behaviours in the operating room. The learning methods include active participation in care activities, observation, reflection on care activities, patient responses, as well as simulation.

2.7.1.7 Exit outcome

Critical Care Nurse Specialist (Bitar 2016:2).

2.7.2 Australia

2.7.2.1 Name of the course

The graduate certificate in orthopaedic nursing extends for a minimum of one year.

2.7.2.2 Course content

The course content includes an exploration of the impact of acute and chronic illness, differentiation of the range of musculoskeletal dysfunction associated with trauma. It also emphasises assessment and management strategies within both the adult and paediatric setting.

2.7.2.3 Entry requirements

- Admission to the graduate certificate courses is based on academic merit and selection.

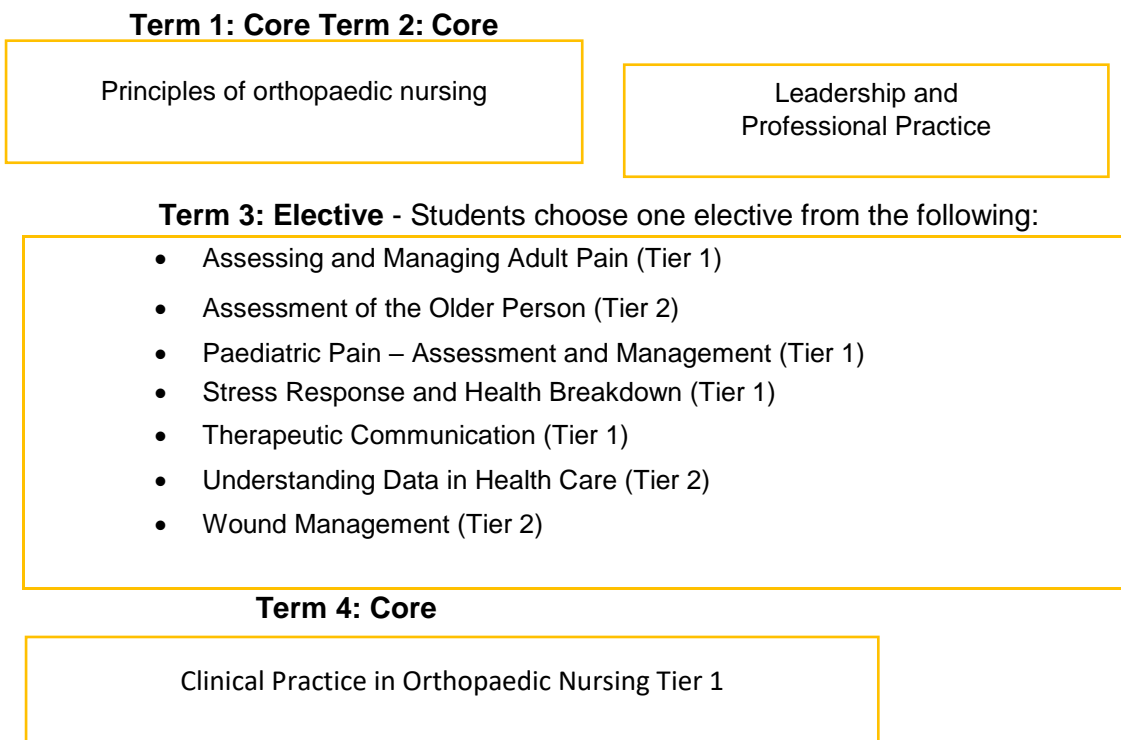
- Applicants must satisfy any prerequisites or additional requirements specified for particular courses, including the Australian College of Nursing's (ACN) general eligibility criteria.
- All applicants should:
 - holds a Bachelor of Nursing or registered nurse equivalent qualification
 - be currently registered with the Nursing and Midwifery Board of Australia (NMBA) or the equivalent registering authority in their country of origin
 - have a minimum of one-year postgraduate experience
 - be currently employed in an appropriate clinical setting ○ for some graduate certificate units of study, consideration may be given for applicants who are not registered nurses, on an individual basis
- Hold an embedded graduate certificate in nursing.
- In exceptional circumstances, the Dean may admit applicants without these qualifications who, in the opinion of the school, have qualifications and evidence of experience and achievement sufficient to successfully undertake the course.

2.7.2.4 Specific learning outcomes are as follows:

- Apply specialist knowledge of physiology, the pathophysiology of diseases and trauma to the nursing assessment and management of orthopaedic patients.
- Explore the legal, ethical and cultural issues in relation to the nursing care of orthopaedic patients.
- Demonstrate specialist knowledge, comprehensive assessment skills and evidence-based practice to improve orthopaedic nursing care.
- Evaluate complex clinical problems demonstrating a specialist approach to practice across the lifespan.
- Critically reflect on current practice and learning experiences to promote leadership, knowledge sharing and the development of a philosophy of lifelong learning.
- Develop advanced communication skills in order to establish therapeutic relationships with stakeholders, families and the multidisciplinary team for a holistic approach to nursing care.

2.7.2.5 Curriculum organisation

- The Graduate Certificate in Orthopaedic Nursing is a one-year course, consisting of four 10-week terms.
- Students need to complete four units – three cores and one elective. One unit is studied per term.
- The number of hours of study:12–15 hours per week.



2.7.2.6 Teaching and learning methods

- The teaching methods for the course include online delivery/and in-person clinical teaching
- Self-paced study
- Tutorial help from an instructor
- Five-day full-time workshop

2.7.2.7 Exit qualification

Orthopaedic Nurse Specialist (Graduate Certificate in Orthopaedic Nursing-Australian College of Nursing).

2.7.3 Singapore

2.7.3.1 Name of the course

Advanced diploma in nursing (Orthopaedics) is a 33-week (860 hours) full-time course.

2.7.3.2 Entry requirements

- Registered nurses with a diploma in nursing from a local polytechnic or an equivalent qualification.
- Registered nurses with a valid practising certificate from the Singapore Nursing Board (SNB).
- Two years' post-registration experience with a minimum of one year in the discipline of study.

2.7.3.3 Curriculum organisation

The curriculum is composed of four post-diploma certificate courses that have to be completed before acquiring the advanced diploma in orthopaedics, as outlined below.

- **Post-diploma certificate in principles and science of orthopaedic nursing**
 - Module 1: Applied pathophysiology and pharmacology in orthopaedic nursing
 - Module 2: Trauma of the upper and lower limb
 - Module 3: Trauma of the spine
 - Module 4: Health assessment and clinical decision-making
- **Post-diploma certificate in the practice of orthopaedic nursing**
 - Module 1: Advanced orthopaedic nursing clinical practice 1

- **Post-diploma certificate in advance concepts in orthopaedic nursing**

- Module 1: Care management across the life span
- Module 2: Non-traumatic orthopaedic disorders
- Module 3: Spinal disorders and orthopaedic rehabilitation
- Module 4: Evidence-based practice

- **Post-diploma certificate in the practice of orthopaedic nursing 2**

- Module 1: Advanced orthopaedic nursing clinical practice 2
- Module 2: Advanced orthopaedic nursing clinical practice 3

The teaching strategies include adult learning principles and active learning participation, such as team-based learning, student-led learning, video conferencing and classroom discussions, role play, simulation-based learning, as well as e-learning.

2.7.3.5 Exit outcome

Orthopaedic Nurse (Singapore Nursing Board 2016:2).

2.8 ACADEMIC PERFORMANCE OF STUDENTS IN CLINICAL NURSING SCIENCE COURSE UNIVERSAL CONTEXT

2.8.1 Global context

Nursing students' academic performance has been a matter of concern, especially because not all students who enrol and study nursing complete their academic requirements and graduate as qualified nurse practitioners. Elsabagh and Elhefnaway (2017:46914) define 'academic performance' as students' ability to cope with their studies and how various tasks assigned to them by their instructors are accomplished. Studies were conducted globally concerning students' academic performance, and results show various factors affect academic performance positively and negatively. The majority of the studies focused on

factors that affect nursing students' academic performance negatively (Dhaqane 2016; Jamshidi, Molazem, Sharif, Torabizadeh & Kalyani 2016; Khaira 2016; Alshammari, Saguban, Pasay-an, Altheban, & Alshammari 2018; Alos, Caranto & David 2015).

Among others, Pusey-Murray and Onyefulu (2018) studied student nurses' academic performance in Jamaica. They found that students' academic performance plays an important role in quality education and the advancement of patient care. From the above studies, not much has been done about the CNS or postgraduate nursing courses, except one study that focused on the facilitators and barriers that hinder nurses from participating in postgraduate education for specialisation in Australia (Hwoon Ng 2016:7).

Moreover, the issue of academic performance does not only exist in the nursing continuum but also affects other healthcare-related fields, such as pharmacy (Loughman, Shah, Naidoo & Bilotto 2015:5).

2.8.2 African context

The demand for qualified nurses in the healthcare system lies in the academic performance of nursing students and the acquisition of professional abilities and training that equip them to become competent registered nurses. Nursing students' performance in the health sector is critical and has been an object of inquiry, even in African universities. A study by Okanga, Ogur and Arudo (2017) addressed the institutional characteristics influencing Bachelor of Science Nursing students' performance in the Nursing Council of Kenya Licensure Examinations. Fajar et al (2019) were similarly concerned about the academic performance of undergraduate nursing students in the University of Lahore.

For a healthcare organisation to perform optimally, it requires competent, motivated and highly specialised and skilled healthcare providers. A study by Tesfaye, Abera, Balcha, Nemera and Belina (2015:6) in Ethiopia revealed that nurses who had the required knowledge and skills as a result of good performance from their educational institutions provided effective nursing care and carried out every activity with confidence. Hence, nursing involves theory and practice, and performance in the clinical setting is a serious concern since it has an impact on human lives. This prompted Jamshidi et al (2016:1) to undertake a

study focusing on the challenges among nursing students in the clinical learning environment in Iran. Another study was undertaken by Gemuhay, Kalolo, Mirisho, Chipwaza and Nyangena (2019:8) to identify factors that have an influence on clinical practice among preservice diploma nursing students in Tanzania.

Apart from the nursing career, the phenomenon of performance has been a central issue in other health-related sectors as well; it prepares students for work opportunities and helps them fulfil their employer's demands. The demand for qualified healthcare practitioners led to several governments' enquiries into issues associated with the recruitment and retention of employees. This is evidenced by the study that was undertaken by Kujan, Hasan, Nasog, Badawi, Hanouneh and Nassani (2015) on learning barriers among dental and nursing undergraduates.

2.8.3 South African context

South Africa is also not exempt from this phenomenon of growing international interest. Makgoba (2015) conducted a study on factors influencing nursing students' academic performance while Dube and Mlotshwa (2018) focused on factors influencing enrolled nursing students' academic performance. Mthimunya, Daniels and Pedro (2018) followed suit by focusing on undergraduate nursing students. Havenga and Sengane (2018) exceptionally focused on challenges experienced by postgraduate nursing students at South African universities. From the above-mentioned studies, none focused on postgraduates' CNS courses. As such, this study is a first and is deemed important in addressing the poor academic performance among nursing student at postgraduate level and developing strategies to improve patient care.

2.9 THE EFFECTS OF STUDENTS' PERFORMANCE IN THE CLINICAL NURSING SCIENCE COURSE

Academic performance of nursing students has been researched and debated among scholars both locally, regionally, nationally and globally (Tesfaye et al 2017, Gemuhay et al 2019 & Mhlongo 2018). This is of great concern especially on the health sector. Coetzee (2019:81) also asserts that the quality of the nurses being produced in private institutions in

lower income countries is a major concern. Abbasi, Pourmirza, Kalhori, Taheri, Heidari and Dehgani (2015:38) also indicate that academic performance is vital when it comes to medical students because they are regarded as the main resources of the health system, aimed at providing, maintaining and promoting public health. Therefore, poor performance is unacceptable and irreparable.

Geyer (2016:25) also determined that specialist nurses are limited compared with registered nurses and midwives. As a result, there is a dire need for educational institutions to produce nurses who will be ready to help in improving the indicators of life expectancy, maternal mortality, HIV/AIDs burden, and to strengthen the health system.

This is in line with Mthimunye et al (2018:201) claim that the identification of factors that affect academic performance may help to reduce the attrition rate and improve the graduate output rate, thus alleviating nursing staff shortages at national and global levels. This stance is supported by Coetzee et al (2016 in Christmals & Amrstrong 2019:11), who reflect that there is an acute paediatric nurse shortage in many African countries.

Adjapon-Yamoah (2015 in Christmals & Amrstrong 2019:3) indicates that advanced practice nursing programmes are necessary to improve primary healthcare in Nigeria, where there is a shortage of physicians. It is anticipated that nurses with advanced training will act in expanded roles to serve as physician support. Mwangi (2017 in Christmals & Amrstrong 2019:7) also reported on the disease burden and health worker mismatch that exist in Africa (2.3/1000), which can be curbed by the introduction of an advanced practice nursing programme.

Another point that was raised by scholars is that students' performance determines the success of any educational institution (Dube & Mlotshwa 2018:1). Therefore, students' academic performance enhances the image of a school, college and university.

2.10 FACTORS AFFECTING ACADEMIC PERFORMANCE OF STUDENTS IN THE CLINICAL NURSING COURSE

A wealth of information exists in the educational, sociological, and psychological literature about factors related to academic performance in various levels of education. Only a few

studies focused on undergraduate nursing students, either in their first year, second or final year of study, both internationally and locally (Masenga 2015; Chidiebere et al 2016; Khaira 2016; George, Lakra & Kamath 2017; Alshammari et al 2018; Mhlongo 2018). The factors identified are students' efforts, self-motivation, learning preference; entry qualification and previous school also play a pivotal role in academic performance. Thinking skills, teacher quality, teacher personality and a curriculum that do not match with real-life experiences were also identified by Alos et al (2015:61), in support of Fajar et al (2019:14), as affecting nursing students' performance.

The studies that were undertaken at university level focused on nursing students in their first year of study and final year (Pinehase et al 2017:68; Okanga et al 2017: 35; Dube & Mlotshwa 2018:5). Admission criteria, teaching strategy, students' lack of interest in a subject, and prerequisite knowledge of the subject matter were considered as having an influence on nursing students' performance.

The studies that focused on nursing students enrolled in clinical practice courses included one by Khoza (2015:107), which identified, among others, that nursing students were used to cover staff shortages, were delegated to perform non-nursing related duties, clinical supervisors' incompetence in promoting clinical learning for nursing students, and lack of time for students to practice skills as student groups. A study by Rajeswaran (2016:3) similarly identified a lack of support from faculty and clinical staff, lack of communication between the school and the clinical setting, poor interpersonal relationships, as well as exposure to high levels of academic stress as having an influence on students' performance during their clinical learning.

Jamshidi et al (2016:3) also determined that inadequate readiness, ineffective communication, stress and inadequate knowledge affected students' performance in the clinical environment. The study by Pusey-Murray and Onyefulu (2018:114) identified nervousness as one of the factors that had a negative impact on clinical performance among nursing students. Ineffective supervision, lack of self-confidence and absenteeism, poor preparation of clinical instructors, and shortage of nurse tutors in clinical areas were also identified by Gemuhay et al (2019:4) as adversely impacting on students' performance.

One study by Hajihosseini, Tafreshi, Hosseini and Baghestani (2019:5057) specifically focused on postgraduate nursing students' experiences in the educational environment. They found there is a need for student appreciation of research and research orientation, as that nursing training programme was research centred. Other factors that were highlighted included close supportive relationships, teachers' competency, educational guidance, lack of acceptance of the nursing profession, as well as clinical orientation because nursing is a clinical profession; these dimensions all contribute to nursing students' performance in postgraduate programmes. Another study by Alharbi and Yakout (2018:9) showed that English language proficiency is a determinant of nursing students' academic performance. Additionally, Pulido-Criollo, Cueto-Escobedo and Guillén-Ruiz (2018:39) claimed that academic factors, the demands for proper performance in clinical practice, academic assessment, physical pressures, as well as family and personal problems affect nursing students' learning ability and academic performance. These stressors have been seen to create a gap between academic preparation and the practical training environments produced in universities and hospitals.

2.11 THE RESEARCHER'S PERSPECTIVE

The literature searched interrogated the factors that affect nursing students' academic performance while they are enrolled for undergraduates courses and postgraduate nursing qualifications. The factors were further classified as student factors, institutional factors, and academic factor, internal and external based on the findings. The majority of these studies, both nationally and internationally, focused on students' general performance rather than subject or course-specific performance. Apart from those that explored the factors affecting performance, only a few were directed at improvement strategies, especially in terms of teachers' and principals' contribution (Katamei & Omwono 2015).

The researcher was convinced that the current study had to be carried out, and it focuses on strategies to improve performance rather than on the factors that affect performance since much has been researched in that area. Moreover, the course under study is undertaken by adult learners, and all factors identified during data collection require students' involvement in addressing the area of concern.

From the systematic review of literature, the researcher identified that the content covered in the IMS module is not speciality related to operating theatre and orthopaedic nursing, when compared with similar courses internationally and those in African countries. Instead, it is more inclined to critical care nursing (general), and critical care trauma content. As such, the researcher is of the opinion that the curriculum for the two programmes should be developed in a way that it will be speciality related using set learning outcomes and assessment guidelines to meet the objectives stipulated in the regulation for the course.

2.12 CONCLUSION

In this chapter, literature was reviewed, and the purpose of the literature review was explained. Various international and local perspectives on post-basic CNS courses were explored and described. Moreover, several factors that affect students' academic performance, according to scholars, were deliberated and the researcher's perspective concerning the phenomenon was presented. The theoretical framework of this study is discussed in the next chapter.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 INTRODUCTION

A framework is defined as the overall conceptual underpinning of a study (Polit & Beck 2018:119). Gibson (2016:3) states that theory describes and explains reality, informs how reality can be changed through empirical research and guide interventions to practice. If the study is based on a theory, the framework is referred to as a theoretical framework. According to Gibson (2016:3), a 'theoretical framework' is a structure that holds or supports the theory of a research project or a set of concepts drawn from the same theory to offer an explanation of the phenomenon under study. Ngulube, Mathipa and Gumbo (2015:60) state that the theoretical perspectives of every study guide the researcher in terms of specific research questions and objectives. It directs how literature can be reviewed, the selection of appropriate research methods, and the interpretation of results. It also connects the researcher to existing knowledge and provides a vehicle for generalisations to other contexts.

In the context of this study, the researcher used a social science theory which is an overarching framework for mixed-methods research (Creswell & Creswell 2018:66). From the social science theories, Bandura's self-efficacy theory was deemed relevant as this study focuses on strategies to improve post-basic students' academic performance, and the theory is based on efficacy expectations and outcome expectations (Polit & Beck 2018:123).

3.2 OVERVIEW OF SELF-EFFICACY THEORY

Self-efficacy is defined as people's beliefs about their capabilities to produce chosen levels of performance that exercise influence over events that affect their lives (Bandura 1994:2). Bandura further states that self-efficacy beliefs determine how people feel, think, motivate themselves and behave. According to the self-efficacy theory, a strong sense of efficacy enhances human accomplishment and personal well-being. The theory proposes that people with high assurance in their capabilities approach difficult tasks as challenges to be

mastered rather than as threats to be avoided. This fosters intrinsic interest and deep obsession in those activities, while those with lower self-efficacy do not have suitable behavioural outcomes (Brouwn, Malouff & Schutte 2013:12). In terms of the self-efficacy theory and learning, behavioural change results from one's set goals, dreams and interactions with the environment in an effort to achieve such goals (Bandura 1999:169). Bandura (1994:4) states that individuals' belief in efficacy is influenced by cognitive, motivation, affective and selection processes. This study examined the influence of the above-mentioned processes on post-basic students' academic performance in a CNS course.

3.2.1 Cognitive process and academic performance

With regard to cognitive processes, the theory addresses perceived self-efficacy and personal goal setting, as well as strategies developed to achieve such goals. The theory explains that people with a high sense of efficacy visualise success, and this provides positive guides and supports performance (Arbabisarjou et al 2016:350). In other words, such people do not believe in failure but instead remain task-orientated in the face of pressing situational demands.

In terms of learning, efficacious people set challenging goals and maintain a strong commitment to achieving them. The self-efficacy theory allowed the researcher to determine the impact of cognitive components on students' academic performance.

3.2.2 Motivational processes

With regard to motivational processes, Bandura (1994:4) is of the opinion that people motivate themselves and guide their actions, and this is cognitively generated. The theory further explains that motivation is regulated by the self-belief of efficacy. According to this theory, motivational processes operate within causal attributions, outcome expectancies, and recognised goals. From the three continuums, self-efficacious individuals attribute failure to one's lack of effort rather than putting the blame on the next person.

For the purpose of the current study, academic self-efficacy is regarded as the extent to which students believe that they will be able to succeed in their studies across different disciplines. This view is supported by Meera and Jumana (2015:29), who determined that students who had a high self-efficacy belief showed better performance in learning and thinking, as well as better performance at the evaluative level of learning. In this regard, high academic self-efficacy is what motivates students to learn to use self-regulatory processes such as goal setting, appropriate time management, prioritisation and balancing, as well as self-evaluation in order to achieve the expected outcome. Mieder (2018:7 citing Zimmermann 2002) agrees, stating that self-regulated learning involves “strategic actions such as setting goals, planning, organizing, taking control of the learning environment, self-monitoring, evaluating and self-assessing, rather than merely reactive to social environmental or inner forces”.

Moreover, David (2016:43) is of the view that learners become self-regulated when they set learning goals on their own, monitor their progress towards the goals, and assess the effectiveness of their efforts. Zimmermann (2000:86 citing Bandura 1997) then concludes that self-efficacious students participate more readily, work harder, persist longer, and have fewer adverse emotional reactions when they encounter difficulties than those who doubt their capabilities.

Another aspect of student’ motivation is value-driven efficacy. It focuses on the reasons for students’ involvement in academic tasks, which encompasses task value beliefs, intrinsic, and extrinsic goal orientation (Ngwira, Gu, Mapoma & Kondowe 2017:28). This implies that an individual who values a specific achievement will put more effort into the task, despite challenges to ensure the goal is attained. As such, the researcher concludes that the student remains the primary role player in the development of self-efficacy, hence the students’ thoughts serve as discriminative stimuli.

3.2.3 Affective processes

Stress, anxiety, fear and worry typically threaten one’s self-efficacy. This is supported by Bandura (1994:6), who purports that the emotional arousal of an individual is the least determinant of self-efficacy when compared to the other efficacy sources. The theory

indicates that perceived self-efficacy enables one to exercise control over stressors rather than conjure up disturbing thought patterns. In contrast, those who believe they cannot manage threats experience high anxiety arousal (Bandura 1994:5; Atoum & Al-Momani 2018:7).

According to Hayat et al (2020:8), who cite Pekrun et al's (2007) control-value theory, self-efficacy affects one's emotions positively through the use of metacognitive strategies. As such, in an academic arena, it is the student's responsibility to deal with whatever subject poses a threat to their lives and exercise control over such threat so that they will remain motivated and functional. In relation to learning and academic performance, one could assert that the stronger the student's sense of self-efficacy, the bolder they will be able to perform any taxing and threatening activities in their studies. Arbabisarjou et al (2016:351) agree, and state that students with high self-efficacy use more self-regulating strategies compared to people with low self-efficacy and show higher resistance if they fail.

Bandura (1999:5) is of the opinion that the human mind is generative, creative, proactive, and self-reflective. Ageing also plays a vital role in determining one's self-efficacy, especially looking at many new demands arising from lasting partnerships, marital relationships, parenthood, and occupational responsibilities. The study therefore also addresses the biological factors that might have an influence on students' performance, such as forethought, intention, aspiration, pro-action, creativity, self-appraisal and self-reflection, as well as their neural functionality.

Bandura (1994:13) further indicates that the development of coping capabilities and skills in managing one's motivation, emotional states and thought processes increase perceived self-regulatory efficacy and resilience, irrespective of life pressures. This implies that when students believe in their capabilities to manage challenging and valuable tasks, they tend to devise strategies that can be used to ensure that the task is completed. This is done through metacognitive strategies that generate positive academic emotions and control over the threat caused by the task, resulting in good performance.

The study by Maeda (2017:154) similarly reveals that the use of the self-efficacy theory potentially reduces negative emotional states in international students during classroom

discussion, and heightens their self-belief. Therefore, the researcher concludes that high academic self-efficacy is a prerequisite for good performance, especially in adult learning, where students are faced with multiple demands of familial and academic responsibilities without provoking negative emotions.

Developing social relationships that provide models on how to manage difficult situations, and that could help one to remain socially efficacious are vital (Bandura 1994:6). Such satisfying and supportive relationships will calm any ruminative stress and depression that impair one's academic functionality and lead to better performance. The theory ultimately contends that perceived self-efficacy affects every phase of personal change, health habits, the type of motivation one selects, and the perseverance needed to succeed in life. As such, students' belief in their capabilities to master academic activities affects their aspirations, their level of interest in academic activities, and their academic accomplishments (Atoum & Al-Momani 2018:5).

3.2.4 Selection processes

It is a fact that people are partly the product of their environment. According to Bandura (1994:7), personal beliefs in efficacy shape the course life takes and influences the type of activities, and environment people choose for themselves. This entails that if students have high perceived self-efficacy, they will consider a wide range of career options, will have greater interest, and be better prepared educationally, which brings greater success. Therefore, the researcher further agrees with Verešová and Foglová (2018:180) and Hoy (2000 cited by Agholor 2019:141), who state that academic self-efficacy is the key to motivation and learning in the sense that individuals are able to adapt to the demands and changing circumstances of the learning environment to improve their performance, as depicted in Figure 3.1.

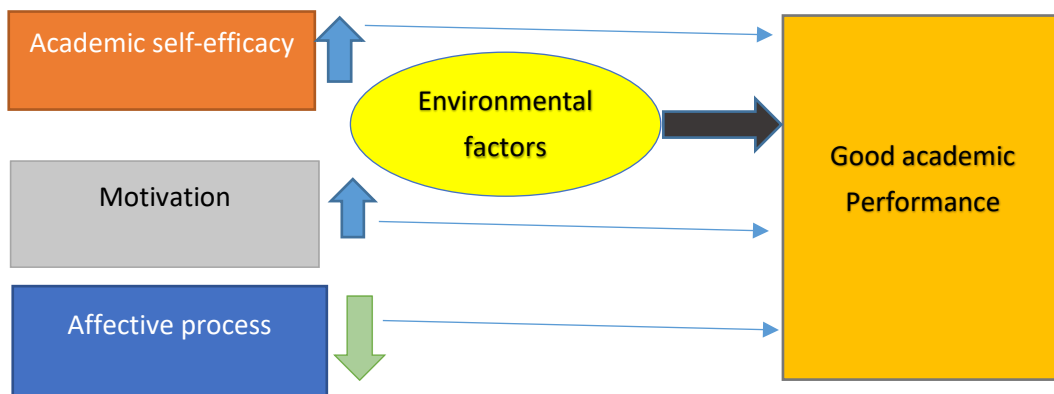


Figure 3.1: Model illustrating the influence of self-efficacy theory on academic performance

3.3 SOURCES OF SELF-EFFICACY

Bandura (1994:2 cited in Agholor 2019:142) further claims that self-efficacy emanates from mastery experience, vicarious experience, as well as social persuasion.

3.3.1 Mastery experience

Bandura (1994:3) believes that a resilient sense of efficacy requires experience in overcoming obstacles through perseverant effort. In support of the proverb “perseverance is the mother of success”, one could say success is built by a robust belief in one’s personal efficacy to overcome challenges, and this requires sustained effort. Perseverance in the face of adversity stems from one’s belief in having what it takes to succeed in life. Sticking to such beliefs through tough times makes one emerge stronger from adversity. Mastery experience in this regard means that students’ educational background in handling difficult tasks from basic training is what will motivate them to pursue the post-basic achievement and perform well, hence the proverb “experience is the best teacher”.

3.3.2 Vicarious experience

Atoum and Al-Momani (2018:4), in support of Bandura (1994), explain vicarious experience is when an individual watch another person succeeding and becomes influenced to succeed in their own situation. Macleod (2016:2) simplified this view by saying “a person learns by observing the consequences of another person’s behaviour and that is called

modelling". This entails that if an individual is attached to specific models that possess qualities that seem rewarding, there is vicarious reinforcement that will lead to motivation. According to Bandura (1986:5), modelling takes place through explanation and demonstration with verbalisation of the model's thoughts and reasons for performing given actions.

The current study therefore focuses on nurse educators as role models in the process of teaching and learning, as this will enhance students' academic performance. Bandura (1994:3) further states that people seek proficient models who possess the competencies to which they aspire. In this regard, competent models will transmit knowledge and teach observers effective skills and strategies for managing environmental demands which, in turn, raises perceived self-efficacy. This is referred to as 'observational learning' as the information will be conveyed by models, observers, or students (Macleod 2016:15). This concurs with Harinie, Sudiro, Rahayu and Fatchan's (2017:3) view that individuals who observe the behaviour in the environment as a model, will imitate the model's behaviour and become their behaviours. In addition, Bandura (1994:3) posits that models do more than just providing a social standard against which to judge one's own capabilities. Hence the impact of modelling on perceived self-efficacy is strongly influenced by perceived similarity to the models; in the context of the current study, the students' self-efficacy can be built through mentoring.

3.3.3 Social persuasion

Social persuasion involves being supported after the achievement of a task, either by praise or recognition. Persuasion helps people to try hard enough to succeed in what they do, thus promoting the development of skills and a sense of personal efficacy (Bandura 1994:3). As such, Atoum and Al-Momani (2018:5) state that students normally do better if they are persuaded verbally that they possess certain capabilities in a particular task, and are likely to perform better than students who have self-doubt and turn to focus on their deficiency. This is what Skinner (1974, 1989 in Braungart & Braungart 2007:57) refers to as 'operant conditioning'. In operant conditioning, one turns more to a belief in the self and strive to do the best at all times as a result of the stimulus-response model of learning.

Bandura (1994:3) emphasises that successful efficacy builders do more than convey positive appraisals by structuring the environment for observers in a way that brings success rather than failure. This could be in the form of feedback, which is also seen as another factor that persuades students to continue to perform better during the course of their training, hence it has a positive influence on self-efficacy. In this regard, the study focuses on the role played by nurse educators in creating a supportive learning environment through recognition of students' efforts. In essence, the theory proposes that educators should recognise and appreciate students when they succeed in performing their tasks as this will motivate them as they continue to face challenges in their studies (Verešová & Foglová 2018:192).

Conversely, educators should pay attention to students with low self-efficacy due to failure and provide them with successful experiences as part of motivation. This is in line with Bandura's (1994:12) individualised instruction to facilitate self-comparison in order to raise students' perceived capabilities. Meera and Jumana (2015:29) also agree that teachers should help struggling learners with low self-efficacy and get them to invest sufficient effort and persist in challenging tasks while conveying high expectations of students and praising good work.

3.3.4 Social presence

Social presence implies that during group discussion sessions, students should be aware of and appreciate each other's contribution to enhance their self-efficacy. According to Anderson and Dron (2011:6), social presence is shaped by expectation and approval for participation in activities in an academic setting. In addition, social presence calls for active participation from the student and peers rather than one becoming a consumer of information to facilitate an exchange of ideas and knowledge. Alsadoon (2018:228) further claims "there is a relationship between social presence and interaction in the sense that, social presence improves interaction and interaction increases a feeling of social presence". This view supported the results of a study by Oyarzun (2016:52), which showed the level of learners' social presence in interactions affect quality, learner satisfaction and achievement. Moreover, Ehrlick and Slotta (2018:2 citing Prince 2004) also assert that students should be hands-on and participate in real-life activities to help them connect their

experience in class with later experiences after graduation. This will reinforce a positive attitude towards the institution where they learnt their skills.

3.3.5 Learning community

Yarnit (2000 in Kilpatrick, Barrett & Jones 2003:3) describes a learning community as a process of addressing the learning needs of students through partnerships, using the strengths of social and institutional relationships to bring about cultural shifts in perceptions of the value of learning. The aim of a learning community theory is to create a mind shift from individuality to social connectedness.

Bandura (1994:11) views schools as agents of self-efficacy. In this regard, the learning community theory focuses on the role schools play in the development of students' cognitive competencies, acquisition of knowledge, and problem-solving skills, which are essential for effective participation in the larger society. In turn, schools provide avenues for students' knowledge and thinking skills to be continually tested, evaluated and socially compared. It is thus fitting that this study was conducted in different nursing colleges from three South African provinces.

The learning community theory thus emphasises the need to support students through discussion forums, such as symposiums, workshops and conferences that assist students in staying connected and establishing their sense of social presence in the learning environment. As part of cultivating students' cognitive self-efficacy within a school environment, teachers also are seen as operating collectively within an interactive social system rather than as isolates. In this regard, Bandura (1994:11) believes that students' development of cognitive skills rests on the talents and self-efficacy of their teachers. This entails that teachers with a high sense of efficacy about their teaching capabilities motivate their students and enhance their cognitive development. Bandura (1994:11) concludes that schools where staff members collectively judge themselves capable in promoting academic success permeate their schools with a positive atmosphere for development and academic attainments, regardless of the type of students they serve.

The learning community cannot be overemphasised, and cooperative learning is vital. Students must work together and help one another to promote more positive self-evaluations of capabilities and higher academic attainment, as compared to individualistic or competitive learning (Bandura's 1994:12). The study by Ehrlick and Slotta (2018:11) also determined that the learning community model had a great intrinsic value for students, especially in the acquisition of knowledge at its deepest and widest point through collaborative effort and reading the work of others.

In essence, the learning community assists students in making sense of experiences and tests previously held values and attitudes against those of others. Therefore, a learning community is considered to be a powerful strategy in supporting teachers' professional development and educational achievement. This strategy further provides a means for bringing together and supporting both teachers and students with the shared goal of increasing effective learning and teaching. This will, in turn, transform the education system through increased curricular integration, thereby improving performance.

This is in line with Meera and Jumana's (2015:29) claim that teachers should promote cooperative learning strategies in order to maximise students' learning from teachers and from one another.

3.4 USING SELF-EFFICACY THEORY IN THE CURRENT STUDY

The study examined students' educational self-efficacy in relation to outcome expectancy, which is academic performance. The main purpose of the model is to present an organising framework to examine the factors that affect the post-basic student nurses' academic performance and identify strategies to improve such performance. These factors may provide researchers with significant evidence about the self-efficacy theory's influence on academic performance.

The researcher adapted the self-efficacy model to reveal the interrelation among the components of the theory. Self-efficacy theory maintains that students' cognitive, selection, affective processes and level of motivation are the key determinants of good performance. Bandura's theory links students' educational background (mastery experience), vicarious experience, social persuasion, readiness for the task and social presence to performance

outcome. This model allowed the researcher to determine the impact of each component on the students' academic outcomes in the CNS course.

The researcher developed a qualitative interview guide based on the model and it formed a strong frame of reference to determine the reasons for student nurses' poor academic performance in IMS and ND. Nurse educators' demographic data were reviewed (including age, place of birth, ethnicity, educational background, marital status and career path), as it may have an influence on students' academic performance since learning and teaching is a two-way process.

The self-efficacy model was further used by the researcher during qualitative data analysis in the development of themes, which were, in turn, used to develop a quantitative data collection instrument (questionnaire). The questionnaire covered selected components of the model, which were considered to be variables that have the greatest predictive power on academic performance. The questionnaire consisted of students' demographic profile in terms of gender, age, province where training was provided, reasons to enrol for the CNS course (aspirations), type of basic nurse training received or educational background, and professional experience.

Another aspect of the questionnaire focused on students' preparedness for the CNS course, level of assertiveness with regard to interactions with nurse educators during training, challenges encountered during training, educators' competences during teaching and learning, the integration of theory and practice, supervision and support, as well as the leadership role from both academic staff and clinical personnel. All these were considered as having an influence on students' academic performance and respondents were asked to indicate on a Likert scale whether they strongly disagreed (1), disagreed (2), were neutral (3), agreed (4), or strongly agreed (5) with statements.

The researcher ultimately agrees with other scholars that there is a relationship between self-efficacy theory and academic performance based on the fact that motivation and performance are determined by how successful people believe they can be. This means that self-efficacy has an influence over people's ability to learn, their motivation and their performance (Meera & Jumana 2015:29; Arbabisarjou et al 2016:351; Hayat et al 2020:10).

3.5 CONCLUSION

This chapter discussed the theoretical framework used in this study, that is, Bandura's self-efficacy theory, which is classified as a social science theory. The social science theory was an overarching framework for the current study and employed a mixed methods research design. This chapter presented an overview of the self-efficacy theory, along with the theoretical constructs and sources of self-efficacy. It also included the utility of self-efficacy theory in the current study and how it linked the study to the broader body of literature. The following chapter will present the research design and methodology used in the study.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter provides a detailed discussion of the research design and methodology used in the study. The discussion includes the research paradigm, research design, research setting, population, sampling method and sample size, ethical considerations, data collection and analysis, academic rigour and trustworthiness of qualitative data, reliability and validity of quantitative data.

4.2 RESEARCH PARADIGM

Polit and Beck (2018:738) define a 'paradigm' as a way of looking at the world or a phenomenon, and it encompasses a set of assumptions that guide one's approach to inquiry. Paradigm further encompasses the ontological, epistemological, axiological and methodological aspects of the study. The researcher opted for a pragmatist paradigm, which is defined by Hornby (2015:1167) as thinking about solving problems in a practical and sensible way rather than by having fixed ideas and theories.

The rationale for choosing pragmatism is that "it is the philosophical underpinning for the mixed method research" that allows the researcher to use multiple approaches to develop knowledge about the research problem (Almpanis 2016:304). The researcher was able to look into the phenomenon from both post-positivist and constructivist perspectives, and therefore utilised both qualitative and quantitative approaches to develop knowledge about the research problem (Saunders et al 2016:130; Creswell & Poth 2018:35).

Pragmatism further allowed the researcher to adopt a subjective-objective stance that incorporates constructivist/interpretive, naturalistic and post-positivistic perspectives. The researcher was concerned about students' poor performance in a post-basic clinical nursing course and wanted to recommend strategies to improve their performance.

- **Ontological consideration**

Polit and Beck (2018:9) define 'ontology' as "what is the nature of reality". Ontologically, the researcher believes that reality exists outside the mind, is independent, and it can be lodged in the mind depending on the situation; hence, both qualitative and quantitative research strands were used in this study. In addition, since the researcher saw reality as what is useful, practical and works at a specific point in time, the qualitative approach was chosen as the first phase of the study (Lincoln, Lynham & Guba 2011:102). The researcher was concerned about the outcome of the research, the actions to be taken, situations and the consequences of the inquiry in order to develop knowledge. This stems from the ultimate purpose of the study, which was to develop strategies to improve students' academic performance.

Pragmatism supports studies that put the information gathered into practice in order to transform nursing practice and education systems, solve problems, and offer new strategies. However, from the post-positivist stance, the researcher believed that the existence of objective reality is independent of human observation and requires an approach that uses valid numeric measures of observation to collect evidence (quantitative phase) since total objectivity is impossible (Brink et al 2018:159; Hamby 2018:2). Above all, the idea was to analyse qualitative data, evaluate and test interpretations through quantitative measures.

- **Epistemological consideration**

According to Polit and Beck (2018:9), epistemology is the relationship that exists between the inquirer and those being studied, therefore, it reflects the nature of reality. From an epistemological point of view, the researcher adopted a highly interactive relationship with the participants to encourage them to answer the research questions. This relationship was established through interviews with participants, and the researcher was able to gain a subjective stance. The researcher relied on the participants' views in order to construct subjective meaning of the situation through her interactions with the participants. The researcher conducted the study in nursing colleges where the participants taught, which is a real (natural) world and social setting so, that the meaning the participants provided could be understood.

The researcher also developed a questionnaire from the qualitative findings to collect data that would enhance the validity and reliability of the study's results (quantitative lens).

- **Axiological consideration**

Creswell and Poth (2018:35) explain values as knowledge which reflect the views of the researcher and the participants. During qualitative data collection, the researcher's values, assumptions and biases were identified and bracketed through the use of an interview guide, reflexivity, and the manner in which questions were asked so as not to influence responses but guide the participants to the matter of importance to the study. Moreover, the study site was considered a social world which is not a value free environment.

Quantitatively, objectivity was maintained by the researcher providing a full description of the methodological process followed, the sample size determination, data triangulation, instrument reliability and validity testing, as well as analysis triangulation.

- **Methodological consideration**

As a pragmatist, the researcher did not resort to one system of philosophy and reality but believes that reality can be known through the use of multiple tools of research, including both deductive and inductive evidence. This stance supported her use of the mixed-methods approach in conducting this study.

4.3 RESEARCH DESIGN

The research design is described as the plan and blueprint that provides specific direction for procedures to be carried out in the study (Creswell & Creswell 2018:11; Grove et al 2015:211). The researcher used an exploratory, sequential, mixed-method design as it focuses on collecting, analysing, and integrating the findings, and draw on inferences using both qualitative and quantitative approaches in a single study to obtain a better understanding of the research problem (Leedy & Ormrod 2015:329). The aim was to explore the participants' views using a smaller sample to collect the data, later

analyse it, and using that data to develop the questionnaire to collect quantitative data with a larger sample.

The basic premise behind using a mixed-methods research design is that the combination of both approaches enhances triangulation and provides a better understanding of a research problem and to get et the whole picture, as much as possible from both the nurse educators and the former students. The exploratory, sequential, mixed-method design for in this study was performed over three phases, and the components of the design for each phase are discussed next.

4.3.1 First phase: Qualitative

In this phase, the researcher followed a qualitative research method that is associated with constructivism and interpretive philosophy, and takes a naturalistic approach to the world. This means that qualitative researchers study phenomena in people's natural settings, attempting to make sense of or interpret phenomena in terms of the meanings they bring through social interaction (Creswell & Creswell 2018:10; Leedy & Ormrod 2015:269). These researchers use multiple techniques to collect data, such as interviews, observation and writing notes.

4.3.1.1 Phenomenology

An exploratory, descriptive and phenomenological research design was used for this study as it focuses on the life experiences from the perspective and views of those directly involved in the phenomenon under study (Polit & Beck 2018:465). The researcher followed a descriptive and contextual research design to explore the views of nurse educators in relation to students' performance. This was done through semi structured interviews with nine nurse educators who were directly involved in teaching the post-basic course in their areas of work, which was a real world and natural setting.

The focus was to inductively establish meaning from the participants' perspectives through an exploration of their experiences. This was done by asking questions, such as "in which sense when you say it was poor?" This was based on the fact that lived

experiences are better understood from participants' meaning and interpretations as influenced by their language, social context, historical conditions and time frames.

An audio recorder was used to complement the interviews while the researcher wrote notes and observed non-verbal cues in order to ensure that information gathered was a true reflection of the participants' description of the phenomenon. Apart from the audio recorder, the researcher also employed interpretative validity to confirm what the participant said.

Bracketing was employed when the researcher reflexively identified and withheld preconceived ideas, opinion and beliefs about the phenomenon, especially since the researcher was teaching the same course (Creswell & Creswell 2018:183). This was achieved through the manner in which the questions were asked following the interview guide, and interviews remained focused on the issue of importance and participants' responses. As such, the researcher acted as a research instrument by collecting data herself, analysing it inductively and deductively following Creswell and Creswell's qualitative data analysis process, and interpreting the data to maintain credibility.

4.3.2 Second phase: Quantitative

In the second phase, the researcher approached the study using a quantitative design which is mostly associated with the positivist tradition whereby the investigation of a phenomenon requires precise measurements and justification, often involving a rigorous and controlled design (Polit & Beck 2018:741). The quantitative design was guided by post-positivism so that the study would be realistic and as objective as possible in collecting probabilistic evidence that allows the generalisation of findings (Polit & Beck 2018:183). The post-positivist stance was deemed relevant for this study, as the researcher wanted to determine the challenges encountered by students during their training in relation to the IMS and ND modules by using a questionnaire that was rated by means of a Likert scale. Therefore, the quantitative research method was used to explain the phenomenon by collecting numerical data using instrument-based measures (questionnaires) that were completed by participants, and analysing that data mathematically through statistics (Creswell & Creswell 2018:7). The quantitative method is further characterised by the

sample being representative of a larger population. Moreover, statistical analysis reduces and organises data, determines significant relationships, and identifies differences or similarities within and between different categories of data (Polit & Beck 2018:741).

4.3.2.1 Non-experimental research

The researcher chose a quantitative, non-experimental, descriptive research design to gain a thorough understanding of the phenomenon of interest. Little was known about this specific phenomenon as it reported naturally by a representative sample (Brink et al 2018:95; Polit & Beck 2018:739). The researcher distanced herself from the respondents; questionnaires were emailed to study subjects, while others were hand-delivered by an assistant who was not the researcher.

Descriptive studies provide accurate descriptions of variables as they occur naturally, assign new meaning to a phenomenon, and put information into categories in order to answer a research question (Polit & Beck 2018:206). The study was cross-sectional, hence data were collected at one point in time considering the cost and the population distribution, which was vast.

4.3.3 Third phase: Development of strategies

The third phase concluded with the interpretation and development of strategies to improve post-basic students' academic performance. In this phase, data from the qualitative phase was connected with the quantitative data.

4.4 RESEARCH METHODS

4.4.1 Setting

According to Polit and Beck (2018:744), a research setting is the physical location and conditions under which data collection takes place. The qualitative phase was conducted in three South African provinces, namely Limpopo, Gauteng and Eastern Cape. One nursing college was selected from each province that offers the post-basic CNS course leading to a specialisation in intensive care nursing, operating theatre nursing, orthopaedic nursing and trauma nursing, according to SANC regulation (R212).

The quantitative phase took place in five South African provinces, namely Limpopo, Gauteng, the Eastern Cape, Mpumalanga and the Free State.

4.4.2 Population

A population is defined as the entire group of individuals that have some common characteristics about whom a researcher wants to draw conclusions (Babbie 2016:116; Polit & Beck 2018:739). The study population for the qualitative phase comprised nine nurse educators teaching a post-basic CNS course in South Africa. The researcher targeted those teaching the CNS course leading to an area of specialisation in intensive care nursing, operating theatre nursing, orthopaedic nursing, and trauma nursing from public nursing colleges.

The accessible population was nurse educators registered with SANC and practising at three public nursing colleges which are Nursing College A, Nursing College B in Gauteng, and Nursing College C in Eastern Cape Province.

For the quantitative phase, the population was former students who enrolled for the CNS in the same institutions that offer the course. These students were situated across five South African provinces, namely Limpopo, Gauteng, the Eastern Cape, Free State and Mpumalanga as their place of work.

4.4.3 Sampling

Sampling is defined by Brink et al (2018:115) as a “process of selecting the sample from a population in order to obtain information regarding a phenomenon in a way that represents the study population”.

4.4.3.1 Sampling approach and methods

- ***Qualitative phase***

The researcher employed purposive or judgemental sampling which is one of the non-probability sampling whereby the participants who knew the most about the phenomenon under study were selected and regarded as information-rich cases (Polit & Beck 2018:254; Gray, Grove & Sutherland 2017:345). The sample was chosen in order to acquire meaning and uncover multiple realities, as the participants were readily available as volunteers from different research sites and had information about the study. Another reason for nonprobability sampling was that it is economical, requires less skill, is practical and works where there is limited access to the targeted population. The approach relied more on the researcher's judgement based on the fact that the cases were extremely important in understanding the purpose of the study.

Limitations associated with non-probability sampling are that not every element of the population has an opportunity to be selected for the study (Grove et al 2015:263). This limitation was overcome by using multi-site sampling, where the population was composed of different nationalities and age groups to ensure representativeness and transferability of the findings.

- **Quantitative phase**

With regard to the quantitative phase, the researcher used proportional cluster probability sampling as the population was divided into clusters, and sample elements were chosen from each cluster (category) rather than individually (Polit & Beck 2018:257). This approach was used since the population was large and composed of subjects who were widely dispersed across the South African provinces, constituting a homogeneous grouping. This sampling method also ensured the representativeness of the population and increased the generalisation of the findings. Moreover, the method is practical for a large and widely dispersed population. It was useful as the sampling frame was unavailable, and it reduced the cost, effort and time required to conduct the investigation (Alvi 2016:25; Gray et al 2017:341; Polit & Beck 2018:257).

- **Sample for quantitative phase**

A sample is defined by Polit and Beck (2018:743) and Leedy and Ormrod (2015:176) as a subset of a population consisting of those selected for the study. For the quantitative phase, the researcher followed a multistage approach to determine the sample in order to overcome the heterogeneity problem within the clusters (Alvi 2016:26). As South Africa consists of nine provinces, three provinces were chosen to become the primary cluster units. In each province, one nursing college offering the course under study was selected to be a secondary cluster unit, and students from each programme constituting the course being studied became the sample. The subjects for the study were ultimately from five provinces based on their work allocation.

- **Sample for qualitative phase**

The sample for the qualitative phase included nine nurse educators teaching the post-basic nursing science course, leading to a qualification in trauma nursing, operating theatre nursing, intensive care nursing and orthopaedic nursing, from the above-mentioned colleges.

4.4.3.2 Eligibility criteria for qualitative phase and quantitative phase

An eligibility criterion which is described by Polit and Beck (2018: 250) as the criteria that specify population characteristics was used to determine the sample.

- **Inclusion**

For qualitative phase, the participants that met the inclusion criteria were as follows:

- All nurse educators teaching the CNS course with IMS and ND leading to specialisation in trauma nursing, operating theater, orthopaedic nursing and intensive care nursing were included.
- Only females were included as there was no male educator in either of the colleges teaching the course under study.
- Age ranged between 45 and 65 years
- Years of experience in the field under study was between 3 and 11 years
- Different nationality was also another characteristic that was considered for inclusion.

- **Exclusion criteria**

The following participants were excluded from the study

- Nurse educators who teach CNS courses that lead to other area of specialisation were excluded.
- Those who teach CNS course that does not include IMS and ND were also excluded.
- Those who teach the same course under study but not falling between the years 2012 to 2016 were also not included.

In the quantitative phase, the following subjects were eligible for the study:

- **Inclusion criteria**

- Former students who trained the CNS course in public nursing colleges leading to specialisation in operating theatre nursing, orthopaedic nursing, trauma nursing, and intensive care nursing between 2012 to 2016.

- **Exclusion criteria**

- Those students who trained in the CNS without IMS and ND were excluded as these subjects are the main area of concern.

The sample size for the qualitative phase was determined by the data saturation principle of diminishing returns whereby each additional participant did not supply any new information than the preceding one (Polit & Beck 2018:497; Moule & Goodman 2014:293). Shadowed data also helped to ensure sample size adequacy, whereby participants were able to discuss their experience and those of others (Polit & Beck 2018:498).

In the quantitative phase, based on the statistical process for the calculation of a cluster sample, the sample size was determined with the help of the statistician by applying a Simple Random Sampling (SRS) approach. A list of 307 subjects that were divided into clusters of homogeneous groupings was obtained from the three nursing colleges and entered into a computer (Leedy & Ormrod 2015:180; Alvi 2016:23). The sample size was calculated using the Minitab statistical software program. The sample size was calculated in proportion to each cluster as indicated in Table 4.1 and the calculation of the variance around the proportion in the cluster design was also done, as illustrated in Table 4.2.

Table 4.1: Calculation of the variance around college proportion in a simple random sample (SRS)

PSU	SSU (Specialisation)	Number of Cases	Proportion
Limpopo: Nursing College A	Orthopaedic students	40	0.1303
Limpopo: Limpopo College of Nursing	Operating students	30	0.0977
Limpopo: Nursing College A	Trauma students	40	0.1303
Limpopo: Nursing College A	Intensive Care students	27	0.0879
Eastern Cape: Nursing College C	Intensive Care students	20	0.0651
Eastern Cape: Nursing College C	Operating students	20	0.0651
Gauteng: Nursing College B	Operating students	40	0.1303
Gauteng: Nursing College B	Trauma students	40	0.1303
Gauteng: Nursing College B	Intensive Care students	50	0.1629
	<i>Total</i>	307	1.00
	<i>Mean proportion</i>		0.1111
	<i>Variance (SRS) =</i>	<i>Mean proportion * (1 - Mean proportion)</i>	
		<i>(Sample size - 1)</i>	
	<i>Variance (SRS) =</i>	0.000322762849995965	

Table 4.2: Calculation of the variance around the proportion in the cluster design

PSU	SSU (College)	Number of Cases	Proportion	(Group proportion - Mean proportion)^2
Limpopo: Nursing College A	Orthopaedic students	40	0.1303	0.00037
Limpopo: Nursing College A	Operating students	30	0.0977	0.00018
Limpopo: Nursing College A	Trauma students	40	0.1303	0.00037
Limpopo: Nursing College A	Intensive Care students	27	0.0879	0.00054
Eastern Cape: Nursing College C	Intensive Care students	20	0.0651	0.00211
Eastern Cape: Nursing College C	Operating students	20	0.0651	0.00211
Gauteng: Nursing College B	Operating students	40	0.1303	0.00037
Nursing College B	Trauma students	40	0.1303	0.00037
Gauteng: Nursing College B	Intensive Care students	50	0.1629	0.00268
	<i>Total</i>	<i>307</i>	<i>1.00</i>	<i>0.0091</i>
	<i>Mean proportion</i>		<i>0.1111</i>	
	<i>Number of groups</i>	<i>9</i>		
	<i>Cluster Variance =</i>	<i>Sum of squares of (Group proportion - Mean proportion)</i>		
		<i>Square of (Number of groups - 1)</i>		
	<i>Cluster Variance =</i>	<i>0.000142058683793875</i>		

The minimum sample was calculated and multiplied by the design effect (Deff) which represented the magnitude of the variance inflation attributed to cluster sampling (Alimohamadi & Sepandi 2019:78). Additionally, as the cluster design had k (coefficient of variation) clusters and m subjects (which is the number of eligible individuals) in each cluster, the variance of the sample mean estimate was calculated in order to get the variance inflation factor (VIF) as indicated below:

$$\text{Var}_{\text{Cluster}}(\bar{x}) = \left(\frac{\sigma^2}{k * m}\right) * [1 + p(m-1)]; \text{ where } k * m = n$$

Therefore, $[1 + p(m-1)]$ signifies the variance inflation factor. The reason to use the Deff was to correct the sampling error that can be expected under simple random sampling. The Deff approach was depended on the average number of subjects sampled per cluster (n) and the intraclass correlation coefficient (p) as such the following formula was used:

$$\text{Deff} = 1 + p(n-1); \text{ where } p = \text{ICC}$$

The calculation of the Deff was as follows:

$$\begin{aligned} \text{Design Effect (Deff)} &= \frac{\text{Cluster variance}}{\text{SRS variance}} \\ &= \frac{0.00014205 \ 8683793875}{0.00032276 \ 2849995965} \\ &= 0.4401 \end{aligned}$$

The minimum sample size adjusted for the Deff gave a confidence level of 95% and margin of error of 1%.as shown by table 4:3 and the distribution plot of the calculation is indicated in figure 4:1

Table 4.3: Minimum Sample Size Calculation adjusted for the Design Effect

Parameter	Mean
Distribution	Normal
Standard deviation	55 (estimate)
Confidence level	95%
Confidence interval	Two-sided
Margin of Error	1
Sample Size	234

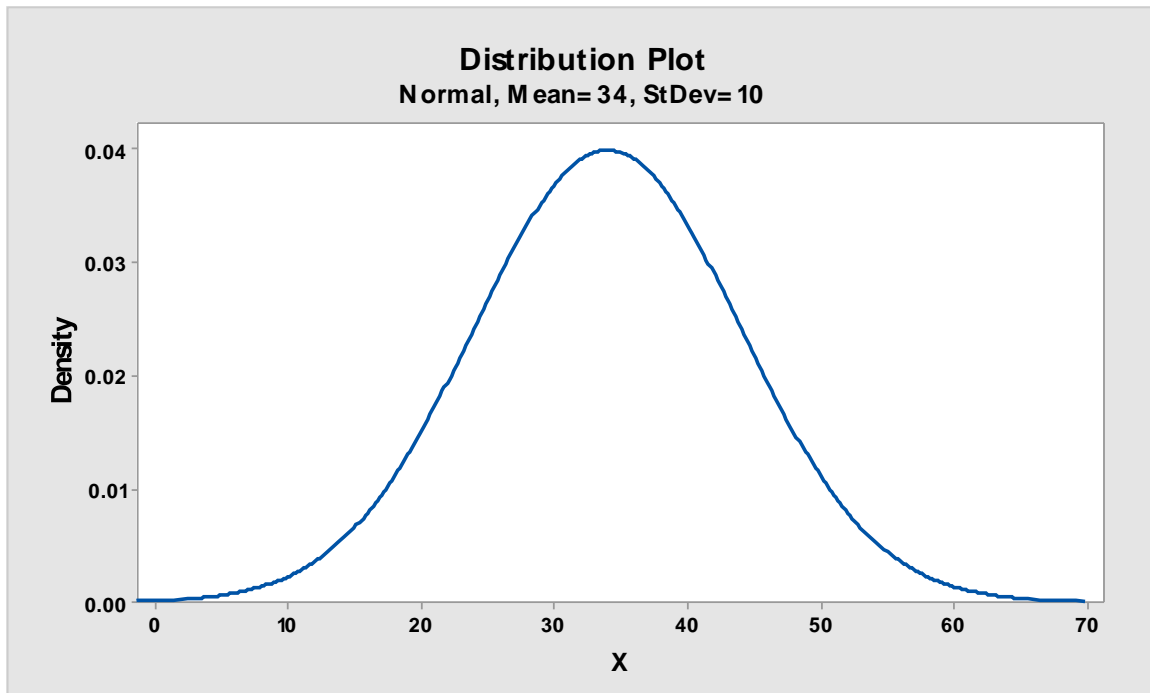


Figure 4.1: Distribution plot for calculation

Thus, from the population of 307, a minimum required sample size for estimation of 234 was multiply by the Deff of 0.4401, to get a minimum sample size of 103, using the Minitab statistical software program. The final results of the calculations of the sample size are presented in Table 4.4.

Table 4.4: Minimum sample sizes required per college, adjusted for the design effect (Deff) and relevant proportions

PSU	SSU (College)	Number of Cases	Proportion	Required Minimum Sample Size (n)
Limpopo: Nursing College A	Orthopaedic students	40	0.1303	13
Limpopo: Nursing College A	Operating students	30	0.0977	10
Limpopo: Nursing College A	Trauma students	40	0.1303	13
Limpopo: Nursing College A	Intensive Care students	27	0.0879	9
Eastern Cape: Nursing College C	Intensive Care students	20	0.0651	7
Eastern Cape: Nursing College C	Operating students	20	0.0651	7
Gauteng: Nursing College B	Operating students	40	0.1303	13
Gauteng: Nursing College B	Trauma students	40	0.1303	13
Gauteng: Nursing College B	Intensive Care students	50	0.1629	17
TOTAL		307		
Minimum Sample Size required, adjusted for the Design Effect (Deff)		103		

The entire accessible target population of 307 individuals were invited telephonically. 150 respondents agreed to participate in the study and as such 150 questionnaires were distributed. From the 150 that were distributed only 141 questionnaires were fully completed with one questionnaire spoiled whereby the respondent put a cross on two ratings for one item. Six questionnaires were incomplete and three not completed at all. Therefore, a total of 140 respondents satisfactorily completed the questionnaires which were considered adequate for representativeness.

4.4.3.3 Ethical considerations related to sampling

- **Approval**

The research proposal was sent to the Research Ethics Committee (HSREC) of the Department of Health Studies, University of South Africa (UNISA) for approval, and an ethical clearance certificate (REC 012 714-039 NHERC, HSHDC 878/2018) was awarded on 3 October 2018 (Annexure A). This was done in compliance with the rules and regulations of the UNISA Ethics Review Committees (ERCs).

4.4.3.4 Permissions to conduct the study

- **Permission**

The researcher requested permission to conduct the study from the Department of Health Ethics Committee of the three selected provinces (Eastern Cape, Limpopo province, and Gauteng) through a formal letter (Annexure B), accompanied by a research proposal and the UNISA clearance certificate. After permission was granted, another request letter (Annexure B), together with a proposal and clearance certificate, was forwarded to the nursing colleges' ethics committees, which further granted the researcher permission to access the study site. Later, the researcher requested permission from the study participants through a consent form which spelt out exactly what was going to be done, how, as well as the nature of their participation and the researcher's capacity in respect of the study (Annexure E).

4.4.4 Data collection

Data collection refers to the systematic process of gathering information that addresses the research purpose, objectives and questions (Gray et al 2017:675; Polit & Beck 2018:725). Maree (2016 cited by Brink et al 2018:133) defines 'data collection' as the way in which the researcher approaches answering the research question.

4.4.4.1 Data collection approach and method

Data collection was done over two phases, namely, the qualitative phase and the quantitative phase, in order to achieve multiple and mixed data collection methods. For the qualitative phase, the researcher used multiple sources of data collection techniques, including semi-structured interviews with the aid of an interview guide (Annexure E) to explore the nurse educators' views regarding post-basic students' performance in the IMS and ND modules. Notes were written while observation of nonverbal cues was carried out. The information was also recorded using an audio recorder so that no data would be missed.

The researcher used the themes and subthemes from qualitative data analysis, and grouped them into variables to further explore the research questions using quantitative approach. The main objective was to determine the respondents (former students)' experiences with regard to the CNS course and their challenges during training (Annexure E). Therefore, the quantitative data were built and connected with qualitative findings.

4.4.4.1.1 Development and testing of the data collection instruments

The researcher developed the interview guide for the qualitative phase based on the research questions and purpose of the study. The interview guide was divided into two sections.

The questionnaire for the quantitative phase was constructed based on the research objectives. The researcher used the themes and subthemes from qualitative data

analysis, and grouped them into variables to further explore the research questions. Therefore, the quantitative data were built and connected with qualitative results.

4.4.4.1.2 Characteristics of the data collection instruments

The interview guide was divided into two sections. Section A contained six basic and demographic information questions, and Section B had eight open-ended questions related to the objectives of the study, as outlined below

Section A consisted of six questions on demographic data, which covered the following:

- Participants' age
- Participants' place of birth
- Participants' ethnicity
- Participants' educational background
- Participants' marital status
- Brief description of participants' career path

Section B consisted of eight open-ended questions related to the research objectives, which included the following topics:

- Reasons for joining the nursing college.
- Balancing different priorities, responsibilities, roles, and interests, as well as a career.
- Period of employment in the college.
- General performance of post-basic students in the CNS course from 2012 to 2016.
- Possible reasons for post-basic students' high failure rates in the IMS and ND modules.
- Challenges faced by post-basic students when studying IMS and ND.
- Intervention strategies employed to improve students' academic performance.
- Improvement strategies to be instituted.

The questionnaire for the quantitative phase consisted of three sections. Section A contained items relating to respondents' demographic data and required ordinal responses.

- Section A: Demographic profile and general information (Question A101-109).

The questions under Sections B and C were closed-ended questions, and the respondents had to choose between fixed responses, except B110 which was open-ended.

- Section B1: Preparedness in relation to seeking assistance when confronted with challenges pertaining to course content (Question B101-208).
- Section B2: Questions in this broad section aimed to determine the post-basic students' assertiveness during training of the CNS course.
- Section C: Challenges encountered with regard to IMS and ND (Question C101410).

The researcher used a Likert scale that had five declarative items ranging from 1 to 5, whereby the respondents expressed their views on each given topic. A score of 1 was given to "strongly disagree", 2 for "disagree", 3 for "neutral", 4 for "agree", and 5 for "strongly agree" (Botma, Greeff, Mulaudzi & Wright 2015:138; Brink et al 2018:146).

Likert scale was used to rate respondents' preparedness and assertiveness challenges encountered during training, learning and application; supervision and support received; as well as leadership in the clinical setting and at the campus. The scores obtained from each response were added together to form interval data.

4.4.4.1.3 Pre-testing and review of the data collection instrument

Gray et al (2017:410) propose that questionnaires should be pre-tested to determine the effectiveness of the data collection technique. As such, the researcher pre-tested the questionnaire for validity with five respondents to evaluate the relevance and clarity of the questions. The researcher telephonically invited respondents who were working in an institution close to the researcher. The purpose and significance of the study were explained; the nature of participation, which was voluntary; and their privacy, confidentiality and anonymity was assured.

A sample of five questionnaires was distributed to test the instrument, and all were returned by the respondents, producing a 100% return rate. From the five questionnaires (n = 5) that were returned, all were duly completed, yielding a 100% (5/5) effective response rate

The researcher scanned and emailed them to the statistician for review. The statistician reviewed them for statistical validity and its ability to draw meaningful statistical conclusions from the study's findings. Identified flaws in respect of achieving the objective were adjusted and rectified.

- **Results of pre-test**

Results of the testing were as follows:

- The respondents reported that time for completion of the questionnaire was adequate
- Items and questions were clear

- The target population was changed to involve all the students who enrolled for the course under study rather than focusing only on those who were declared incompetent.
- Instead of exploring the experiences it was replaced by determining preparedness and assertiveness of former students for the CNS course.
- One of the recommendations from the respondents was that the questionnaire should also be hand delivered hence not all respondents are computer literate and it was difficult to complete it electronically and also the cost of printing and scanning.

The completed questionnaires were kept in a locked cupboard together with the consent forms which were attached and did not form part of the actual study.

The advantages of the questionnaire were that it offered some anonymity, and respondents could choose not to be honest in their responses (Polit & Beck 2018:147). It further allowed respondents to complete the questionnaire at their own convenience, while allowing them some time to think about their answers. It was also useful in

showing relationships with data that are easily quantifiable. Some respondents answered according to perceived expectations. Questionnaires are a less expensive data collection instrument, and saved the researcher in terms of time and costs that would have been incurred travelling to different institutions across the five provinces mentioned. In addition, it offered a standard format for all respondents.

4.4.4.1.4 Validity and reliability of the data collection instrument

The data collection instrument must be both valid and reliable to reduce errors in measurement. Brink et al (2018:151) state that “instrument validity seeks to ascertain whether an instrument provide accurate measure given the context in which it is applied”. In other words, validity is the degree to which an instrument measures what it intended to measure (Leedy & Ormrod 2015:114).

Hence the developed questionnaire was based on the qualitative findings and literature review. This ensured content validity as it assessed the adequacy of the survey questionnaire’s items under each dimension. The research supervisor and statistician also appraised the contents of the survey questionnaire (Brink et al 2018:152), and the questionnaire was pre-tested on five respondents who did not form part of the main study to assess the clarity of questions; all statements were deemed clear.

Internal validity examines the degree to which a study was undertaken based on operating descriptions of items of the research instrument and the relationships among variables studied (Leedy & Ormrod 2015:387). The responses from the pre-test were used to assess the relationships of questionnaire dimensions to the relevant items, as well as the respondents’ general understanding of the research instrument.

With regard to face validity, the questionnaire was sent to the statistician to check for readability and accuracy of the content based on the fact that the instrument was designed specifically for the study

Construct validity is the extent to which a study’s operational definitions reflect its conceptual definitions and construct (Gray et al 2017:221). This description is

supported by Leedy and Ormrod (2015:115), who define 'construct validity' as the extent to which an instrument measures a characteristic that cannot be directly observed but is assumed to exist based on patterns in people's behaviour, such as motivation and creativity.

The researcher ensured the construct validity of items for the research instrument using the exploratory factor analysis reduction model to evaluate the suitability of data for statistical factor analysis (Polit & Beck 2018:341). The exploratory factor analysis helped the researcher to group different items measuring the following attributes (see Annexure D): 'readiness and assertiveness', 'challenges', 'educators' competences', 'learning and application', 'supervision and support', as well as 'leadership'.

According to Bartholomew, Knott and Moustak (2011 in Fuey & Idris 2017:284), this method of factor analysis is known as reducing dimensionality in the sense that it operates on the assumption that measurable and observable variables can be reduced to fewer latent variables that share a common variance.

The statistician assisted in measuring sampling adequacy of survey items using Keiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) criterion and Bartlett's Test of Sphericity (Kayisoglu 2015:62; Chan & Idris 2017:405). The aim was to assess whether exploratory factor analysis could be conducted.

KMO-MSA refers to the ratio of squared actual correlation between variables to the squared partial correlation between variables. The KMO values range from 0 to 1. Values of 0.500 and above are considered 'acceptable'; values 0.700 and above as 'good'; values 0.800 and above as 'great'; and values 0.900 and above considered as 'excellent' (Fuey & Idris 2017:287). In the context of this study, the result of KMO-MSA value was 0.928, which exceeded the 0.6 minimum threshold and confirmed that exploratory factor analysis could be conducted.

Reliability is the extent to which a score is free from measurement error and will yield consistent results if repeatedly used over time when the entity being measured has not changed (Leedy & Ormrod 2015:116; Brink et al 2018:156; Polit & Beck 2018:303).

In the context of the study, a Cronbach's alpha coefficient was used to indicate how various items were positively correlated to one another under each dimension, with strongly correlated items indicating high internal consistency of questionnaire items (Polit & Beck 2018:344). The scale reliability was 0.867 for 47 items, which was above the minimum acceptable reliability threshold of ($\alpha = 0.700$). This indicated that the scale was reliable, hence the correlation measure varies between 0 and 1, and the nearer the measure is to 1, the higher the correlation. Thus, the higher the coefficient value, the higher the reliability of the responses (Polit & Beck 2018:308).

4.4.4.2 Data collection process

- **Data collection: Qualitative phase**

The researcher contacted the head of campuses for qualitative data collection in the Eastern Cape, Gauteng and Limpopo provinces, which were the research site after receiving permission from the departmental ethics committees, and informed them about the study. A written request was emailed to each nursing college, and permission was granted by the college ethics committees. Later, the campus heads informed the nurse educators who agreed to participate in the study and secured dates which were convenient for both the educators and the researcher for data collection so as not to disrupt their work schedule. The dates for data collection were scheduled for 26 and 27 March 2019 in the first site, 19 June for the second site, and for the third site it was 5 April 2019, 14 and 15 May 2019. On arrival at the sites, the researcher reported to the office of the head of campuses who, after introduction, took the researcher to the nurse educators' office where data collection was carried out.

In the nurse educators' office, the researcher introduced herself, explained her position, the reason for carrying out the study and her experience with the research problem. The study purpose, the reason for the participants' selection, significance of the study, as well as the detailed procedures that would be followed and the nature of participation was also explained. The researcher assured the nurse educators that privacy and confidentiality would be maintained, and anonymised data would only be shared with the researcher's supervisor, the statistician, and the college.

The participants were also informed that there were no rewards for participation and about their rights to withdraw at any time without any penalty.

Participant information leaflets were handed to the nurse educators, and time was allowed for them to read these so they could decide about participation without being coerced.

The researcher further awarded the nurse educators an opportunity to ask questions before consenting to participate. Consent forms were given to participants to sign as evidence of their agreement to participate in the study (see Annexure E).

A similar procedure was followed in all sites to ensure consistency, except in one site where the participant was on leave but agreed to participate. In that instance, the research site was modified to suit the participant's choice, and the data collection took place in a coffee shop. After telephonically communicating with the participant, the researcher travelled to the site to meet the participant, which was 21 kilometres from the college. This was done in respect of the participant's choice, as elicited by LaFrance and Crazy Bull (in Creswell & Poth 2018:56), and to prevent the participant from incurring any travelling cost. All ethical considerations were still adhered to at all costs.

The researcher used semi-structured questions to explore nurse educators' views regarding the reasons for postgraduate students' failure rates and strategies that were employed to improve students' performance. The following grand tour question was asked (Annexure E):

What do you think are the reasons for the high failure rate of post-basic students in Internal Medicine and Surgery and Nursing Dynamics?

An interview guide was used as an instrument that enabled the researcher to remain focused on the research topic and included a list of questions that were to be explored (Annexure E).

The researcher collected the data using an audio recorder while taking notes and observing non-verbal cues. The researcher also used a backup recorder in order to avoid mechanical failure and ensure that all information is captured.

The questions were open-ended but fairly specific in intent. The questions provided a high degree of objectivity and uniformity to obtain different perspectives on the research topic. Follow-up questions were asked by means of probing, clarifying, and summarising in order to gain the essence and meaning of all the responses. For example, *“in other words, you want to say, when they are there in front of the patient their mind is merely focused on the patient, forgetting to apply those managerial skills, is what you are saying”*.

Power imbalance aspects were taken into consideration when asking questions to avoid leading questions and questions that would be stressful to the participants. In some instances, the researcher minimised her verbal responses by saying *“uum uuhum”*, *“okay”* *“alright”*, *“ohoo”* and *“I understand”* to minimise bias. Participants were also allowed time to pause and express their emotional state. The researcher acknowledged participants’ responses to show her attentiveness, though expressions such as: *“Oh, there was a change, from the beginning”*. The duration of the interview varied from 45 minutes to one hour, depending on the information shared by participants, and nine participants were interviewed. At the end of each interview, the researcher thanked the participant for their participation and informed them that the findings and recommendations would be communicated to them.

The researcher went back to the head of campuses to collect a list of all former students who enrolled for the course under study in all these campuses as they were selected to be subjects for the quantitative phase. The list was already compiled as it was prearranged with the head of campuses after being informed about the nature of the study during the initial telephonic contact with the researcher, and was also emphasised in the request letter.

- **Data collection: Quantitative phase**

For the quantitative data, the researcher telephonically contacted all former students who were working in different institutions across five South African provinces namely Limpopo, Gauteng, the Eastern Cape, Free State, and Mpumalanga using the list provided by the head of campuses as mentioned above.

The researcher introduced herself and informed the students about the study and invited them to participate. The researcher followed the same procedure carried out in the qualitative phase to introduce the study to the prospective respondents.

For those who agreed to participate, the researcher further explained the technique that was to be used (a questionnaire), its structure, type of data to be collected, the expected optimum time for completion of the questionnaire, and how it would be sent and returned after completion, which was through email. Respondents who agreed were encouraged and requested to answer all questions for data completeness.

Initially, the researcher emailed the questionnaires to 150 respondents out of the 307 who were recruited. After several follow-up attempts, the researcher discovered that many respondents were not computer literate to complete the questionnaires online, and some did not have their own personal computers or laptops to access the questionnaires. Therefore, the researcher decided to hand deliver the questionnaires to those respondents who did not have access to laptops through an assistant. The assistant was not a researcher but was selected because of her availability and accessibility to the institutions where the majority of the respondents were placed.

The questionnaires were hand-delivered to each respondent during working hours, and were collected after a day or two by the assistant and returned to the researcher. Some respondents who could not complete the questionnaire immediately or in two days (due to busy work schedules), communicated with the researcher that the completed questionnaires would be photographed with their cell phone and sent to the researcher through WhatsApp.

From the 150 that were both collected and returned, only 141 questionnaires were fully completed with one questionnaire spoiled whereby the respondent put a cross on two ratings for one item. Six questionnaires were incomplete and three not completed at all. Therefore, a total of 140 respondents satisfactorily completed the questionnaires yielding a 93% (140/150) effective response rate and was considered adequate for representativeness.

4.4.4.3 Ethical considerations related to data collection

- **Departmental approval**

It is the responsibility of every researcher to uphold the scientific integrity of the study during the research process. This study involved human beings, and the researcher ensured that their rights were protected by obtaining permission from different departments and gaining informed consent from study participants before data were collected (Annexure A, B, C & E). This was done in compliance with the ethical requirements to conduct research as explained above.

In addition, the researcher ensured that the data collected were not manipulated by adhering to the following ethical and legal principles.

- **Right to self-determination and full disclosure**

Right to self-determination was respected, hence the participants were informed about the study processes, significance, as well as their right to withdraw at any time without penalty. This right to full disclosure, according to Polit and Beck (2018:140), and veracity, as spelt out in Moule and Goodman (2014:59), allowed the researcher to build a trusting relationship and display respect for participants' autonomy and dignity. Details were also provided in the information leaflet that accompanied the consent forms, and participants had an opportunity to read the leaflet before consenting and could ask for clarity.

With regard to the quantitative phase, the assistant only delivered the questionnaires to respondents, left the site and collected them after completion without any coercion. As such, the respondents participated voluntarily without being coerced, and there were no promises made by the researcher. The decisions of those who were not willing to participate or give information were also respected.

The researcher ensured that all cultural practices were honoured, especially in an instance where the research site was modified to suit the participant's preference

without compromising the integrity of the study (LaFrance & Crazy Bull, in Creswell & Poth 2018:56).

- **Informed consent**

The participants were informed about the study's process, purpose, and the researcher's details (Brink et al 2018:32), approval was obtained, and the anticipated benefits of the study was presented. All these were detailed on the information leaflet attached to the consent form (Annexure E) and on the covering letter that accompanied the questionnaire for quantitative data collection (Annexure E). The participants who consented to take part in the study signed the consent form.

With regard to the quantitative phase, all the consent forms which were sent with the questionnaires were not signed, and respondents regarded them as extra cost in terms of time and money, especially for those who wanted to print and scan. As such, an agreement was reached that if they completed the questionnaire, it would mean they consented to partake. The covering letter thus detailed that if one did not want to partake in the study, they should neither complete nor return the questionnaire.

- **Principle of justice**

The principle of justice entails participants' right to fair treatment and selection, which includes seeking a second opinion. In adhering to this principle, the researcher informed the participants that the reason for their selection was based on their experience with the phenomenon of interest and availability at the study site (Brink et al 2018:30). In addition, the researcher ensured that participants' lifestyles were respected based on their cultural background (Polit & Beck 2018:141).

- **Right to privacy**

The data collection for the qualitative phase was carried out in the nurse educators' offices, hence it involved intruding into their personal lives, and the data obtained were kept in strictest confidence (Polit & Beck 2018:141).

- **Confidentiality and anonymity**

On the matter of confidentiality, the participants were informed that the information obtained would be kept confidential and anonymous, and by no means be linked to them (Polit & Beck 2018:147). Participants were further informed that the data would only be made available to the supervisor, the examiner, external auditor, or the statistician who would assist in the statistical analysis of the quantitative data.

Data collected were further kept in a locked cupboard and the files for all transcripts were given code names, identifiable to the researcher only, and made inaccessible to other people by means of a password. The researcher further explained that pseudonyms would be used during reporting so that participants remain anonymous.

- **Non-maleficence**

Another aspect that was adhered to was protecting participants from physical, psychological, emotional, social and economic harm (Brink et al 2018:29; Muller & Pera 2016:110). In order to achieve this aim, the researcher ensured that the questions were structured in a way not to cause any distress. The participants were further told that their names would not be used during data collection or in the report; instead, pseudonyms would be used during report writing to protect their integrity and that of the institutions (Creswell & Poth 2018:57).

- **Beneficence**

Beneficence is another principle that was observed by ensuring that the study is of greater benefit than harm to both the participants and the institutions, as well as the community at large (Gray et al 2017:174). In this regard, the researcher informed the participants that the results from the study would be used to benefit post-basic students by improving their performance and contributing to better quality nursing education and better quality nursing practice. The study would also benefit the Department of Health by challenging policies on student intake as outlined in the

information leaflet attached to the consent form (Annexure E) and questionnaire (Annexure E).

4.4.5 Data analysis

Data was analysed separately in two phases. The researcher started with qualitative data following Creswell and Creswell (2018:194) qualitative (thematic) analysis process in order to arrive at the themes that were used to develop quantitative tool. Quantitative analysis was carried out with the help of a statistician using a computer programme SPSS version 26.0. The procedure is discussed in detail in chapter 5.

4.5 RIGOUR OF THE STUDY

The researcher adhered to the criteria of trustworthiness, reliability and validity in order to ensure the quality of both qualitative and quantitative data, hence an exploratory, sequential, mixed-method approach was used for the study.

4.5.1 Measures to ensure trustworthiness

The researcher followed the standard of trustworthiness for qualitative data using the criteria of credibility, dependability, confirmability, transferability and authenticity, as expounded by Polit and Beck (2018:560). The above-mentioned criteria allowed the researcher to demonstrate how the interpretations of the data and conclusions were drawn by reflecting on the participants' accounts, as delineated below (Moule & Goodman 2014:191).

4.5.1.1 Credibility

Polit and Beck (2018:559) define 'credibility' as the confidence the researcher has in the truth of the data and the interpretations thereof.

- The researcher used both non-probability and probability sampling, method triangulation, time triangulation, space triangulation, and person triangulation to ensure the validity and quality of the data.

- The researcher further used paraphrasing and summarising to obtain clarity and confirm her interpretation of the information (member checking).
- In addition, the researcher also used verbatim quotation so that the reader would hear exactly what the participant said and how the researcher interpreted the information.
- The researcher further used probing to gain an in-depth understanding of the phenomenon and participants' views, culture and experience.
- Clarifying questions were used in case of discrepant information that runs counter to the codes and themes (Creswell & Creswell 2018:201).

4.5.1.2 Dependability

Dependability is defined by Brink et al (2018:111), in agreement with Polit and Beck (2018:559), as a process that confirms the stability (reliability) of data in a study.

- In order to conform to dependability, the sampling method, data collection and analysis of the results were described so that, if the study were to be repeated with the same participants and in a similar context, it would yield similar results.
- The researcher further kept all documentation and the recordings that can be used during an audit trail by the external auditor.

4.5.1.3 Transferability

Transferability is the extent to which qualitative findings can be transferred to other settings or groups (Polit & Beck 2018:559). With regard to transferability, the researcher conducted the study with nurse educators from three public nursing colleges from three provinces, focusing on students' performance. The findings of this study may form a basis for improved practice in both nursing education and patient care. By providing detailed information about the research setting and the process, it enables readers to reach a conclusion about how the study can be transferred to another setting. As such, the researcher concedes that the results of the work at hand can be applied to a wider population.

4.5.1.4 Confirmability

Confirmability, also termed 'objectivity', refers to the degree to which the data reflects the information the participants provided, and that the interpretation of the data is not invented by the researcher (Polit & Beck 2018:559; Brink et al 2018:111).

- An audit trail of all the transcripts, field notes, instrument development information as well as the audio recorder has been kept and will be made available for the independent auditor.
- The researcher established reflexivity by reflecting on her position as an educator of the same CNS course, since it was not possible to step out of the nursing education culture. By also being a post-positivist, the researcher believed that total objectivity is impossible (Brink et al 2018:159; Hamby 2018:2).
- The researcher ensured that data saturation was reached and the study findings are supported by literature.

4.5.1.5 Reflexivity

Reflexivity refers to critical self-reflection on the researcher's own biases, preferences and perceptions that have the potential to affect the research process (Polit & Beck 2018:742). In order to ensure that the researcher's position did not compromise the integrity of this study, the researcher observed the following:

- During interviews, the researcher's role was explained to the participants, her personal observations and experiences with regard to the research problem, as well as the reason for conducting the study.
- As much as the interview guide was there to assist the researcher in remaining focused, probing was used based on the researcher's background and educational position, especially where the participants were not sharing information that was relevant to the research question.
- During data collection, the researcher minimised verbal response by saying "uum" "uuhum", "okay", "alright", "ohoo" and "I understand" so that the participants were at ease in revealing their own experience rather than what they perceived as being expected from them.

- When conducting interviews at the researcher's place of work, participants were encouraged to be open and not to be prejudiced by the researcher.
- In another situation, the participant responded by referring to the researcher's experience with the same course, which was bracketed and entered into data analysis with an open mind so as not to influence the interpretation of the findings.
- The researcher also requested a colleague to conduct a debriefing session at the end of the interview to determine her standing and perceptions about the phenomenon being studied.
- Furthermore, an interpretive analysis was done together with literature control to compare and confirm the research findings (Creswell & Creswell 2018:185).

4.5.2 Validity and reliability of quantitative data

- **Reliability**

Reliability is the extent to which a score is free from measurement error and will yield consistent results if repeatedly used over time when the entity being measured has not changed (Leedy & Ormrod 2015:116; Brink et al 2018:156; Polit & Beck 2018:303). This is in line with Mohojan's (2017:2) stance that the purpose of establishing reliability and validity in research is to ensure that the data are sound and replicable, and the results are accurate.

In terms of reliability, the researcher ensured that the data were reliable and free from error, and therefore yielded consistent results and had scientific merit. This was done through the use of the statistician who interpreted the statistical results using the statistical programme SPSS version 26 to analyse and interpret the data gathered from the questionnaires. The internal consistency reliability was tested using Cronbach's alpha coefficient in order to ensure that the instrument captured constructs in an accurate, truthful and sensitive manner (Polit & Beck 2018:308).

- **Validity of quantitative data**

Another domain of measurement property is validity, which is defined as the degree to which an instrument measures what it is intended to measure (Leedy & Ormrod

2015:114; Polit & Beck 2018:309). According to Botma et al (2015:174), validity indicates whether the conclusions of the study are justified based on the design and interpretation, and is classified into internal and external validity.

With regard to external validity, which is defined as the degree to which the results can be generalised to other settings or samples (Polit & Beck 2018:728), the researcher used a non-experimental descriptive design to address the questions of the study? In addition, the researcher had 140 respondents from a target population of 307 as explained above, making generalisation of the findings conclusive. The questionnaire was also assessed for internal content, and structural or statistical validity as mentioned above under instrument pre-testing.

The statistical validity of the questionnaire was examined based on the KMO criterion (Kayisoglu 2015:62). Operationally, the KMO-MSA analysis was conducted to determine the adequacy of the sampling size. After conducting the pre-test on sampling adequacy, eight out of ten items originally included in the questionnaire were retained. The remaining items, among which none could be eliminated, were retained for analysis.

4.6 CONCLUSION

In this chapter, a discussion was presented on the research methods, sampling methods, data collection, measures to ensure trustworthiness, reliability and validity and data analysis undertaken in this study. The researcher further explained and echoed the ethical issues which were observed and applied during sampling and data collection processes.

The following chapter focuses on the detailed qualitative and quantitative data analysis, interpretation, and presentation of the findings

CHAPTER 5

DATA ANALYSIS, INTERPRETATION AND MERGING OF FINDINGS

5.1 INTRODUCTION

This chapter presents the data analysis, interpretation, and discussion of findings from the collected data. The data from the qualitative and quantitative phases are connected, as the results of the qualitative data contributed to the development of the quantitative questionnaire. The research findings are first presented as an analysis of the qualitative data obtained from the individual semi-structured interviews, followed by an analysis of the quantitative data that were recorded through the questionnaire. This reflects the exploratory, sequential, mixed-method approach (qualitative and quantitative) used in this study.

5.2 DATA MANAGEMENT AND ANALYSIS

5.2.1 Data processing and management in qualitative phase

The raw data from transcripts and voice recorder was kept in the researcher's private laptop and the transcripts were also kept in the locked cupboard for confidentiality. The researcher organised the narrative information into files with a personal, secure password. The researcher later analysed the qualitative data which were collected through semi-structured interviews with the nurse educators from different public nursing colleges of three selected South African provinces.

5.2.2 Phase one: Analysis of qualitative data

Morse and Field (1995:126 in Polit & Beck 2018:531) describe qualitative data analysis as "the process of fitting data together, or making the invisible obvious, of linking and attributing the consequences to antecedents". Polit and Beck (2018:131) also refer to it as "an active and interactive process".

Data analysis was carried out over two phases to answer the research questions and objectives set in Chapter 1. The researcher started with qualitative data analysis process, as discussed below, followed by quantitative data analysis. The findings of both phases were then merged and integrated to show the similarity and difference perspective from research participants and respondents. The aim of qualitative analysis is to transform data into findings.

Data analysis was done manually, and the researcher moved in an analytical circle while using different data sources in different settings to enhance the trustworthiness of this study. The analysis and interpretation of data represented the application of deductive and inductive logic to the research whereby general concepts were being identified. The researcher relied on her experiences of particular settings to read the information provided by the participants involved in the study. Qualitative data analysis was based on assumptions and the use of interpretive frameworks to ensure that the final written report includes the voices of participants and the reflexivity of the researcher.

The analysis served to explore the reasons for postgraduate students' high failure rates in IMS and ND modules, as well as nurse educators' experiences regarding students' performance. The analysis concluded with a complex description and interpretation of the stated problem, its contribution to the literature, and a call for change; hence, strategies were developed to improve the academic performance of nursing students in CNS courses.

5.2.2.1 Sample characteristics

The sample for the qualitative phase comprised of nine nurse educators (three from each province) who were teaching the CNS (post-basic) course leading to trauma nurse, operating theatre nurse, intensive care nurse and orthopaedic nurse qualifications.

The researcher used the following abbreviations to fit the area of speciality into Table 5.1: Critical Care Nursing General (CCNG), Critical Care Nursing Care Trauma (CCNT), Orthopaedic Nursing (ORTHN) and Operating Theatre Nursing (OTN).

Table 5.1: Sample demographic profile (N=9)

CHARACTERISTIC	TOTAL NUMBER
Age group	
25-34 years	0
35-44 years	0
45-54 years	5
55-64 years	3
65-74 years	1
75 or older	0
Gender	
Male	0
Female	9
Name of the province	
Eastern Cape	
Limpopo	
Gauteng	
Area of speciality	
CCNG	3
ORTHN	1
CCNT	2
OTN	3
Total number of the sample	9

- **Age**

The participants were in the age group ranging between 45 and 67 years, with varying years of teaching experience ranging from eight to 15 years.

- **Gender**

All participants for the study were females as no male was teaching the course under study in any of the selected nursing colleges.

- **Research sites**

The nurse educators were from Nursing College A, Nursing College B and Nursing College C. The purpose of selecting three different areas of speciality was to assist the researcher in obtaining rich data by comparing responses from diverse provinces. A conclusion could thus be reached that was dependent on person triangulation, space triangulation, and time triangulation, as indicated in Table 5.1.

5.3 DATA ANALYSIS PROCESS

The researcher followed the four-step process for qualitative data analysis outlined by Creswell and Creswell (2018:185). The process involved levels of analysis to arrive at and establish findings or themes. These were used to develop an instrument for the quantitative phase, as illustrated in Figure 5.1, followed by a discussion.

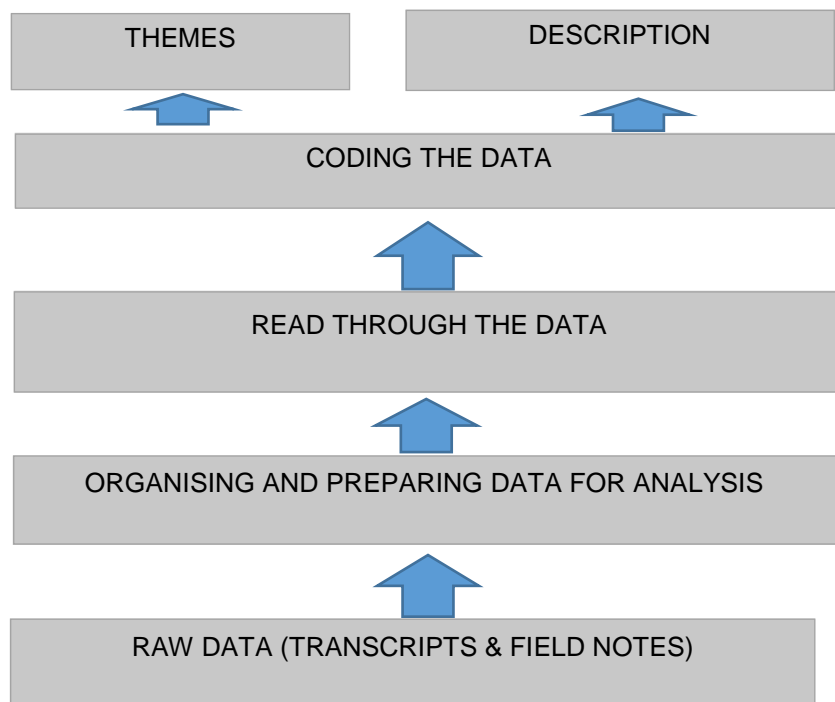


Figure 5.1: Qualitative data analysis process (adapted from Creswell & Creswell 2018:194)

5.3.1. Steps of qualitative data analysis

5.3.1.1 Organising and preparing data for analysis

The researcher listened to the audio-recorded interviews one by one while scanning through the materials for transcription. The transcripts were then sorted according to dates and location, which were later arranged into files for easy access. The researcher had an opportunity to immerse herself in the data while transcribing the interviews.

5.3.1.2 Read and look at all the data

The researcher read through all the data focusing on some data while disregarding other parts since not all data are useful for the qualitative phase (Creswell & Creswell 2018:192). The data were then aggregated into smaller, more manageable units. The researcher moved between and around transcripts while memoing the emergent ideas as key concepts. Reading through the data, the researcher was able to reflect on the meaning of the information, got the general ideas from the participants and impressions by writing memos in the margins of transcripts.

The researcher further looked through the notes written during interviews to confirm and disconfirm the main idea. The emergent ideas served as key concepts extracted by the researcher using the particular words used by the majority of the participants during interviews, such as “students don’t come”. In this approach the similarity and contrast principle was being followed.

5.3.1.3 Coding the data

The researcher summarised segments of data which was written as memos and were relevant to the research question from multiple files. The data was later categorised based on the number of times the word appeared in all the files. The counting was not based on frequency per individual file, but on how widespread the word appeared in the overall data (Elliot 2018:2857). A code was then assigned as an indication of the participants’ idea of interest in the research question. Coding was done by comparing new data with what already exists from the conceptual framework (a priori codes), seeking evidence for the code from different databases. Incidences were compared

with each other for similarities. The researcher finally used both theoretical codes and Nvivo codes, which are the exact words of the participants, as stipulated by Bazeley (2013 in Creswell & Poth 2018:193). The codes represented both the information the researcher expected to find and surprising information that was not expected.

5.3.1.4 Generating themes and subthemes

Several codes that form a common idea were aggregated into smaller units by noting recurrences in the data while checking for patterns and overlaps. The researcher followed Bazeley’s (2013 in Creswell & Poth 2018:194) strategies to develop themes from those classified smaller units that became the findings for the qualitative phase.

The themes displayed multiple perspectives from participants and were supported by diverse and specific evidence from literature. Five themes and 16 subthemes emerged based on the information obtained from the data, and are represented in Table 5.2 followed by an in-depth discussion

TABLE 5.2: ILLUSTRATION OF THEMES AND SUBTHEMES

THEMES	SUBTHEMES
1. Difficulty in understanding the learning material	<ul style="list-style-type: none"> • Failure to understand IMS • Detailed course content to some of the students • IMS not specialty orientated to other students
2. Educational foundation inadequate	<ul style="list-style-type: none"> • Lack of readiness • Language problem • Inability to use critical thinking • Students’ lack of interest and commitment • Students’ lack of motivation • Relevance of the course content • Attitude towards the subject matter
3. Short course duration	<ul style="list-style-type: none"> • Too much work load • Failure to catch up on time
4. Students failure to maintain a working relationship	<ul style="list-style-type: none"> • Students’ unresponsive to nurse educators ‘help • Students were hopeless and discouraged
5. Ineffective teaching strategy	<ul style="list-style-type: none"> • Preceptorship programme not effective • Inadequate clinical accompaniment

5.3.2 Research findings and discussion

In discussing the research findings, the researcher used statements from all participants that were considered suitable for the questions posed. The researcher further presented the exact words of participants by means of italics, and the participants are referred to by code numbers, such as LT1, RAM2, RAM 3, OTC3, TSC/2 and SOV3.

The statements are synchronised with the literature review from Chapter 2 in answering the research questions posed in Chapter 1, and from follow-up questions that emerged during interviews.

Research question 1: What could be the reasons for post-basic students' high failure in the IMS and ND modules?

The following theme emerged in response to question 1.

- **Theme 1: Difficulty in understanding the learning material**

Subtheme1: Failure to understand IMS

From the participants' experience, the study findings showed that students had difficulty in understanding IMS, which is a compulsory module for the CNS course. RAM/3 said: *"to show that they did not understand, a year before they come to do the course, they are expected to come knowing the Arterial Blood Gases (ABGs) but when talking to them about the ABGs is like you are talking Greek, especially because is something that they wrote about in the pre-course test"*.

Subtheme 2: Detailed course content to some of the students

Some of the participants indicated that the course content is especially difficult for the orthopaedic and theatre nursing students compared to those doing critical care nursing general and critical care nursing trauma, where one said:

“When they come here to do IMS is very, very difficult for them because it’s so detailed, they go deeper. They are the ones struggling and the critical care trauma and general didn’t have any problems because they do those things on a daily basis in the ward. They see patient coming with X rays, they do blood gas analysis, they interpret those on daily basis. Whereas this other group they only do it during that time when they are on block and they are new to them and they should start afresh by understanding them and by the time they understand how to interpret the course is almost over and exam is June”. (OTC/3)

Subtheme 3: IMS not specialty orientated to other students

The findings further show that the IMS content is not specialty orientated to some students doing the same course especially theatre and orthopaedic students.

“Internal Medicine and Surgery (IMS) is Greek and number two with the other ones, capital selecta from theatre point of view it is Greek. I’ll tell you why, because a theatre student is a theatre professional nurse yes, she has been orientated only to take care of the patient surgically, you understand. So, the students will write, we set a date and the student will write a test, what I find is with remedial test they perform worse”. (RAM/2)

The findings show that some of the students enrolled in the CNS course were struggling to understand the subject matter especially with regard to IMS. Colthorpe, Abe and Ainscough (2018:555) claim that physiology courses at the postsecondary level are considered challenging for students to master due to the highly conceptual nature of physiology and the substantial cognitive effort required to understand disciplinary knowledge.

The participants also indicated that after the students fail for the first time as full-time learners, they have an opportunity to register as direct entries; yet surprisingly, the students’ performance becomes worse even though the course content could be regarded as revision at this stage.

“Ja (yes), is even poor, bad to worse, very, very poor. Uuum, it goes back to zero you find that at the end of the year to write exam they come up with 20% and then they exhaust their two years of direct entry and they give up and go to other institution”. (OTC/3)

Some of the participants indicate that students fail the course due to their inability to understand the learning material. LT/1 shared:

“Only one came and she failed yes because she said: mam, I keep on answering this question but you keep on marking me wrong, why and how do you want me to answer this thing”.

“Yes, there was one thing the student said, you know mam when you are talking in class, you explain, joo we understand, but when we go home doing whatever the next thing we don’t know”.

RAM/3 also said:

“Or another factor that is a challenge to us, Level of understanding. Comprehension. They don’t understand the question”.

- **Theme 2: Educational foundation inadequate**

Another attribute that emerged from the study that contributed to the high failure rate was lack of good foundation on the subject matter. Most often, the curriculum is built on previous knowledge and the confidence gained to enable students to move into an advanced level. In the context of the study, it was determined that students who struggled to master anatomy and physiology in their basic nurse training were unable to understand pathophysiology.

“Your foundation, if you didn’t master your biology, if you are still telling me your spleen is here (pointing at the chest), if you don’t know your basic, remember we don’t really. You know remember, the post basic come with prior-knowledge, they not blank, is a prior learning knowledge is not a blank slate ... You see, that will also depend on how your four D will be when you come to us. So, that too, also basic calculation. So now, you can’t come to post basic not knowing how to calculate medication” (LT/1).

However, RAM/1 also said:

“A lot of students don’t know anatomy I am not sure sadly enough I taught BNS. No, they don’t know anatomy. I am sorry to say that. Also, they don’t know physiology. If they don’t understand that they won’t understand the pathophysiology. The only students that have a good foundation of anatomy and physiology will come in

remembrance when you stand and teach anatomy and physiology it makes sense to them”.

Another participant said:

“But now because in basic they were not taking heed of these conditions. I once heard some saying one thing that they were doing is cut, not cut and paste but cram and pass or something like that. So it created a problem on post basic level because we want them to see that they do understand. So there is no cut and paste or cram and pass in post basic. Moreover, in whatever you'll be doing, there should be a reason why you are doing that” (RAM/3).

Some participants reported that the students who did the bridging course struggled with IMS.

According to SOV/3:

“So, those that did the bridging course were the ones that were struggling with Internal medicine and surgery”.

TSC/2 said:

“No I did bridging course there was no research. R425 they are doing research. No the bridging ones are struggling.”

RAM/3 also said

“Because another thing I think, it's more like they took basic training fairly light or they took it very lightly, because they expect you to start like teaching from basic things. So according to them it's like that, and if you look at it, they don't have eeh, they don't do adequate management when they are in the basic”.

Gafoor and Kurukkan (2015:239) support the fact that teaching without prior knowledge promotes mechanical or rote learning.

“They stay for a long time after they have passed, they only start opening the books when they granted study leave to come and do post basic”. (SOV/3)

Lack of knowledge transfer was hinted at, and this coincides with the findings by Gafoor and Kurukkan (2015:239) who state that “students were approaching different portions as different, and not connecting the new with existing”. The findings reveal that previous knowledge is required to enable students to perform well in subsequent grades. This will enable them to link, interrelate and apply their basic knowledge to the current situation, which is constructivist learning.

○ **Subtheme 1: Lack of readiness**

The findings show that there was lack of readiness in some of the students.

“Nobody makes appointment. I even say to those direct entries, take your question write it and push it under my door. I will see how you answer. I will contact you, let me know if you answer the question right or not. You know all these avenues the students do not use them, I do not know why, I do not know why. But they don’t come” (LT/1).

One participant also reported that some students struggle with the course because their motive for taking the course is more attached to financial gain rather than advancing health care.

“They will not be really ready to do the course but because of OSD. You know you see students sometimes they tend to take the post basic study as very easy. And they come in and they get a shock of their life” (RAM/3)

It was also stated that students do not display a sense of responsibility for their own learning.

“So, each time they write a test, they fail and you say see me, clinical evaluation they are doing badly. You sit down and talk to them. And then after that you say to them okay this very patient that you had, go and do a case study on this very patient they don’t do it. What do you do? There is nothing you can do” (RAM/1).

Kearney and Garfield (2019:7) assert that educators’ perception of students’ readiness to learn directly correlates with actual learning. Contrarily, one could say

that a lack of preparedness to study is associated with poor performance and high failure rates. This concurs with Monnapula-Mapesela (2015:262) findings, reporting that students who are unprepared also suffer low graduation rates and a high exclusion at universities. Hassel and Ridout (2018:1) similarly affirmed that first-year students expected teaching at higher education level to be the same as in secondary school, which leave them frustrated and performing poorly.

○ **Subtheme 2: Language problem**

The findings indicate that students are experiencing language problems. A participant (ONT/1) explained:

“We don’t ask list this or we don’t give half mark for a thing and full mark for a sentence. That is where they fall down. I use to think in years passed it is vocabulary that they are short off. The language which they have to study in and the language that they have to write in”.

“And, you know coming from an Afrikaans background, I was born Afrikaans, I was married by English man who couldn’t speak a word of Afrikaans. I had to speak English. I will say to the students ‘I understand your dilemma, your problem, I understand that you are looking for words sometimes”.

“And even when in theatre I put that with them, what I have really picked up with theatre students and I have put up to them, they don’t understand, they don’t grasp the way the question is asked”.

From the participants’ utterances, the findings uphold that students’ inability to understand the subject matter and questions was caused by lack of language proficiency. These finding is in line with Martirosyan, Hwang and Wanjohi (2015:67), who report that there is indeed a relationship between English language proficiency and academic performance.

Daller and Wang (2017:15) also point out that vocabulary knowledge and general language proficiency are two key predictors of academic success. In South Africa, a study by Prinsloo, Rodgers and Harvey (2018:7) revealed that language has an influence on academic performance, irrespective of education level. Jiang, Zhang and May (2019:114) similarly conducted a study in China and concluded that poor English proficiency is the primary cause for the inconsistency between theory and practice. The study findings therefore affirm that the language factor plays a vital role in students' academic performance.

○ **Subtheme 3: Inability to use critical thinking**

Critical thinking is considered one of the fundamental elements that facilitates the dynamics of academies and universities and helps students to survive, develop and become scientific societies. Nursing education is aimed at producing nurses who are creative, self-directed and critical thinkers who are able to make appropriate decisions and solve clinical problems.

Conversely, in this study, the participants indicated that students lack critical-thinking skills and can give no rationale for any actions they have to take in order to solve problems in the clinical area.

“Jaa (yes), for me is, they are workers, and now they have not changed their mind set. When I come in here; I have been washing these patients every day. They don't think why the patients must be clean, why they must be washed, finish and klaar. By washing the patients what am I doing; no critical thinking. I am not saying it does not happen, pin does drop, unfortunately it takes the whole year, and actually it needs more”. (LT/1)

“Jaa (yes), I wish I could speak more but Uuhmm, jaa I just find that when it comes to post basic, you are not just giving facts, you always have to give rationale” (LT/1)

The current findings are in line with the study conducted at Walden University, which revealed that novice registered nurses lacked critical-thinking skills and competency in the workplace (Tyne 2018:72). The study by Azizi-Fini, Hajibagheri and Adib Hajbagheri (2015:4) also reported that nursing students had low critical-thinking skills,

and these skills did not significantly change during their studies in nursing. Tajvidi and Hanjani (2019:3) in addition, state that critical-thinking ability bears the greatest impact on nurses' performance and the utilisation of clinical competence.

The study findings further coincide with Crouch (2015:45), who claims that thinking critically is necessary in a practice discipline where individuals are faced with making life and death decisions daily, as it will enable nursing students to act rationally and prevent lawsuits that result from health care professionals' incompetency and indecisiveness. This is in line with Shirazi and Heidari's (2019:4) view that a lack of appropriate mental or psychological security for questioning and answering between the students and instructors leads to decreased levels of critical thinking as it focuses more on rote memorisation and concept presentation.

○ **Subtheme 4: Students' lack of interest and commitment**

The participants highlighted that the students show lack of interest.

"They are not interested, you offer yourself. You say my door is open, any time you don't understand come, they don't come. I even say to those direct entries, take your question write it, push it under my door, they don't come. And then, when you do the examination schedule, they ask how, what do think of the overall performance of students, you say no, those students who failed it was expected. We tried everything from the beginning, they failed every test is not only nursing, science, but nursing dynamics and capita selecta right through" (LT/1)

"In terms of management, they are not interested they will say why I must go there I am not responsible ... The reasons (with high pitched voice), I think the reasons for failing nursing dynamics, eeh this are professional nurses, they are experienced ICU, they are workers, they go to work every day seven, seven and they work. They are not interested, in their mind they are not thinking policy, they are not thinking criteria, standards, who came on duty, what is the turnover, what is the budget, they are not worried, no priority" (RAM/2)

This implies that the students did not display interest in their studies; neither did they take any steps to enhance their learning competencies. In support of these findings,

Otoo, Iddrisu, Kessie, and Larbi (2018:1) assert that lack of interest is reflected by students' neglect for their studies. Hulleman, Kosovich, Barron and Daniel (2016:14), however, indicate that if students can perceive value in a particular activity, it can inspire them to develop enduring interest.

The study findings reveal that educational interest is characterised by an attraction to a particular subject's content, desire to continually engage in a particular activity, and the investment of time and effort.

○ **Subtheme 5: Students' lack of motivation**

The findings further showed that students displayed lack of motivation in their studies by not seeking help in the midst of challenges and failures. Gibolie and Keamu (2017:2) assert that motivation explains why people decide to do something, and no matter how hard it might be they will persevere, and no matter how long it takes they will sustain the activity.

Participants reported: *"but then, when it comes to nursing dynamics jaa, they don't like it, they don't like research"*. (RAM/3)

"But throughout the year, they will never come. It's very rare to find that unless if maybe is during exam time, that is when you see them now coming one by one". (TSC/2)

According to Gibolie and Keamu (2017:9), students with high levels of motivational beliefs are able to use numerous learning strategies to improve their academic achievement. The research findings are in line with Arens, Morin and Watermann (2015:191) that motivation is the predictor of academic performance because often, when students see little value in the course content in relation to their concerns or goals, they may not be motivated to expend more effort on it. Steinmayr, Weidinger, Schwinger and Spinath (2019:9) are also of the view that a lack of self-confidence and motivation has an influence on students' level of interest.

○ **Subtheme 6: Relevance of the course content**

The term 'relevance' is defined by Hornby (2015:1262) as having an idea that is valuable and useful to people in their lives and work. When looking at the course content, especially for those doing orthopaedic nursing and operating theatre nursing, the participants indicated that the course content is not inclusive and the utility value of the subject matter is not worthwhile for those two programmes. As a result, case centred learning cannot take place.

“Why they were also performing well is because Internal Medicine and Surgery consists mostly of what is covered in critical care nursing trauma. What I can substantiate about this poor performance is because the content in Internal medicine and surgery is mostly for critical care nursing. It can just be maybe one topic for operating theatre. Same applies to orthopaedic”. (SOV/3)

“I mean, why are they doing the Internal Medicine and Surgery that is done by critical care, trauma and general students. They are not going to utilise the information when they go back to work in their specialised unit. Most of the contents, the, the, the content in the Internal Medicine it is not there in orthopaedic ward, you cannot correlate the theory with the practice. So, I don't know I for one eeh think if the Limpopo province wants to offer the orthopaedic students and their operating theatre students it must be specialty based” (SOV/3)

Thus, education should be made relevant to career aspirations. In support, Hulleman et al (2016:14) posit that if students can perceive value in a particular activity, it can inspire them to develop enduring interest. This is in line with Kember, Ho and Hong's (2016:253) claim that establishing relevance to what is taught enhances students' motivation to learn.

Additionally, it was indicated that most students who passed the subject are those exposed to the content in their area of specialisation and are able to practice it and apply it in their daily life in the units.

“But in any case, we always thought it is because of this critical care person that whatever they were teaching it was more critical care orientated because the depth of what we need to know in the operating theatre is different from critical care situation” (OT/3)

“So, when you teach that to the theatre nurses at the back of your mind, you will be challenged. Is it worth it? Is it worth it because the anaesthetist will not allow them to do anything? Even if the anaesthetist is a junior, there will be somebody, the academic world does not allow that” (RA/2)

“Eeeh you know, I don’t know if the content is too broad for them, that is why I am saying I think is not specific to their area of specialisation”. (TSC/2)

“What I can substantiate about this poor performance, is because the content in Internal Medicine and Surgery is mostly for critical care nursing, it can just be maybe one topic for operating theatre, that’s why they are doing badly, okay”. (SOV/3)

“The reason why failure rate was there is that especially in 2012 up to the present moment, it was always critical care lecturer who was teaching the capita selecta. Was not knowledgeable enough about was going on in operating theatre. So, it wasn’t really capita selecta it was applied medicine and surgery”. (OT/3)

Albrecht and Karabenick’s (2017:8), also claim that relevance is an important concept in teaching and learning because it is directly related to student engagement and motivation.

○ **Subtheme 7: Attitude towards the subject matter**

The findings revealed that the students’ had an attitude towards nursing dynamics and research.

“I think also before 2016 there was a negativity build up against nursing dynamics from the students’ side”. (OTN/3)

“But then when it comes to nursing dynamics jaa (yes), they don’t like research. And some may manage to study and pass through and so on neh. But the funny part is that towards the end then they start liking the research because they do this EBPP. Poster presentation. It’s then that you know, it’s like, wow, this is something that’s workable. The attitude changes to it”. (RAM/3)

From the participants’ utterances the findings show that some students performed poorly because they had a negative attitude towards the subject. This is in line with Verešová and Malá’s (2016:875) findings that attitude towards school and learning significantly predicts academic achievement. Moreover, Alfuraikh, Al Omairi and Ganapathy (2017:186) agree that negative attitudes towards a course can impact the sum of attempts one is prepared to go through in acquiring knowledge or skills in that subject.

Question 2: What was your experience with regard to students’ performance in IMS and ND modules?

- **Theme 3: Short course duration**

- **Subtheme1: Too much work load**

Participants pointed out that the duration of the course is too short for the work to be completed for the qualification.

“First of all, I want to tell you that this course is packed, it should be eighteen months, okay is too packed!! So, some of this registered nurse haven’t studied for years, now they are opening up a book, so is very difficult” (LT/1)

OT/3 also said:

“They are good in that area but they do not say to themselves this is nursing dynamics; you know because the year is so short. I do feel we should have eighteen months course, and the other thing I also look at I thought why don’t we not do as the private hospital does, they actually got a two-year course”.

The study further revealed that some students need more time.

“And they are, they were working together, working in groups, and so on. Even this elven that were bad they came back to write the supplementary and they passed or just that they were many maybe they needed more, more help. More time I think, they needed more time” (RM/3.)

It was further indicated that because of the time factor, it was difficult to employ some of the strategies to help the students:

“You know the strategies sometimes are difficult to employ them. Because of the time factor (tone low), Our course is one year as we're talking. But in reality, if you count the months is eight months” (TSC/2)

“Due to time frame here, we squash everything within nine months, I counted it is nine months” (RAM/2)

This implies that the course duration has an impact on student performance. Abou El-Soud, AlKharasi, Alfaouri and Al-enzi (2017:100) reveal that when there are too many demands on students' time, their academic performance is influence negatively. Surajo and Umar (2019:150) also indicate that one of the attributes that lead to poor academic performance is course-loads. This was also supported by Kamel's (2018:91) study, which reported that academic overload leads to lower academic adjustment among first-year university students.

Contrarily, most of the studies conducted indicate that students tend to do better in compressed courses of shorter duration than lengthy ones, but that is dependent on the time one puts into studying, age, gender, size of class, English as a second language status, active and engaging teaching methods, as well as increased communication between students and faculty (Boeding 2016:35; Carman & Bartsch 2017:351).

○ **Subtheme 2: Failure to catch up on time**

Some participants indicated that the duration of the course is too short and the students fail to catch up on time.

“But some starts catching up. But most of the time they catch up late. They start showing something late say maybe about September, October as they’re writing the exam in October” (RAM/3)

The study by Masenga (2015:64) supports these findings by indicating that time allocated for curriculum implementation affects students’ performance. From the same study, the teaching staff also reported there was a lot to cover in the classroom in a given period, therefore the students did not receive all contents, which resulted in their failure to pass the examination.

Pinehas, Mulenga and Amadhila (2017:66) also claim that when students do not get enough time to prepare, their academic performance is affected. Magobolo and Dube (2019:3) report that students absent themselves from clinical areas because of work overload, which is part of non-performance. This is in line with Kurataa, Banob and Matias (2015:3365) ’s contention that there is indeed a significant relationship between overall workload among working engineering students to their academic performance.

- **Theme 4: Students failure to maintain working relationship**

The study findings indicate that students failed to maintain a good working relationship with the nurse educators. The study by Omodan and Tsotetsi (2018:96) indicate that when students have good connection with their instructors, they will communicate with their teachers at any time without dread, enhancing their motivational convictions about school as well as classroom commitment.

Similarly, Xu and Qi (2019:5) also assert that a good teacher-student relationship can make students more willing to communicate and engage with teachers, get more attention and help in learning, get more positive responses in the process of communication, and thus gain better academic achievements. Omemu (2018:180) also points out that according to school climate research, a positive interpersonal relationship and optimal learning opportunities increase students’ achievement levels.

○ **Subtheme 1: Students unresponsive to nurse educators' help**

From the participants' perspective, students were unresponsive to nurse educator's effort to help despite being invited to come.

LT/1 hinted that:

"Take your question writes it and push it under my door. I will see how you have answered, I will contact you, let me know if you answer the question right or not. You know this entire avenue the students do not use it. I do not know why. I said there is no wrong answer, you are here to learn and they don't come. I don't know if they are afraid. They are not brave enough may be they have been working there for years now they don't want to expose that they don't know".

RAM/3 said:

"They don't come and then you get it when we do the examination schedule. They will ask how, what do think of the overall performance of student? You will say no, those students, those students who failed it was expected. We tried everything from the beginning, they failed every test is not only nursing science, but nursing dynamics and capita selecta right through".

The findings in Merkin, Bisa and Ayele (2019:43) similarly reflect that students with high interaction with their teachers scored significantly higher in their academic performance compared to students with less interaction with their teachers. Varga (2017:26) also indicate that building and maintaining positive relationships between teachers and students will improve student engagement and motivation during class.

○ **Subtheme 2: Students were hopeless and discouraged**

From the participants' perspective, students failed to consult, even though they were encouraged to do so.

"Usually the students that terminated I will just mention a few. They are orthopaedic students and operating theatre students. Because of eeh they discovered that they are just wasting their time they will never pass". (SOV/3)

“You are even telling them in class to say please guys, if you are having challenges, we are there for you, please come to the office. So that we can be able to iron out your problems or to explain more when you are one. Some of them they come but most of them they don’t come. You even write the love letters in their test, please come and consult, or please come and see me concerning this and that, only to find that when you mark those questions for them, you will feel that this person is lost”. (STC/2)

From the participants’ point, the students were discouraged, hopeless and could not see the care provided by their educators. Wanders, Dijkstra, Maslowski and van der Veen’s (2020:278) findings that support the idea that students who perceive their teachers as caring, understanding, and listening are better able and more willing to engage in classroom activities.

- **Theme 5: Ineffective teaching strategy**

Apart from the student factor, many participants gave similar responses in terms of the teaching strategy also having an impact on students’ performance.

“A change of a person who was teaching, I don’t know, maybe the strategy she was using was different or dynamic. Then the students were failing, two years running now students were failing. Even if you look at our mark schedule nursing dynamics is an issue” (LT/1)

“You see, so you teach on side the patient’s rights as they are in the book. But others they do something else. That is why there is too much failure rate in dynamics. Because if you teach your students, how you question them is different thing from somebody else who questions the students, because I may say, I can give students a scenario from the book”. (ORT/2)

“And I don’t know, the other thing that I have realised, I think maybe, being taught by many lecturers has contributed, because we find that lecturer X is teaching and

we have got a group of lecturers that are teaching. Maybe two or three that are teaching IMS, two or three that are teaching nursing dynamics. I don't know if the problem is with that. Maybe this year is 2016 lecturer X is teaching module one and two with this actual group. The following year is lecturer Y teaching module one and two, the student who failed the previous year he or she's not able to catch up with whatever lecturer Y is teaching. The point of argument would be different teachers uses different strategies to teach but the results seems to indicate that these brings more confusion to the students". (STC/2)

"The standard dropped since that time. The failure rate increased as different campuses brought different questions and at the end some of the questions from specific campuses were not chosen". (ORT/2)

ORT/2 further said:

"Since medicine and surgery is being taught by us, as we are the two lecturers. teaching our campus only, because we are the only campus in London (name masked for confidentiality purpose) which is doing Orthopaedics, so we teach them, we try to, to make them understand what is in the clinical area, in the hospital we are using".

"And that time when I started IMS was being taught by all the lecturers, we were dividing the modules, module one is for so and so, module two for this one and that module three like that. So, in the meeting as we were discussing, eeh we came up with alternatives strategy and said maybe these learners are performing badly because they don't see one lecturer at a time. Today is this one tomorrow another one and our teaching strategy is not the same may be that's what is killing them". (OT/2)

The study by Alami (2016:133) attributes an ineffective teaching methodology to poor academic performance of students. Leepo (2015:75) also identified teaching strategy as a powerful influence of academic performance. Moreover, Okwuduba and Okigbo (2018:430) recommend for an innovative method which is a combination of different

teaching strategies that will be more effective compared to a combined teaching approach.

The research findings indicate that educators should know how the students learn and what strategies best fit them in the process of learning because teaching strategies often determine the output of educational encounters. This is supported by Okwuduba and Okigbo (2018:430), who claim that a combination of different teaching strategies is more effective than using one in order to enhance students' performance.

○ **Subtheme 1: Preceptorship programme not effective**

The results indicate that due to multiple responsibilities from both the nurse educators and clinical staff preceptorship is not effective.

“You try to draw a programme; you try to stick to it once or twice but is very difficult because you have so much to do and there is a lack of mentors in the wards. Yes, we send them here and there, is hardly any teaching unfortunately, we do not have enough facilities to send them and we have to send them there. And though our hospital mentors are wonderful they teach them and yes there one or two mentors there but really, they work but I guess you know by working you learn you know” (LT/1).

“No, we do have where we send the students, we do have clinical facilitators. But they do have challenges as well sometimes you find that they are short staffed”. (RAM/3).

“This problem is not for the students only; we are also failing the students. I can say we don't, actually we don't have the mentors in the unit we just utilize the trained people and only if they are having time to do that because they are also short staffed”. (STC/2)

The participant further said:

“I think if we can just have preceptors and mentors. And these mentors should be 80% in the area of specialty not anybody so that when they go to orthopaedic ward, they get an orthopaedic trained nurse so that they will be able to know the content and also that they will be able to relate or to teach them in the unit”.

The above utterance is supported by Phuma-Ngaiyaye, Bvumbwe and Chipeta (2017:168), who show that preceptors play an important role in creating a positive clinical learning environment to ensure that the nursing students’ learning outcomes are achieved. Kaphagawani and Useh (2018:106), also reported that when students lack clinical support by both nurse educators and clinical staff, they become stranded; especially if the patient’s condition changes in the case of placement that requires strict supervision.

Literature further reveals that preceptors play an important role as gatekeepers to the clinical settings because they are more familiar with the clinical environment compared to the nurse educators and students (Phuma-Ngaiyaye, Bvumbwe and Chipeta (2017:168). Among others, Bengtsson and Carlson (2015:2) claim that the preceptor’s role, among others, includes coaching, guiding, inspiring, teaching and role-modelling, which are considered an integral part in developing nursing students who are well-established healthcare professionals.

○ **Subtheme 2: Students treated as workers than as learners**

The study findings further indicate that students are treated as workers rather than learners due to shortage of staff.

“But the private hospital they use them as work force okay, work force. Yes, we send them here and there, there is hardly any teaching unfortunately, we do not have enough facilities to send them and we have to send them there” (LT/1)

The statements are synchronised with the literature review from Chapter 2 in answering the research questions posed in Chapter 1, and from follow-up questions that emerged during interviews.

5.4 PHASE TWO: ANALYSIS OF QUANTITATIVE DATA

5.4.1 Data processing and management in quantitative analysis

All the completed questionnaires were scanned and kept in a USB in preparation for capturing. The recorded data was checked for completeness and legibility and assigned identification numbers. The data was later entered on the computer software for analysis in order to create a data set. The analysis of quantitative data was aimed at determining the views of the post-basic students regarding the CNS course as well as the challenges faced in relation to IMS and ND. The analysis further is aimed at answering the following research questions in alignment with the qualitative findings:

- What are post-basic students' views about the CNS course?
- What challenges did post-basic students face when studying IMS and ND?

Statistical data analysis was conducted using the SPSS for Windows 26. The quantitative data analysis phase consists of six sections. Section 5.4.1 describes the questionnaires' return rate and effective response rate, while Section 5.4.2 presents frequencies of respondents' demographic profile, followed by the results of the construct validity of each of the dimensions in Section 5.4.3. The constructs on which data were collected included readiness, assertiveness, educators' competences, learning and application, supervision and support, and leadership, as mentioned above.

Section 5.4.4 presents the results of the internal consistency of questionnaire items for each of the aforementioned five constructs, Section 5.4.5 presents results of the total variance explained, while Section 5.4.6 provides the results of factor loadings for each of the five constructs.

5.4.2 Return rate and effective response rate

From the total of 150 ($n = 150$) questionnaires that were distributed, all were returned by the respondents, producing a 100% return rate. From the 150 that were returned six were not completed, three were incomplete, one was fully completed but spoiled

as the respondent placed a cross on two ratings of the same item and 140 questionnaires were fully and correctly completed, yielding a 93% (140/150) effective response rate.

5.4.3 Respondents' demographic profile

This section presents the respondents' demographic profile, which was composed of the following information, as illustrated in Table 5.3.

- sex,
- age group,
- provinces in which enrolments for post-basic CNS course occurred,
- major reasons which led to enrolment in the CNS course,
- programmes followed before enrolling in the post-basic course,
- number of years worked before enrolling for the post-basic course,
- speciality registered for in the CNS course,
- number of years taken to complete and obtain the qualification, and
- subject found difficult to pass during the study period.

Table 5.3: Demographic profiles of respondents

	Frequency (n)	Percentage (%)
Gender		
Male	26	19%
Female	114	81%
Age group		
20-29 years	5	4%
30-39 years	58	41%
40-49 years	51	36%
> = 50 years	26	19%
	Frequency (n)	Percentage (%)
Province in which enrolment for clinical nursing science occurred (post-basic)		
Eastern Cape	15	11%
Gauteng	66	47%
Free State	1	1%
KwaZulu-Natal	1	1%
Limpopo	55	39%
Mpumalanga	2	1%

Major reason which led to enrolment in the clinical nursing science course (post-basic)		
Had no other choice to pursue	2	1%
Desire to improve or save lives	122	87%
Rewarding career/profession Job (employment) security	9 5	7% 4%
Respect allied with profession	2	1%
Programme followed before enrolling in post-basic course		
R425	115	82%
Bridging course	25	18%
Number of years worked before enrolling for post-basic course		
2-3 years	24	17%
4-5 years	70	50%
> = 5 years	46	33%
Speciality registered for in the nursing science course		
Operating theatre nursing	35	25%
Orthopaedic nursing	21	15%
Critical nursing general (ICU)	56	40%
Critical care trauma nursing	28	20%
Number of years taken to finish and obtain the qualification		
1 year	106	76%
2 years	16	11%
3 years	8	6%
Did not obtain the qualification	10	7%
Subject found difficult to pass during the period of study		
Speciality	6	4%
Internal medicine and surgery	36	26%
Nursing dynamics	24	17%
Nursing research	48	34%
None	26	19%
Total	140	100%

Table 5.3 reflects that from the total 140 completed questionnaires, 81% (n = 114) were females, and the remaining 19% (n = 26) were males. The bulk proportion, equal to 41% (n = 58) of the respondents, were in the age group 30-39 years, followed by 36% (n = 51) aged 40-49 years, 19% (n = 26) aged 50 years and above, while the youngest age group of 20-29 years accounted for only 4% (n = 5) of the total number of respondents.

With regards to the provinces where the respondents were located, 47% (n = 66) of were in Gauteng, 39% (n = 55) in Limpopo, and 11% (n= 15) in the Eastern Cape, while the Free State, Mpumalanga and KwaZulu-Natal accounted for approximately 1% (n = 1). A substantial proportion of 87% (n = 122) of respondents indicated that the

major reason which led to their enrolment in the CNS course was the “desire to improve or save lives”, while 7% (n = 9) reported their primary reason being a “rewarding career or profession”.

In terms of the programme followed before enrolling in the post-basic course, 82% (n = 115) of the respondents reported that they followed the R425 programme, and the remaining 18% (n = 25) followed a bridging course. Precisely 50% (n = 70) of the respondents reported that they had worked for 4 to 5 years before enrolling for the post-basic course, while 33% (n = 46) had worked for at least 5 years, and 17% (n = 24) had worked for 2 to 3 years.

In regard to the speciality registered for in the nursing science course, 40% (n = 56) of the respondents registered for critical nursing general (ICU), followed by 25% who registered for operating theatre nursing. The least proportions of students accounted for 20% (n = 28) registered for critical care trauma nursing, and 15% (n = 21) for orthopaedic nursing, respectively.

In terms of completing the CNS course, slightly more than two thirds (76%; n = 106) of the respondents completed the course in one year, followed by 11% (n = 16) who completed it in 2 years, and 6% (n = 8) who completed it over 3 years, while 7% (n = 10) did not complete the course.

Regarding the subjects which were found difficult to pass during the period of study, the majority of 34% (n = 48) reported that the most difficult subject was nursing research, followed by 26% (n = 36) who found IMS as the most difficult, while 19% (n = 26) reported that none of the subjects was difficult for them.

The following steps were carried out in order to successfully conduct EFA analysis in addressing the above mentioned research questions. The first step present results of construct validity in terms of readiness, assertiveness, educators’ competences, learning and application, supervision, support and leadership, as well as the challenges encountered by students during their training in the CNS course.

The findings especially focus on the IMS and ND modules of the CNS course as compulsory core subjects as detailed in section 5.4.3. and illustrated by table 5.4. The

second step present the scale reliability for each construct as detailed in section 5.4.4 as illustrated by table 5.5. to table 5.11. The third step is presentation of total variance of each item in measuring the constructs to see if there would be any extraction of items with high loading above 0,5 as detailed in section 5.4.5 as illustrated by table 5.12 to table 5.17 before factor loading can be presented.

5.4.4 Construct validity of items

Construct validity is the extent to which a study’s operational definitions reflect its conceptual definitions and construct (Gray et al 2017:221). Similarly, Leedy and Ormrod (2015:115) define ‘construct validity’ as the extent to which an instrument measures a characteristic that cannot be directly observed but is assumed to exist based on patterns in people’s behaviour, such as motivation and creativity.

In this study, construct validity estimates of the items were measured using the KMO MSA criterion to assess whether EFA could be done or conducted, with results presented in Table 5.4. The constructs or dimensions on which construct validity results are presented include readiness, assertiveness, educators’ competences, learning and application, supervision and support, and leadership.

From the above constructs readiness and assertiveness were used to determine the student’s views concerning the CNS course while educators’ competences, learning and application, supervision and support as well as leadership were used to determine challenges encountered by students during training.

Table 5.4: KMO-MSA and Barlett’s test of sphericity

Construct	Description	No. of Items	Correlation matrix - Determinant	KMO-MSA value	Barlett’s Test of Sphericity ² (pvalue)

Readiness	<p>B101. My knowledge was deficient to enable me to perform assigned tasks</p> <p>B102. I lacked practical skills required to render specialised care to patients</p> <p>B103. I had minimal critical thinking ability to handle diverse situations in the unit</p> <p>B104. I was unable to express myself when answering questions in class</p> <p>B105. There were high workloads and more to learn than I expected</p> <p>B106. My role was not clearly defined to enable me to carry out my duties as a student</p> <p>B107. My basic training was not aligned to the post-basic course requirements</p> <p>B108. Student mentorship from the educators was inadequate during my post-basic training</p> <p>B109. Overall, I was not adequately prepared for the post-basic course</p>	9	0.241	0.649	192.464 p = 0.000
------------------	---	---	-------	-------	-------------------

Construct	Description	No. of Items	Correlation matrix - Determinant	KMO-MSA value	Barlett's Test of Sphericity² (pvalue)
Assertiveness	<p>B201. I had no enthusiasm to seek help in situations where I needed it</p> <p>B202. The learning environment in the class made me feel discouraged</p> <p>B203. My time management was not meeting the demands of the course</p> <p>B204. I felt distressed in dealing with course demands in the learning environment</p> <p>B205. In general, provision of support given to me was very limited</p> <p>B206. Sometimes I felt so frustrated being loaded with massive information</p> <p>B207. I had a bad attitude towards Internal medicine and surgery as well as research B208. Overall, I had minimum enthusiasm for the post-basic course</p>	8	0.303	0.757	161.855 (p = 0.000)

Educators' competences	<p>C101. Educators had limited knowledge to adequately answer questions</p> <p>C102. Educators were not fully capable to integrate theory into practice</p> <p>C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap</p> <p>C104. Strategies used by nurse educators to deliver the subject content were marginally useful</p> <p>C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students</p> <p>C106. Feedback from educators was insufficient to improve student performance</p> <p>C107. The nurse educators partially acted as change agent in the process of student learning and teaching</p>	7	0.239	0.604	194.233 (p = 0.000)
-------------------------------	--	---	-------	-------	---------------------

Construct	Description	No. of Items	Correlation matrix - Determinant	KMO-MSA value	Barlett's Test of Sphericity² (pvalue)
Learning and application	<p>C201. Theoretic concepts learnt were not integrated and practiced in ward</p> <p>C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)</p> <p>C203. Procedures learnt during the lessons were not completely aligned to the needs of the patients in the unit</p> <p>C204. Duration of the course was shorter than subject content to be covered</p> <p>C205. Procedures taught were partly in conflict with real situations in ward</p> <p>C206. Students were largely assigned very basic tasks, than specialty related activities in wards</p>	6	0.432	0.621	114.442 (p = 0.000)

Supervision and support	C301. The supervision and support I received was generally inadequate C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks C303. The clinical accompaniment by nurse educators was partially satisfactory C304. Clinical staff and nurse educators were not easy to approach for support C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage C306. Ward managers had a bad attitude towards students during clinical practice C307. Preceptors contributed insignificantly toward education of students in the clinical setting	7	0.197	0.729	220.931 (p = 0.000)
Construct	Description	No. of Items	Correlation matrix - Determinant	KMO-MSA value	Barlett's Test of Sphericity² (pvalue)
Leadership	C401. Nurse educators did not regard students as key resource persons C402. Students were not involved in decisions pertaining to their studies C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members C404. Efforts by individual student employees were not appreciated C405. There was no spirit of unity among nursing staff in the units C408. Students were partly recognized to give inputs during staff meetings C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals C410. The college principal slightly provided individualised and encouraging support to student	8	0.142	0.759	264.877 (p = 000)
Total items		45	0.062	0.751	2951.440 (p = 0.000)

Table 5.4 reflects the construct validity values of items measured. The study results were based on the general experiences and challenges encountered by students

during their training in the post-basic CNS course, focusing on the IMS and ND modules. The KMO-MSA value equal to 0.751, which exceeded the 0.6 minimum threshold, and Barlett’s test of sphericity chi-square equal to 2951.440 ($p = 0.000$) for the entire set of all 45 items, confirm that factor analysis could be conducted.

5.4.5 Scale reliability statistics

The scale reliability coefficients of the questionnaire items were computed based on the Cronbach’s alpha criterion. The tests for scale reliability of items were conducted to examine the degree to which the research instrument’s items met internal consistency with strongly correlated items indicating high internal consistency of questionnaire items (Polit & Beck 2018:344). Cronbach’s alpha coefficients were computed to gauge the degree to which analogous responses could be obtained from research participants should the same questions be posed to the same respondents several times under comparable settings. Results of the internal consistency and item-total statistics set of selected items, and each of the six constructs with its analogous items, are presented in Tables 5.5 to 5.9.

Table 5.5: All variables – Scale reliability statistics

Cronbach’s alpha coefficient = 0.908 (Total number of items = 47)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach’s Alpha if Item Deleted
B101. My knowledge was deficient to enable me to perform assigned tasks	110.69	518.258	.100	.910
B102. I lacked practical skills required to render specialised care to patients	110.85	511.941	.217	.908
B103. I had minimal critical thinking ability to handle diverse situations in the unit	111.03	523.294	.031	.909
B104. I was unable to express myself when answering questions in class	111.47	508.783	.353	.906
B105. There were high workloads and more to learn than I expected	109.32	516.982	.195	.908
B106. My role was not clearly defined to enable me to carry out my duties as a student	111.16	509.083	.342	.906
B107. My basic training was not aligned to the post-basic course requirements	111.09	512.560	.243	.907

B108. Student mentorship from the educators was inadequate during my post-basic training	111.01	495.266	.503	.904
B109. Overall, I was not adequately prepared for the post-basic course	111.13	506.271	.431	.905
B201. I had no enthusiasm to seek help in situations where I needed it	111.24	517.379	.166	.908
B202. The learning environment in the class made me feel discouraged	111.09	505.431	.374	.906
B203. My time management was not meeting the demands of the course	110.82	509.846	.278	.907
B204. I felt distressed in dealing with course demands in the learning environment	110.61	494.960	.522	.904
B205. In general, provision of support given to me was very limited	111.15	499.265	.540	.904
B206. Sometimes I felt so frustrated being loaded with massive information	110.32	501.126	.433	.905
B207. I had a bad attitude towards Internal medicine and surgery as well as research	111.61	508.368	.374	.906
B208. Overall, I had minimum enthusiasm for the post-basic course	111.23	505.098	.426	.905

Cronbach's alpha coefficient = 0.908 (Total number of items = 47)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C101. Educators had limited knowledge to adequately answer questions	111.34	510.385	.322	.906
C102. Educators were not fully capable to integrate theory into practice	111.31	499.210	.519	.904
C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	111.16	513.951	.248	.907
C104. Strategies used by nurse educators to deliver the subject content were marginally useful	110.93	511.707	.232	.908
C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students	111.11	490.865	.632	.903
C106. Feedback from educators was insufficient to improve students' performance	110.56	509.442	.264	.907
C107. The nurse educators partially acted as change agent in the process of student learning and teaching	111.07	503.736	.415	.905
C201. Theoretic concepts learnt were not integrated and practiced in ward	111.29	505.072	.446	.905

C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)	110.61	490.542	.524	.904
C203. Procedures learnt during the lessons were not completely aligned to the needs of the patients in the unit	111.39	515.852	.238	.907
C204. Duration of the course was shorter than subject content to be covered	109.62	516.424	.146	.909
C205. Procedures taught were partly in conflict with real situations in ward	111.26	505.674	.409	.906
C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards	111.08	495.800	.516	.904
C301. The supervision and support I received was generally inadequate	111.00	498.029	.564	.904
C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	111.16	498.023	.582	.904
C303. The clinical accompaniment by nurse educators was partially satisfactory	110.61	495.807	.514	.904
C304. Clinical staff and nurse educators were not easy to approach for support	111.01	502.647	.453	.905
C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	110.46	486.164	.621	.903
Cronbach's alpha coefficient = 0.908 (Total number of items = 47)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C306. Ward managers had a bad attitude towards students during clinical practice	111.19	501.188	.456	.905
C307. Preceptors contributed insignificantly toward the education of students in the clinical setting	110.71	507.058	.354	.906
C401. Nurse educators did not regard students as key resource persons	111.06	502.133	.515	.905
C402. Students were not involved in decisions pertaining to their studies	110.81	503.682	.426	.905
C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	110.79	498.184	.497	.904
C404. Efforts by individual student employees were not appreciated	111.25	499.513	.517	.904
C405. There was no spirit of unity among nursing staff in the units	111.09	508.675	.364	.906
C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators	111.06	498.500	.517	.904
C407. There was a slightly caring relationship among ward staff and the students	110.76	500.905	.479	.905

C408. Students were partly recognized to give inputs during staff meetings	110.96	501.186	.404	.906
C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	110.69	503.742	.473	.905
C410. The college principal slightly provided individualised and encouraging support to student	110.91	502.963	.424	.905

Table 5.5 reveals that the Cronbach's alpha equal to 0.908 for all 47 questionnaire items exceeded the minimum 0.7 acceptable coefficient threshold. The result indicates that the construct items that were considered to measure general experiences and challenges encountered by students during their training for post-basic IMS and ND in the CNS course assessed the common latent dimension in the research study. Item total statistics show that none of the items had to be deleted, thus all items were retained for analysis. Each construct went through the scale reliability using Cronbach's alpha coefficient to check if there would be any item that measure the construct that need to be deleted as shown by the tables 5.6 to table 5.11 below.

Table 5.6: Readiness – Scale reliability statistics

Cronbach's alpha coefficient = 0.635 (Number of items = 9)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B101. My knowledge was deficient to enable me to perform assigned tasks	19.74	20.066	.294	.614
B102. I lacked practical skills required to render specialised care to patients	19.89	18.542	.467	.564
B103. I had minimal critical thinking ability to handle diverse situations in the unit	20.07	21.462	.278	.615
B104. I was unable to express myself when answering questions	20.51	20.755	.370	.595
B105. There were high workloads and more to learn than I expected	18.36	23.168	.135	.643
B106. My role was not clearly defined to enable me to carry out my duties as a student	20.20	21.384	.292	.612
B107. My basic training was not aligned to the post-basic course requirements	20.14	20.320	.369	.594
B108. Student mentorship from the educators was inadequate during my post-basic training	20.06	20.673	.241	.629
B109. Overall, I was not adequately prepared for post-basic course	20.17	20.719	.403	.589

Table 5.6 shows that the scale reliability coefficient of items relating to the latent dimension 'readiness' was equal to 0.635, which is close to the minimum required 0.7 threshold. Hence, there was no item that needed to be deleted from the dataset, also evident by the Cronbach's alpha values in the last column.

Table 5.7: Assertiveness – Scale reliability statistics

Cronbach's alpha coefficient = 0.700 (Number of items = 8)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B201. I had no enthusiasm to seek help in situations where I needed it	16.62	22.827	.149	.717
B202. The learning environment in the class made me feel discouraged	16.46	20.179	.366	.676
B203. My time management was not meeting the demands of the course	16.20	19.917	.378	.674
B204. I felt distressed in dealing with course demands in the learning environment	15.99	17.827	.544	.631
B205. In general, provision of support given to me was very limited	16.53	20.323	.397	.669
Cronbach's alpha coefficient = 0.700 (Number of items = 8)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B206. Sometimes I felt so frustrated being loaded with massive information	15.70	18.801	.478	.649
B207. I had a bad attitude towards Internal medicine and surgery as well as research	16.99	20.424	.432	.663
B208. Overall, I had minimum enthusiasm for the post-basic course	16.61	20.715	.367	.676

Table 5.7 results indicate that the internal consistency coefficient of selected items that measure the unobserved construct 'assertiveness' was equal to 0.700. Therefore, none of the items in the set required deletion, and all the items measuring the respective dimension were retained for further analysis.

Table 5.8: Educators' competencies – Scale reliability statistics

Cronbach's alpha coefficient = 0.618 (Number of items = 7)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C101. Educators had limited knowledge to adequately answer questions	13.94	14.443	.441	.549
C102. Educators were not fully capable to integrate theory into practice	13.91	13.115	.559	.503
C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	13.76	15.606	.287	.594
C104. Strategies used by nurse educators to deliver the subject content were marginally useful	13.53	17.287	.001	.689
C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students	13.71	13.054	.493	.521
C106. Feedback from educators was insufficient to improve students' performance	13.16	14.110	.331	.582
C107. The nurse educators partially acted as change agent in the process of student learning and teaching	13.67	14.970	.292	.593

Table 5.8 reflects that the scale reliability value of the items measuring the latent constructs 'educators' competencies' was equal to 0.618. Since the deletion of any item would not lead to any sizeable improvement in the Cronbach's alpha coefficient, no item was eliminated from the dataset.

Table 5.9: Learning and application – Internal consistency and item-total statistics

Cronbach's alpha coefficient = 0.597 (Number of items = 6)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C201. Theoretic concepts learnt were not integrated and practiced in ward	12.79	12.266	.332	.554
C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)	12.11	10.312	.346	.552
C203. Procedures learnt during the lessons were not completely aligned to the needs of the patients in the unit	12.89	13.492	.209	.595

C204. Duration of the course was shorter than subject content to be covered	11.12	12.899	.140	.633
C205. Procedures taught were partly in conflict with real situations in ward	12.76	10.861	.526	.476
C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards	12.58	10.130	.490	.476

Table 5.9 depicts that the scale reliability score of items measuring the dimension 'learning and application' was equal to 0.597, which was slightly below the 0.7 minimum required threshold. Given that no item's deletion would significantly increase the Cronbach's alpha, none of the items was deleted from the dataset of the construct.

Table 5.10: Supervision and support – Scale reliability statistics

Cronbach's alpha coefficient = 0.766 (Number of items = 7)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C301. The supervision and support I received was generally inadequate	14.95	21.314	.482	.739
C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	15.11	21.483	.483	.739
C303. The clinical accompaniment by nurse educators was partially satisfactory	14.56	19.845	.519	.730
Cronbach's alpha coefficient = 0.766 (Number of items = 7)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C304. Clinical staff and nurse educators were not easy to approach for support	14.96	21.905	.401	.754
C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	14.41	17.784	.642	.700
C306. Ward managers had a bad attitude towards students during clinical practice	15.14	21.039	.459	.743
C307. Preceptors contributed insignificantly toward the education of students in the clinical setting	14.66	21.680	.416	.751

Table 5.10 reveals that the internal consistency value of items measuring the latent construct 'supervision and support' was equal to 0.766. Since the minimum condition

of a threshold equal to 0.7 was met, no item had to be deleted from the dataset, supported by data from the last column on Cronbach's alpha findings.

Table 5.11: Leadership – scale reliability statistics

Cronbach's alpha coefficient = 0.762 (Number of items = 8)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C401. Nurse educators did not regard students as key resource persons	16.96	23.667	.443	.741
C402. Student were not involved in decisions pertaining to their studies	16.70	23.161	.428	.743
C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	16.68	22.507	.443	.741
C404. Efforts by individual student employees were not appreciated	17.14	22.440	.509	.729
C405. There was no spirit of unity among nursing staff in the units	16.99	24.618	.337	.757
Cronbach's alpha coefficient = 0.762 (Number of items = 8)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C408. Students were partly recognized to give inputs during staff meetings	16.86	21.936	.446	.742
C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	16.58	22.476	.575	.719
C410. The college principal slightly provided individualised and encouraging support to student	16.80	22.060	.520	.726

Table 5.11 shows that the internal consistency or scale reliability coefficient of the items measuring the dimension ‘leadership’ was equal to 0.762, which is above the minimum required threshold of 0.7. After conducting the test on sampling adequacy using the KMO-MSA criterion, eight out of ten items originally included in the questionnaire were retained, as supported by the Cronbach’s alpha. The remaining items were retained for analysis.

5.4.6 Total variances explained

This section presents total variances of the items measuring each of the latent factors assessing general experiences and challenges encountered by students during their training in post-basic IMS and ND modules in the CNS course. The dimensions assessed include readiness (Table 5.12), assertiveness (Table 5.13), educators’ competences (Table 5.14), learning and application (Table 5.15), supervision and support (Table 5.16), and leadership (Table 5.17). Total variances explained were produced using the alpha factoring extraction method.

Table 5.12: Readiness – Total variance explained

Total Variance Explained									
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.374	26.374	26.374	1.563	17.363	17.363	1.555	17.283	17.283
2	1.693	18.814	45.188	1.328	14.757	32.119	1.335	14.836	32.119
3	.943	10.475	55.664						
4	.919	10.215	65.879						
5	.773	8.591	74.470						
6		8.371	82.841						
7	.753	7.266	90.106						
8	.654	6.386	96.492						
9	.575	3.508	100.000						
	.316								
Extraction Method: Alpha Factoring									

Table 5.12 reflects the results indicating the existence of two initial eigenvalues that were greater than 1. Therefore, two factors were produced from the designated items in the set for the dimension 'readiness'. The rotation sums of squared loadings show that about 32% of the total variance in the dataset for the dimension was explained by the two extracted factors. Given that two factors were produced from the last iteration, there was a good basis for scrutinising the structure of factor loadings to evaluate if any items had a complex structure.

Table 5.13: Assertiveness – Total variance explained

Total Variance Explained									
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.645	33.067	33.067	1.973	24.657	24.657	1.585	19.812	19.812
2	1.114	13.929	46.997	.423	5.283	29.941	.810	10.129	29.941
3	.949	11.860	58.857						
4	.915	11.439	70.296						
5	.737	9.214	79.510						
	.607	7.584	87.093						
6	.560	7.005	94.098						
7	.472		100.000						
8		5.902							
Extraction Method: Alpha Factoring									

Table 5.13 discloses the existence of two initial eigenvalues greater than 1, thus two factors were extracted for the dimension 'assertiveness'. The rotation sums of squared loadings reveal that nearly 30% of the total variance in the dataset for the construct explained the two factors. The first factor accounted for 20%, and factor 2 accounted for the remaining 10% of the variance. Since more than one factor was extracted, the pattern of the factor loadings had to be scrutinised to determine if any items revealed a complex structure based on the condition that items with high loadings (> 0.5) on more than one factor must be eliminated from analysis.

Table 5.14: Educators' competencies – total variance explained

Total Variance Explained									
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.448	34.978	34.978	1.851	26.438	26.438	1.824	26.055	26.055
2	1.408	20.109	55.086	.779	11.122	37.560	.805	11.505	37.560
3	.936	13.376	68.462						
4	.837	11.963	80.426						
5	.596	8.521	88.947						
6	.421	6.019	94.966						
7	.352	5.034	100.000						

Extraction Method: Alpha Factoring

Table 5.14 discloses the existence of two initial eigenvalues greater than 1, thus two factors were extracted for the dimension 'educators' competencies'. The rotation sums of squared loadings reveal that nearly 37% of the total variance in the dataset for the construct explained the two factors. The first factor accounted for 26%, and factor 2 accounted for the remaining 11% of the variance. Since more than one factor was extracted, the pattern of the factor loadings had to be scrutinised to find out if there were items that revealed a complex structure based on the condition that items with high loadings on more than one factor must be eliminated from analysis.

Table 5.15: Learning and application – Total variance explained

Total Variance Explained									
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.132	35.542	35.542	1.519	25.324	25.324	1.120	18.666	18.666
2	1.086	18.108	53.649	.579	9.651	34.975	.979	16.309	34.975
3	.938	15.639	69.289						
4	.830	13.825	83.114						
5	.638	10.638	93.752						
6	.375	6.248	100.000						

Extraction Method: Alpha Factoring

Table 5.15's results report on the existence of two initial eigenvalues greater than 1, thus two factors were extracted for the dimension 'learning and application'. The rotation sums of squared loadings reveal that nearly 35% of the total variance in the dataset for the dimension explained the two factors. The first factor explained about 19%, and the second factor accounted for the remaining 16% of the variance. Since more than one factor was extracted, the pattern of the factor loadings had to be scrutinised in the forthcoming analysis to determine if any items revealed a complex structure based on the condition that items with high loadings on more than one factor must be eliminated from analysis.

Table 5.16: Supervision and support – Total variance explained

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.923	41.764	41.764	2.286	32.652	32.652
2	.972	13.890	55.654			
3	.875	12.506	68.160			
4	.750	10.719	78.879			
5	.622	8.889	87.768			
6	.547	7.810	95.577			
7	.310	4.423	100.000			

Extraction Method: Alpha Factoring

Table 5.16's results from the final iteration show the existence of one initial eigenvalue greater than 1. Thus, one factor was produced from the set of items measuring the dimension 'supervision and support'. The extraction rotation sums of squared loadings show that 33% of the total variance in the dataset for this construct was explained by only one factor. Since one factor was produced from the iteration, there was no basis for scrutinising the pattern of factor loadings to assess if any items had a complex structure.

Table 5.17: Leadership – Total variance explained

Total Variance Explained									
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.049	38.114	38.114	2.478	30.978	30.978	1.784	22.296	22.296
2	1.392	17.404	55.518	.830	10.374	41.353	1.525	19.057	41.353
3	.884	11.050	66.568						
4	.733	9.164	75.732						
5	.593	7.417	83.149						
6	.558	6.976	90.125						
7	.420	5.248	95.373						
8	.370	4.627	100.000						

Extraction Method: Alpha Factoring

Table 5.17 results disclose the presence of two initial eigenvalues greater than 1, and two factors were extracted for the dimension 'leadership'. The rotation sums of squared loadings reveal that about 41% of the total variance in the data for the given dimension has explained two factors. The first factor accounted for 22%, and the second factor accounted for the remaining 19% of the total variance. Given that more than one factor was extracted, the pattern of the factor loadings had to be scrutinised to find out if there were items that revealed a complex structure based on the condition that items with high loadings on more than one factor must be eliminated from analysis.

5.4.7 Factor loadings

Factor loading is the relationship of each variable to the underlying factor. In this study the factors that are measured are: readiness, assertiveness, educators' competences, learning and application, supervision and support as well as leadership. The numbered items are called latent variables and are used to measure loading of the above factors. The factors that affect the question the most have the highest factor loadings which vary from -1 to 1 and are bolded. Any variable with an eigenvalue above 1 indicates a strong association to each factor (Polit & Beck 2017:342).

All the above variables are used to determine the views of students as well as the challenges encountered during training with regard to IMS and ND. The variable with

the strongest association to the underlying factor are selected (bolded) and are regarded as the ones that have a highest factor loadings equal to or exceeding the 0.4 threshold, although 0.5 loading. This is generally considered to be a minimum required threshold and can be rounded to 1. Table 5.18 to 5.23 present the results of factor loading. In table 5.23 there was a complex structure that was produced by variable C406 and it required factor extraction hence table 5.25 present the outcome where C406 has been deleted.

5.4.7.1 Preparedness/Readiness

Table 5.18: Readiness – rotated factor Matrix^a

	Factor	
	1	2
B101. My knowledge was deficient to enable me to perform assigned tasks	.851	-.062
B102. I lacked practical skills required to render specialised care to patients	.745	.189
B103. I had minimal critical thinking ability to handle diverse situations in the unit	.439	.065
B104. I was unable to express myself when answering questions in class	.133	.517
B105. There were high workloads and more to learn than I expected	-.095	.343
B106. My role was not clearly defined to enable me to carry out my duties as a student	-.008	.506
B107. My basic training was not aligned to the post-basic course requirements	.127	.539
B108. Student mentorship from the educators was inadequate during my post-basic training	.050	.383
B109. Overall, I was not adequately prepared for the post-basic course	.194	.462
Extraction Method: Alpha Factoring. Rotation Method: Varimax with Kaiser Normalisation		
a. Rotation converged in 3 iterations		

Table 5.18 shows respondents observed that, among items that measure readiness, their “knowledge was deficient to enable them perform assigned tasks” (loading = 0.851), hence this factor had the greatest influence on their readiness.

The factors that followed are that they “lacked practical skills required to render specialised care to patients” (loading = 0.745), “their basic training was not aligned to the post-basic course requirements” (loading = 0.539), “they were unable to express themselves when answering questions in class” (loading = 0.517), and lastly, there is statistical evidence that “their roles were not clearly defined to enable them to carry out their duties as students” (loading = 0.506).

The above results indicate that the students were not adequately prepared for the post-basic course as a result of their inadequate educational foundation or background. This further influenced their ability to express themselves when answering questions in class, resulting in poor academic performance.

These results illustrate that academic readiness is a predictor of success. This is supported by Monnapula-Mapesela (2015:255), who maintains that student under preparedness is a predominant cause of poor performance in higher education. Kearney and Garfield (2019:7) also found that students' readiness to learn directly correlates with actual learning. Similarly, Fomunyam (2019:1) agrees that students' preparedness for higher education is seen as one of the main factors affecting first year attrition or study success. Soliman and Alishaik (2015:801) also report that students had a strong desire for learning, which indicates a positive attitude towards readiness for self-directed learning.

Another variable that had an influence on students' performance was that their basic training was not aligned to the post-basic course requirements due to poor education at the foundation level, as indicated in the qualitative phase. This is in line with Roman, Titus and Dison's (2016:32) findings that students who have a better learning experience take more responsibility for their own learning and are self-directed.

Table 5.19: Assertiveness – rotated factor Matrix^a

	Factor	
	1	2
B201. I had no enthusiasm to seek help in situations where I needed it	.018	.329
B202. The learning environment in the class made me feel discouraged	.430	.149
B203. My time management was not meeting the demands of the course	.330	.289
B204. I felt distressed in dealing with course demands in the learning environment	.705	.185
B205. In general, provision of support given to me was very limited	.451	.201
B206. Sometimes I felt so frustrated being loaded with massive information	.681	.090
B207. I had a bad attitude towards Internal medicine and surgery as well as research	.285	.533
B208. Overall, I had minimum enthusiasm for the post-basic course	.215	.480
Extraction Method: Alpha Factoring. Rotation Method: Varimax with Kaiser Normalisation		
a. Rotation converged in 3 iterations		

Table 5.19 presents statistical evidence that respondents perceived that, among factors that measure assertiveness, “they felt distressed in dealing with the course demands in the learning environment” (loading = 0.705); this element had the biggest influence on their assertiveness, followed by the condition that “they sometimes felt so frustrated being loaded with massive information” (loading = 0.681). In a second factor, the one item showing great influence on students’ assertiveness was that “they had a bad (negative) attitude towards internal medicine and surgery, as well as research” (loading = 0.533).

The results of the current study revealed that students were distressed and frustrated by the course demands, and this affected their assertiveness and self-efficacy. This is in line with Mothokoa’s (2015:90) claim that students were struggling with the academic demands of the course as they found it to be too overburdening. The findings showed that students felt the work was too much, and the time allocated for different content was insufficient for them as adult students. Moreover, Thenmozhi and Bharathy (2019: 294) indicate that students who were not assertive enough could not ask for help from others.

It is a known fact that assertiveness is a skill which can empower an individual’s self-efficacy and positively impress their interactions with others, especially in the case of becoming successful in education. Ilyas, Afzal, Parveen and Gilani (2018:86) agrees, stating that improved assertiveness is most often reflected in productivity and efficiency. Sitota (2018:45) affirms that there is a significant and positive relationship between assertiveness and academic achievement. This entails that as the level of assertiveness increases, academic achievement motivation also increases.

Dhanpal and Paul (2015:29) agree that assertiveness boosts students’ confidence to perform better in academics and in real life as it enables nurses to enhance effective communication and build effective team relationships. Amicone and Miller (2015:10) also emphasise that assertiveness is a behavioural trait that is required, especially in nursing where one has a significant responsibility to care for and maintain the lives of others without infringing on the rights of other people.

Another variable that had an impact on students' performance was their negative attitudes towards IMS. This was also reported by participants in the qualitative phase. The findings concur with Verešová and Malá (2016:875), who state that attitude towards school and learning significantly predicts academic achievement.

As indicated in the qualitative phase, the results revealed that some students developed negative attitudes towards IMS because they did not find it relevant to their area of specialisation. This concurs findings by Pinehase et al (2017:66), that some students develop negative attitudes towards their own studies. According to Kember et al (2016:255), topics should be related to applications in everyday life as this will stimulate interest in the students and motivate them to learn. Kember et al (2016:253) further assert that establishing relevance to what is taught enhances students' motivation to learn.

5.4.7.2 Challenges encountered

Table 5.20: Educators' competences – rotated factor Matrix^a

	Factor	
	1	2
C101. Educators had limited knowledge to adequately answer questions	.643	-.058
C102. Educators were not fully capable to integrate theory into practice	.718	.125
C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	.526	-.123
C104. Strategies used by nurse educators to deliver the subject content were marginally useful	-.186	.606
C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students	.556	.328
C106. Feedback from educators was insufficient to improve students' performance	.493	.031
C107. The nurse educators partially acted as change agent in the process of student learning and teaching	.178	.544
Extraction Method: Alpha Factoring Rotation Method: Varimax with Kaiser Normalisation		
a. Rotation converged in 3 iterations		

Table 5.20 shows that student respondents viewed that, among items that assess educators' competence, the greatest challenge they experienced was that "educators were not fully capable to integrate theory into practice" (loading = 0.718).

The other prominent challenges faced were that "educators had limited knowledge to adequately answer questions" (loading = 0.643), "strategies used by nurse educators to deliver subject content were marginally useful" (loading = 0.606), "nurse educators did not used different teaching strategies to meet diverse learning needs of diverse groups of students" (loading = 0.556), "nurse educators partially acted as change agent in the process of student learning and teaching" (loading = 0.544), and "nurse educator's competency insufficiently helped them to improve their academic performance as well as closed the achievement gaps" (loading = 0.526).

The study findings revealed that there was a gap in the integration of theory and practice, which is one of the fundamentals of the nursing profession, hence nursing is a practice discipline. Khoza (2015:105) is also of the opinion that there is indeed a gap in integrating theory to practice, which has been created by the nature of the clinical setting and the nature of guidance that does not establish an atmosphere conducive to student learning. The study by Kaphagawani and Useh (2018:106) also shows that there was a lack of clinical teaching support and supervision by nurse educators, which has an impact on students' clinical performance since nursing is a practice-based profession. Kamphinda and Chilemba (2019:7) also maintain that a lack of clinical supervision and support cause clinical learning to be ineffective, and creates a theory-practice gap for the student nurses. Similarly, Mothokoa (2015:78) identified the same theory-practice gap, whereby students felt that the experiences they gained over years of practice were found to be inappropriate and insufficient.

Another variable identified was that teaching strategies were marginally useful and did not meet the learning needs of a diverse group of students. Pinehase et al (2017:64) agree that a single teaching strategy has an effect on student performance. This was supported by Dube and Mlotshwa (2018:5) and Rodriguez, Mundy, Kupczynski and Chaloo (2018:14) who state that teaching strategies enhance students' academic performance.

The findings further concur with the study by Elsabagh and Elhefnawy (2017:46919), which revealed that teachers' effectiveness, which included lesson preparation and presentation, had a very high impact on students' performance. The study by Hajhosseini, et al. (2019:5057) identified teachers' competency to be important in creating an effective and proper educational environment for students' performance.

Table 5.21: Learning and application – rotated factor Matrix^a

	Factor	
	1	2
C201. Theoretic concepts learnt were not integrated and practiced in ward	.872	.010
C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)	.256	.378
C203. Procedures learnt during the lessons were not completely aligned to the needs of the patients in the unit	.273	.124
C204. Duration of the course was shorter than subject content to be covered	-.037	.303
C205. Procedures taught were partly in conflict with real situations in ward	.415	.600
C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards	.213	.607
	Factor	
	1	2
Extraction Method: Alpha Factoring Rotation Method: Varimax with Kaiser Normalisation		
a. Rotation converged in 3 iterations		

Table 5.21 show that respondents perceived that, among the set of items measuring learning and application, “theoretic concepts learnt were not integrated and practiced in the ward or unit” (loading = 0.872), had a major effect on post-basic students' performance. “Students were largely assigned very basic tasks, rather than specialty related activities in the wards” (loading = 0.607), and “procedures taught were partly in conflict with real situations in ward” (loading = 0.600).

Aligning theory to practice has been identified as a variable that affected some students' performance, especially learning and application for post-basic students who were studying theatre and orthopaedic nursing. The results concurred with those by Abou El-Soud et al (2017:101), whereby the implementation of theory into practice had a high mean score and a high impact on students' academic performance. The results

were further supported by the study by Kember et al (2016:254), where students indicated that being given a chance to apply theory allows them to see whether they understand the theory and how the theory is relevant.

One aspect that was revealed was that students were largely assigned very basic tasks, rather than speciality tasks. This finding is supported by Khoza (2015:107), who identified, among others, that nursing students were delegated to perform non-nursing duties as highlighted in the qualitative phase. The findings further indicate that there was a conflict in what was taught in class and what was practiced in the clinical area. Similarly, Pusey-Murray and Onyeful (2018:112) note that during clinical practice, the nursing students received instructions different from what they were taught in the classroom. Gemuhay et al (2019:5) moreover emphasise that sometimes students performed procedures by using shortcuts, contrary to the theory learnt in class.

Another variable identified was that procedures taught were partly in conflict with real situations in the ward. Alos et al (2015:61), in support of Fajar et al (2019:14), also revealed that the curriculum did not match with real-life experiences, which affected students' performance. These findings corroborate those of the qualitative phase where participants indicated that some of the course content, especially blood gas analysis and electrocardiogram interpretation, was not going to be applied in the clinical area for the orthopaedic students after they finish the course.

Table 5.22: Supervision and support – factor Matrix^a

	Factor
	1
C301. The supervision and support I received was generally inadequate	.565
C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	.547
C303. The clinical accompaniment by nurse educators was partially satisfactory	.609
C304. Clinical staff and nurse educators were not easy to approach for support	.448
C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	.766
C306. Ward managers had a bad attitude towards students during clinical practice	.513
C307. Preceptors contributed insignificantly toward the education of students in the clinical setting	.497
Extraction Method: Alpha Factoring.	
a. 1 factors extracted. 6 iterations required.	

Table 5.22 reveals that respondents perceived that, among items which measured supervision and support, “clinical staff did not recognise students as learners but treated them as workforce to cover shortage” (loading = 0.766) was the greatest or key challenge faced in terms of supervision and support. The other prominent challenges faced in relation to supervision and support were that “the clinical accompaniment by nurse educators was partially satisfactory” (loading = 0.609), “supervision and support they received was generally inadequate” (loading = 0.565), “nurse educators were moderately competent in facilitating the programme and guiding students to perform their tasks” (loading = 0.547), and “ward managers had a bad attitude towards students during clinical practice” (loading = 0.513).

The findings indicate that students were being used to cover a staff shortage rather than performing duties related to their specific outcomes and learning objectives. This concurs with the study by Gemuhay et al (2019:8), which uphold that in some hospitals, students could be used to cover a shortage of staff instead of meeting the learning outcomes. Students also did not receive adequate clinical support from both nurse educators and clinical staff; Muthimunye and Daniels (2019:8) and Gemuhay et al (2019:8) concur that nursing students do not receive adequate academic and clinical support.

Table 5.23: Leadership – rotated factor Matrix^a – first iteration

	Factor		
	1	2	3
C401. Nurse educators did not regard students as key resource persons	.191	.519	.261
C402. Students were not involved in decisions pertaining to their studies	.095	.896	.046
C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	.489	.183	.129
C404. Efforts by individual student employees were not appreciated	.292	.387	.378
C405. There was no spirit of unity among nursing staff in the units	.041	.176	.865
C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators	.464	.303	.358
<i>C407. There was a slightly caring relationship among ward staff and the students</i>	.464	.081	.478
C408. Students were partly recognized to give inputs during staff meetings	.634	.114	.020

C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	.676	.143	.196
C410. The college principal slightly provided individualised and encouraging support to student	.753	.073	.103
Extraction Method: Alpha Factoring. Rotation Method: Varimax with Kaiser Normalisation			
a. Rotation converged in 5 iterations			

Table 5.23 illustrates that respondents perceived that the variable “there was a slightly caring relationship among ward staff and the students” loaded on two factors. Since this variable demonstrated a complex structure, it had to be eliminated from the dataset, and a further iteration of the item loadings for the dimension had to be done.

Table 5.24: Leadership – rotated factor Matrix^a – second iteration

Rotated Factor Matrix ^a		
	Factor	
	1	2
C401. Nurse educators did not regard students as key resource persons	.145	.616
C402. Students were not involved in decisions pertaining to their studies	.129	.595
C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	.466	.212
C404. Efforts by individual student employees were not appreciated	.274	.625
C405. There was no spirit of unity among nursing staff in the units	.103	.507
Rotated Factor Matrix ^a		
	Factor	
	1	2
<i>C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators</i>	.449	.497
C408. Students were partly recognized to give inputs during staff meetings	.639	.112
C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	.672	.255
C410. The college principal slightly provided individualised and encouraging support to student	.768	.127
Extraction Method: Alpha Factoring. Rotation Method: Varimax with Kaiser Normalisation		
a. Rotation converged in 3 iterations		

Table 5.24 results indicate that respondents perceived that the variable “there was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators” loaded on two factors. Hence, C406 variable

revealed a complex structure, it had to be eliminated from the dataset and a further iteration of the item loadings for the dimension 'leadership' had to be conducted.

Table 5.25: Leadership – rotated factor Matrix^a – third or final iteration

	Factor	
	1	2
C401. Nurse educators did not regard students as key resource persons	.151	.627
C402. Students were not involved in decisions pertaining to their studies	.136	.614
C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	.477	.214
C404. Efforts by individual student employees were not appreciated	.270	.623
C405. There was no spirit of unity among nursing staff in the units	.098	.480
C408. Students were partly recognized to give inputs during staff meetings	.636	.107
C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	.669	.252
C410. The college principal slightly provided individualised and encouraging support to student	.762	.124
Extraction Method: Alpha Factoring		
Rotation Method: Varimax with Kaiser Normalisation		
a. Rotation converged in 3 iterations		

Table 5.25 indicates that respondents perceived that, among items which assessed the challenges relating to leadership, “the college principal slightly provided individualised and encouraging support to student” (loading = 0.762) was the greatest challenge they faced.

Other noticeable challenges regarding leadership are that “the college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals” (loading = 0.669), “students were partly recognised to give inputs during staff meetings” (loading = 0.636), “nurse educators did not regard students as key resource persons” (loading = 0.627), “efforts by individual student employees were not appreciated” (loading = 0.623), and “students were not involved in decisions pertaining to their studies” (loading = 0.614).

The findings showed that students were not satisfied with the support they receive from the college principal. This finding is supported by Gyasi, Xi and Owusu-Ampomah (2016: 14), who determined that only 7.8% of respondents in their study were of the view that the headmaster’s behaviour “never” supports the teachers and students who

are weak, while 7.1% of the respondents believed that the headmaster’s behaviour “seldom” supports the teachers and students who are weak. Contrarily, Louis (2015:4) reveals that instructional leadership from the principal provides students with both pressure to be academically engaged and support for students who may be falling behind or have more difficulty in school.

The study findings further show that students also need the principal’s leadership support in order to perform well in their studies. This corroborates Huguet’s (2017:101) claim that principals who hire teachers that love children and value students’ ability to succeed are an integral part of successful schools.

In addition to the reliability and validity test that was done, the researcher took an additional step and conducted a confirmatory factor analysis (CFA) to ensure that the study findings are authentic. The discussion follows.

5.5 CONFIRMATORY FACTOR ANALYSIS (CFA)

5.5.1 Latent variable: Readiness

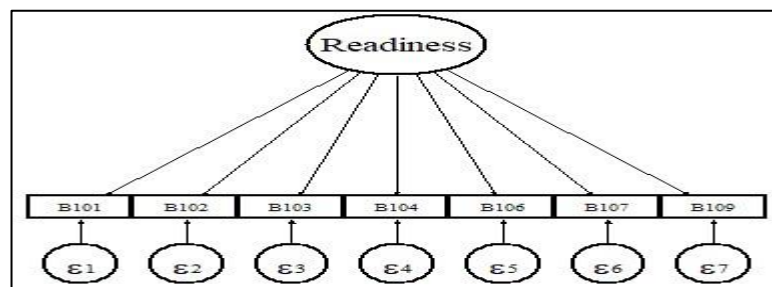


Figure 5.2: Readiness hypothesised dimension

Items: B101. My knowledge was deficient to enable me to perform assigned tasks, B102. I lacked practical skills required to render specialised care to patients, B103. I had minimal critical thinking ability to handle diverse situations in the unit, B104. I was unable to express myself when answering questions in class, B106. My role was not clearly defined to enable me to carry out my duties as a student, B107. My basic training was not aligned to the post-basic course requirements, and B109. Overall, I was not adequately prepared for the post-basic course.

The dimension 'readiness' is measured with seven observed items. Table 5.26 shows CFA estimates of the dimension and observed items influenced by the respective constructs.

Table 5.26: Readiness standardised estimates

Estimation method		= ml			No. of	= 140	
likelihood		= - 1395.7			obs	Log	
		Coeff.	Std. Err.	z-stat	P > |z|	[95% Conf. Interval]	
Measurement							
B101 ←	Readiness	0.767	0.066	11.56	0.000	0.637	0.897
B102 ←	Readiness	0.773	0.063	12.22	0.000	0.649	0.897
B103 ←	Readiness	0.448	0.076	5.83	0.000	0.297	0.599
B104 ←	Readiness	0.238	0.089	2.66	0.008	0.062	0.414
B106 ←	Readiness	0.101	0.096	1.05	0.294	-0.087	0.290
B107 ←	Readiness	0.359	0.097	3.67	0.000	0.167	0.551
B109 ←							

Estimation method		= ml			No. of	= 140	
Log likelihood		= - 1395.7			obs		
		Coeff.	Std. Err.	z-stat	P > |z|	[95% Conf. Interval]	
	Readiness	0.0.334	0.085	3.94	0.000	0.168	0.501
	var (e.B101)	0.411	0.101			0.253	0.668
	var (e.B102)	0.401	0.097			0.249	0.647
	var (e.B103)	0.798	0.069			0.674	0.946
	var (e.B104)	0.943	0.042			0.862	1.030
	var (e.B106)	0.989	0.019			0.951	1.028
	var (e.B107)	0.870	0.070			0.743	1.020
	var (e.B109)	0.887	0.056			0.782	1.006
	var (Readiness)	1	.				
	cov (e.B101, e.B107)	-0.499	0.141	-3.52	0.000	-0.777	-0.221
	cov (e.B104, e.B106)	0.233	0.079	2.92	0.003	0.076	0.389
	cov (e.B106, e.B107)	0.214	0.081	2.62	0.009	0.054	0.374

LR test of model vs. saturated: $\chi^2(11) = 16.09$, Prob > $\chi^2 = 0.1379$

Except for item "B106: my role was not clearly defined to enable me to carry out my duties as a student", which was statistically insignificant at 5% level, Table 5.26 shows

that all items measured what they intended to measure in terms of readiness. A considerably higher and more significant variation occurred in the items “B102. I lacked practical skills required to render specialised care to patients” (77.3%), and “B101: my knowledge was deficient to enable me to perform assigned tasks” (76.7%).

Results on the goodness-of-fit test show that the model did fit the data well. The assessed measures of the model’s goodness-of-fit include the chi-square statistic, Root Mean Squared Error of Approximation (RMSEA), Comparative Fit Index (CFI) and Tucker-Lewis index (TLI). The RMSEA measures the population error, while the CFI and the TLI are baseline comparison indices, with results presented in Table 5.27.

Table 5.27: Readiness – CFA model goodness-of-fit statistics

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms (11)	16.089	model vs. saturated
p > chi2	0.138	
chi2_bs (21)	163.229	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.057	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.114	
pclose	0.371	Probability RMSEA <= 0.05
Information criteria		
AIC	2825.400	Akaike’s information criterion
Fit statistic	Value	Description
BIC	2875.408	Bayesian information criterion
Baseline comparison		
CFI	0.964	Comparative fit index
TLI	0.932	Tucker-Lewis index
Size of residuals		
SRMR	0.064	Standardised root mean squared residual
CD	0.825	Coefficient of determination

Table 5.27 shows the chi-square value ($\chi^2 = 16.089$; $p = 0.138$) is not significant at 5% level, indicating that the model fits the sample data sufficiently and suggests that the data used in the model had a perfect fit. Results on RMSEA, which measures the

extent to which a model fits the population, rather than just a sample, was almost equal to 0.05, thus showing a good fit.

This is based on the extreme thresholds of 0.05 and 0.06 proposed by Browne and Cudeck (1993) and Hu and Bentler (1999), while RMSEA values of 0.01, 0.05, and 0.08 show excellent, moderate and mediocre fits, respectively. The “p” of close fit (pclose) greater than 0.05 indicates that the fit of the model is close or a good fit (Kenny, et al. 2014). Table 5.28 reflects the pclose value is equal to 0.371, showing a good fit of the model for the dimension “readiness”. The CFI = 0.964 and TLI = 0.932 confirm a good fit between the dimension ‘readiness’ and its observed data (Steiger, 2007).

5.5.2 Latent variable: Assertiveness

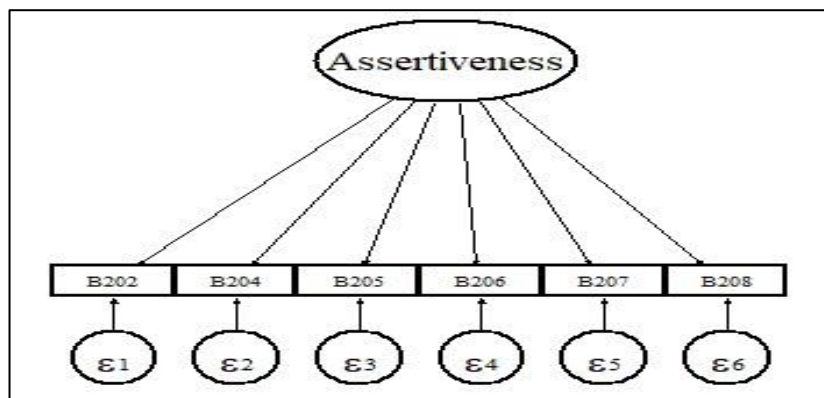


Figure 5.3: Assertiveness hypothesised dimension

Items: B202. The learning environment in the class made me feel discouraged, B204. I felt distressed in dealing with course demands in the learning environment, B205. In general, provision of support given to me was very limited, B206. Sometimes I felt so frustrated being loaded with massive information, B207. I had a bad attitude towards Internal medicine and surgery as well as research, B208. Overall, I had minimum enthusiasm for the post-basic course.

Figure 5.3 indicates that the dimension ‘assertiveness’ is assessed by six items. Table 5.28 shows CFA results of this dimension and the observed items influenced by the dimension.

Table 5.28: Assertiveness standardised estimates

Estimation method	= ml				No. of obs	= 140
Log likelihood	= - 1209.33					
	Coeff.	Std. Err.	z-stat	P > |z|	[95% Conf. Interval]	
Measurement B206 ← Assertiveness	0.510	0.089	5.71	0.000	0.335	0.685
B204 ← Assertiveness	0.649	0.091	7.07	0.000	0.469	0.829
B205 ← Assertiveness	0.521	0.090	5.78	0.000	0.344	0.697
B206← Assertiveness	0.522	0.099	5.27	0.000	0.328	0.717
B207 ← Assertiveness	0.479	0.091	5.26	0.000	0.301	0.658
B208 ← Assertiveness	0.359	0.098	3.63	0.000	0.165	0.553
var (e.B202)	0.739	0.091			0.580	0.941
var (e.B204)	0.578	0.119			0.385	0.866
var (e.B205)	0.728	0.093			0.565	0.937
var (e.B206)	0.726	0.103			0.549	0.961
var (e.B207)	0.769	0.087			0.615	0.961
var (e.B208)	0.870	0.071			0.741	1.021
var (Readiness)	1	.				
cov (e.B204, e.B206)	0.232	0.121	1.91	0.056	-0.006	0.471
cov (e.B207, B208)	0.247	0.089	2.77	0.006	0.072	0.422

LR test of model vs. saturated: chi2 (7) = 5.19, Prob > chi2 = 0.6369

Table 5.28 illustrates that all items had significant positive coefficients and thus measured what they intended to measure with regards to assertiveness. A relatively high variation was observed in item “B204: I felt distressed in dealing with course demands in learning environment” (64.9%), while a relatively low variation occurred in the item “B208: overall, I had minimum enthusiasm for the post-basic course” (35.9%). Results on the model’s goodness-of-fit are presented in Table 5.29.

Table 5.29: Assertiveness – CFA model goodness-of-fit statistics

Fit statistic	Value	Description
Likelihood ratio chi2_ms (7)	5.189	model vs. saturated
p > chi2	0.637	

chi2_bs (15)	132.038	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.086	
pclose	0.808	Probability RMSEA <= 0.05
Information criteria		
AIC	2446.677	Akaike's information criterion
BIC	2487.860	Bayesian information criterion
Baseline comparison		
CFI	1.000	Comparative fit index
TLI	1.033	Tucker-Lewis index
Size of residuals		
SRMR	0.030	Standardised root mean squared residual
CD	0.667	Coefficient of determination

Table 5.29's results show the chi-square value ($\chi^2 = 5.189$; $p = 0.637$) is not significant at 5% level, illustrating that the model fits the sample data sufficiently and suggests that the data had perfect fit. The RMSEA value equal to 0.00 suggests an excellent fit (Hu & Bentler 1999). The pclose fit estimate equal to 0.808 greater than 0.05 shows that the model fit is a good fit (Kenny et al 2014) for 'assertiveness'. The calculated values of the CFI = 1.000 and TLI = 1.003 confirm a good fit of the model.

5.5.3 Latent variable: Educators' competences

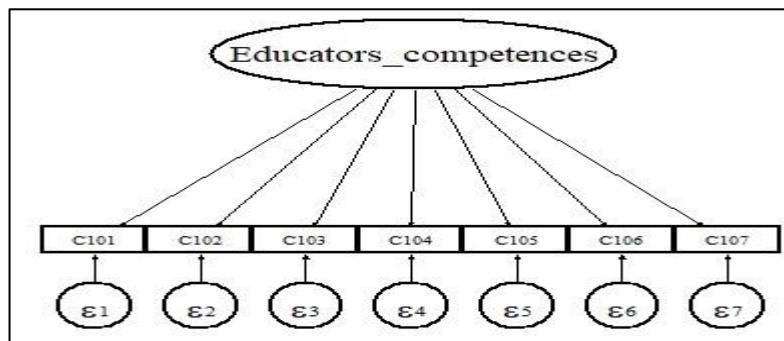


Figure 5.4: Educators' competences hypothesised dimension

Items: C101. Educators had limited knowledge to adequately answer questions, C102. Educators were not fully capable to integrate theory into practice, C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap, C104. Strategies used by nurse educators to deliver the subject content were marginally useful, C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse

group of students, C106. Feedback from educators was insufficient to improve students' performance, and C107. The nurse educators partially acted as change agent in the process of student learning and teaching.

Table 5.30: Educators' competences standardised estimates

Estimation method	= ml				No. of obs	= 140
Log likelihood	= - 1397.49					
	Coeff.	Std. Err.	z-stat	P > |z|	[95% Conf. Interval]	
Measurement C101 ← Educators' competences	0.732	0.064	11.29	0.000	0.605	0.860
C102 ← Educators' competences	0.728	0.588	12.39	0.000	0.613	0.843
C103 ← Educators' competences	0.795	0.075	6.55	0.000	0.347	0.644
C104 ← Educators' competences	0.067	0.095	0.71	0.000	-0.118	0.253
C105 ← Educators' competences	0.577	0.078	7.32	0.000	0.423	0.732
C106 ← Educators' competences	0.482	0.076	6.33	0.000	0.333	0.632
C107 ← Educators' competences	0.107	0.097	1.10	0.273	-0.084	0.298
var (e.C101)	0.462	0.095			0.309	0.692
var (e.C102)	0.469	0.085			0.327	0.671
var (e.C103)	0.754	0.075			0.620	0.916
var (e.C104)	0.995	0.012			0.970	1.020
var (e.C105)	0.666	0.091			0.509	0.871
var (e.C106)	0.767	0.073			0.635	0.925
var (e.C107)	0.988	0.020			0.948	1.030
var (Educators' competences)						
cov (e.C101, e.C105)	-0.291	0.142	-2.05	0.040	-0.570	-0.012
cov (e.C103, e.C104)	-0.383	0.069	-5.52	0.000	-0.520	-0.247
cov (e.C104, e.C106)	-0.287	0.715	-4.02	0.000	-0.427	-0.147
cov (e.C104, e.C107)	0.348	0.064	5.36	0.000	0.220	0.475
cov (e.C105, e.C107)	0.272	0.082	3.31	0.001	0.111	0.434

LR test of model vs. saturated: $\chi^2(9) = 9.90$, Prob > $\chi^2 = 0.3586$

Except for the indicator "C104: strategies used by nurse educators to deliver the subject content were marginally useful", which was statistically insignificant at 5% level, Table 5.30 results show that all items measured what they intended to measure in terms of educators' competences. The highest and most significant variation occurred in items "C101: educators had limited knowledge to amply answer questions"

(73.2%) and “C102: educators were not fully capable to integrate theory into practice” (72.8%). Results on the model’s goodness-of-fit are presented in Table 5.31.

Table 5.31: Educators’ competences – cfa model goodness-of-fit statistics

Fit statistic	Value	Description
Likelihood ratio chi2_ms (9)	9.901	model vs. saturated
p > chi2	0.359	
chi2_bs (21)	200.191	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.027	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.101	
pclose	0.611	Probability RMSEA < = 0.05
Information criteria		
AIC	2832.998	Akaike's information criterion
BIC	2888.889	Bayesian information criterion
Baseline comparison		
CFI	0.995	Comparative fit index
TLI	0.988	Tucker-Lewis index
Size of residuals		
SRMR	0.042	Standardised root mean squared residual
CD	0.819	Coefficient of determination

Model goodness-of-fit (Table 5.32) chi-square statistic ($\chi^2 = 9.901$; $p = 0.359$) is not significant at 5% level, showing that the model fits the sample data sufficiently and reflects that data had perfect fit. The RMSEA value equal to 0.027 shows an excellent fit (Hu & Bentler 1999), and the pclose fit estimate equal to 0.611 greater than 0.05 shows that the model fit is a good fit (Kenny et al 2014). The values of the CFI = 0.995 and TLI = 0.988 confirm a good fit of the model ‘educators’ competences.

5.5.4 Latent variable: Learning and application

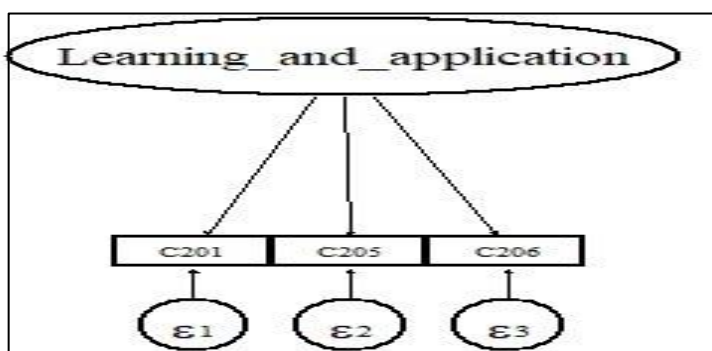


Figure 5.5: Learning and application hypothesised dimension

Items: C201. Theoretic concepts learnt were not integrated and practiced in ward, C205. Procedures taught were partly in conflict with real situations in ward, and C206. Students were largely assigned very basic tasks, rather than specialty related activities in wards.

Figure 5.5 shows that the dimension 'learning and application' is assessed by three items. The CFA results of the model for this latent dimension are presented in Table 5.32.

Table 5.32: Learning and application standardised estimates

Estimation method	= ml			No. of obs	= 140	
Log likelihood	= - 590.970					
	Coeff.	Std. Err.	z-stat	P > |z|	[95% Conf. Interval]	
Measurement C201 ← Learning and application	0.418	0.085	4.87	0.000	0.249	0.586
C205 ← Learning and application	0.826	0.102	8.07	0.000	0.625	1.027
C206 ← Learning and application	0.686	0.093	7.34	0.000	0.502	0.869
var (e.C201)	0.825	0.071			0.695	0.978
var (e.2105)	0.316	0.169			0.110	0.903
var (e.C206)	0.529	0.128			0.329	0.851
var (Learning and application)	1	.			.	.

LR test of model vs. saturated: $\chi^2(9) = 0.00$, Prob > $\chi^2 = .$

Table 5.32's results show that all items measured what they intended to measure with regards to learning and application. The most relatively high variation accounted for in the construct was in the indicator "C205: procedures taught were partly in conflict with the real situations in ward" (82.6%), followed by "C206: students were largely assigned very basic tasks, rather than specialty related activities in wards" (68.6%), and finally "C201: theoretic concepts learnt were not integrated and practiced in ward" (41.8%).

Table 5.33: Learning and application – CFA model goodness-of-fit statistics

Fit statistic	Value	Description
Likelihood ratio chi2_ms (9) p > chi2	0.000	model vs. saturated
chi2_bs (21) p > chi2	74.104 0.000	baseline vs. saturated
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.00	
pclose	1.000	Probability RMSEA < = 0.05
Information criteria		
AIC	1193.941	Akaike's information criterion
BIC	1211.591	Bayesian information criterion
Baseline comparison		
CFI	1.000	Comparative fit index
TLI	1.000	Tucker-Lewis index
Size of residuals		
SRMR	0.000	Standardised root mean squared residual
CD	0.765	Coefficient of determination

Table 5.33 reflects the RMSEA value equal to 0.00 suggests an excellent fit (Hu & Bentler 1999). The pclose fit estimate equal to 1.00 greater than 0.05 shows that the model fit is a good fit (Kenny et al 2014). The computed values of the CFI = 1.000 and TLI = 1.000 confirm a good fit of the model.

5.5.5 Latent variable: Supervision and support

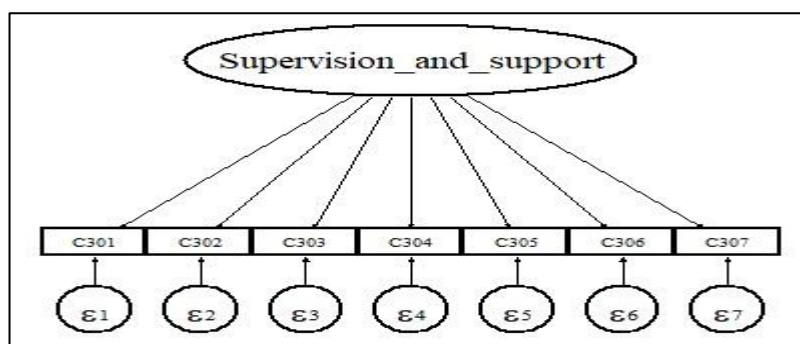


Figure 5.6: Supervision and support hypothesised dimension

Items: C301. The supervision and support I received was generally inadequate, C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks, C303. The clinical accompaniment by nurse educators was partially satisfactory, C304. Clinical staff and nurse educators were not easy to approach for support, C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage, C306. Ward managers had a bad attitude towards students during clinical practice, and C307. Preceptors contributed insignificantly toward the education of students in the clinical setting.

Figure 5.6 shows that the dimension ‘supervision and support’ is gauged by seven items. The CFA results of the model for this latent dimension are presented in Table 5.34.

Table 5.34: Supervision and support standardised estimates

Estimation method	= ml		No. of obs = 140			
Log likelihood	= - 1411.39					
	Coeff.	Std. Err.	z-stat	P > |z|	[95% Conf. Interval]	
Measurement C301 ← Supervision and support	0.565	0.073	7.73	0.000	0.421	0.708
C302 ← Supervision and support	0.537	0.072	7.39	0.000	0.394	0.679
C303 ← Supervision and support	0.591	0.072	8.17	0.000	0.449	0.734
C304 ← Supervision and support	0.477	0.077	6.17	0.000	0.325	0.629

C305 ← Supervision and support	0.769	0.062	12.29	0.000	0.646	0.891
C306 ← Supervision and support	0.457	0.089	5.11	0.000	0.281	0.632
C307 ← Supervision and support	0.511	0.091	5.61	0.000	0.333	0.690
var (e.C301)	0.680	0.082			0.536	0.863
var (e.C302)	0.711	0.078			0.573	0.882
var (e.C303)	0.649	0.085			0.501	0.841
var (e.C304)	0.771	0.074			0.639	0.931
var (e.C305)	0.408	0.096			0.257	0.648
var (e.C306)	0.790	0.081			0.645	0.968
var (e.C307) var (Supervision and support)	0.738	0.0932			0.576	0.945
cov (e.303, e.C307)	0.143	0.108	1.32	0.186	-0.068	0.354
cov (e.C305, e.C306)	0.357	0.105	3.37	0.001	0.149	0.564
cov (e.C305, e.C307)	-0.382	0.127	-2.99	0.003	-0.633	-0.131

LR test of model vs. saturated: $\chi^2(11) = 15.02$, Prob > $\chi^2 = 0.1817$

Table 5.34 shows that all items measured what they intended to measure in terms of supervision and support. A relatively high and significant variation occurred in the item “C305: clinical staff did not recognize students as learners but treated them as workforce to patch shortage” (76.9%). Model goodness-of-fit results are presented in Table 5.35.

Table 5.35: Supervision and support – CFA model goodness-of-fit statistics

Fit statistic	Value	Description
Likelihood ratio χ^2_{ms} (9)	15.018	model vs. saturated
p > χ^2	0.182	
χ^2_{bs} (21)	227.708	baseline vs. saturated
p > χ^2	0.000	
Population error		
RMSEA	0.051	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.109	
pclose	0.437	Probability RMSEA ≤ 0.05
Information criteria		
AIC	2856.795	Akaike's information criterion
BIC	2906.803	Bayesian information criterion
Baseline comparison		
CFI	0.981	Comparative fit index
TLI	0.963	Tucker-Lewis index

Size of residuals			
SRMR	0.045	Standardised root mean squared residual	
CD	0.809	Coefficient of determination	

Table 5.35's results show the chi-square value ($\chi^2 = 15.018$; $p = 0.182$) is not significant at 5% level, indicating that the model fits the sample data sufficiently and suggests that the data had perfect fit. The RMSEA value equal to 0.051 suggests a good fit (Hu & Bentler 1999). The pclose fit estimate equal to 0.437 greater than 0.05 shows that the model fit is a good fit (Kenny et al 2014). Computed values of the CFI = 0.981 and TLI = 0.963 confirm a good fit of the estimated model.

5.5.6 Latent variable: Leadership

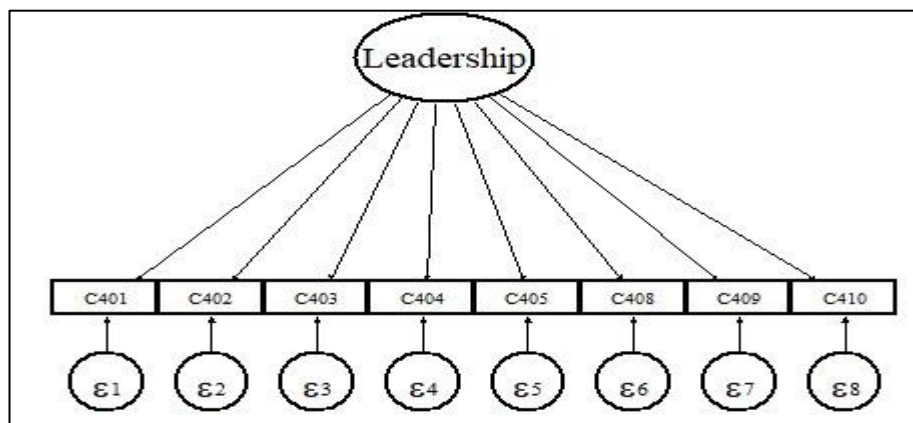


Figure 5.7: Leadership hypothesised dimension

Items: C401. Nurse educators did not regard students as key resource persons, C402. Students were not involved in decisions pertaining to their studies, C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members, C404. Efforts by individual student employees were not appreciated, C405. There was no spirit of unity among nursing staff in the units, C408. Students were partly recognized to give inputs during staff meetings, C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals, and C410. The college principal slightly provided individualised and encouraging support to students.

Figure 5.7 shows that the dimension 'leadership' is measured by eight items. CFA results of the model for this latent dimension 'leadership' are presented in Table 5.36 below.

Table 5.36: Leadership standardised estimates

Estimation method		= ml			No. of obs	= 140	
likelihood		= - 1395.7			Log		
		Coeff.	Std. Err.	z-stat	P > |z|	[95% Conf. Interval]	
Measurement							
C401 ←	Leadership	0.352	0.087	4.02	0.000	0.180	0.523
C402 ←	Leadership	0.315	0.089	3.51	0.000	0.139	0.492
C403 ←	Leadership	0.613	0.078	7.82	0.000	0.459	0.767
C404 ←	Leadership	0.466	0.079	5.88	0.008	0.311	0.621
C405 ←	Leadership	0.262	0.090	2.91	0.294	0.085	0.438
Estimation method		= ml			No. of obs	= 140	
Log likelihood		= - 1395.7					
		Coeff.	Std. Err.	z-stat	P > |z|	[95% Conf. Interval]	
C408 ←	Leadership	0.593	0.069	8.51	0.294	0.456	0.730
C409 ←	Leadership	0.767	0.082	9.33	0.000	0.606	0.928
C410 ←	Leadership	0.662	0.076	8.65	0.000	0.512	0.812
	var (e.C401)	0.876	0.061			0.763	1.005
	var (e.C402)	0.900	0.056			0.795	1.018
	var (e.C403)	0.623	0.096			0.460	0.844
	var (e.C404)	0.782	0.074			0.649	0.941
	var (e.C405)	0.931	0.047			0.842	1.028
	var (e.C408)	0.647	0.082			0.504	0.832
	var (e.C409)	0.410	0.126			0.224	0.750
	var (e.C410)	0.561	0.101			0.393	0.799
	var (Leadership)	1	.				
	cov (e.C401, e.C402)	0.446	0.069	6.45	0.000	0.311	0.582
	cov (e.C402, e.C404)	0.160	0.073	2.20	0.028	0.017	0.304
	cov (e.C403, e.C409)	-0.304	0.173	-1.75	0.080	-0.644	0.036
	cov (e.C404, e.C405)	0.338	0.077	4.38	0.000	0.187	0.490
	cov (e.C409, e.C410)	0.171	0.167	1.02	0.306	-0.156	0.499

LR test of model vs. saturated: chi2 (15) = 20.05, Prob > chi2 = 0.1702

Table 5.36 reports that all items indeed measured what they intended to measure with regards to leadership. The highest variation in this dimension occurred in items “C409: the college climate did not provide a sense of ownership for students and was partly

welcoming for ideas and proposals” (76.7%), “C410: the college principal slightly provided individualised and encouraging support to students” (66.2%), and “C408: students were partly recognized to give inputs during staff meetings” (59.3%).

Table 5.37: Leadership – CFA model goodness-of-fit statistics

Fit statistic	Value	Description
Likelihood ratio chi2_ms (9)	20.045	model vs. saturated
p > chi2	0.170	
chi2_bs (21)	273.674	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.049	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.100	
pclose	0.466	Probability RMSEA < = 0.05
Information criteria		
AIC	3146.779	Akaike's information criterion
BIC	3208.553	Bayesian information criterion
Fit statistic	Value	Description
Baseline comparison		
CFI	0.979	Comparative fit index
TLI	0.962	Tucker-Lewis index
Size of residuals		
SRMR	0.061	Standardised root mean squared residual
CD	0.809	Coefficient of determination

The model goodness-of-fit (Table 5.37) chi-square statistic ($\chi^2 = 20.045$; $p = 0.17$) are not significant at 5% level, showing that the model fits the data amply and reflects that data had perfect fit. The RMSEA value equal to 0.027 shows an excellent fit, and a p close fit value equal to 0.466 shows that the model fit is a good fit (Kenny et al. 2014). CFI = 0.979 and TLI = 0.962 confirm a good fit of the model.

5.6 MERGING AND INTEGRATING RESEARCH FINDINGS

The research findings of both qualitative and quantitative phases were merged and integrated in order to recommend strategies that will assist in the improvement of students' performance based on the objectives of the study. Table 5.38 below illustrate how the quantitative findings emerged from qualitative themes in addressing objective 1.

Table 5.38. Presentation of quantitative findings that emerged from qualitative themes

Objective 1. Reasons for high failure rate	Qualitative findings	Quantitative findings
	<ul style="list-style-type: none"> • Difficulty in understanding the learning material 	<ul style="list-style-type: none"> • My knowledge was deficient to enable me perform assigned tasks
	<ul style="list-style-type: none"> • Language problem 	<ul style="list-style-type: none"> • I was unable to express myself when answering questions in class
	<ul style="list-style-type: none"> • Educational foundation inadequate 	<ul style="list-style-type: none"> • Students' lack of assertiveness
	<ul style="list-style-type: none"> • Inability to use critical thinking 	<ul style="list-style-type: none"> • I lacked practical skills required to render specialised care to patients
	<ul style="list-style-type: none"> • Detailed course content to some of the students 	<ul style="list-style-type: none"> • My basic training was not aligned to the post basic course requirements

Table 5.39 present the similarities that exist from the two data analysis in addressing objective 2 and 3.

Table 5.39. Presentation of common findings that emerged from both qualitative and quantitative analysis

Objective2.Nurse educators 'experiences regarding students 'performance	Objective 3. Students' views regarding the course
Qualitative findings	Quantitative findings
<ul style="list-style-type: none"> • Short course duration 	<ul style="list-style-type: none"> • Short course duration
<ul style="list-style-type: none"> • Students lack of readiness for the course 	<ul style="list-style-type: none"> • Students lack of readiness for the course
<ul style="list-style-type: none"> • Attitude towards the subject matter 	<ul style="list-style-type: none"> • I had an attitude towards Internal medicine and surgery as well as research

	<ul style="list-style-type: none"> • Inability to cope with the work load 	<ul style="list-style-type: none"> • I felt distressed in dealing with course demands in the learning environment. • Sometimes I felt so frustrated being loaded with massive information • There were high workloads and more to learn than I expected
	<ul style="list-style-type: none"> • Course content not relevant 	<ul style="list-style-type: none"> • Course content not relevant
	<ul style="list-style-type: none"> • Ineffective teaching strategy 	<ul style="list-style-type: none"> • Theoretic concepts learnt were not integrated and practiced in ward. • The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students • The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap
	<ul style="list-style-type: none"> • Inadequate clinical supervision and support for students <ul style="list-style-type: none"> ○ Students used as workforce 	<ul style="list-style-type: none"> • The clinical accompaniment by nurse educators was partially satisfactory <ul style="list-style-type: none"> ○ My role was not clearly defined to enable me to carry out my duties as a student ○ Clinical staff did not recognize students as learners but treated them as workforce to patch shortage

Table 5.40 present qualitative and quantitative findings in addressing objective 2 and 4 and distinctive meaning.

Table 5.40 Presentation of qualitative and quantitative findings

Objective.2 Nurse educators 'experiences regarding students 'performance		Objective.4 Challenges encountered by Students
	Qualitative findings	Quantitative findings
	<ul style="list-style-type: none"> • Students' lack of interest and commitment • Students' lack of motivation • Students failure to maintain a working relationship • Students' unresponsive to nurse educators 'help 	<ul style="list-style-type: none"> • Educators had limited knowledge to adequately answer questions • Educators were not fully capable to integrate theory into practice • The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap • Students were largely assigned very basic tasks, rather than specialty related activities in the wards
		<ul style="list-style-type: none"> • Ward managers had bad attitude towards students during clinical practice • The college principal slightly provided individualised and encouraging support to student

5.7 CONCLUSION

In this chapter, data were presented, analysed and themes developed in the qualitative phase. The themes were then used to develop an instrument for quantitative data collection. The constructs developed for the questionnaires were measured, and the responses were analysed quantitatively using the SPSS version 26.0. Scale reliability and statistical validity tests were conducted before the computation of EFA. Based on the KMO-MSA, some items were retained while others were removed because they had high loadings on more than one factor and created a complex structure.

Most of the quantitative findings matched the qualitative themes and were merged and integrated; there were very little dissimilarity. From these findings, the researcher was able to formulate strategies for the improvement of academic performance in the next chapter.

CHAPTER 6

DEVELOPMENT OF STRATEGIES TO IMPROVE STUDENT NURSES' ACADEMIC PERFORMANCE IN CLINICAL NURSING SCIENCE COURSE

6.1 INTRODUCTION

This chapter discusses the process of developing strategies to improve student nurses' academic performance in a CNS course. The process followed was based on information obtained from individual interviews with nurse educators and a survey questionnaire with respondents (who were professional/registered nurses who had done the course) from the quantitative phase, as well as from literature review. The findings from the study directed that the process of developing strategies should cover all aspects of both qualitative and quantitative findings

After having identified that there is a problem in terms of performance as an area of concern, the researcher decided to undertake the study with the aim of developing strategies to improve post-basic student nurses' academic performance. This aim was based on the definition of improvement, which refers to the act of changing something to be better or to become better than before (Hornby 2015:767).

6.2 DEVELOPMENT OF STRATEGIES FOR IMPROVING ACADEMIC PERFORMANCE

In developing these strategies, the identified problem – namely, poor performance among post-basic students in the CNS course – is addressed. The strategies are aligned to the mission, philosophy of nursing education, and goals of the training institutions and the nursing colleges. The proposed strategies are also based on the forces and circumstances that affect health care, education, recipients of nursing care, the nursing profession, as well as the training institutions.

The economic feasibility of proposed strategies is not covered in this study, and these strategies have been made to be flexible and adaptable to individual circumstances

and the training objectives of each training institution. Furthermore, the proposed strategies are context-relevant with the intention to prepare graduates for current nursing practice, for the improvement of the quality of life of those receiving health care, and for future practice. Finally, the strategies will be presented at research workshops locally, later piloted in one nursing college so that they can be reviewed for their effectiveness before being tabled to the SANC and the Council of Higher Education (CHE) for consideration and approval.

6.2.1 Benefits of developing academic performance improvement strategies

- To increase the productive capacity of training institutions in order to achieve the institutional vision.
- The strategies will help to address the key challenges identified through an evidence-based analysis of the teaching and learning practices of training institutions.
- To provide a framework of mutual accountability for the nursing education department and nurse educators, together with the students.
- To improve the training institution's reputation.
- To increase specialised nursing skill distribution across the country.
- To improve the quality of care rendered by specialised nurses.
- To reduce the cost of training post-basic students with poor output.

6.2.2 The steps to be followed in the development process:

6.2.2.1 Strategy improvement team

The researcher developed improvement strategies based on the research findings and literature review. The developed strategies were presented to education experts for review and validation. The team comprised two school principals from Limpopo province and one associate professor from the University of Pretoria (Department of Nursing Science). One of the principals is a curriculum advisor, and the other specialises in research and school management. The team agreed that the developed strategies are relevant for implementation by both nurse educators and post-basic nursing students to improve academic performance.

6.2.2.2. Problem presentation

The researcher deemed it important to present the identified academic problem and the study findings to the improvement action team in order to gain their participation in validating and making recommendations for the developed strategies.

The team agreed that there was a dire need to apply the developed strategies so that nursing education institutions will produce competent graduates who meet the diverse and changing needs of the people of South Africa. This was in line with Noone, Voss and Mathews' (2013 in Feller 2018:105) assertion that "the call for transforming nursing education is needed to prepare nurses to meet the challenges of a diverse population, to serve as clinical leaders, to deliver safe, high-quality patient care, and to function at the top of their nursing practice".

6.2.2.3. Review and Improve goals

- Achievement of 70% pass rate in IMS and ND.
- Making the curriculum more relevant, speciality orientated and acceptable to students rather than following a homogeneity curriculum (Skill for care 2019:36).
- Students' development of positive attitudes towards IMS together with nursing research, which is part of ND.
- Establishment of good working relationships.
- Development of effective teaching strategies that meet all students' need.
- Effective clinical supervision and support for students.

6.2.2.4. Review and improve strategy

The developed strategies will be presented to the education specialists who are experts in both education and research for review and improvement. After improvement they will be tabled to higher authoritative for consideration and approval.

6.2.2 5. Strategy implementation

After approval by higher authorities the strategies will be presented to the training institutions, principals, nurse educators and students for implementation. The participation of the educational community is one of the fundamental pillars in obtaining achievements of the set goals.

6.2.2.6 Evaluation

Above all, the strategies will not achieve the desired results without continuous monitoring with the objective of establishing control and making the necessary modifications. In this regard, the improvement team, nurse educators and the college principals should evaluate the effect of the developed strategies by analysing the test results as well as the examination results of the students at the end of each academic year.

6.3 DEVELOPED STRATEGIES FOR IMPROVEMENT OF ACADEMIC PERFORMANCE

The developed strategies are contextually sensitive, bearing in mind the nature of the existing curriculum and textbook content for the study. Attention was paid to disparities that exist between South African nursing education practice pertaining to the course under study and other countries, as indicated in the literature review. The developed strategies are also in line with the nursing education philosophy, vision and mission of the training institutions. The developed strategies are based on research findings, as illustrated in Figure 6.2.

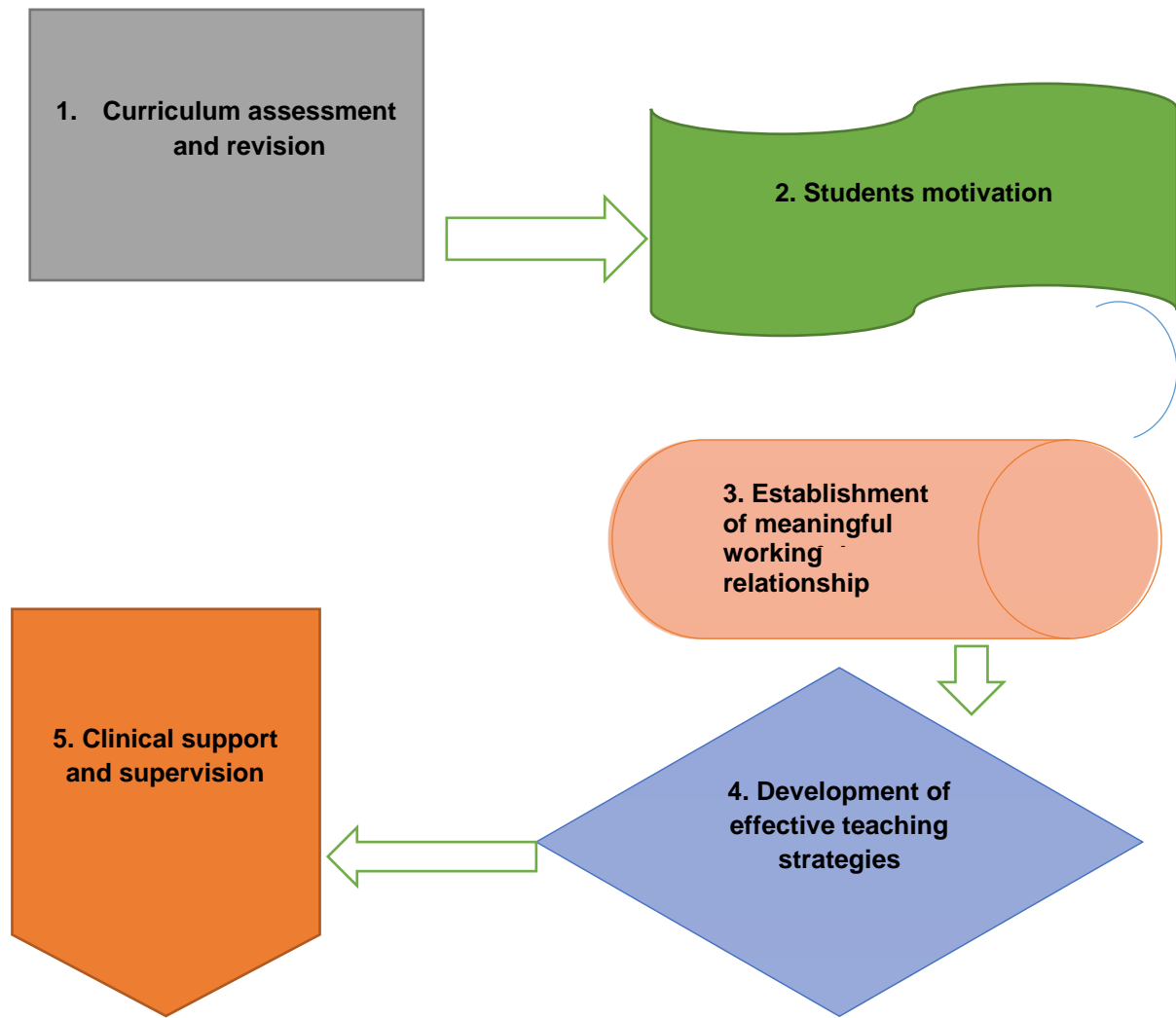


Figure 6.1: Diagrammatic representations of developed strategies

6.3.1 Strategy 1: Curriculum assessment and revision of IMS modules

This strategy focuses on curriculum assessment and revision of IMS modules to ensure that it is aligned to each speciality programme. This is in line with Goldman and Martin's (2016:266) view that content relevance is important, since students desire to know the immediate utility of the information they are learning, and will be actively involved in the study process.

Strategic objective: Curriculum revision so that the CNS course can be speciality orientated and acceptable to all students rather than following a homogeneity curriculum (Skill for care 2019:36).

The following recommended activities will ensure that the curriculum prepares nurse graduates who can function in an outcome-driven healthcare system, and transfer knowledge into practice in the area of speciality:

- The nursing education faculty, together with nurse educators from different speciality programmes, should evaluate the curriculum and revise the IMS modules so that it can become relevant and applicable for implementation by all students in their area of speciality.
- They should provide significant input regarding the concepts that are relevant to their area of specialisation, that reflects current nursing and healthcare trends, and meet the students' needs.
- Nurse educators should form coalition teams with other educators from different nursing colleges to share information about the importance of a concept-based curriculum.
- They should also select appropriate learning activities that are relevant to students in each area of specialisation.

6.3.2 Strategy 2: Motivate students to develop positive attitudes towards IMS and nursing research

This strategy focuses on motivating students to develop positive attitudes towards IMS and ND. This will maximise students' engagement, active participation, and will further help them to take responsibility for their learning and progress.

Strategic objective: Students develop a positive attitude to IMS and nursing research

Activities to motivate students to have positive attitudes to IMS and nursing research include:

- There is a need to orientate students to the dynamics of the CNS course, its importance in preparing them with knowledge and skills to render high-quality patient care, as well as to function at the top of their nursing practice in the absence

of the doctor. This is in line with Knowles' (1984 in Meriam 2017:23) statement that adults need to know the reason for learning something as this will drive their internal motivation.

- The nurse educators should re-emphasise that students possess knowledge of anatomy and physiology so that they will be able understand IMS and overcome educational challenges.
- Affirm responsibilities and accountability towards the critically ill patient, family and significant others.
- Remind students that nursing is an evidence-based profession and nurses are expected to be knowledgeable about nursing research in order to be flexible and responsive to patients' needs.
- Inspire students to feel motivated and energised towards unlocking knowledge and understanding clinical judgment and problem-solving e.g by presenting them with complex scenarios to solve and present, then appraise for work well done.
- Nurse educators should also support students to overcome educational challenges through counselling and appropriate referrals when the need arises.
- Establish a learning environment that is accommodative of students' individual weaknesses.
- Present a clear understanding of the dynamics that exist within the diverse, challenging, fast-paced and high-technological nursing care practice environment.
- Encourage students' academic achievement and be open to concern.

6.3.3 Strategy 3: Establish a meaningful working relationship

Strategic Objective 1: Establish a collaborative and respectful working relationship

This will foster an on-going working relationship towards the outcome of the facilitation of clinical judgment in the educational environment.

The activities necessary for the establishment of an on-going working relationship are:

The nurse educator should initiate the working relationship towards the facilitation of clinical judgment on the first contact within the classroom and emphasise respect that is reciprocal in nature.

- Maintain clear communication channels to assist students on their journey to becoming empowered and transformed with safe clinical judgment practices.
- Ensure a clear understanding of the learning outcomes for the facilitation of clinical judgment.
- Outline the nursing students' responsibilities within the framework of the CNS course and the clinical practice area.
- Initiate appreciative conversations with the nursing students to promote and enhance clinical judgment through discussions about clinical experiences and challenges in the clinical practice environment.
- Create a non-judgmental environment that values and offers a secure understanding of the self and other members within the nursing education environment.
- Support nursing students in their role as students and in unfair situations that might arise in the clinical care practice environment.
- Role model a caring demeanour throughout the process of facilitating clinical judgement within the diverse, fast-paced, challenging nursing education environment.
- Encourage and allow normalisation of concerns during the learning process.

6.3.4 Strategy 4: Develop effective teaching strategies that meet all students' need

This strategy focuses on the development of educational outcomes that strive for a balance between cognitive, affective and psychomotor domains (Bandura 1994:4). This is based on the fact that learning is holistic and nursing is a practice-based profession which requires effective clinical facilitation in order to develop nursing students' cognitive, psychomotor and affective skills (SANC 2014

- **Strategic objective:** Achievement of a 70% pass rate in IMS and ND through the use of effective teaching strategies.

Recommended activities to meet the above strategic objective:

- The nurse educators should adopt a constructivist approach to teaching and learning. This will require teaching and learning that focuses on problem-solving instead of being subject-based; learning theorists such as Elliott et al (2000 in McLeod 2019:1; Hein 1991) believe that learning improves when it is carried out as a constructive and social activity. This concurs with Mukhalalati and Taylor's (2019:3) stance that, according to constructivists' views of andragogy, learning is the process of constructing new knowledge on the foundations of existing knowledge.
- Develop a plan to analyse students' prior knowledge and experience based on the andragogy of learning theory for adult learners. This will help determine students' readiness, need to know, and what the learner brings (their educational foundation) to the learning situation. It will also assist educators to focus on the students' area of adequacy.
- Nurse educators should maintain a student-centred learning environment whereby students become the main role-players and owners of the learning process, and take responsibility to engage, absorb and retain (Rayens & Ellis 2018:92).

Nurse educators should develop a culture where they work together with students while listening to students' voices and respecting and accommodating their ideas and opinions. This will build students' confidence, sense of self-worth, mastery and self-efficacy, as well as assertiveness.

- Educators should assist students in developing a sense of connectedness to their studies and professional development.
- Learning activities should be organised and scheduled to ensure that the course content is covered on time, and students will be able to revise and consult when meeting challenges.

-
- Learning activities that are not relevant for immediate use or everyday life situations should be eliminated so that students are able to cope with their studies. This will also enable students to integrate theory into practice with understanding rather than just memorising and passing, while not being able to apply the principles in practice.
- The nurse educators should create a learning environment that helps students to become independent practitioners who are able to apply problem-solving, decision making and critical-thinking skills in dealing with patients in their area of specialisation.
- Encourage the development of student communities since most students learn through social contact by interacting with others, and also find confidence when working in groups. This will further assist them in working out their insecurities and fears, which is part of the affective process that enhances self-efficacy (Bandura 1994:5; Atoum & Al-Momani 2018:7). Yang, Jiang, Nie and Tang (2018:1790) have also discovered that cooperative learning enables students to improve their learning initiative and develop critical-thinking habits.
- Organise educational workshops which can also assist students in engaging and being actively involved in their learning, improve their learning competitiveness and comprehension ability.
- Students should also be encouraged to know and understand their learning styles and adopt relevant techniques that will help them to improve their academic performance.

6.3.5 Strategy 5: Establish good communicational relationship between the educational facility and clinical setting

The strategy is directed at bridging the theory-practice gap which is created by inadequate clinical supervision and support, from both nurse educators and clinical personnel.

-

Strategic objective: To facilitate and create an effective clinical supervision and support structure for post-basic students.

Activities geared at the above strategic objective are:

- Nurse educators should establish a good relationship with clinical personnel to gain their cooperation pertaining to students' support in the clinical area.
- Develop effective communication between clinical setting personnel and the educational facility.
- Encourage students to be responsible and accountable during clinical placement as this will motivate the clinical personnel to be engaged in their studies.
- Reinforce the use of trained preceptors who will be passionate about students' learning activities and expected outcomes. The study by Phuma-Ngaiyaye and Bvumbwe (2017:166) found that, through the use of trained preceptors, students received adequate support, learning opportunities were created, and students were also helped to identify their own learning needs.
- Academic activities should be properly organised so that nurse educators also have sufficient time to supervise students in case preceptors are not available.
- Initiate and recommend the use of clinical placement facilitators who are responsible for both students' summative and formative clinical assessments (as is the case in Rwanda) if preceptors are not available (Habimana, Tuyizere & Uwajeneza 2016:43).
- College principals should organise collaborative meetings with the clinical staff so that students' challenges can be discussed and necessary interventions can be implemented to prevent conflicts between students and clinical staff. Huguet (2017:99) indicates that this will show that principals are also invested in students' academic success.

•

6.4 VALIDATION OF THE DEVELOPED STRATEGIES BY EDUCATION EXPERTS

The developed strategies were presented to the following education specialists for validation and are accompanied by their comments:

Prof IM Coetzee from the University of Pretoria (Department of Nursing Science, Diploma Critical Care, BCur: letA, Mcur: UJ, PGCHE: UP, PhD UNISA, FANSA).

Her comments are as follows:

- The candidate has excellent data, and the developed strategies are very good.

Doctor NM Seroto, an Education Specialist in Mathematics at Mopani District (Limpopo), and curriculum advisor.

- He applauded the work done and recommended that as the strategies are based on research findings, the recommendations should be in line with the developed strategies.
- He further indicated that the research findings in Chapter 5 are more relevant to the teaching and learning, and the developed strategies will be useful for the improvement of academic performance in any clinical course.

Doctor MA Masetla, a principal at Modupi primary school at Mopani district, Limpopo province, is an education manager who attained a PhD in education with the University of Venda. Specialising in research and management, she gave the following comments:

- She applauded the study and work done as interesting and was of the opinion that it would benefit educational institutions.
- Another input was that the developed strategies addressed the themes outlined in Chapter 5.

•

6.5 CONCLUSION

This chapter focused on the process of developing strategies to improve post-basic students' academic performance in the CNS course. The emphasis was on curriculum assessment and revision of IMS modules, motivation of students, development of effective teaching strategies, the development of meaningful working relationships, and clinical support and supervision. The next chapter will focus on the conclusions, recommendations according to the developed strategies, contributions, and limitations of the study.

•

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

This chapter concludes the study, by briefly explaining the outline of the research design and methodology, a summary of the findings, stating the limitations, and making recommendations based on the developed strategies for practice and further research.

7.2 RESEARCH DESIGN AND METHOD

The purpose of the study was to investigate the reasons for the high failure rate among post-basic students enrolled in a CNS course, and to explore both educators' and students' experiences regarding the programme so that strategies could be developed to improve students' academic performance. The study was therefore conducted in an attempt to answer the following questions:

- What are post-basic nurse educators' experiences with regard to students' performance in the IMS and ND modules?
- What could be the reasons for post-basic students' high failure in the IMS and ND modules?
- What are post-basic students' views about the CNS course?
- What challenges did post-basic students face when studying IMS and ND?
- What strategies can be employed to improve post-basic students' academic performance?

In order to answer the above questions, an exploratory, sequential, mixed-method approach was used which encompassed an exploratory, descriptive and phenomenological research design for the qualitative phase, and a non-

- experimental, descriptive research design for the quantitative phase. The mixed-method approach was used since the researcher believed this strategy could add more value to the study than a single method. The study was conducted in three public nursing colleges of South African provinces, namely Limpopo, Gauteng and the Eastern Cape, especially for the qualitative phase which covered three campuses, while the quantitative phase covered five provinces. The respondents for the quantitative phase were widely distributed around Gauteng, Limpopo, Eastern Cape, Mpumalanga and the Free State. A total of nine nurse educators participated in the interviews for the qualitative phase, and 141 respondents participated in the survey questionnaire for the quantitative phase. The interviews were conducted using a semi-structured interview guide, while a structured questionnaire was used for the quantitative phase (both were developed by the researcher).

Qualitative data analysis was done manually, resulting in five themes which were used to develop the survey questionnaire. The responses from the questionnaires were analysed by means of EFA. Ultimately, CFA was performed to confirm the quantitative findings with the use of the SPSS program.

7.3 SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS

The data obtained from both qualitative and quantitative methods shared common characteristics and addressed the research objectives set out in Chapter 1. The themes from the qualitative phase were merged and integrated with the responses from the quantitative phase, as there were some commonalities. The following section summarises and discusses the interpretation of the findings according to the set objectives.

•

7.3.1 Objective 1: Reasons for high failure rates among post-basic students in IMS and ND

The findings from the qualitative phase revealed that some students had difficulty in understanding IMS as a result of inadequate educational foundation from their basic training. The findings are in line with Gafoor and Kurukkann (2015:238) 's claim that foundational knowledge is required to enable students to perform well in subsequent grades. Such knowledge enables them to link, interrelate, and apply their basic knowledge to the current situation, which is constructivist learning.

The findings further revealed that some students were having language problems and could therefore not understand the questions. They also found it difficult to answer questions and this resulted in their inability to use critical-thinking skills. Nursing education is aimed at producing nurses who are creative, self-directed critical thinkers, able to make appropriate decisions and solve clinical problems. As such, when students' educational foundation is inadequate, it will be difficult to achieve such a goal.

Moreover, the study by Martirosyan et al (2015:67) showed that there is indeed a relationship between English language proficiency and academic performance.

The quantitative findings (76.7%) also confirmed that students' knowledge was deficient and most (77.3%) lacked practical skills which affected their readiness for the post-basic course. Therefore, they were unable to express themselves when answering questions in class. This finding was also supported by Fomunyam (2019:1), who indicates that students' preparedness for higher education is seen as one of the main factors affecting first-year attrition or study success. Kearney and Garfield (2019:7) similarly highlight that students' readiness to learn directly correlates with actual learning. It is evident from this study, that academic readiness is a predictor of success.

•

7.3.2 Objective 2: To explore the experiences of post-basic nurse educators' regarding students' performance in IMS and ND

With regard to the above objective, the majority of participants indicated that some students lacked interest and commitment and were also not motivated to pursue the course after they failed a test or examination; they found the course content not relevant for their speciality. In support of the above findings, Otoo et al (2018:1) assert that a lack of interest is reflected by students' neglect for their studies. Therefore, the researcher concludes that educational interest is characterised by an attraction to particular subject content and the investment of time and effort on a specific activity.

The participants further claimed that part of the course content was relevant to some students, especially the critical care and trauma students, while it was not applicable in practice for theatre and orthopaedic students.

The findings are in line with Arens et al's (2015:20) claim that motivation is a predictor of academic performance because when students see little value in the course content in relation to their concerns or goals, they may not be motivated to expend effort on it.

The quantitative findings also confirmed that some students had a negative attitude towards IMS, with a factor loading of (= 0.533). As such, this influenced their assertiveness and self-efficacy. This was also attributed to the fact that they found the subject content not relevant to their everyday use and real-life situations. Alfuraikh et al (2017:186) similarly showed that negative attitudes towards a course can impact the sum of attempts one is prepared to go through in acquiring knowledge or skills in that subject.

- The students' negative attitude further influenced their relationship with the nurse educators and when they were struggling, they failed to approach the nurse educators for assistance.

Omemu (2018:180) pointed out that a positive interpersonal relationship and optimal learning opportunities increase students' achievement levels. Therefore, the researcher pronounces that an educational setting should display an emotional contagion where students and teachers become equal partners in determining what is to be learnt. This is in line with the findings by Varga (2017:26), which indicate that building and maintaining positive relationships between teachers and students will improve student engagement and motivation during class.

The study findings further revealed that the duration of the course was too short and the workload was too much. The students were not coping with the work demands, and this affected their performance. The quantitative results also showed that the students were frustrated by the vast amount of information with which they were overloaded, influencing their performance (loading = 0.681). The researcher is of the opinion that the duration of the course, its relevance, and workload have an influence on students' performance and motivation.

7.3.3 Objective 3: Views of post-basic students regarding the CNS course

In addressing the above objective, the responses from the quantitative phase showed that 64.9% of the responses indicated that students were distressed and frustrated by the workload and had minimum enthusiasm for the course; this influenced their assertiveness. This concurs with the qualitative results which showed that the duration of the course was short and students could not cope with the workload.

- This implies that the course duration has an impact on students' performance. The study by Abou El-Soud et al (2017:100) revealed that when there are too many demands on students' time, their academic performance is influenced negatively.

7.3.4 Objective 4: Challenges faced by post-basic students in the IMS and ND modules

The quantitative findings revealed that there was a gap in the integration of theory into practice, which accounted for 72.8% under educators' competencies. This indicates that there was gap whereby part of the content cannot be integrated into practice by some of the students especially theatre and orthopaedic as also indicated by participants. The quantitative responses also reflect that procedures taught were partly in conflict with the real situations in the ward (82.6%). Conversely, 68.6% of the respondents stated that students were assigned basic tasks in the clinical unit rather than speciality related activities. The findings were supported by the study conducted by Magobolo and Dube (2019:3), where it was reported that students absent themselves from the clinical areas because of work overload, which was part of non-performance.

Another factor that accounted for poor academic performance was that educators had limited knowledge to adequately answer questions (loading = 0.643), and the teaching strategies were marginally useful (loading = 0.606). This concurs with the qualitative findings which showed teaching strategies were ineffective.

These findings corroborate Leepo's (2018:75) assertion that teaching strategy has a powerful influence on academic performance. Okwuduba and Okigbo (2018:430) also state that a combination of different teaching strategies is more effective than using one in order to enhance students' performance. The researcher therefore asserts that it is important to know how students learn, what strategies best fit the classroom, and how to apply the theoretical content to a learning environment.

-

Apart from teaching strategy, the results further revealed that the preceptorship programme was not effective, and this had an influence of students' performance.

From this study, it is evident that preceptorship programme plays a vital role in students' clinical performance as it serves as a source of support for nursing students and bridges the theory-practice gap. The same view is confirmed in the study by Phuma-Ngaiyaye et al (2017:168), claiming that preceptors play an important role in creating a positive clinical learning environment to ensure that the nursing students' learning outcomes are achieved.

In addition to the ineffective preceptorship programme, the findings further showed that clinical accompaniment is insufficient as a result of multiple responsibilities on the side of nurse educators. The findings also reflected that due to a shortage of staff in the clinical unit, preceptors are unable to execute their duties in meeting the learning objectives set for clinical practice.

Clinical practice is part of student nurses' learning process, whereby students are expected to integrate theory with practice and it also promotes interprofessional and problem-based learning. The study by Muthathi et al (2017:6) indicates that students emphasised the importance of active involvement by nurse educators in clinical teaching during their clinical practicum as a means of support to them. Therefore, it is necessary for nurse educators and clinical accompanists to work together to help students achieve their clinical learning outcomes.

It was also found that there is a lack of management support for students. From the quantitative phase, it was illustrated that 66.2% of the respondents felt the college principal slightly provided individualised and encouraging support to students, 76.7% reported that the college climate did not provide a sense of ownership for students and was only partly welcoming of ideas and proposals.

- Maditjani (2018:41) also emphasised that a lack of management support acts as an obstacle in practice learning and was expressed as a factor that hinders the clinical accompaniment of student nurses. This calls for management intervention in order to improve students' academic performance.

7.4 CONCLUSIONS

This chapter concluded the study with a short description of the research methodology, summary of the findings, limitations of the study and stating recommendations based on the developed strategies for practice and further research as outlined below.

7.5 RECOMMENDATIONS

The following recommendations are proposed based on the research findings and in reference to the developed strategies for improvement of academic performance.

7.5.1 Difficulty in understanding the learning material

Recommendation 1: Analyse students' prior knowledge and experience

7.5.2 Students' lack of interest and commitment

Recommendation 2: Curriculum assessment and revision of IMS modules

7.5.3 Students' failure maintain a working relationship

Recommendation 3: Establish a collaborative and respectful working relationship

-

7.5.4 Ineffective teaching strategy

Recommendation 4: Develop effective teaching strategies that meet all students' needs

7.5.5 Ineffective clinical accompaniment and preceptorship programme

Recommendation 5: Develop effective clinical supervision and support programmes for students

7.6 CONTRIBUTIONS OF THE STUDY

7.6.1 Basic training of student nurses

- The study has shown that there is a need to intensify the teaching and learning of biological sciences, especially anatomy and physiology, so that when students enrol for post-basic courses, they will not struggle.
- The study has also shown that students need to improve their language proficiency while still undergoing basic education, since English is a medium of instruction in nursing colleges or institutions.

-

7.6.2 Nursing education as a department

- The current study has demonstrated that there is a need to adopt a heterogeneous curriculum that will be relevant to each speciality rather than being homogenous and disadvantaging some students.
- The study further contributed to the notion of revisiting educational policies that regulate training, especially with regard to the period stipulated for the clinical course based on the course content.

7.6.3 Educational institutions and nursing colleges

- The study showed that there is a need for student communities, as this will help students to share ideas and be able to interchange their learning experience interprovincially.

7.6.4 Nursing profession

- This study will contribute significantly to the nursing profession at large by producing nurse specialists who will render quality patient care in the absence of doctors.

7.6.5 The community

- The recommended strategies will improve the academic performance of post-basic students and increase their pass rate, thus overcoming specialist nursing shortages and reducing mortality rates.

7.7 LIMITATIONS OF THE STUDY

As much as the researcher intended to use the multi-method approach, which covers both quantitative and qualitative approaches in a complementary manner,

- the plan did not work out since access to students' results in some nursing colleges were denied for confidentiality and ethical reasons.

Other institutions were not welcoming, and this limited some of the information that could have enriched the study. In one nursing college, the orthopaedic programme was on hold for the period that the study covered due to circumstances beyond the nursing college's control; the sampling thus had to change from quota to proportional cluster sampling in order to overcome the problem of a lack of representativeness.

Lastly, the study was conducted in public nursing colleges and generalisation cannot be confirmed in relation to private nursing colleges. Therefore, future research is necessary in order to determine what strategies are employed in the private sector so that the results may be generalised on a larger scale.

7.8 CONCLUDING REMARKS

This chapter concluded the study with a brief summary of the research methodology used to address the objectives, outline of the findings, strategies developed for improvement of performance, recommendations made, limitations and contributions of the study. There is a need for evaluation of the developed strategies so that further research can be done to ensure generalisation to a broader community.

The findings of this study will be disseminated by means of presentation at seminars and conferences both locally and internationally. The research article will be published in the approved journal so that research findings are made known. Moreover, copies of completed dissertation will be sent to relevant institutions for implementation.

LIST OF REFERENCES

Abbasi, M, Kalhori, RP, Taheri, L, Heidari, S & Dehgani, H. 2015. Factors affecting academic failure in nursing students of Qom University of Medical Sciences: A qualitative study. *Educational Research for Med Sciences* 4(2):38-44.

Abou El-Soud, FA, AlKharasi, WG, Alfaouri, AA & Al-enzi, ES. 2017. Reflections of Nursing Students' Perceptions Toward Factors Influencing Their Academic Performance. *Journal of Education and Practice* 8(26):96-107.

Agholor, AI. 2019. A review of extension self-efficacy: bases, features, goal realisation and implications for extension *South African Journal of Agriculture. Ext.* 47(2):140149.

Alami, M. 2016. Causes of Poor Academic Performance among Omani Students. *International Journal of Social Science Research* 4(1):126-136.

Albrecht, JR & Karabenick, SA. 2017. Relevance for Learning and Motivation in Education. *The journal of experimental education* 86(1):1-10.

Alfuraikh, SS, Al Omairi, BE & Ganapathy, T. 2017. A Cross-sectional Survey on Nursing Students' Attitude towards Research. *J Health Spec* (5):185-91.

Alharbi, MF & Yakout, SM. 2018. English language proficiency and academic performance of nursing students speaking English as a second language. *Nursing in the 21st Century (Pielegniarstwo XXI wieku)* 17(4):5-11.

Alimohamadi, Y & Sepandi, M. 2019. Considering the design effect in cluster sampling. *Journal of Cardiovasc Thorac Res.* 11(1):78.

•

Almpanis, T. 2016. Using a Mixed Methods Research Design in a study investigating the Heads' of e-learning perspective towards technology enhanced learning. *The Electronic Journal of e-Learning* 14(5):301-311.

Alos, SB, Caranto, LC & David, JJT. 2015. Factors Affecting the Academic Performance of the Student Nurses of BSU. *International Journal of Nursing Science* 5(2):60-65.

Alsadoon, E. 2018. The Impact of Social Presence on Learners' Satisfaction in Mobile Learning. *The Turkish Online Journal of Educational Technology* 17(1):226-233.

Alshammari, F, Saguban, R, Pasay-an, E, Altheban, A & Al-Shammari, L. 2018. Factors affecting the academic performance of student nurses: Across-sectional study. *Journal of Nursing Education and Practice* 8(1):60-68.

Alvi, MH. 2016. *A Manual for Selecting Sampling Techniques in Research*. Munich Personal RePEc Archive. Online at <https://mpra.ub.unimuenchen.de/70218/>. Accessed 12 June 2019.

American International University (AIU) of West Africa Health Science Center at the Gambia College of Nursing Part ii. *Curriculum*. <http://www.aiu.edu.gm>. Accessed 05 November 2020.

Amicone, KF & Miller, R. 2015. "Assertiveness in Nursing Students". *Honours Research Projects*.

Amsrud, KE, Lyberg, A. & Severinsson, E. 2015. The influence of clinical supervision and its potential for enhancing patient safety—Undergraduate Nursing Students' views. *Journal of Nursing Education and Practice* (5):87-95.

•

Anderson, T & Dron, J. 2011. Three Generations of Distance Education Pedagogy. *International Review of Research in Open and Distance Learning* 12(3):80-97.

Arbabisarjou, A, Zare, S, Ghoreishinia, G & Shahrakipour, M. 2016. Emotional intelligence (EI) among students of School of Nursing and Midwifery, Zahedan in 2016. *Arch. Appl. Sci. Res* 8(4):50-53.

Arens, AK, Morin, AJS & Waterman, R. 2015. Relations between classroom disciplinary problems and student motivation: Achievement as a potential mediator? *Learning and Instruction*. (39):184-193.

Armstrong, SJ, Geyer, N & Bell, CA. 2019. Capacity of South African nursing education institutions to meet healthcare demands: A looming disaster? *International Journal of Africa Nursing Sciences* (10):92-101.

Atoum, AY & Al-Momani, A. 2018. Perceived Self-Efficacy and Academic Achievement among Jordanian Students. *Trends Tech Sci Res* 3(1):1-6.

Azizi-Fini, I, Hajibagheri, A & Adib-Hajbagheri, M. 2015. Critical thinking skills in nursing students: a comparison between Freshmen and Senior Students. *Nurse Midwifery Study*. 2015; 4(1): e25721.

Babbie, ER. 2016. *The practice of social research*. 14th edition. South Africa edition. Oxford Press: Cape Town.

Bandura, A. 1977. *Social Learning Theory*. Englewood Cliffs, N.J.: Prentice-Hall.

Bandura, A. 1986. *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

•

Bandura, A. 1994. Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behaviour* (4):71-81. New York: Academic Press.

Bandura, A. 1999. A social cognitive theory of personality. In L. Pervin & O. John (Ed.), *Handbook of personality* (2nd ed., pp. 154-196). New York.

Bartlett, MS. 1951. The effect of standardization on a χ^2 approximation in factor analysis. *Biometrika* 38(3/4):337–344.

Becker, E. 2017. *Nurse shortage worsened by alarming bureaucratic bungling*.
[https:// wwwmoneyweb.co.za/news/industry/alarming-beauracratic-bungling](https://www.moneyweb.co.za/news/industry/alarming-bureaucratic-bungling).
Accessed 22 June 2018.

Bengtsson, M & Carlson E. 2015. Knowledge and skills needed to improve as preceptor: development of a continuous professional development course – a qualitative study part I. *BMC Nursing* 14:51.

Bitar S. 2016. Critical care nursing curriculum manual. Intrahealth and Juzoor.

Boeding, LA. 2016. Academic performance in compressed courses: A phenomenological study of community college student success. *Doctoral thesis*.

Botma, Y, Greeff, M, Mulaudzi, FM & Wright, SCD. 2015. *Research in health sciences*. Cape Town: Pearson Education.

Brachman, G. 2019. Global Shortage of Health Workers: *11th Joint Conference on Occupational Health for Health Workers*. 22-24 October 2019. Hamburg, Germany. www.ohhw2019.com.

•

Braungart, MM, Braungart, RG & Gramet, PR. 2007. *Applying Learning Theories to Healthcare Practice*. Jones & Bartlett.

Brink, H, van der Walt, C & van Rensburg, G. 2018. *Fundamentals of research methodology for health care*. 4th edition. Cape Town: Juta.

Brouwn, LJ, Mallouff, JM & Schutte NS. 2013. Self-efficacy theory. *Thesis*.

Browne, W & Cudeck, R. 1993. *Alternative Ways of Assessing Model Fit*. In K. A. Bollen, & J. S. Long (Eds.), *Testing Structural Equation Models* (pp. 136-192). Newbury Park, CA: Sage.

Carman, CA & Bartsch, RA. 2017. Relationship Between Course Length and Graduate Student Outcome Measures. *Teaching of Psychology* 44(4):349-352.

Chan, LL & Idris, N. 2017. "Cooperative Learning in Mathematics Education," *International Journal of Academic Research in Business and Social Sciences*, Human Resource Management Academic Research Society. *International Journal of Academic Research in Business and Social Sciences* 7(3):539-553.

Chidiebere, NJ Ilo, CI, Agbapuonwu, NE & Nwankwo, UC. Perception of Student Nurses on Variables Influencing Academic Achievement in Nnamdi Azikiwe University, Anambra State Nigeria. *American Journal of Nursing Science* 5(6):258265.

Ciapparelli, P. Medical brief. Africa medical media digest: Tygerberg Hospital plea for more specialised nurses. <https://www.medicalbrief.co.za>. Accessed 24 April 2020.

Coetzee, CMK. 2019. A workload model for nurse educators in private higher education: options for improved productivity and job satisfaction. *Doctoral thesis*.

•

Colthorpe, KL, Abe & Ainscough, L. 2018. How do students deal with difficult physiological knowledge? *Advances in Physiology Education* (42):555–564.

Cooke, D, Cameron, P Moseley-Williams, B, Vanstone, A, Lessard, L & Wright, A. 2000. Education improvement Commission. *School improvement planning handbook for principals, teachers and school council*.

Creswell, JW & Creswell, JD. 2018. *Research design. Qualitative, Quantitative and Mixed method approaches*. 5th edition. Sage.

Creswell, JW & Poth, CN. 2018. *Qualitative enquiry and research design. Choosing among five approaches*. 4th edition. Sage.

Christmals, CD & Amrstrong, SJ. 2019. The essence, opportunities and threats to Advanced Practice Nursing in Sub-Saharan Africa: *A scoping review*. *Heliyon* 5(10):1-21.

Crouch, SJ. 2015. Predicting Success in Nursing Programs. *Journal of College Teaching & Learning - First Quarter* 12(1):45-54.

Cronbach's LJ. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3):297-334.

Daller, M & Wang, Y. 2017. Predicting success in international students. *Applied Linguistics Review* 8(4):355-374.

David, ES. 2016. The significance of social learning theories in the teaching of social studies education. *International Journal of Sociology and Anthropology Research* 2(1):40-45.

- Department of Education Papua New Guinea. *Guidelines for school learning improvement plan*. 2006.1-13.
- Dhanpal, HNA & Paul, A. 2015. Effectiveness of Assertive Training Programme on Relieving the Academic Stress and Anxiety. *International Journal of Nursing Critical Care* 1(1):26-29.
- Dhaqane, MK. 2016. Satisfaction of Students and Academic Performance in Benadir University. *Journal of Education and Practice* 7(24):59-63.
- Dube, MB & Mlotshwa, PR. 2018. 'Factors influencing enrolled nursing students' academic performance at a selected private nursing education institution in KwaZuluNatal', *Curationis* 41(1).
A1850<https://doi.org/10.4102/curationis.v41i1.1850>.
- Dyar, A, Lachmann, H, Stenfors, T & Kiessling, A. 2019. The learning environment on a student ward: an observational study. *Perspect Med Educ* 8(5):276-283.
- Ehrlick, SP & Slotta, J. 2018. A learning community approach for post –secondary large lecture courses. *Frontiers education* 3(73):1-13.
- Elliott, V. 2018. Thinking about the Coding Process in Qualitative Data Analysis: *The Qualitative Report* 23(11):2850-2861.
- Elsabagh, EEM & Elhefnawy, KAH. 2017. Factors affecting the academic performance among female students. *International journal of current research* 9(2):46914-46920.
- El-Sayed, ASZ. 2015. The impact of cooperative learning in teaching communication skills for psychiatric nursing students: International Conference

- on Research in Education and Science ICRES. *The Eurasia Proceedings of Educational & Social Sciences (EPESS)* 3: 74-77.

Esteves, LSF, Cunha, ICK, Bohomol, E & Santos, MR. 2019. Clinical supervision and preceptorship/tutorship: contributions to the Supervised Curricular Internship in Nursing Education. *Rev Bras Enferm* 72(6):1730-1735.

Fajar, S, Hussain, M, Sarwar H, Afzal, M & Gilani, SA. 2019. Factors Affecting Academic Performance of Undergraduate Nursing Students. *International journal of social sciences and management* 6(1):7-16.

Feller, F. 2018. Transforming Nursing Education: A Call for a Conceptual Approach. *Nursing Education Perspective* 39(2):105-106.

Fomunyam, KG. 2019. Students and Institutional preparedness for educational encounters: Views of the margin. *Education system around the world*. doi: 10.5772/intechopen.82148.

Fuey, GS & Idris, N. 2017. Assessing the Validity of the Elements for Pre-Service Mathematics Teacher Education Curriculum. *International Journal of Academic Research in Business and Social Sciences* 7(12):284-295.

Gafoor, KA & Kurukkan, A. 2015. *Learner and Teacher perception on Difficulties in Learning and Teaching Mathematics: Some Implications*. Paper presented in National Conference on Mathematics Teaching- Approaches and Challenges Sub-Theme: Challenges in inculcating mathematization abilities among learners on 21st and 22nd December 2015 .Regional Institute of Education, Mysuru, Karnataka, India.

- Gemuhay, HM, Kalolo, A, Mirisho, R, Chipwaza, B & Nyangena, E. 2019. Factors Affecting Performance in Clinical Practice among Preservice Diploma Nursing Students in Northern Tanzania. *Nursing Research and Practice*. <https://doi.org/10.1155/2019/3453085>. Accessed 17 June 2019.
- George, LS, Lakra, AJ & Kamath A. 2017. Factors Affecting Learning Among Undergraduate Nursing Students: Cross-Sectional Survey. *Journal of Clinical and Diagnostic Research* 11(11):1-4.
- Geyer, N. 2016. A universal truth: Are we heading for no health care? *Professional Nurses Today* 20(4):23-26.
- Gibolie, C & Keamu, HP. 2017. Student Academic Performance: The Role of Motivation, Strategies, and Perceived Factors Hindering Liberian Junior and Senior High School Students Learning. *Educational Research International*. <https://doi.org/101155/2017/1789084>. Accessed 15 October 2018.
- Gibson, S. 2016. Theoretical framework. *Doctoral thesis*.
- Goldman, ZW & Martin, MM. 2016. Millennial students in the college classroom: adjusting to academic entitlement. *Communication Education* 65:365-367.
- Goodare, P. 2016. Literature review: Why do we continue to lose our nurses? Scholarly paper. *Australian Journal of Advanced Nursing* 34 (4):50-56).
- Gray, JR, Grove, SK & Sutherland, S. 2017. *The practice of Nursing Research. Appraisal, synthesis and Generation of evidence*. 8th edition. Elsevier.
- Grove, SK, Gray, JR & Burns, N. 2015. *Understanding Nursing Research. Building an evidence -Based Practice*. 6th edition Saunders. Elsevier.

•

Gyasi, RS, Xi, WB & Owusu-Ampomah, Y. 2016. The Effect of Leadership Styles on Learners' Performance. The Case of Asonomaso Nkwanta in the Kwabre District Assembly of Ashanti Region in Ghana. *Journal of Education and Practice* 7(29):8-17.

Habimana, A, Tuyizere, M & Uwajeneza, P. 2016. Clinical supervision of nursing students: challenges and alternatives. *Rwanda Journal Series F: Medicine and Health Sciences* 3(1):42-43.

Hajihosseini, F, Tafreshi, MZ, Hosseini, M & Baghestani, AZ. 2019. Teachers' and postgraduate nursing students' experience of the educational environment in Iran: A qualitative Research. *Electronic physician* 9(8):5049-5060.

Hamby, S. 2018. *Know Thyself: How to Write a Reflexivity Statement*. <https://www.psychologytoday.com/us/experts/sherry-hamby>. Accessed 3 April 2020.

Harinie, LT, Sudiro, A, Rahayu, M & Fatchan, A. 2017. *Study of the Bandura's Social Cognitive Learning Theory for the Entrepreneurship Learning Process* *Social Sciences* 6(1):1-6.

Hassel, S & Ridout, N. 2018. An Investigation of First-Year Students' and Lecturers' Expectations of University Education. *Frontiers in Psychology* 8. Available from: <https://doi.org/10.3389/fpsyg.2017.02218>.

Hati, GM & Afriazi, R. 2017. Active Learning as a Key to Students' Success: *An Overview from Students and Lecturers' Perception*. *Advances in Social Science, Education and Humanities Research (ASSEHR)* 158. International Conference on Teacher Training and Education 2017 (ICTTE 2017)

- Hattie, J. 2015. *What works best in education: The politics of collaborative Expertise*, London: Pearson.
- Havenga, Y & Sengane, ML. 2018. Challenges experienced by postgraduate nursing students at a South African university. *Health SA. Gesondheid* 23.
- Hayat, AA, Shateri, K, Amini, M & Shokrpour, N. 2020. Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: a structural equation model. *BMC Medical Education* 20(76):1-11.
- Hein, GE. 1991. Constructivist Learning Theory. *International Committee of Museum Educators Conference paper*.<https://www.exploratorium.edcation/ifi/constructivist-learning>. Accessed 12 April 2020.
- Hornby, SA. 2015. *Oxford Advanced Learner's Dictionary* 2015: International student's 9th edition.
- Hu, L & Bentler, PM. 1999. Cutoff criteria for fit indexes in covariance structure analysis. Conventional versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal* (6):1-5.
- Huguet, BCS. 2017. Effective leadership can positively impact school performance. *On the Horizon* 25(2):96-102.
- Hulleman, CS, Kosovich, JJ, Barron, KE & Daniel, DB. 2016. Making connections: Replicating and extending the utility value intervention in the classroom. *Journal of Educational Psychology*, 109(3):387-404.

•

Hwoon Ng, LC. 2016. Exploring registered nurses' attitudes to postgraduate education for specialty practice in Australia. Post graduate certificate Nursing Science (Intensive Care), Graduate Certificate in Nursing (Neonatal Intensive Care Nursing). *Doctoral thesis*.

Ilyas, U, Afzal, M, Parveen, K & Gilani, SA. 2018. Assertive Behavior of Nurses and Head nurses in Government Hospital Lahore, Pakistan. *Int. J. Grad. Res. Rev* 4(3):77-87.

International Council of Nurses. *Guidelines on advanced Practice nursing 2020*. ISBN: 978-92-95099-71-5.

Inayati, R, Handayani, S, Kustiandi, J, Haryono, A & Sapir, HW. 2018. The Analysis of the Difficulty in Learning Economics Subject Experienced by Students of Favoured State Senior High Schools in City of Malang. *KnE Social Sciences* 3(3):195-210.

Jais, J & Naidu, P. 2017. Determinants of Effective Teaching: A Focus-Group Study. *Conference Paper*. 2016 IEEE International Conference on Teaching and Learning in Education (ICTLE '16)At: Kuala Lumpur, Malaysia.
https://www.researchgate.net/publication/316827530_Determinants_of_Effective_Teaching_A_Focus-Group_Study. Accessed 05 April 2020.

James, W. 2016. Nursing shortage is compromising South African healthcare: *Medical Brief*: <https://www.medicalbriefco.za/.../nursing-shortage-compromising-sashealthcare>: Politicsweb. Accessed 22 June 2018.

Jamshidi, N, Molazem, Z, Sharif, F, Torabizadeh, C & Kalyani, NM. 2016. The Challenges of Nursing Students in the Clinical Learning Environment: A Qualitative Study. *The Scientific World Journal*. ID 1846178.<http://dx.doi.org/10.1155/2016/1846178>.

•
Jiang, L, Zhang, LJ & May, S. 2019. Implementing English medium instruction (EMI) in China: teachers' practices and perceptions, and students' learning motivation and needs. *International Journal of Bilingual Education and Bilingualism*, 22(2):107-119.

Kamel, OM. 2018. Academic overload, self-efficacy and perceived social support as predictors of academic adjustment among first year university students. *International Journal of Psycho-Educational Sciences* 7(1):88-93.

Kamphinda, S. & Chilemba, EB. 2019. Clinical supervision and support: Perspectives of undergraduate nursing students on their clinical learning environment in Malawi. *Curationis* 42(1). a1812. <https://doi.org/10.4102/curationis.v42i1.1812>. Accessed 12 August 2019.

Kaphagawani, NC & Useh, U. 2018. Clinical Supervision and Support: Exploring PreRegistration Nursing Students' Clinical Practice in Malawi. *Annals of Global Health* 84(1):100-109.

Karakoç. M. 2016. The Significance of Critical Thinking Ability in terms of Education. *International Journal of Humanities and Social Science* 6(7):81- 84.

Katamei, JM & Omwono, GA. 2015. Intervention Strategies to Improve Students 'Academic Performance in Public Secondary Schools in Arid and Semi-Arid Lands in Kenya. *International Journal of Social Science Studies* 3(4):107-120.

Kayisoglu, NB. 2015. Validity and reliability studies for Scale of Evaluating Physical Education Teachers Based on Student Ratings (SEPETBSR). *Journal of Physical Education and Sport Management* 6(8):60-69.

•

Kearney, WS & Garfield, T. 2019. Student Readiness to Learn and Teacher Effectiveness: Two Key Factors in Middle Grades Mathematics Achievement. *RMLE Online* 42(5):1-12.

Kember, D, Ho, A & Hong, C. 2016. The importance of establishing relevance in motivating student learning. *Active learning in higher education* 9(3):249-263.

Kenny, DA, Kaniskan, B & McCoach, DB. 2015. The Performance of Root Mean Squared Error of Approximation (RMSEA) in Models with Small Degrees of Freedom. *Sociological Methods & Research* 44(3):486-507.

Khaira, R. 2016. Characteristics, Engagement and Academic Performance of First Year Nursing Students in Selected Ontario Universities. *Doctoral thesis*.

Khoza, LB. 2015. Nursing Students' Perception of Clinical Learning Experiences. *Journal of Human Ecology* 51(1, 2):103-110.

Kilpatrick, S, Barrett, M & Jones, T. 2003. Defining Learning Communities. *Conference paper*. Retrieved 1 March 2019, from www.aare.edu.au/03pap/jon03441.

Kujan, O, Hasan, RA, Nasog, M, Badawi, T, Hanouneh, S & Nassani, MZ. 2015. Assessing Learning Barriers among Dental and Nursing Undergraduates: A Qualitative Study, Students' Perspective. *OHDM* 14(5):1-6.

Kurataa, YB, Banob, RML & Matias, AC. 2015 Effects of workload on academic performance among working students in an undergraduate engineering program. *Procedia Manufacturing* (3):3360-3367. 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015.

- Lala, SG, Lala, N & Dangor, Z. 2017. The nursing crisis in paediatrics in South African state hospitals - an unaddressed problem. *South African Journal of Child Health* 11(2):64-65.
- Leedy, PD & Ormrod, JE. 2015. *Practical research: planning and design*. 11th edition. Pearson Educational limited.
- Leepo, SR. 2015. Strategies to deal with academic underperformance in grade 12 in the free state. *Masters' dissertation*.
- Limpopo College of Nursing 2017. Examination statistical analysis 2012- 2016
- Lincoln, YS, Lynham, SA & Guba, EG. 2011. *Paradigmatic controversies, contradictions, and emerging confluences*. In NK Denzin & YS Lincoln (Eds.), *The SAGE handbook of qualitative research* (4th ed.). Thousand Oaks, CA: Sage.
- Louis, KS. 2015. Linking leadership to learning: state, district and local effects. *Nordic Journal of Studies in Educational Policy*. doi: 10.3402/nstep.v1.30321
- Loughman, J, Shah, K, Naidoo, K & Bilotto, L. 2015. Factors affecting the academic performance of optometry students in Mozambique. *Optometry & Vision Science* 9(6):719-729.
- Maditjani, DC. 2018. The perceptions of registered nurses in clinical settings with regards to their role in student clinical accompaniment. *Masters dissertation*.
- Maeda, J. 2017. Self-Efficacy Reduces Impediments to Classroom Discussion for International Students: Fear, Embarrassment, Social Isolation, Judgment, and Discrimination. *IAFOR Journal of Education* 5(2):141-159.

- Magobolo, GN & Dube, BM. 2019. Factors influencing high absenteeism rate of student nurses in clinical areas at a nursing college in the Lejweleputswa District. *Curationis* 42(1) a1985. Retrieved from: <https://doi.org/10.4102/curationis.v42i1.1985>
- Makgoba, NA. 2015. Selection criteria: a factor associated with academic performance of student nurses at a public nursing college. *Masters dissertation*.
- Masenga, HH. 2015. Assessment of the factors influencing low academic performance in final nursing examinations: a case of certificate and diploma programmes in Eastern zone, Tanzania. *Masters dissertation*.
- Martirosyan, NM, Hwang, E & Wanjohi, R. 2015. Impact of English Proficiency on Academic Performance of International Students. *Journal of International Students*, 5(1):60-71.
- McDonnell, A, Goodwin, E & Kennedy, FR. 2015. An evaluation of the implementation of Advanced Nurse Practitioner (ANP) roles in an acute hospital setting. *Journal of Advanced Nursing* 71(4):789 -799.
- McLeod, S. 2019. Constructivism as a theory for teaching and learning. Simply psychology.
- Macleod, SA. 2016. Bandura social learning theory <http://www.simplypsychology.org/bandurahtml>. Accessed 16. May 2020.
- Meera, KP & Jumana, M. 2015. Self-efficacy and academic performance in English. *Original scientific paper*. 25-30.UDK: 371.212.5 doi: 10.17810/2015.13.
- Merriam, SB. 2017. Adult Learning Theory: Evolution and Future Directions *PAACE Journal of Lifelong Learning* 26:21-37.

- Merkine, B, Bisa, Y & Ayele, A. 2019. The Relationship between Student-Teachers Interaction and Academic Achievement of Trainee Teachers in Dilla College of Teacher Education. *Global Journal of human-social science: Arts & Humanities – Psychology* 19(3):35-48.
- Mhlongo, X. 2018. Factors contributing to failure of student nurses in biological nursing sciences: Kwazulu-Natal college of nursing. *Masters dissertation*.
- Mieder, KN. 2018. The Effects of a Self-Regulated Learning Music Practice Strategy Curriculum on Music Performance, Self-Regulation, Self-Efficacy, and Cognition. *Graduate Theses and Dissertations*.
- Miljiko, L 2017. The Statistical Agency. <https://www.statical.agency/index.php/potfolio/303-exploratosy-factor-analysis-kmo-barllett-s-test>. Accessed 23 April 2020.
- Mohojan HK. 2017. Aspects of Mathematical Economics, Social Choice and Game Theory. *Doctoral thesis*.
- Monnapula-Mapesela, M. Students' perception of own preparedness for higher education: Case Study. *International Journal of Educational Sciences*.2015;9 (2):255-26.
- Moule, P & Goodman, M. 2014. *Nursing research: An introduction*. 2nd edition SAGE.
- Mothokoa, N. 2015. 'The experiences of recognition of prior learning nursing candidates related to a four-year comprehensive nursing training programme at a nursing education institution in Gauteng', *Unpublished MA dissertation*, University of South Africa, Pretoria.

- Mthimunye, KDT, Daniels, FM & Pedro, A. 2018. Predictors of academic performance academic performance among second-year nursing students at a university in the Western Cape. *South African Journal of Higher Education* 32(1):92-215.

Mthimunye, KDT & Daniels, FM. 2019. Predictors of academic performance, success and retention amongst undergraduate nursing students: a systematic review. *South African Journal of Higher Education* 33(1):200-220.

Mukhalalati, BA & Taylor, A. 2019. Adult Learning Theories in Context: A Quick Guide for Healthcare Professional Educators. *Journal of Medical Education and Curricular Development* 6:1-10.

Muller, M & Pera, B. 2016. *Nursing dynamics* 5th edition. Pearson. South Africa.

Muthathi, IS, Thurling, CH & Armstrong, SJ. 2017. Through the eyes of the student: Best practices in clinical facilitation. *Curationis* 40(1). a1787. <https://doi.org/10.4102/curationis.v40i1.1787>. Accessed 20 April 2020.

National Department of Health. Human Resources for Health South Africa: HRH Strategy for the Health Sector: 2012/13–2016/17. Pretoria: National Department of Health; 2011.

Ndikwetepo, MN. 2018. The experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia. *Masters dissertation*.

Ngwira, FF, Gu, C, Mapoma, HWT & Kondowe, W. 2017. The role of academic emotion on medical and allied health students' motivated self-regulated learning strategies. *Journal of Contemporary Medical Education* 5(1):23-30.doi: 10.5455/jcme.20170412124640. Accessed 14 April 2020.

•

Ngulube, P, Mathipa, ER & Gumbo, MT. 2015. Theoretical and conceptual framework in the social sciences, in Mathipa, ER & Gumbo, MT. (eds). Addressing research challenges: Making headway in developing researchers. 43-66.

Nursing Act 33 of 2005. South Africa. Cape Town.

O'Brennan, LM, Bradshaw, CP & Furlong, MJ. 2014. Influence of Classroom and School Climate on Teacher Perceptions of Student Problem Behaviour. *School Mental Health* 6(2):125-136.

Okanga, AA, Ogur, JO & Arudo, J. 2017. Institutional Characteristics Influencing Bachelor of Science Nursing Student Performance in the Nursing Council of Kenya Licensure Examinations in Kenya. *Journal of Education and e - Learning Research* 4(1):28-36.

Okwuduba, E & Okigbo, EC. 2018. Effect of teaching methods on students' academic performance in chemistry in Nigeria: meta-analytic review. *Bulgarian Journal of Science and Education Policy*, 12(2):418-434.

Omemu, F. 2018. School Climate and Student Academic Achievement in Edo State Public Secondary Schools. *International Journal of Scientific Research in Education* 11(2):175-186.

Omodan, BI & Tsotetsi, CT. 2018. Student-Teacher Relationships as a Panacea for Students' Academic Performance in Nigeria Secondary Schools: An Attachment Perspective. *Journal of Social Studies Education Research* 9(4):82-101.

•

Otoo, D, Iddrisu, WA, Kessie, JA & Larbi, E. 2018. Structural Model of Students' Interest and Self-Motivation to Learning Mathematics. *Education Research International*. 2018. Retrieved from <https://doi.org/10.1155/2018/9417109>. Accessed 16 October 2020.

Oxford Dictionary of Nursing. 2016. Sv "context". 7th edition. Oxford University Press. Peixoto, TAM & Peixoto, NMM. 2017. Critical thinking of nursing students in clinical teaching: *An integrative review* 125-138.

Phuma-Ngaiyaye, ET, Bvumbwe, T & Chipeta, MC. 2017. Using preceptors to improve nursing students' clinical learning outcomes: A Malawian students' perspective, *International Journal of Nursing Sciences* 4(2):164-168.

Pinehas LN, Mulenga, E & Amadhila. 2017. Factors that hinder the academic performance of the nursing students who registered as first years in 2010 at the University of Namibia (UNAM), Oshakati Campus in Oshana, Namibia. *Journal of Nursing Education and Practice* 7(8):63-71.

Polit, DF & Beck, CT. 2018. *Nursing research: generating and assessing evidence for nursing practice*. 10th edition. Philadelphia: Lippincott Williams & Wilkins.

Pretorius, L, Amukugo, HJ, Van Dyk, A & Small, LF. 2016. Evaluation of an Educational Programme to Facilitate Critical Thinking of Student Nurses. *Open Access Library Journal* (3):2-24. e3064. Retrieved from: <http://dx.doi.org/10.4236/oalib.1103064>. Accessed 18 September 2020.

Prinsloo, CH, Rodgers, SC & Harvey, JC. 2018. The impact of language factors on learner achievement in Science. *South African Journal of Education* 38(1):1-14. Retrieved from:<https://doi.org/10.15700/saje.v38n1a1438>. Accessed 19 October 2020.

•

Pulido-Criollo, F, Cueto-Escobedo, J & Guillén-Ruiz, G. 2018. Stress in Nursing University Students and Mental Health. *Health and Academic Achievement*. Retrieved from :<http://dx.doi.org/105772/Intechopen72993>. Accessed 14 October 2020.

Pusey-Murray, A & Onyefulu, C. 2018. Nursing Students' Academic Performance in a Clinical Practice Course and Perceptions of Their Clinical Experience in Hospitals in Two Parishes in Jamaica. *International Journal of Nursing Science* 8(6):108-114.

Rajeswaran, L. 2016. Clinical Experiences of Nursing Students at a Selected Institute of Health Sciences in Botswana. *Health Science Journal* 10(6):1-6.

Rayens, W & Ellis, A. 2018. Creating a Student-Centered Learning Environment online. *Journal of Statistics Education* 26(2):92-102.

Rickard, G, Bramble, M, Maxwell, H, Einboden, R, Farrington, S, Say, R & Yeh, C. 2018. Exploring the first-year experience in a diverse population: Using participatory action research to explore strategies to support student transition into fast-track undergraduate degree programs. *Student Success* 9(4):41-51.

Rispel L, Bruce J. 2014/2015. A profession in peril? Revitalising nursing in South Africa. In: Padarath A, King J, English R, editors. *South African Health Review 2014/15*. Durban: Health Systems Trust; 2015. Retrieved from:<http://www.hst.org.za/publications/south-african-health-review-201415>. Accessed 20 October 2020.

Rodriguez, M, Mundy, M, Kupczynski, L & Challoo, L. 2018. Effects of teaching strategies on student success, persistence and perceptions of course evaluations. *Research in Higher Education Journal* (35):1-21. Retrieved from: <https://eric.ed.gov/?id=EJ1194444> Accessed 24 October 2020.

•

Roman, NV, Titus, S & Dison, A. 2016. Relationship between student preparedness, learning experiences and agency: Perspectives from a South African university. *African Journal of Health Professions Education* 8(1):30-32.

Saeedi M & Parvizy S. 2019. Strategies to promote academic motivation in nursing students: A qualitative study. *Journal of Education and Health Promotion* 8:86.

Saunders, M, Lewis, P. & Thornhill, A. 2016. *Research methods for business*. 6th edition. Harlow, England: Pearson Education Limited.

Schober, M. 2020. International Council of Nurses (ICN) guidelines on advanced practice nursing 2020.

Shirazi, F & Heidari, S. 2019. The Relationship Between Critical Thinking Skills and Learning Styles and Academic Achievement of Nursing Students. *The Journal of Nursing Research* 2(4):1-7.

Singapore Nursing Board 2016. Guidelines for curriculum accreditation/reaccreditation of post-registration advanced clinical education nursing programmes.

Singh, A & Mathuray, M.2017. The nursing profession in South Africa – Are nurses adequately informed about the law and their legal responsibilities when administering health care? 2018 *De Jure* 122-139. Retrieved from:<http://dx.doi.org/10.17159/2225-7160/2018/v51n1a8>. Accessed 27 June 2021.

Sitota, G. 2018. Assertiveness and Academic Achievement Motivation of Adolescent Students in Selected Secondary Schools of Harari Peoples Regional State, Ethiopia. *International Journal of Education & Literacy Studies*.

- Skill for care. 2019. Guide to improvement. www.skillsforcare.org.uk/membership. Accessed 28 September 2020.

Soliman, M & Alishaik, G. 2015. Readiness for Self-Directed learning among first year Saudi Medical students: A descriptive study. *Pak J Med Sci.* 31(4):799-802.

South African Nursing Council (SANC), 1975. *Regulations (R254) for the Course for the Diploma in Midwifery for Registration as a Midwife*. Pretoria: Government Printer.

SANC. 1984. Regulation relating to the scope of practice of persons who are registered or enrolled under the nursing act, 1978. Regulation R. 2598, in terms of the Nursing Act, 1978 (Act no 50, 1978, as amended). Pretoria: Government Printer.

SANC. 1985. Regulations (R425) relating to Approval of and the Minimum Requirements for the Education and Training of a Nurse (General, Psychiatry and Community) and Midwife leading to Registration. Pretoria: Government Printer.

SANC. 1993. Regulations (R212) relating to the Course in Clinical Nursing Science Leading to Registration of an Additional Qualification. Pretoria: Government Printer.

SANC. 1993. Regulations (R683) relating to the Minimum Requirements for a Bridging Course for Enrolled Nurses Leading to Registration as a General Nurse or a Psychiatric Nurse. Pretoria: Government Printer.

SANC. 2004. *Charter of Nursing Practice*. Pretoria: Government Printer.

SANC. 2014. Education and training of nursing and midwifery students: Competencies for a nurse educator. Pretoria: Government Printer.

•

Stacey, G, Pollock, K & Crawford, P. 2015. A case study exploring the experience of graduate entry nursing students when learning in practice. *Journal of Advanced Nursing* 71(9):2084-2095.

Steiger, JH. 2007. Understanding the limitations of global fit assessment in structural equation modeling. *Personality and Individual Differences* 42(5):893-898. Measures of Fit in Structural Equation Modeling:

Steinmayr, R, Weidinger, AF, Schwinger, M & Spinath, B. 2019. The Importance of Students' Motivation for Their Academic Achievement. *Frontiers in Psychology* | www.frontiersin.org. Accessed 17 April 2020.

Surajo, M & Umar, RT. 2019. Influence of course load and marital status on academic performance of business education students in North-West, Nigeria 3(2):149-153. *Thesis*.

Tajvidi, M & Hanjani, SM. 2019. The Relationship Between Critical Thinking and Clinical Competence in Nurses. *Strides Dev Med Educ. In Press*.

Tesfaye, T Abera, A, Balcha, F, Nemera, G & Belina, S. 2015. Assessment of Factors Affecting Performance of Nurses Working at Jimma University Specialized Hospital in Jimma Town, Oromia Region, South-West Ethiopia. *Journal of Nursing Care* 4(6):1-4.

Thenmozhi, P & Bharathy, BD. 2019. Relationship between the Level of Assertiveness and Academic Performance among Arts and Science College students. *Asian Journal of Nursing Education and Research* 9(3):293-296.

- Triastuti, N. 2016. The Relationship of Self-Directed Learning Readiness and Learning Motivation Towards Learning Achievement of First Year Medical Students. *Semantic scholar*.

Tyne, S. 2018. Critical Thinking and Clinical Judgment in Novice Registered Nurses Walden University. *Dissertations and Doctoral Studies*.

The United Kingdom Nursing labour market review 2017. Royal College of Nursing. <https://www.rcn/-media/royal-college-of...> Accessed 14 August 2020.

United States. Department of Health and Human Services, Health Resources and Services Administration, National Centre for Health Workforce Analysis.2017. *National and Regional Supply and Demand Projections of the Nursing Workforce: 2014-2030*. Rockville, Maryland.

University of Namibia Prospectus for School of nursing 2019. *Operating theatre nurse*. https://www.unam.edu.na/sites/default/files/newsletter/scool_of_nursing_prospectus_2019.pdf

Verešová, M & Malá, D.2016. Attitude toward School and Learning and Academic Achievement of Adolescents. *International conference on education and educational psychology*.
<http://dx.doi.org/10.15405/epsbs.2016.11.90>. Accessed 04 July 2019.

Veresova, M & Foglová, L. 2018. *Academic Self Efficacy, approach to learning and academic achievement. Health and academic achievement*. Blandina Bernal-Morales, IntechOpen, DOI: 10.5772/intechopen.70948. Available from:
<https://www.intechopen.com/books/health-and-academic-achievement/academic-self-efficacy-approach-to-learning-and-academic-achievement>.

•

Wanders, FHK, Dijkstra, AB, Maslowski, R & van der Veen, I. 2020. The Effect of Teacher-Student and Student-Student Relationships on the Societal Involvement of Students. *Research Papers in Education* 35(3):266-286.

WHO. 2015. Global strategy on human resources for health: Workforce 2030.

WHO 2017a: *What needs to be done to solve the shortage of health workers in the African Region...* <https://afro.who.int/news/what-needs-be-done-solve-shortage-healthworkers-african-region>. Accessed 15 November 2018.

WHO. 2017 b. *The African Regional Framework for the Implementation of the Global Strategy on Human Resources for Health: Workforce 2030.*

Xu, Z & Qi, C. 2019. The Relationship between Teacher-student Relationship and Academic Achievement: The Mediating Role of Self-efficacy. *EURASIA Journal of Mathematics, Science and Technology Education* 15(10):1-7.

Yang, L, Jiang, D, Nie, H & Tang, S. 2018. Research on the effect of cooperative learning model on nursing skills of practice nurses and standardised training of newly recruited nurses. *Biomedical Research* 29(9):1788-1791.

Zimmerman, BJ. 2000. Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–39). San Diego, CA: Academic Press.

ANNEXURE A: ETHICAL CLEARANCE CERTIFICATE



RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES REC-012714-039 (NHERC)

3 October 2018

Dear Makgotlo Thalitha Maake

Decision: Ethics Approval

HSHDC/878/2018

Student: Makgotlo Thalitha Maake

Student No.30638666

Supervisor: Prof TE Masango

Qualification: D Litt et Phil

Joint Supervisor: -

Name Makgotlo Thalitha Maake

Proposal: Strategies to improving academic performance of students in a clinical nursing science course

Qualification: DPCHS04

Risk Level: Medium Risk

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 3 October 2018 to 3 October 2023

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 3 October 2018

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*



University of South Africa
Pretorius Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *You are required to submit an annual report by 30 January of each year that that the study is active. Reports should be submitted to the administrator HSREC@unisa.ac.za Should the reports not be forthcoming the ethical permission might be revoked until such time as the reports are presented.*

Note:

The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,



Prof JE Maritz
CHAIRPERSON
maritje@unisa.ac.za



Prof A Phillips
DEAN OF COLLEGE OF HUMAN SCIENCES



ANNEXURE B: REQUEST LETTERS TO CONDUCT THE STUDY

14 Nwanetsi Ave
Ivypark Extension 19
Polokwane
0699
3 September 2018

Department of Health Eastern Cape
Private Bag X 0038
Bhisho
5605

Sir/Madam

Request to conduct research in Lilitha College of Nursing: Strategies to improve academic performance of students in Clinical Nursing Science course

I hereby request permission to conduct research study to develop Strategies to improve academic performance of students in post basic nursing science course at the above mentioned Hospital.

I am a nurse educator at Limpopo College of Nursing and have registered with the University of South Africa (UNISA) for a doctoral degree in nursing education. The supervisor for the study is TE Masango (UNISA).

The purpose of the study is to identify reasons for poor academic performance of post basic students in Internal Medicine and Surgery with Nursing Dynamics and to propose strategies to improve the performance based on literature review and findings.

The recommendations of the study may help to increase pride of nurse educators in their area of Practice, will relieve the department's financial burden caused by payment of study leave with poor outcome, on the other hand it may even challenge study leave policies. Attached is the approved research proposal, Clearance certificate and the consent form.

I hope to receive your approval to conduct this study
Yours faithfully

Researcher: Makgotlo Thalitha Maake	Supervisor: Prof TE Masango
Contacts : 0827964828 /0716852759	012 429 3386
thalithamaake@yahoo.com / 30638666@mylife.unisa.ac.za	Masango@unisa.ac.za
	Prof JE Maritz
	082 788 8703
	maritje@unisa.ac.za

14 Nwanetsi Ave
Ivypark Extension 19
Polokwane
0699
3 September 2018

Department of Health Limpopo Province
Private Bag X 9483
Polokwane
0700

Sir/Madam

Request to conduct research in Chris Hani Baragwanath Hospital: Strategies to improve academic performance of students in Clinical Nursing Science course

I hereby request permission to conduct research study to develop Strategies to improve academic performance of students in post basic nursing science course at the above mentioned Hospital.

I am a nurse educator at Limpopo College of Nursing and have registered with the University of South Africa (UNISA) for a doctoral degree in nursing education. The supervisor for the study is TE Masango (UNISA).

The purpose of the study is to identify reasons for poor academic performance of post basic students in Internal Medicine and Surgery with Nursing Dynamics and to propose strategies to improve the performance based on literature review and findings.

The recommendations of the study may help to increase pride of nurse educators in their area of Practice, will relieve the department's financial burden caused by payment of study leave with poor outcome, on the other hand it may even challenge study leave policies. Attached is the approved research proposal, Clearance certificate and the consent form.

I hope to receive your approval to conduct this study
Yours faithfully

Researcher: Makgotlo Thalitha Maake	Supervisor: Prof TE Masango
Contacts : 0827964828 /0716852759	012 429 3386
thalithamaake@yahoo.com / 30638666@mylife.unisa.ac.za	Masango@unisa.ac.za
	Prof JE Maritz
	082 788 8703
	maritje@unisa.ac.za

14 Nwanetsi Ave
Ivypark Extension 19
Polokwane
0699
3 September 2018

The Principal
Lilitha College of Nursing East London Main Campus
Private Bag X 9023
East London
5200

Sir/Madam

Request to conduct research in Chris Hani Baragwanath Hospital: Strategies to improve academic performance of students in Clinical Nursing Science course

I hereby request permission to conduct research study in developing Strategies to improve academic performance of students in post basic nursing science course at the above mentioned Hospital.

I am a nurse educator at Limpopo College of Nursing and have registered with the University of South Africa (UNISA) for a doctoral degree in nursing. The supervisor for the study is TE Masango (UNISA).

The purpose of the study is to identify reasons for poor academic performance of post basic students in Internal Medicine and Surgery with Nursing Dynamics and to propose strategies to improve the performance based on literature review and findings.

The recommendations of the study may help to increase pride of nurse educators in their area of Practice, will relieve the department's financial burden caused by payment of study leave with poor outcome, on the other hand it may even challenge study leave policies. Attached is the approved research proposal, Clearance certificate and the consent form.

I hope to receive your approval to conduct this study
Yours faithfully

Researcher: Makgotlo Thalitha Maake	Supervisor: Prof TE Masango
Contacts : 0827964828 /0716852759	012 429 3386
thalithamaake@yahoo.com / 30638666@mylife.unisa.ac.za	Masango@unisa.ac.za
	Prof JE Maritz
	082 788 8703
	maritje@unisa.ac.za

14 Nwanetsi Ave
Ivypark Extension 19
Polokwane
0699
3 September 2018

The Acting Principal
Limpopo College of Nursing
Private Bag X9538
POLOKWANE
0700
Sir/Madam

Request to conduct research in Chris Hani Baragwanath Hospital: Strategies to improve academic performance of students in Clinical Nursing Science course

I hereby request permission to conduct research study in developing Strategies to improve academic performance of students in post basic nursing science course at the above mentioned Hospital.

I am a nurse educator at Limpopo College of Nursing and have registered with the University of South Africa (UNISA) for a doctoral degree in nursing. The supervisor for the study is TE Masango (UNISA).

The purpose of the study is to identify reasons for poor academic performance of post basic students in Internal Medicine and Surgery with Nursing Dynamics and to propose strategies to improve the performance based on literature review and findings.

The recommendations of the study may help to increase pride of nurse educators in their area of Practice, will relieve the department's financial burden caused by payment of study leave with poor outcome, on the other hand it may even challenge study leave policies. Attached is the approved research proposal, Clearance certificate and the consent form.

I hope to receive your approval to conduct this study
Yours faithfully

Researcher: Makgotlo Thalitha Maake	Supervisor: Prof TE Masango
Contacts : 0827964828 /0716852759	012 429 3386
<u>thalithamaake@yahoo.com/30638666@mylife.unisa.ac.za</u>	Masango@unisa.ac.za
	Prof JE Maritz
	082 788 8703
	<u>maritje@unisa.ac.za</u>

14 Nwanetsi Ave
Ivypark Extension 19
Polokwane
0699
30 November 2018

The Principal
Chris Hani Baragwanath Nursing College
Old Potchefstroom Road
Diepkloof Zone 6
Gauteng
1862

Sir/Madam

**Request to conduct research in Chris Hani Baragwanath Nursing college:
Strategies to improve academic performance of students in Clinical Nursing
Science course (post basic)**

I hereby request permission to conduct research study in developing Strategies to improve academic performance of students in post basic nursing science course leading to additional qualification as an orthopaedic nurse, theatre nurse, trauma nurse and Intensive care nurse at the above mentioned nursing college.

I am a nurse educator at Limpopo College of Nursing and have registered with the University of South Africa (UNISA) for a doctoral degree in nursing. The supervisor for the study is TE Masango (UNISA).

The purpose of the study is to identify reasons for poor academic performance of post basic students in Internal Medicine and Surgery with Nursing Dynamics and to propose strategies to improve the performance based on literature review and findings.

It is a retrospective study that uses exploratory sequential mixed method comprising of two phases, first phase is qualitative approach carried out with post basic lecturers teaching the mentioned course and will be followed by quantitative phase with former students who challenged the course since 2012 till 2016 and failed. The researcher will like to request assistance from the college pertaining the students 's location and particulars. The qualitative data collection instrument will be developed from the qualitative findings hence exploratory sequential mixed method.

The results will assist in developing strategies to improve academic performance of post basic students which will result in production of specialist nurses for the country and overcoming nursing shortage. This will also help to improve patient care as these nurses will be able to provide specialised care in the absence of doctors. It will also enhance the image of the training institutions while reducing loss of expenditure on the

ANNEXURE C: PERMISSION LETTERS TO CONDUCT THE STUDY



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA



DEPARTMENT OF HEALTH

LIMPOPO COLLEGE OF NURSING: SOVENGA CAMPUS

TO: Ms Maake Makgotlo Thalitha

FROM: Acting Vice Principal

Sovenga Campus

ENQ: Phosa R.G


DATE: 22 January 2019

**RE: PERMISSION TO COLLECT RESEARCH DATA ON STRATEGIES TO IMPROVE
ACADEMIC PERFORMANCE OF STUDENTS IN POST BASIC NURSING SCIENCE COURSE**

1. The above matter bears reference
2. Permission to conduct research at Sovenga Campus is hereby granted
3. Research should be conducted in a way that will not interfere with college programmes and student learning

Hoping for positive response

Regards,

 22/01/2019

Acting Vice Principal



Province of the
EASTERN CAPE
HEALTH

Enquiries: Zonwabele Merile

Tel no: 083 378 1202

Email: zonwabele.merile@ehealth.gov.za

Fax no: 043 642 1409

Date: 30 October 2018

RE: STRATEGIES TO IMPROVE ACADEMIC PERFORMANCE OF STUDENTS IN CLINICAL NURSING SCIENCE COURSE. (EC_201810_017)

Ms Makgotlo Thalitha Maake

The department would like to inform you that your application for the abovementioned research topic has been approved based on the following conditions:

1. During your study, you will follow the submitted amended protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants.
3. The Department of Health expects you to provide a progress update on your study every 3 months (from date you received this letter) in writing.
4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Eastern Cape Health Research Committee secretariat. You may also be invited to the department to come and present your research findings with your implementable recommendations.
5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

SECRETARIAT: EASTERN CAPE HEALTH RESEARCH COMMITTEE



Province of the
EASTERN CAPE
HEALTH

East London Campus, Frere Site • 40 Lennox Road, East London • 5200 Eastern Cape or Private Bag
X9023 • East London • 5200 • REPUBLIC OF SOUTH AFRICA
Tel.: +27 (0)43 7420684• Fax: +27 (0)43 7434065/ Cell No 0605661358 Website:
www.echealth.gov.za/lilithacollege.co.za. Email: nontobekomhlahlo@gail.com

TO: MS. THALITHA MAAKE

FROM: ACTING EL CAMPUS HEAD: MRS. N.B. MHLAHLO

SUBJECT: PERMISSION TO CONDUCT A RESEARCH PROJECT AT EAST LONDON CAMPUS

DATE: 27 MARCH 2019

.....
The subject matter above refers.

This communique serves to confirm that, the management of the above Institution has no objection in granting you permission to conduct research interviews at the Lilitha College of Nursing –East London Campus especially that you brought the correspondence from the epidemiological Research and Surveillance Management Directorate with the hope that you will follow the steps outlined by the Research Directorate.

The campus will be waiting to be forwarded the results/ recommendations from your study for implementation purposes.

East London Campus management takes this opportunity to wish you success in your studies.



.....
N.B. Mhlahlo

27 03-2019

EAST LONDON ACTING CAMPUS HEAD: MRS. N.B. MHLAHLO

DATE

United in achieving quality health care for all

Fraud Prevention line: 0800 701 701
24 hour call centre: 0800 0323 64
Website: www.ecdoh.gov.za



GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Chris Hani Baragwanath Nursing College
P/B X05
Bertsham

Enquiries: Mrs. T. Makgopela
Tel. 0112473300

E- mail:
tebogomakgopela5@gmail.com

Date: 2019/01/25

Name: Ms. Makgotlo Thalitha Maake
Student No. 30638666
Ethics reference no: HSHDC/878/2018
Address: UNISA

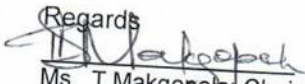
Dear Ms. Maake

**RE - APPLICATION TO CONDUCT A RESEARCH PROJECT AT CHRIS HANI
BARAGWANATH NURSING COLLEGE**

Your letter dated 30/11/2018 refers. Permission has been granted for you to conduct a research project titled: **Strategies to improving academic performance of students in a clinical nursing science course**

Chris Hani Baragwanath Nursing College requests that you participate in the college research days for the purpose of presenting the different stages of your research project. You are also requested to inform the college of the name of the journal where the completed research project will be published. The college will appreciate it if you would donate a copy of the completed research project document to Chris Hani Baragwanath Nursing College Library.

Regards


Ms. T Makgopela: Chairperson of the Research Committee

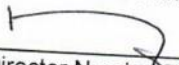
2019/01/28
Date

Recommended: 
Ms. J. Gassiep: Vice-Principal

28.01.2019
Date

Approved: 
Ms. N Ntsele: Principal Chris Hani Baragwanath Nursing College

28/01/2019
Date


Director Nursing Education and Training

30/01/2019
Date

**RAHIMA MOOSA
NURSING COLLEGE**
04 FEB 2019
PRIVATE BAG X116
MELVILLE



Province of the
EASTERN CAPE
HEALTH

Room • 1stth Floor • Global Life Building • Independence Avenue • Bhisho • Eastern Cape
Private Bag X0028 • Bhisho • 5605 • REPUBLIC OF SOUTH AFRICA
Tel.: +27 (0)40 608 9509 • Fax: +27 (0)40 608 9689/0866816407
Website: www.ecdoh.gov.za
Email: nomvuyiseko.links@impilo.ecprov.gov.za

Enquiries: Dr SENTI (0732670797)

MEMORANDUM

TO	Ms Makgotlo Thalitha Maake
FROM	MRS N LINKS: PRINCIPAL: LILITHA COLLEGE OF NURSING
SUBJECT	PERMISSION TO CONDUCT RESEARCH IN LILITHA COLLEGE OF NURSING
DATE	16.11.18

1. The subject matter above refers.
2. This correspondence serves to confirm that permission is hereby granted for you to conduct research in Lilitha College of Nursing, the topic being: Strategies to improve academic performance of students in Clinical Nursing Science course
3. The College will be waiting to be forwarded the results/recommendations from your study for implementation purpose by the college campuses.
4. The organization takes this opportunity to wish you success in your studies.

.....
Mrs N Links: Principal Lilitha College of Nursing



United in achieving quality health care for all

Fraud Prevention line: 0800 701 701
24 hour call centre: 0800 0323 64
Website: www.ecdoh.gov.za



Ikamva eliqaqambileyo!



DEPARTMENT OF HEALTH

Enquiries: Stander SS (015 293 6650)

Ref: LP2018

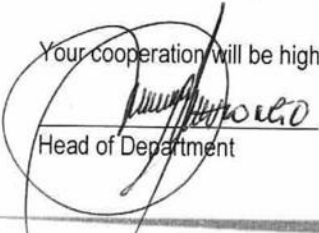
Maake MT
UNISA

Greetings,

RE: Strategies to improving academic performance of students in a clinical nursing science course

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
 - Research must be loaded on the NHRD site (<http://nhrd.hst.org.za>) by the researcher.
 - Further arrangement should be made with the targeted institutions, after consultation with the District Executive Manager.
 - In the course of your study there should be no action that disrupts the services, or incur any cost on the Department.
 - After completion of the study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
 - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
 - The above approval is valid for a 1 year period.
 - If the proposal has been amended, a new approval should be sought from the Department of Health.
 - Kindly note, that the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.


Head of Department

20-12-2018
Date

•

ANNEXURE D: ASSESSMENT OF DATA COLLECTION INSTRUMENT

SCALE REALIABILITY AND CONSTRUCT VALIDITY TESTS

Introduction

This analysis presents statistical results of the test conducted to assess the scale reliability and construct validity of the research instrument. Section 1.2 presents questionnaire return rate and effective response rate, while section 1.3 presents results of scale reliability tests, and section 1.4 presents results of the construct validity, while frequencies are presented in the appendix.

Return Rate and Effective Response Rate

A total sample of five (5) questionnaires were distributed and all of them were returned by the respondents, producing a 100% return rate. From the total 5 questionnaires (n = 5) returned, five were duly completed, yielding an 100% (5/5) effective response rate.

Scale Reliability

The internal consistency of the research instrument's items was assessed based on the Cronbach's alpha criterion (Polit & Beck 2018:308). The scale reliability test was conducted to statistically determine the extent to which a set of questionnaire items measured a single latent construct. Therefore, Cronbach's alpha coefficient was computed to statistically assess the degree to which comparable responses could be obtained from participants should the same set of questions be asked several times under similar settings to the same respondents. The scale reliability results on five constructs of the research instrument are presented in Table 1. The five constructs on which data was collected include (i) readiness, (ii) assertiveness, (iii) educators' competences, (iv) learning and application, (v) supervision and support and (v) leadership.

Table 1: Scale reliability of questionnaire items

Construct	Items	No. of Items	Cronbach's alpha
Readiness	B101. My knowledge was deficient to enable me perform assigned tasks B102. I lacked practical skills required to render specialised care to patients B103. I had minimal critical thinking ability to handle diverse situations in the unit B104. I was unable to express myself when answering questions in class B105. There were high workloads and more to learn than I expected B106. My role was not clearly defined to enable me carry out my duties as student	6	0.834
Assertiveness	B201. I had no enthusiasm to seek help in situations where I needed it B202. The learning environment in the class made me feel discouraged B203. My time management was not meeting the demands of the course B204. I felt distressed in dealing with course demands in the learning environment B205. In general, provision of support given to me was very limited B206. Sometimes I felt so frustrated being loaded with massive information B207. I had a bad attitude toward Internal medicine and surgery as well as research B208. Overall, I had minimum enthusiasm for the post basic course	8	0.531

Educators' competences	<p>C101. Educators had limited knowledge to adequately answer questions</p> <p>C102. Educators were not fully capable to integrate theory into practice</p> <p>C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap</p> <p>C104. Strategies used by nurse educators to deliver the subject content were marginally useful</p> <p>C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students</p> <p>C106. Feedback from educators was insufficient to improve students' performance C107. The nurse educators partially acted as change agent in the process of student learning and teaching</p>	7	0.915
Learning and application	<p>C201. Theoretic concepts learnt were not integrated and practiced in ward</p> <p>C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)</p> <p>C203. Procedures learned during the lessons were not completely aligned to the needs of the patients in the unit</p> <p>C204. Duration of the course was shorter than subject content to be covered</p> <p>C205. Procedures taught were partly in conflict with real situations in ward</p> <p>C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards</p>	6	0.672
Supervision C303. satisfactory	<p>C301. The supervision and support I received was generally inadequate</p> <p>C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks</p> <p>The clinical accompaniment by nurse educators was partially</p> <p>C304. Clinical staff and nurse educators were not easy to approach support 6 0.748</p>		for

•
and support C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage

C307. Preceptors contributed insignificantly toward the education of students in the clinical setting

Leadership	C401. Nurse educators did not regard students as key resource persons C402. Student were not involved in decisions pertaining to their studies C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members C404. Efforts by individual student employees were not appreciated C405. There was no spirit of unity among nursing staff in the units C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators C407. There was a slightly caring relationship among ward staff and the students C408. Students were partly recognized to give inputs during staff meetings C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals C410. The college principal slightly provided individualized and encouraging support to student	10	0.730
Overall scale reliability		47	0.867

The computed Cronbach’s alpha coefficient value ($\alpha = 0.867$) for forty-seven items was above the statistically minimum acceptable ($\alpha = 0.700$) scale reliability threshold (Cronbach, 1951:311). Thus, the result shows that survey items measured a unidimensional latent construct developed in the research study. The construct which had some items that were eliminated to improve reliability of related construct are “readiness”. Detailed statistical results of reliability scores per each construct are presented in Appendix A.

• **Construct Validity**

The construct validity of items of the research instrument was conducted using the exploratory factor analysis (EFA) data reduction method. Concurrence with assessment of sampling adequacy, EFA was conducted to measure the underlying structure, patterns and hidden dimensions within the dataset. The sampling adequacy of survey items of the research instrument was measured based on Keiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) criterion (Kayisoglu 2015:62).

Table 2: Construct validity of questionnaire items

Construct	Items	No. of Items	KMO-MSA
Readiness	-		
Assertiveness	-		†
Educators' competences	-		†
Learning and application	-		†
Supervision and support	-		†
Leadership	-		
Overall KMO-MSA			†

NB: † statistical estimate not computed due the sample size (n) that is less than the number of questions probed

The Keiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) criterion was used to assess sampling adequacy, where a KMO-MSA value equal to at least 0.600 provides as the statistically acceptable minimum threshold (Kayisoglu 2015:62; Chan & Idris 2017:405). Estimates of the determinant, Bartlett's test of sphericity and analogous KMOMSA scores of the survey instrument's different dimensions are presented in Table 3.

•

Table 3: Statistical validity of the survey instrument's items per construct

Dimension	No. of items	Measure		
		Determinant	Bartlett's Test of Sphericity	Keiser-Meyer-Olkin Test of Sampling Adequacy
Readiness	9	0.000	$\chi^2 = †$ $p < †$	†
Assertiveness	8	0.000	$\chi^2 = †$ $p < †$	†
Educators' competences	7	0.000	$\chi^2 = †$ $p < †$	†
Learning and application	6	0.000	$\chi^2 = †$ $p < †$	†
Supervision and support	7	0.000	$\chi^2 = †$ $p < †$	†
Leadership	10	0.000	$\chi^2 = †$ $p < †$	†

NB: † statistical estimate not computed due the sample size (n) that is less than the number of questions probed

The determinants of the correlation matrices for all dimensions are all equal to zero, signifying that the matrices were singular in nature hence the matrices could not be explained by linear combinations. To provide more complex measures for evaluating the strength of the relationships and factorability of items, Bartlett's Test of Sphericity and KMO-MSA values were computed (Bartlett 1951). The null hypothesis of the Bartlett's test at 5 percent significance level states that observed correlation matrix is equal to the identity matrix, signifying that the observed matrix is not factorable (Miljko 2017:1).

APPENDIX A: SCALE RELIABILITY TESTS

OVERALL (TOTAL ITEMS) SCALE RELIABILITY

Reliability Statistics	
Cronbach's Alpha	N of Items
.867	47

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B101. My knowledge was deficient to enable me perform assigned tasks	142.00	598.000	.251	.865
B102. I lacked practical skills required to render specialised care to patients	142.00	614.500	-.008	.870
B103. I had minimal critical thinking ability to handle diverse situations in the unit	143.00	636.500	-.509	.873
B104. I was unable to express myself when answering questions in class	143.00	603.500	.280	.865
B105. There were high workloads and more to learn than I expected	141.00	582.500	.385	.863
B106. My role was not clearly defined to enable me to carry out my duties as a student	142.80	603.700	.174	.866
B107. My basic training was not aligned to the post basic course requirements	142.80	665.700	-.815	.881
B108. Student mentorship from the educators was inadequate during my post basic training	141.20	599.200	.191	.867
B109. Overall, I was not adequately prepared for the post basic course	141.80	676.200	-.850	.884
B201. I had no enthusiasm to seek help in situations where I needed it	141.20	557.200	.785	.855
B202. The learning environment in the class made me feel discouraged	142.20	564.200	.559	.859
B203. My time management was not meeting the demands of the course	141.20	634.200	-.272	.875
B204. I felt distressed in dealing with course demands in the learning environment	141.00	556.000	.736	.855
B205. In general, provision of support given to me was very limited	141.20	583.700	.405	.863
B206. Sometimes I felt so frustrated being loaded with massive information	141.00	582.500	.385	.863
B207. I had a bad attitude towards Internal medicine and surgery as well as research	141.40	639.300	-.374	.876
B208. Overall, I had minimum enthusiasm for the post basic course	142.00	593.500	.323	.864

C101. Educators had limited knowledge to adequately answer questions	142.80	541.700	.881	.851
C102. Educators were not fully capable to integrate theory into practice	142.80	541.700	.881	.851
C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	142.00	559.500	.884	.855
C104. Strategies used by nurse educators to deliver the subject content were marginally useful	142.00	581.500	.397	.863
C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students	142.20	608.700	.079	.868
C106. Feedback from educators was insufficient to improve students' performance	142.00	562.000	.655	.857
C107. The nurse educators partially acted as change agent in the process of student learning and teaching	141.60	589.300	.297	.865
C201. Theoretic concepts learnt were not integrated and practiced in ward	141.80	561.200	.784	.856
C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)	142.00	572.500	.467	.861
C203. Procedures learned during the lessons were not completely aligned to the needs of the patients in the unit	143.00	591.500	.577	.862
C204. Duration of the course was shorter than subject content to be covered	140.80	595.200	.318	.864
C205. Procedures taught were partly in conflict with real situations in ward	141.60	580.300	.413	.862
C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards	141.40	613.300	.001	.870
C301. The supervision and support I received was generally inadequate	142.40	601.800	.156	.867
C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	142.80	541.700	.881	.851
C303. The clinical accompaniment by nurse educators was partially satisfactory	141.40	586.800	.417	.862
C304. Clinical staff and nurse educators were not easy to approach for support	141.60	590.300	.455	.862
C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	140.60	581.800	.823	.859
C306. Ward managers had bad attitude towards students during clinical practice	142.20	634.200	-.238	.877
C307. Preceptors contributed insignificantly toward the education of students in the clinical setting	141.20	568.700	.706	.857
C401. Nurse educators did not regard students as key resource persons	141.80	589.700	.306	.864
C402. Student were not involved in decisions pertaining to their studies	141.40	584.800	.448	.862

C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	140.40	628.300	-.470	.871
C404. Efforts by individual student employees were not appreciated	141.60	572.800	.660	.858
C405. There was no spirit of unity among nursing staff in the units	141.80	557.200	.846	.854
C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators	140.80	581.700	.550	.861
C407. There was a slightly caring relationship among ward staff and the students	142.00	614.500	-.018	.871
C408. Students were partly recognized to give inputs during staff meetings	140.80	568.700	.779	.857
C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	141.00	599.000	.289	.865
C410. The college principal slightly provided individualized and encouraging support to student	140.20	609.200	.229	.866

APPENDIX A: SCALE RELIABILITY TESTS PER CONSTRUCT

SECTION B: EXPERIENCES / PREPAREDNESS

SECTION B1: READINESS

Reliability Statistics	
Cronbach's Alpha ^a	N of Items
-.417	9

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B101. My knowledge was deficient to enable me perform assigned tasks	20.80	5.200	.656	-1.736 ^a
B102. I lacked practical skills required to render specialised care to patients	20.80	6.200	.447	-1.272 ^a
B103. I had minimal critical thinking ability to handle diverse situations in the unit	21.80	8.200	.397	-.822 ^a
B104. I was unable to express myself when answering questions in class	21.80	7.700	.517	-.950 ^a
B105. There were high workloads and more to learn than I expected	19.80	6.700	.165	-.921 ^a

C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	140.40	628.300	-.470	.871
C404. Efforts by individual student employees were not appreciated	141.60	572.800	.660	.858
C405. There was no spirit of unity among nursing staff in the units	141.80	557.200	.846	.854
C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators	140.80	581.700	.550	.861
C407. There was a slightly caring relationship among ward staff and the students	142.00	614.500	-.018	.871
C408. Students were partly recognized to give inputs during staff meetings	140.80	568.700	.779	.857
C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	141.00	599.000	.289	.865
C410. The college principal slightly provided individualized and encouraging support to student	140.20	609.200	.229	.866

APPENDIX A: SCALE RELIABILITY TESTS PER CONSTRUCT

SECTION B: EXPERIENCES / PREPAREDNESS

SECTION B1: READINESS

Reliability Statistics	
Cronbach's Alpha ^a	N of Items
-.417	9

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B101. My knowledge was deficient to enable me perform assigned tasks	20.80	5.200	.656	-1.736 ^a
B102. I lacked practical skills required to render specialised care to patients	20.80	6.200	.447	-1.272 ^a
B103. I had minimal critical thinking ability to handle diverse situations in the unit	21.80	8.200	.397	-.822 ^a
B104. I was unable to express myself when answering questions in class	21.80	7.700	.517	-.950 ^a
B105. There were high workloads and more to learn than I expected	19.80	6.700	.165	-.921 ^a

B106. My role was not clearly defined to enable me to carry out my duties as a student	21.60	6.800	.391	-1.092 ^a
B107. My basic training was not aligned to the post basic course requirements	21.60	14.300	-.540	.080
B108. Student mentorship from the educators was inadequate during my post basic training	20.00	23.000	-.997	.522
B109. Overall, I was not adequately prepared for the post basic course	20.60	12.300	-.353	-.046 ^a
a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.				

Reliability Statistics	
Cronbach's Alpha	N of Items
.522	8

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B101. My knowledge was deficient to enable me perform assigned tasks	17.20	14.200	.723	.279
B102. I lacked practical skills required to render specialised care to patients	17.20	15.700	.542	.364
B103. I had minimal critical thinking ability to handle diverse situations in the unit	18.20	18.700	.498	.430
B104. I was unable to express myself when answering questions in class	18.20	18.200	.574	.410
B105. There were high workloads and more to learn than I expected	16.20	16.200	.310	.461
B106. My role was not clearly defined to enable me to carry out my duties as a student	18.00	16.500	.503	.389
B107. My basic training was not aligned to the post basic course requirements	18.00	27.000	-.432	.691
B109. Overall, I was not adequately prepared for the post basic course	17.00	24.000	-.217	.656

Reliability Statistics	
Cronbach's Alpha	N of Items
.691	7

Item-Total Statistics				
	Scale Mean if Deleted	Scale Variance if Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Deleted
B101. My knowledge was deficient to enable me perform assigned tasks	15.20	16.700	.807	.532
B102. I lacked practical skills required to render specialised care to patients	15.20	17.700	.693	.569
B103. I had minimal critical thinking ability to handle diverse situations in the unit	16.20	23.700	.319	.678
B104. I was unable to express myself when answering questions in class	16.20	21.700	.590	.630
B105. There were high workloads and more to learn than I expected	14.20	16.700	.566	.604
B106. My role was not clearly defined to enable me to carry out my duties as a student	16.00	20.000	.502	.630
B109. Overall, I was not adequately prepared for the post basic course	15.00	29.500	-.293	.834

Reliability Statistics	
Cronbach's Alpha	N of Items
.834	6

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B101. My knowledge was deficient to enable me perform assigned tasks	12.20	17.700	.921	.734
B102. I lacked practical skills required to render specialised care to patients	12.20	21.200	.550	.820
B103. I had minimal critical thinking ability to handle diverse situations in the unit	13.20	26.200	.304	.854
B104. I was unable to express myself when answering questions in class	13.20	22.700	.765	.793
B105. There were high workloads and more to learn than I expected	11.20	18.700	.570	.829
B106. My role was not clearly defined to enable me to carry out my duties as a student	13.00	20.500	.676	.793

SECTION B2: ASSERTIVENESS

Reliability Statistics	
Cronbach's Alpha	N of Items
.531	8

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B201. I had no enthusiasm to seek help in situations where I needed it	23.60	20.300	.959	.201
B202. The learning environment in the class made me feel discouraged	24.60	27.800	.240	.504
B203. My time management was not meeting the demands of the course	23.60	30.300	.186	.520
B204. I felt distressed in dealing with course demands in the learning environment	23.40	18.800	.997	.149

B205. In general, provision of support given to me was very limited	23.60	35.300	-.105	.611
B206. Sometimes I felt so frustrated being loaded with massive information	23.40	20.800	.814	.247
B207. I had a bad attitude towards Internal medicine and surgery as well as research	23.80	41.200	-.424	.677
B208. Overall, I had minimum enthusiasm for the post basic course	24.40	38.800	-.296	.643

SECTION C: CHALLENGES ENCOUNTERED

SECTION C1: EDUCATORS' COMPETENCES

Reliability Statistics	
Cronbach's Alpha	N of Items
.915	7

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C101. Educators had limited knowledge to adequately answer questions	16.20	54.700	.937	.880
C102. Educators were not fully capable to integrate theory into practice	16.20	54.700	.937	.880
C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	15.40	60.800	.944	.886
C104. Strategies used by nurse educators to deliver the subject content were marginally useful	15.40	64.300	.558	.922
C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students	15.60	68.300	.523	.922
C106. Feedback from educators was insufficient to improve students' performance	15.40	62.300	.644	.913
C107. The nurse educators partially acted as change agent in the process of student learning and teaching	15.00	61.000	.701	.907

SECTION C2: LEARNING AND APPLICATION

Reliability Statistics	
Cronbach's Alpha	N of Items
.672	6

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C201. Theoretic concepts learnt were not integrated and practiced in ward	15.20	16.700	.822	.472
C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)	15.40	14.300	.791	.446
C203. Procedures learned during the lessons were not completely aligned to the needs of the patients in the unit	16.40	25.300	.261	.672
C204. Duration of the course was shorter than subject content to be covered	14.20	27.200	-.039	.749
C205. Procedures taught were partly in conflict with real situations in ward	15.00	22.000	.227	.699
C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards	14.80	19.700	.461	.609

SECTION C3: SUPERVISION AND SUPPORT

Reliability Statistics	
Cronbach's Alpha	N of Items
.429	7

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C301. The supervision and support I received was generally inadequate	19.00	19.500	.037	.474
C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	19.40	11.300	.687	.021
C303. The clinical accompaniment by nurse educators was partially satisfactory	18.00	18.500	.173	.402
C304. Clinical staff and nurse educators were not easy to approach for support	18.20	17.700	.369	.325
C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	17.20	16.700	.717	.237
C306. Ward managers had bad attitude towards students during clinical practice	18.80	28.700	-.498	.748
C307. Preceptors contributed insignificantly toward the education of students in the clinical setting	17.80	13.200	.749	.082

Reliability Statistics	
Cronbach's Alpha	N of Items
.748	6

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C301. The supervision and support I received was generally inadequate	16.40	20.800	.405	.739
C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	16.80	14.200	.881	.563
C303. The clinical accompaniment by nurse educators was partially satisfactory	15.40	20.300	.546	.696

C304. Clinical staff and nurse educators were not easy to approach for support	15.60	26.300	.107	.794
C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	14.60	24.300	.449	.730
C307. Preceptors contributed insignificantly toward the education of students in the clinical setting	15.20	19.700	.605	.679

SECTION C4: LEADERSHIP

Reliability Statistics	
Cronbach's Alpha	N of Items
.730	10

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C401. Nurse educators did not regard students as key resource persons	33.20	39.700	.151	.757
C402. Student were not involved in decisions pertaining to their studies	32.80	30.700	.854	.623
C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	31.80	44.700	.027	.742
C404. Efforts by individual student employees were not appreciated	33.00	38.500	.309	.722
C405. There was no spirit of unity among nursing staff in the units	33.20	28.700	.957	.596
C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators	32.20	33.700	.703	.658
C407. There was a slightly caring relationship among ward staff and the students	33.40	47.300	-.212	.821
C408. Students were partly recognized to give inputs during staff meetings	32.20	37.700	.399	.707
C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	32.40	36.300	.583	.682
C410. The college principal slightly provided individualized and encouraging support to student	31.60	39.800	.738	.695

APPENDIX B: EXPLORATORY FACTOR ANALYSIS

SECTION B1: READINESS

		Correlation Matrix ^{a,b}								
		B101. My knowledge was deficient to enable me perform assigned tasks	B102. I lacked practical skills required to render specialised care to patients	B103. I had minimal critical thinking ability to handle diverse situations in the unit	B104. I was unable to express myself when answering questions in class	B105. There were high workloads and more to learn than I expected	B106. My role was not clearly defined to enable me to carry out my duties as a student	B107. My basic training was not aligned to the post basic course requirements	B108. Student mentorship from the educators was inadequate during my post basic training	B109. Overall, I was not adequately prepared for the post basic course
Correlation	B101. My knowledge was deficient to enable me perform assigned tasks	1.000	.559	.413	.871	.677	.783	-.470	-.809	-.407
	B102. I lacked practical skills required to render specialised care to patients	.559	1.000	-.046	.183	.910	.157	-.626	-.683	.271
	B103. I had minimal critical thinking ability to handle diverse situations in the unit	.413	-.046	1.000	.643	-.218	.732	.488	-.670	.000
	B104. I was unable to express myself when answering questions in class	.871	.183	.643	1.000	.327	.976	-.244	-.670	-.634
	B105. There were high workloads and more to learn than I expected	.677	.910	-.218	.327	1.000	.248	-.870	-.542	-.108
	B106. My role was not clearly defined to enable me to carry out my duties as a student	.783	.157	.732	.976	.248	1.000	-.167	-.673	-.577
	B107. My basic training was not aligned to the post basic course requirements	-.470	-.626	.488	-.244	-.870	-.167	1.000	.135	.433
	B108. Student mentorship from the educators was inadequate during my post basic training	-.809	-.683	-.670	-.670	-.542	-.673	.135	1.000	-.117
	B109. Overall, I was not adequately prepared for the post basic course	-.407	.271	.000	-.634	-.108	-.577	.433	-.117	1.000

a. Determinant = .000

b. This matrix is not positive definite.

SECTION B2: ASSERTIVENESS

		Correlation Matrix ^{a,b}							
		B201. I had no enthusiasm to seek help in situations where I needed it	B202. The learning environment in the class made me feel discouraged	B203. My time management was not meeting the demands of the course	B204. I felt distressed in dealing with course demands in the learning environment	B205. In general, provision of support given to me was very limited	B206. Sometimes I felt so frustrated being loaded with massive information	B207. I had a bad attitude towards Internal medicine and surgery as well as research	B208. Overall, I had minimum enthusiasm for the post basic course
Correlation	B201. I had no enthusiasm to seek help in situations where I needed it	1.000	.653	.348	.963	.022	.863	-.393	.076
	B202. The learning environment in the class made me feel discouraged	.653	1.000	-.163	.469	-.073	.385	-.944	.380
	B203. My time management was not meeting the demands of the course	.348	-.163	1.000	.461	-.413	.762	.221	-.683
	B204. I felt distressed in dealing with course demands in the learning environment	.963	.469	.461	1.000	.161	.907	-.181	-.140
	B205. In general, provision of support given to me was very limited	.022	-.073	-.413	.161	1.000	-.140	.221	-.177
	B206. Sometimes I felt so frustrated being loaded with massive information	.863	.385	.762	.907	-.140	1.000	-.181	-.373
	B207. I had a bad attitude towards Internal medicine and surgery as well as research	-.393	-.944	.221	-.181	.221	-.181	1.000	-.372
	B208. Overall, I had minimum enthusiasm for the post basic course	.076	.380	-.683	-.140	-.177	-.373	-.372	1.000

a. Determinant = .000

b. This matrix is not positive definite.

SECTION C1: EDUCATORS' COMPETENCES

		Correlation Matrix ^{a,b}						
		C101. Educators had limited knowledge to adequately answer questions	C102. Educators were not fully capable to integrate theory into practice	C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	C104. Strategies used by nurse educators to deliver the subject content were marginally useful	C105. The nurse educators did not use different teaching strategies to meet the diverse learning needs of diverse group of students	C106. Feedback from educators was insufficient to improve students' performance	C107. The nurse educators partially acted as change agent in the process of student learning and teaching
Correlation	C101. Educators had limited knowledge to adequately answer questions	1.000	1.000	.996	.527	.538	.703	.703
	C102. Educators were not fully capable to integrate theory into practice	1.000	1.000	.996	.527	.538	.703	.703
	C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	.996	.996	1.000	.560	.514	.677	.723
	C104. Strategies used by nurse educators to deliver the subject content were marginally useful	.527	.527	.560	1.000	.068	.722	.389
	C105. The nurse educators did not use different teaching strategies to meet the diverse learning needs of diverse group of students	.538	.538	.514	.068	1.000	.181	.839
	C106. Feedback from educators was insufficient to improve students' performance	.703	.703	.677	.722	.181	1.000	.204
	C107. The nurse educators partially acted as change agent in the process of student learning and teaching	.703	.703	.723	.389	.839	.204	1.000

a. Determinant = .000

b. This matrix is not positive definite.

SECTION C2: LEARNING AND APPLICATION

		Correlation Matrix ^{a,b}					
		C201. Theoretic concepts learnt were not integrated and practiced in ward	C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)	C203. Procedures learned during the lessons were not completely aligned to the needs of the patients in the unit	C204. Duration of the course was shorter than subject content to be covered	C205. Procedures taught were partly in conflict with real situations in ward	C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards
Correlation	C201. Theoretic concepts learnt were not integrated and practiced in ward	1.000	.889	.211	.577	.215	.350
	C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)	.889	1.000	-.033	.456	.102	.682
	C203. Procedures learned during the lessons were not completely aligned to the needs of the patients in the unit	.211	-.033	1.000	-.488	.946	.079
	C204. Duration of the course was shorter than subject content to be covered	.577	.456	-.488	1.000	-.621	-.269
	C205. Procedures taught were partly in conflict with real situations in ward	.215	.102	.946	-.621	1.000	.361
	C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards	.350	.682	.079	-.269	.361	1.000

a. Determinant = .000

b. This matrix is not positive definite.

SECTION C3: SUPERVISION AND SUPPORT

		Correlation Matrix ^{a,b}						
		C301. The supervision and support I received was generally inadequate	C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	C303. The clinical accompaniment by nurse educators was partially satisfactory	C304. Clinical staff and nurse educators were not easy to approach for support	C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	C306. Ward managers had bad attitude towards students during clinical practice	C307. Preceptors contributed insignificantly toward the education of students in the clinical setting
Correlation	C301. The supervision and support I received was generally inadequate	1.000	.571	.885	-.361	-.276	-.926	.221
	C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	.571	1.000	.753	.264	.518	-.556	.538
	C303. The clinical accompaniment by nurse educators was partially satisfactory	.885	.753	1.000	-.408	-.089	-.944	.250
	C304. Clinical staff and nurse educators were not easy to approach for support	-.361	.264	-.408	1.000	.764	.553	.408
	C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	-.276	.518	-.089	.764	1.000	.395	.757
	C306. Ward managers had bad attitude towards students during clinical practice	-.926	-.556	-.944	.553	.395	1.000	.021
	C307. Preceptors contributed insignificantly toward the education of students in the clinical setting	.221	.538	.250	.408	.757	.021	1.000
	a. Determinant = .000							
b. This matrix is not positive definite.								

SECTION C4: LEADERSHIP

		Correlation Matrix ^{a,b}									
		C401. Nurse educators did not regard students as key resource persons	C402. Student were not involved in decisions pertaining to their studies	C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	C404. Efforts by individual student employees were not appreciated	C405. There was no spirit of unity among nursing staff in the units	C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators	C407. There was a slightly caring relationship among ward staff and the students	C408. Students were partly recognized to give inputs during staff meetings	C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	C410. The college principal slightly provided individualised and encouraging support to student
Correlation	C401. Nurse educators did not regard students as key resource persons	1.000	.471	-.289	.849	.224	.258	-.866	-.258	.289	.289
	C402. Student were not involved in decisions pertaining to their studies	.471	1.000	.408	.372	.791	.761	-.181	.152	.748	.953
	C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members	-.289	.408	1.000	-.490	.000	.373	.111	-.373	.167	.667
	C404. Efforts by individual student employees were not appreciated	.849	.372	-.490	1.000	.407	.470	-.677	.157	.035	.140
	C405. There was no spirit of unity among nursing staff in the units	.224	.791	.000	.407	1.000	.722	.215	.722	.645	.645
	a. Determinant = .000										
b. This matrix is not positive definite.											

C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators	.258	.761	.373	.470	.722	1.000	-.124	.333	.186	.745
C407. There was a slightly caring relationship among ward staff and the students	-.866	-.181	.111	-.677	.215	-.124	1.000	.621	.111	-.111
C408. Students were partly recognized to give inputs during staff meetings	-.258	.152	-.373	.157	.722	.333	.621	1.000	.186	.000
C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	.289	.748	.167	.035	.645	.186	.111	.186	1.000	.667
C410. The college principal slightly provided individualised and encouraging support to student	.289	.953	.667	.140	.645	.745	-.111	.000	.667	1.000
a. Determinant = .000										
b. This matrix is not positive definite.										

FREQUENCIES

A101. Gender (sex)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	1	20.0	25.0	25.0
	Female	3	60.0	75.0	100.0
	Total	4	80.0	100.0	
Missing	System	1	20.0		
Total		5	100.0		

A102. Age group					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30-39 years	1	20.0	25.0	25.0
	40-49 years	1	20.0	25.0	50.0
	>= 50 years	2	40.0	50.0	100.0
	Total	4	80.0	100.0	
Missing	System	1	20.0		
Total		5	100.0		

A103. Province in which enrolment for clinical nursing science course (post-basic) occurred					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Limpopo	4	80.0	100.0	100.0
Missing	System	1	20.0		
Total		5	100.0		

A104. Major reason which led to enrolment in the Clinical Nursing Science course (post-basic)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Desire to improve or save lives	4	80.0	100.0	100.0
Missing	System	1	20.0		
Total		5	100.0		

A105. Programme followed before enrolling in the post-basic course					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	R425	2	40.0	50.0	50.0
	Bridging Course	2	40.0	50.0	100.0
	Total	4	80.0	100.0	
Missing	System	1	20.0		
Total		5	100.0		

A106. Number of years worked before enrolling for post-basic course					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4-5 years	2	40.0	50.0	50.0
	>= 5 years	2	40.0	50.0	100.0
	Total	4	80.0	100.0	
Missing	System	1	20.0		
Total		5	100.0		

A107. Speciality registered for in the clinical nursing science course					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Orthopaedic nursing	3	60.0	60.0	60.0
	Critical nursing general (ICU)	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

A108. Number of years taken to complete and obtain qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year	1	20.0	20.0	20.0
	Did not obtain qualification	4	80.0	80.0	100.0
	Total	5	100.0	100.0	

B101. My knowledge was deficient to enable me perform assigned tasks					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	1	20.0	20.0	40.0
	Neutral	1	20.0	20.0	60.0
	Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

B102. I lacked practical skills required to render specialised care to patients					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	1	20.0	20.0	40.0
	Neutral	1	20.0	20.0	60.0
	Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

B103. I had minimal critical thinking ability to handle diverse situations in the unit					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Disagree	2	40.0	40.0	80.0
	Neutral	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

B104. I was unable to express myself when answering questions in class					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Disagree	2	40.0	40.0	80.0
	Neutral	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

B105. There were high workloads and more to learn than I expected					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Agree	2	40.0	40.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

B106. My role was not clearly defined to enable me to carry out my duties as a student					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Disagree	2	40.0	40.0	80.0
	Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

B107. My basic training was not aligned to the post basic course requirements					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Disagree	2	40.0	40.0	80.0
	Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

B108. Student mentorship from the educators was inadequate during my post basic training					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	40.0	40.0	40.0
	Agree	1	20.0	20.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

B109. Overall, I was not adequately prepared for the post basic course					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	1	20.0	20.0	40.0
	Agree	3	60.0	60.0	100.0
	Total	5	100.0	100.0	

B201. I had no enthusiasm to seek help in situations where I needed it					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Agree	3	60.0	60.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

B202. The learning environment in the class made me feel discouraged					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Disagree	1	20.0	20.0	60.0
	Agree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

B203. My time management was not meeting the demands of the course					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	40.0	40.0	40.0
	Agree	1	20.0	20.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

B204. I felt distressed in dealing with course demands in the learning environment					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Agree	2	40.0	40.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

B205. In general, provision of support given to me was very limited					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	40.0	40.0	40.0
	Agree	1	20.0	20.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

B206. Sometimes I felt so frustrated being loaded with massive information					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Agree	2	40.0	40.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

B207. I had a bad attitude towards Internal medicine and surgery as well as research					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	40.0	40.0	40.0
	Agree	2	40.0	40.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

B208. Overall, I had minimum enthusiasm for the post basic course					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	1	20.0	20.0	40.0
	Neutral	1	20.0	20.0	60.0
	Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C101. Educators had limited knowledge to adequately answer questions					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	60.0	60.0	60.0
	Disagree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C102. Educators were not fully capable to integrate theory into practice					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	60.0	60.0	60.0
	Disagree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	60.0	60.0	60.0
	Neutral	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C104. Strategies used by nurse educators to deliver the subject content were marginally useful					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Agree	3	60.0	60.0	100.0
	Total	5	100.0	100.0	

C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	2	40.0	40.0	60.0
	Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C106. Feedback from educators was insufficient to improve students' performance					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	2	40.0	40.0	60.0
	Agree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C107. The nurse educators partially acted as change agent in the process of student learning and teaching					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	1	20.0	20.0	40.0
	Agree	2	40.0	40.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C201. Theoretic concepts learnt were not integrated and practiced in ward					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	1	20.0	20.0	40.0
	Agree	3	60.0	60.0	100.0
	Total	5	100.0	100.0	

C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Neutral	1	20.0	20.0	60.0
	Agree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C203. Procedures learned during the lessons were not completely aligned to the needs of the patients in the unit					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Disagree	2	40.0	40.0	80.0
	Neutral	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C204. Duration of the course was shorter than subject content to be covered					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	20.0	20.0	20.0
	Agree	2	40.0	40.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C205. Procedures taught were partly in conflict with real situations in ward					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	1	20.0	20.0	40.0
	Agree	2	40.0	40.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Neutral	1	20.0	20.0	40.0
	Agree	2	40.0	40.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C301. The supervision and support I received was generally inadequate					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Disagree	1	20.0	20.0	60.0
	Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	60.0	60.0	60.0
	Disagree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0

	Total	5	100.0	100.0	
--	-------	---	-------	-------	--

C303. The clinical accompaniment by nurse educators was partially satisfactory					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	40.0	40.0	40.0
	Agree	2	40.0	40.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C304. Clinical staff and nurse educators were not easy to approach for support					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	40.0	40.0	40.0
	Agree	3	60.0	60.0	100.0
	Total	5	100.0	100.0	

C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	1	20.0	20.0	20.0
	Agree	2	40.0	40.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C306. Ward managers had bad attitude towards students during clinical practice					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	40.0	40.0	40.0
	Disagree	1	20.0	20.0	60.0
	Agree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C307. Preceptors contributed insignificantly toward the education of students in the clinical setting					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	20.0	20.0	20.0
	Neutral	2	40.0	40.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C401. Nurse educators did not regard students as key resource persons					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	1	20.0	20.0	40.0
	Neutral	1	20.0	20.0	60.0
	Agree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C402. Student were not involved in decisions pertaining to their studies					
--	--	--	--	--	--

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	40.0	40.0	40.0
	Agree	2	40.0	40.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	60.0	60.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C404. Efforts by individual student employees were not appreciated					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	40.0	40.0	40.0
	Neutral	1	20.0	20.0	60.0
	Agree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C405. There was no spirit of unity among nursing staff in the units					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	60.0	60.0	60.0
	Agree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	20.0	20.0	20.0
	Agree	2	40.0	40.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C407. There was a slightly caring relationship among ward staff and the students					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	20.0	20.0	20.0
	Disagree	2	40.0	40.0	60.0
	Agree	1	20.0	20.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C408. Students were partly recognized to give inputs during staff meetings					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	20.0	20.0	20.0
	Agree	2	40.0	40.0	60.0
	Strongly Agree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	20.0	20.0	20.0
	Agree	3	60.0	60.0	80.0
	Strongly Agree	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

C410. The college principal slightly provided individualized and encouraging support to student					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	2	40.0	40.0	40.0
	Strongly Agree	3	60.0	60.0	100.0
	Total	5	100.0	100.0	

•

ANNEXURE E: DATA COLLECTION INSTRUMENTS

PARTICIPANTS INFORMATION LEAFLET AND CONSENT FORM

Titled: Strategies to improve academic performance of students in Clinical Nursing Science course

Researchers name: Maake Thalitha
Student number : 30638666
Telephone number : (015)287 6008 / 0827694828
Email address : 30638666@ylife.unisa.ac.za
thalithamaake@yahoo.com
Supervisor : Dr TE Masango
Telephone number : (012) 429 3386
Email address : masante@unisa.ac.za

Chair of the University of South Africa, Department of Health Sciences
Research Ethics Committee : Prof JE Maritz
Telephone number : 082 788 8703
Email address : maritje@unisa.ac.za

Introduction:

You are invited to participate in the research study mentioned above. This information leaflet contains information that will help you understand your role in the study. If there is any need for further clarification, please feel free to contact the researcher at any time at the below mentioned number. For further clarity feel free to contact the supervisor and the chairperson of the committee at the above telephone numbers.

-

Purpose:

The purpose of the study is to identify reasons for high failure rate of post basic students and to develop strategies to improve academic performance.

Procedure to be carried out

The study will be conducted through individual interview in a private place or office to maintain privacy. You will be expected to talk while the tape recorder is recording the conversation between you and the researcher. The researcher will also take observational notes. These will be used as references during data analysis. The information gathered during recordings will not be distributed or shared with anyone except the supervisors and independent coder who are directly involved in the study.

As soon as the data is analysed, the voice recorder will be erased and all the transcribed notes will only be made available to the independent coder. You will place your signed consent forms into the separate boxes that will be provided. The researcher will be ready to answer any question that you might have.

The study data will be kept confidential and the information may be used in nursing publications or presentations.

Reason for selection:

The reason you are chosen is because of your availability by working in the training institutions that are offering the course understudy, some of you had studied the same course and have knowledge of the course being studied. You are allowed to seek second opinion with regard to participation in the study, and you also have the right to withdraw at any time without paying any penalty.

What is expected of you during this study?

You will be requested to sign an informed consent form indicating your willingness to participate in the study. An unstructured interview will be held led by a grand tour question which may take approximately one hour. No payment will be offered

- for participation in the study and your participation is voluntary and you are under no obligation to participate.

Approval for the study

Ethical approval for the study will be obtained from the Higher Degrees Committee in Health Sciences and the Research and Ethics Committee at UNISA.

Compensation

As the participation is voluntary there is no compensation for participation. There will also be no costs to you as the interview will be conducted at the college campus during their working hours.

Benefits of the study

The results of this study will provide insights to the reasons of poor academic performance. The research will assist in developing strategies to improve academic performance of post basic students and will also assist both the nurse educators and students in their own immediate environment to introspect into the attributes that needs to be dealt with, that could be a hindrance towards good performance. This study will contribute significantly to the nursing profession at large, through addressing challenges in the education and training of students which in turn can enhance the quality of patient care. The Department of Health will also benefit especially where the study may even challenge policies.

INFORMED CONSENT FOR STUDY PARTICIPANTS

Title of the study: Strategies to improve academic performance of students in post basic nursing science course

I..... (Full names and surname) hereby consent to participate in the above mentioned study. I have read the above information leaflet and fully understand what is expected of me. Its

• contents and meaning have been explained to me. I have been given the opportunity to ask questions and received satisfactory answers. I hereby volunteer to take part in this research.

Participant Name and Surname..... (please
print) Signature of the participant
Date.....

Researcher Name and Surname..... (please
print)
Signature of the researcher.....
Date.....

•

CONFIDENTIALITY AGREEMENT

Research Title: Strategies to improve academic performance of students in Clinical Nursing Science course

The Researcher

I have explained the measure of ensuring confidentiality in the study.

.....

.....

Researcher

Date

The Participant

I understand that the information gathered during recordings will not be distributed or shared with anyone except the supervisors and independent coder who are directly involved in the study. The voice recorder will be erased and all the transcribed notes will only be made available to the independent coder. I further understand that I am not supposed to use my full names during the interviews but a code will be used as identification.

.....

.....

Participant

Date

•

INTERVIEW GUIDE FOR NURSE EDUCATORS

SECTION A

Q1. What is your age range?

- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65-74 years old
- 75 years or older

Q2. What is your place of birth?

Q3. Ethnic origin: Please specify your ethnicity.

- White
- African American
- Indian
- Other / specify

Q4. Education background: What is the highest degree you have received?

- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree

Q5. What is your marital status?

- Single, never married
- Married or domestic partnership
- Widowed
- Divorced

-
- Separated

Q6. Can you share with me your career path?

SECTION B

Q1. What are your reasons for coming to the nursing college?

Q2. How have you balanced different priorities, responsibilities, roles, and interests in your career?

Q3. How long have you been working in this college?

Q4. What was the general performance of post basic students in Internal Medicine and Surgery as well as Nursing Dynamics from 2012 to 2016 in the Nursing College you are working?

Q5. What are the reasons for high failure rate of post basic students in Internal Medicine and Surgery and Nursing Dynamics?

Q6. What are the challenges faced by post basic students when studying Internal Medicine and Surgery as well as Nursing Dynamics?

Q7. Which intervention strategies were employed to try and improve the academic performance?

Q8. What do you think can be done to improve performance of students?

•

ANNEXURE E: GRAND TOUR QUESTION

What do you think are the reasons for high failure rate of post basic students in Internal Medicine and Surgery and Nursing Dynamics?

•

INTERVIEW TRANSCRIPT RAM/3

KEY I:

INTERVIEWER

P: PARTICIPANT

I: Good morning.

P: Morning

I: How are you?

P: I am fine.

I: My name is Thalitha Maake. And I'm a UNISA student, I am pursuing PhD. So, my study is on post basic course especially the one that is leading to additional qualification in ICU, trauma nursing, operating theater and orthopaedic. So, when I was still working in the ward as a unit manager, I've been attending post basic meetings. I've been attending management meetings whereby for several years , I discovered that for specifically this course there are many students who are failing the course and not because they are not knowledgeable about their specialty but because most of them were struggling with Internal Medicine and Surgery together with nursing dynamics because those two components are compulsory they end up getting their qualification, then that is where I became concerned and said no letting me go and find out what is the problem? Why are the people not getting their qualification? What is the challenge especially regarding those two programs? That's why I'm here today because I have learned that these colleges are fighting the same course, that I'm doing a study on.

So now, when I was busy doing my application for permission and everything, they told me that you are one of the lecturers. So, I want to know which program are you teaching?

P: Critical care

I: Critical care, general?

•

P: General

I: That is ICU okay. So, then you are the relevant person whom I can get some of the information from. So, I would just like to invite you into this interview, which is going to be conducted plus or minus an hour and then from there because I won't be able to capture everything by writing while we are talking, I'm going to use a voice recorder Will you be comfortable with the voice recorder?

P: Perfect

I: Okay. So, your participation again is voluntarily you are not forced you are not compelled and you have got the right to withdraw if you feel you will not continue in a study.

P: Okay

I: Okay and also there is no compensation for it is just for study purpose so that it can help the students including the lectures.

P: Okay

I: Thank you. And I also want to rest assure you, that your name will not be mentioned anywhere as we will be busy conversing, is not going to appear on my report. And the information that I'm going to obtain from you is going to be kept confidential. It will only be available to my supervisor, including the independent coder who will be helping me when I'm doing my data analysis.

P: Okay

I: And by the way, my supervisor is Professor Masango, from University of South Africa.

P: Okay

I: Yes. So, after I finished with data analysis after I have finished with everything regarding my study, all the evidence that I'll be in position, especially like the information from the voice recorder will have to be deleted. And the report will be a written, especially because the college want a report from the study, or what are the findings, things like

•
that, then, which means there's going to be a publication that is going to be brought or submitted to college, but without any name on it , are you okay?

P: I am fine

I: Alright, thank you very much. So, are you willing to partake in this study?

P: Jaa (yes)

I: Okay, thank you. So, the purpose, as I've already mentioned about the problem is to find out what are the reasons for this failure rate and also to develop strategies that can help to improve the performance of the students.

And then from there, for me to be here, I have got an approval from UNISA. I also got an approval from this college especially from the Research Ethics Committee, which means my proposal has met all the requirements and I am also bound now, as I'll be conducting the study to abide to those requirements, especially with regard to anonymity, confidentiality, privacy, and there is nothing that will be hidden from you, whatever I'm going to ask you, it will be to the open, is it okay?

P: Okay

I: All right. Thank you very much. So, I have got an informed consent form here. That you are going to sign for me in this is just to say researcher has explained the procedure to me and I agreed in participating without being forced or coerced. So, you can just read through that is here, then you write your name and then you sign for me before we continue.

(Pause while signing the consent form)

I: Okay, thank you very much. And this study, as I've already mentioned, that it's a concern is not only a concern for an individual College is a concern also for the institution, especially because the institutions or the hospitals are sending their people to come and study, expecting that at the end of the day, they must come in with qualification so that they can have specialized nurses. So, now I think this is going to benefit not only the institution per se, it will also benefit the students in this manner. After the study I believe that they will be in introspection, either from the student side to see where they have

- been lacking, what can be done for future students, and also from the lecturers' side, they will look at whatever could have contributed to the poor academic performance and from there, they will be some form of improvement.

And again, I'm also looking at the college itself to say, if a college has been built to train students. And now you'll find that at the end of the day, the students are not getting their qualification, the image of the college also is being affected. But from this study, I believe that it will improve even the morale of the lecturers, including the image of the college.

P: Okay

I: Thank you so much. And one other benefit is that looking at the policies for selection, looking at the policies for intake and all those things, if there are any gaps, maybe this study also can even challenge the policies whereby they will be some form of changes or whatever. That is how I looked at to say this study can also benefit not only for my site, including the College, the institution and the lecturers on the other side. Is it okay?

P: Yes

I: Okay, thank you very much. So, I have got an interview guide so that I remain focus I go wide that is going to guide me on what to ask so that at the end of the day, we have really achieved what I'm here for okay.

So the first part of my interview guide is the biography data. Why did I wanted to include it is to say as a human being as a person, you've got a personal life. And sometimes a personal life can also affect your career life in one way or the other. That's why I wanted to bring it also to see that in that okay.

The first one I just want to know from you, what is your age range? I have got 25 to 34, 35 to 44, 45 to 54, 55 to 64 and 65 to 74.

P: 55 to 64

I: Okay, thank you very much your place of birth.

P: Gauteng

I: Gauteng, okay which suburb maybe?

•

P: Soweto

I: Soweto, okay. ethnic origin? I've got a white, I have got African, Indian, coloured.

P: African.

I: African okay, thank you very much. Eeh your educational background. What is your highest qualification?

P: Masters.

I: Masters okay, thank you. With which university maybe just for interest sake.

P: UJ.

I: UJ okay, thank you very much. Eeh this one, for sure I am not intruding our private life. I just want to know what is a marital status.

P: I am widowed

I: Widowed, okay thank you very much. Coming to the professional life or employment status just briefly not in detail because of time constraints. Can you share with me your career path? After I believe you have been a student from students after you qualified as a professional nurse. Where did you work and then until your end up where you are now? Not years you can just tell me this hospital or whatever, whatever like that.

P: I worked CM Jaffo for 14

years. I: Okay for 14 years.

P: I worked in private for two years

I: For two years

P: And then I went to a nursing College for two years

I: Nursing college for two years, Let's stop there for a while which nursing college specifically?

P: It was a private one Lungile nursing college.

•

I: Private Nursing college okay, ohoo which program were you teaching?

P: Eeeh I was teaching the enrolled nursing

I: Okay, enrolled nursing at that time. If I may ask, what was your reasons for joining the college?

P: Eeeh I like teaching

I: You like teaching.

P: Eeeh when I completed my when I was still looking at the Joburg Gen.

I: Uuuhm

P: I think I went for three years and when I went to do an ICU course.

I: Okay

P: And after the course it was more like I was so involved in the education of the students and then until I was asked to do clinical teaching.

I: Okay

P: So, I did clinical facilitation and then I left what was the reasons you know what, I realize that sometimes you are working and you feel that there is just you tend to the bored with what you are doing. I: Uuuhm

P: You feel bored I don't know but you know when you are young then I left to go to private worked for two years then went to the nursing college?

Okay.

P: Then I was in the nursing college and I left for two years went back to private as a unit manager in high care but now life happen so when my husband got sick

I: Okay.

You see I felt the need to move jaa because you know in private, they are concentrating on the profit.

•

I: Yes, yes. That is true

P: They can tolerate a staff member who is, so you know when you are stressful in the process it actually makes you to do not mistakes per see but for them, they take them as mistakes basically I felt I wasn't getting any support for that time.

I: From the workplace okay.

P: From the work place and I felt that they are more concentrated on the profits than on the person basically to help me and I came to join here and I went Bara in 2006.

I: Okay 2006.

P: Jaa then I started teaching the critical care there

I: Okay, Alright. So, since 2006 okay so, being a mother, I believe you are a mother being a mother, being a wife, being a lecturer, I will put it like that and having interests as a person you want to have fun all those things how have you been balancing these priorities, responsibilities your roles your interest and your career in between?

P: Eeeh I must say it's not it wasn't really something difficulty because look that you've got kids is something that will always be there.

I: Yes.

P: And they how they change going through the stages for them and it's a challenge but you know, most it comes and go.

I: Okay

P: But then when it comes to, your interested in your own development it's a different point again now neh

I: Uuuhm

P: Because now you have to focus you don't push away anything which is what I always tell the students that you know, when you when you're doing the course make sure that after the course you're still have your family.

•

I: Yes.

P: And so that I always tell them, it needs you to focus and there's a lot of work to do. And like when I was doing my master, I had my grandchild as well at the time.

I was always with, but you know, I actually made time.

I: Made time

P: Jaa, as an adult you make you time, you've got this goal I have to complete this course. By this time, you know, and you, you, you give yourself that time, I mean, it doesn't matter. It's gonna take you two years or three years, but now, it's just that some families maybe during that time, they tend to see you as being scarce or not really available as you used to be and so on and so on you understand but eeh. it's actually when I was doing my Masters it was actually, I was so used to even like I would go, go to bed at two in the morning. And I would get a call from my neighbor to say I forgot to switch off the lights meanwhile I'm still there.

I: You haven't slept yet

P: Yes, like I'm saying it goes with you and your needs to complete whatever it is that you have.

I: Okay

P: That's why maybe even after I completed my study for some reason, I had a lot of time on my knees.

I: Okay alright, so maybe let me go a little bit in depth on that one to say for you to go to bed at two by this time when you were doing your masters where you a lecture?

P: I was a lecturer and then was the husband still alive by then.

P: No, he was already passed on.

I: Okay, because I wanted to know how was the feeling when you go to bed at two in the morning, okay?

•

P: Jaa, when I was doing my Bcur because he was still alive and not sick, Yeah, it had its own challenge.

I: Yes, that is why I was asking really because in that case somewhere somehow you know, especially with the interest, you may find that it interferes with your social life, whereby in the minute your social life is being interfered with it affects the career life or

P: Yes, it did affect the social life actually.

I: So now, for how long you been in this college, you said from 2006 up till today which is 19 years, that's quite a long time.

P: Is it nineteen not nineteen 2006 to 2016

I: 2016 it was ten

P: Basically 13 years

I: Ohoo 13 years okay, since you have been here for that period, how was the general performance of the post basic students especially because I was looking at that Internal Medicine and Surgery and nursing dynamics which are compulsory subject.

P: Eeeh we are looking at students from 2012?

I: Yes.

P: Eeeh in 2012, we didn't we did have more of the challenges there when they came, some would be prepared, well prepared but some will just be here for a eeh eeh what's this OSD.

I: Uuuhm!!

P: They will not be really ready to do the course but because of OSD. You know you see students sometimes they tend to take the post basic study as very easy.

I: Uuuhm!! okay

P: And they come in and they get a shock of their life.

I: Uuuhm!!

•

P: So, they get into the course also looking into the depth of the work because of the depth of the work that they have to do. Because another thing I think it's more like they took basic training fairly light or they took it very lightly, because when they hear us that to, they expected you to start like teaching from basic things.

I: Meaning anatomy and physiology.

P: Oh, you understand in some way there I mean, if you're going to be talking about respiratory, we talking ventilation now, going to talk about the things that are closer to respiration, ventilation, you understand what I'm saying? And what is a lung we expect them to know how a lung is.

I: When it comes to post basic

P: Yes, before yes, so that they understand how pneumonia affects the lungs. You understand that?

I: Okay.

P: But now because in basic they were not taking heed of these conditions they were, I once heard some saying one thing that they were doing a cut, not cut and paste but cram and pass or something like that.

I: Oohoo

P: So it created a problem on post basic level.

I: Okay

P: Because we want them to see that they do understand, so there is no cut and paste or cram and pass in post basic because, moreover, in whatever you'll be doing, this should be a reason why you are doing that.

I: Thus true.

P: And as an independent because we're training them to be interdependent and if the doctor is not there they must be able to make a decision.

I: That is the objective of post basic?

•

P: Yes, they must be able to make a decision and act based on the information at hand they won't have the decision to make if they don't have the information of what is it that they are doing.

I: Okay

P: So that is the challenge that we are having.

I: Uuum!!

P: Now you do have some that will be okay and well prepared to the course.

I: Okay.

P: And then you do have some that will come to you and say that you know, mam I'm having a problem. I don't understand that, they will come forward.

I: Some they do come

P: But we do have those that hide under the table.

I: Oohoo

P: And they fail a test, you write see me they don't come. This is adult learning.

I: Yeah

P: If you don't want to come, I'm not going to force you to come know you.

I: No

P: You understand that.

I: Okay

P: So, each time they write a test, they fail a test and you say see me, your clinical evaluation they are doing badly. You sit down and talk to them. And then after that, you say to them okay this very patient that you had, go and do a case study. They don't do it. What do you do? There is nothing you can do.

•

I Okay

P: But some starts catching up. But most of the time they catch up late.

I: They catch up late when now the year is over.

P: They start showing something late say maybe about September, October as they're writing the exam in October.

I: Okay

P: So, obviously they are late and then they don't make it, the nicest part is that they didn't make it. They go back for that six weeks to work in before they leave, which is after the exam. Then they go back to the clinical areas they work, funny they come back next year. They come for supplementary and they write the supplementary in March.

I: Uuuhm!!

P: Their performance is much better than what it was during the course of the year. I: Okay

•

LETTER OF INFORMATION FOR THE STUDY SUBJECTS



College of Human Sciences
School of Social Sciences
Department of Health Sciences

RESEARCH QUESTIONNAIRE

Dear Research Participant

This self-administered structured questionnaire aims to obtain information pertaining to your **preparation for the clinical nursing science course** and the **challenges** you encountered during training of the course with regard to Internal Medicine and Surgery, and Nursing Dynamics. Your input will contribute to the formulation of strategies aimed at improving academic performance of students who enrol and study the Clinical Nursing Science course at South African Nursing Colleges.

Please note that your participation is entirely voluntary, and anonymity of your identity is strictly observed and guaranteed. Furthermore, no part of your personal information as a participant will be disclosed to anyone, and all information you provide will remain stringently confidential. Your integrity will not be compromised, and you are fully guaranteed of your right to withdraw from participating in this study at any point in time, should you feel so.

If you do not want to participate in the study, neither complete nor return the questionnaire. If you decide to participate, the questionnaire should take you about twenty minutes to complete. Please answer **ALL** questions in the space provided. Try to

- honestly complete the questions at the time you are most unlikely to be disturbed, and avoid spending too long on one question.
There are no costs associated with completing the questionnaire other than your time.

Upon completing the questionnaire, please return it to me via my email as soon as you can and no later than 15th December 2019.

If you have any queries or would like additional information about this study, please contact me during office hours on 0827694828 or send email to thalithamaake@yahoo.com / 30638666@mylife.unisa.ac.za. Should you have any questions regarding ethical aspects of the study, please contact the supervisor, Prof TE Masango, during office hours at 012 429 3386 or e-mail: masante@unisa.ac.za.

I, the researcher, appreciate your commitment in completing this questionnaire as well as your contribution to the successful completion of the study. A copy of my completed research report can be made available to you upon request.

Ms. Thalitha Maake

Professor TE Masango

Researcher

Supervisor

•

CONSENT TO PARTICIPATE IN THE STUDY (QUANTITATIVE)

Title of the study: Strategies to improve academic performance of students in Clinical nursing science course

I..... (participant name and surname) confirm that, the person asking my consent to participate in the study has explained to me about the nature of participation, the procedure and potential benefits as well as inconveniences. hereby consent to participate in the above mentioned study.

I have read the information leaflet as was also explained to me and fully understand what is expected.

I have been given the opportunity to ask questions and received satisfactory answers. I hereby volunteer to take part in this research.

Participant Name and Surname..... (please print)

Signature of the participant

Date.....

Researcher Name and Surname..... (please print)

Signature of the researcher.....

Date.....

QUESTIONNAIRE FOR THE STUDY

Guide to answering the questions

- Read each question carefully and make sure you understand
- Put an X in front of each question under column labelled code and response ▪
Make an explanation where needed.

SECTION A: DEMOGRAPHIC INFORMATION			
This section aims to obtain information on your general demographic profile. Please indicate your response by placing an X on the relevant code corresponding to your answer.			
Qn. #	Question	Response	Code
A101	Gender (sex)	Male	1
		Female	2
A102	Age group in which your age falls under	20-29 years	1
		30-39 years	2
		40-49 years	3
		50 years and above	4
A103	[State the Province from which you enrolled for your clinical nursing science course (postbasic)]	Eastern Cape	1
		Gauteng	2
		Free state	3

		Kwa Zulu Natal	4
		Limpopo	5
		Mpumalanga	6
		Northern Cape	7

		North West	8
		Western Cape	9

A104	Please indicate your major reason that led you to enrol in the Clinical Nursing Science course (postbasic)	Had no other choice to pursue	1
		Desire to improve or save lives	2
		Rewarding career/profession	3
		Job (employment) security	4
		Several graduate prospects	5
		Respect allied with profession	6

A105	Select the programme you followed before enrolling in post basic course?	R425	1
		Bridging Course	2

A106	Indicate the number of years you worked before enrolling for post basic course?	2 – 3 years	
		4 - 5 years	2
		5 years and above	3

A107	Which speciality did you register for in the clinical nursing science course?	Operating theatre nursing	1
		Orthopaedic nursing	2

		Critical nursing general (ICU)	3
		Critical care trauma nursing	4
A108	Indicate the number of years you took to complete and obtain your qualification.	1 year	1
		2 years	2
		3 years	3
		Didn't obtain the qualification	4
A109		Speciality	1
	Please indicate the subject that you found it difficult to pass during your period of study	Internal medicine and surgery	2
		Nursing dynamics	3
		Nursing research	4

SECTION B: PREPAREDNESS AND ASSERTIVENESS

Questions in this broad section aim to determine your preparedness for the post basic course as well as your assertiveness during training

Questions in sections B1 and B2 aim to determine the extent to which you agree with each of the statements describing your preparedness and assertiveness for the post basic course; respectively. Please indicate your response to each of the questions based on the 5-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree and 5 = Strongly Agree.

Example: The learning phase was pleasurable. If you consider “**Neutral**” as your answer, then you place an X in the box labeled 3 as shown herein below.

1	2	3	4	5
---	---	--------------	---	---

SECTION B1: READINESS

Qn. #	Question	Response				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
B101	My knowledge was deficient to enable me perform assigned tasks	1	2	3	4	5

B102	I lacked practical skills required to render specialised care to patients	1	2	3	4	5
------	---	---	---	---	---	---

B103	I had minimal critical thinking ability to handle diverse situations in the unit	1	2	3	4	5
B104	I was unable to express myself when answering questions in class	1	2	3	4	5
B105	There were high workloads and more to learn than I expected	1	2	3	4	5
B106	My role was not clearly defined to enable me to carry out my duties as a student	1	2	3	4	5
B107	My basic training was not aligned to the post basic course requirements	1	2	3	4	5
B108	Student mentorship from the educators was inadequate during my post basic training	1	2	3	4	5
B109	Overall, I was not adequately prepared for the post basic course	1	2	3	4	5
B110	Please describe any aspect that you experienced as having had a negative influence on your performance during your training of post basic course.					
SECTION B2: ASSERTIVENESS						
Qn. #	Question	Response				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
B201	I had no enthusiasm to seek help in situations where I needed it	1	2	3	4	5

B202	The learning environment in the class made me feel discouraged		2	3	4	5
B203	My time management was not meeting the demands of the course	1	2	3	4	5
B204	I felt distressed in dealing with course demands in the learning environment	1	2	3	4	5
B205	In general, provision of support given to me was very limited	1	2	3	4	5
B206	Sometimes I felt so frustrated being loaded with massive information	1	2	3	4	5
B207	I had a bad attitude towards Internal medicine and surgery as well as research	1	2	3	4	5
B208	Overall, I had minimum enthusiasm for the post basic course	1	2	3	4	5

SECTION C: CHALLENGES ENCOUNTERED

Questions in this broad section aim to determine challenges you encountered during your post basic studies in Internal Medicine and Surgery, and Nursing Dynamics. Challenges encountered are grouped into four (4) categories as follows:

- Educators' Competences
- Learning and Application
- Supervision and Support
- Academic Assessments

Questions in sections C1 and C2 aim to determine the extent to which you agree with each of the statements describing the challenges encountered during your learning and clinical placement. Please show your response to each of the questions based on the 5-point Likert scale 1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, and 5 = Strongly Agree. **Example:** Visiting lecturers were tyrannical. If you "**Strongly Disagree**", place an X in the box labelled 1 as shown herein below.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5

SECTION C1: EDUCATORS' COMPETENCES

Qn. #	Question	Response				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
C101	Educators had limited knowledge to adequately answer questions	1	2	3	4	5
C102	Educators were not fully capable to integrate theory into practice	1	2	3	4	5
C103	The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	1	2	3	4	5
C104	Strategies used by nurse educators to deliver the subject content were marginally useful	1	2	3	4	5
C104	The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students	1	2	3	4	5

C105	Feedback from educators was insufficient to improve students' performance	1	2	3	4	5
C106	The nurse educators partially acted as change agent in the process of student learning and teaching	1	2	3	4	5

SECTION C2: LEARNING AND APPLICATION

Qn. #	Question	Response				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
C201	Theoretic concepts learnt were not integrated and practiced in ward	1	2		4	5
C202	Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)	1	2	3	4	5
C203	Procedures learned during the lessons were not completely aligned to the needs of the patients in the unit	1	2	3	4	5
C204	Duration of the course was shorter than subject content to be covered	1	2	3	4	5
C205	Procedures taught were partly in conflict with real situations in ward	1	2	3	4	5
C206	Students were largely assigned very basic tasks, rather than specialty related activities in the wards	1	2	3	4	5

SECTION C: CHALLENGES ENCOUNTERED..... (Continued)

SECTION C3: SUPERVISION AND SUPPORT

Qn. #	Question	Response
-------	----------	----------

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
C301	The supervision and support I received was generally inadequate	1	2	3	4	5
C302	Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	1	2	3	4	5
C303	The clinical accompaniment by nurse educators was partially satisfactory	1	2	3	4	5
C304	Clinical staff and nurse educators were not easy to approach for support	1	2	3	4	5
C305	Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	1	2	3	4	5
C306	Ward managers had bad attitude towards students during clinical practice	1	2	3	4	5
C307	Preceptors contributed insignificantly toward the education of students in the clinical setting	1	2	3	4	5
SECTION C4: LEADERSHIP						
Qn. #	Question	Response				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
C401	Nurse educators did not regard students as key resource persons	1	2	3	4	5
C402	Student were not involved in decisions pertaining to their studies	1	2	3	4	5

C403	Nurse Managers partially helped and offered students opportunity to learn from other staff members	1	2	3	4	5
C404	Efforts by individual student employees were not appreciated	1	2	3	4	5
C405	There was no spirit of unity among nursing staff in the units	1	2	3	4	5
C406	There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators	1	2	3	4	5
C407	There was a slightly caring relationship among ward staff and the students	1	2	3	4	5
C408	Students were partly recognized to give inputs during staff meetings	1	2	3	4	5
C409	The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	1	2	3	4	5
C410	The college principal slightly provided individualised and encouraging support to student	1	2	3	4	5

THANK YOU FOR YOUR TIME AND PARTICIPATION

FINAL RESULTS FOR SURVEY DATA: SACLE REALIABILITY AND CONSTRUCT VALIDITY TESTS

APPENDIX A: EXPLORATORY FACTOR ANALYSIS – CONSTRUCT VALIDITY

OVERALL (TOTAL ITEMS) CONSTRUCT VALIDITY

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.751
Bartlett's Test of Sphericity	Approx. Chi-Square	2951.440
	df	1081
	Sig.	.000

APPENDIX A: CONSTRUCT VALIDITY PER CONSTRUCT

SECTION B: PREPAREDNESS

SECTION B1: READINESS

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.649
Bartlett's Test of Sphericity	Approx. Chi-Square	192.464
	df	36
	Sig.	.000

SECTION B2: ASSERTIVENESS

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.757
		161.855
Approx. Chi-Square		
Bartlett's Test of Sphericity	df	28
	Sig.	.000

SECTION C: CHALLENGES ENCOUNTERED

SECTION C1: EDUCATORS' COMPETENCES

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.604
		194.233
Approx. Chi-Square		
Bartlett's Test of Sphericity	df	21

Sig.	.000
------	------

SECTION C2: LEARNING AND APPLICATION

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.621
Bartlett's Test of Sphericity	Approx. Chi-Square
	114.442
	df
	15
	Sig.
	.000

SECTION C3: SUPERVISION AND SUPPORT

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.729
Bartlett's Test of Sphericity	Approx. Chi-Square
	220.931
	df
	21
	Sig.
	.000

SECTION C4: LEADERSHIP

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.800
Bartlett's Test of Sphericity	Approx. Chi-Square
	406.394

df	45
Sig.	.000

APPENDIX B: SCALE RELIABILITY

Overall Scale Reliability

Reliability Statistics

Cronbach's Alpha	N of Items
.908	47

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B101. My knowledge was deficient to enable me perform assigned tasks	110.69	518.258	.100	.910
B102. I lacked practical skills required to render specialised care to patients	110.85	511.941	.217	.908
B103. I had minimal critical thinking ability to handle diverse situations in the unit	111.03	523.294	.031	.909
B104. I was unable to express myself when answering questions in class	111.47	508.783	.353	.906

B105. There were high workloads and more to learn than I expected	109.32	516.982	.195	.908
B106. My role was not clearly defined to enable me to carry out my duties as a student	111.16	509.083	.342	.906
B107. My basic training was not aligned the post basic course requirements	111.09	512.560	.243	.907 to
B108. Student mentorship from the educators was inadequate during my post basic training	111.01	495.266	.503	.904
B109. Overall, I was not adequately prepared for the post basic course	111.13	506.271	.431	.905
B201. I had no enthusiasm to seek help in situations where I needed it	111.24	517.379	.166	.908
B202. The learning environment in the class made me feel discouraged	111.09	505.431	.374	.906
B203. My time management was not meeting the demands of the course	110.82	509.846	.278	.907
B204. I felt distressed in dealing with course demands in the learning environment	110.61	494.960	.522	.904
B205. In general, provision of support given to me was very limited	111.15	499.265	.540	.905
B206. Sometimes I felt so frustrated being loaded with massive information	110.32	501.126	.433	

B207. I had a bad attitude towards Internal medicine and surgery as well as research	111.61	508.368	.374	.906
B208. Overall, I had minimum enthusiasm for the post basic course	111.23		.426	.905
C101. Educators had limited knowledge to adequately answer questions	111.34		.322	.906
C102. Educators were not fully capable to integrate theory into practice		505.098	.519	.904
C103. The nurse educator's competency insufficiently helped me to improve my academic performance as well as closed the achievement gap	111.31	510.385	.248	.907
		499.210		
	111.16	513.951		
C104. Strategies used by nurse to deliver the subject content were marginally useful	110.93	511.707	.232	.908 educators
C105. The nurse educators did not used different teaching strategies to meet the diverse learning needs of diverse group of students	111.11	490.865	.632	.903
C106. Feedback from educators was insufficient to improve students' performance	110.56	509.442	.264	.907
C107. The nurse educators partially acted as change agent in the process of student learning and teaching	111.07	503.736	.415	.905

	111.29	505.072	.446	.905
C201. Theoretic concepts learnt were not integrated and practiced in ward				
	110.61	490.542	.524	.904
C202. Internal medicine and surgery (Capita Selecta) was partly relevant to my area of specialty (clinical placement)				
				.907
C203. Procedures learned during the lessons were not completely aligned to the needs of the patients in the unit	111.39	515.852	.238	
C204. Duration of the course was shorter than subject content to be covered	109.62	516.424	.146	.909
C205. Procedures taught were partly in conflict with real situations in ward	111.26	505.674	.409	.906
C206. Students were largely assigned very basic tasks, rather than specialty related activities in the wards	111.08	495.800	.516	.904
C301. The supervision and support I received was generally inadequate	111.00	498.029	.564	.904
C302. Nurse educators were moderately competent in facilitating the programme and guiding the students to perform their tasks	111.16	498.023	.582	.904
C303. The clinical accompaniment by educators was partially satisfactory	110.61	495.807	.514	.904
				nurse
C304. Clinical staff and nurse educators were not easy to approach for support	111.01	502.647	.453	.905
C305. Clinical staff did not recognize students as learners but treated them as workforce to patch shortage	110.46	486.164	.621	.903

C306. Ward managers had bad attitude towards students during clinical practice	111.19	501.188	.456	.905
	110.71	507.058	.354	.906
C307. Preceptors contributed insignificantly toward the education of students in the clinical setting	111.06	502.133	.515	.905
C401. Nurse educators did not regard students as key resource persons	110.81	503.682	.426	.905
C402. Student were not involved in decisions pertaining to their studies	110.79	498.184	.497	.904
C403. Nurse Managers partially helped and offered students opportunity to learn from other staff members		499.513		.904
C404. Efforts by individual student employees were not appreciated		508.675	.517	.906
	111.25			
C405. There was no spirit of unity among nursing staff in the units	111.09	498.500	.364	.904
	111.06		.517	
C406. There was insufficient supervision by head of department with regard to evaluation of teaching strategies used by nurse educators		500.905		.905
			.479	
C407. There was a slightly caring relationship among ward staff and the students	110.76			.906
			.404	
C408. Students were partly recognized to give inputs during staff meetings	110.96	501.186		

C409. The college climate did not provide a sense of ownership for students and was partly welcoming for ideas and proposals	110.69	503.742	.473	.905
C410. The college principal slightly provided individualised and encouraging support to student	110.91	502.963	.424	.905

SCALE RELIABILITY PER CONSTRUCT

SECTION B1: READINESS

Reliability Statistics

Cronbach's Alpha	N of Items
.635	9

SECTION B2: ASSERTIVENESS

Reliability Statistics

Cronbach's Alpha	N of Items
.700	8

SECTION C1: EDUCATORS' COMPETENCES

Reliability Statistics

Cronbach's Alpha	N of Items
.618	7

SECTION C2: LEARNING AND APPLICATION

Reliability Statistics

Cronbach's Alpha	N of Items
.597	6

SECTION C3: SUPERVISION AND SUPPORT

Reliability Statistics

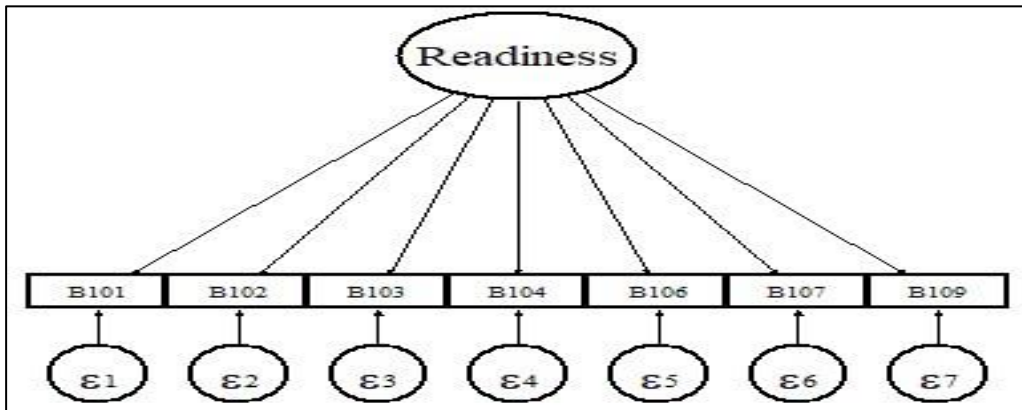
Cronbach's Alpha	N of Items
.766	7

SECTION C4: LEADERSHIP

Reliability Statistics

Cronbach's Alpha	N of Items
.818	10

CONFIRMATORY FACTOR ANALYSIS (CFA) Results



```
. sem (Readiness -> B101, ) (Readiness -> B102, ) (Readiness -> B103, ) (Readiness ->
B104, ) (Readiness -> B106, > ) (Readiness -> B107, ) (Readiness -> B109, ),
cov(e.B101*e.B107) cov(e.B106*e.B107) cov(e.B104*e.B106) standa
> rdized nomeans latent(Readiness )
```

```
nocaplatent Endogenous variables
```

```
Measurement: B101 B102 B103 B104 B106 B107 B109
```

```
Exogenous
```

```
variables
```

```
Latent:
```

```
Readiness
```

Fitting target

model:

```
Iteration 0: log likelihood = -1420.9004 (not concave)
Iteration 1: log likelihood = -1400.3185
Iteration 2: log likelihood = -1396.4043
Iteration 3: log likelihood = -1395.7083
Iteration 4: log likelihood = -1395.7
Iteration 5: log likelihood = -1395.7
```

```
Structural equation model           Number of obs   =       140
Estimation method = ml
Log likelihood = -1395.7
```

(1) [B101]Readiness = 1

Standardized	OIM					[95% Conf. Interval]	
	Coef.	Std. Err.	z	P>|z|			
Measurement							
B101 <- Readiness	.7670904	.066369	11.56	0.000	.6370096	.8971711	
B102 <- Readiness	.7734429	.0632923	12.22	0.000	.6493923	.8974934	
B103 <- Readiness	.4486541	.0769921	5.83	0.000	.2977523	.5995558	
B104 <- Readiness	.2387229	.0897992	2.66	0.008	.0627197	.4147261	
B106 <- Readiness	.1014985	.0966688	1.05	0.294	-.0879689	.2909659	
B107 <- Readiness	.3592414	.0978864	3.67	0.000	.1673876	.5510953	
B109 <- Readiness	.3348141	.0850838	3.94	0.000	.168053	.5015753	

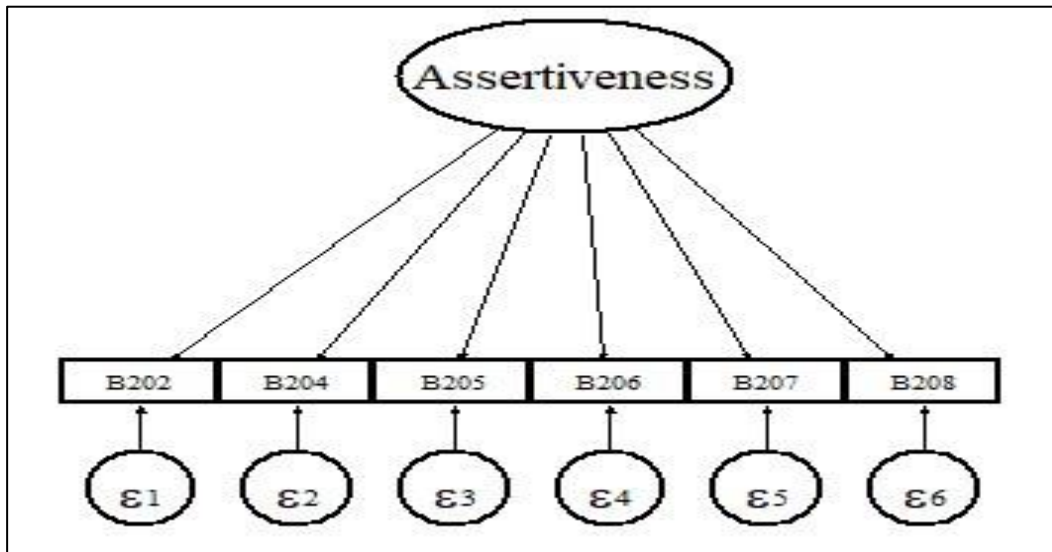
var(e.B101)	.4115724	.101822			.2534318	.6683921
var(e.B102)	.4017861	.0979059			.2492166	.6477581
var(e.B103)	.7987095	.0690856			.6741598	.9462696
var(e.B104)	.9430114	.0428743			.8626146	1.030901
var(e.B106)	.9896981	.0196235			.9519745	1.028916
var(e.B107)	.8709456	.0703297			.7434567	1.020296
var(e.B109)	.8878995	.0569745			.7829682	1.006893
	1	.			.	.
var(Readiness)						
cov(e.B101,e.B107)	-.4998017	.1418073	-3.52	0.000	-.7777388	-.2218646
cov(e.B104,e.B106)	.2331252	.0797738	2.92	0.003	.0767715	.389479
cov(e.B106,e.B107)	.2145311	.0818444	2.62	0.009	.0541191	.3749431

LR test of model vs. saturated: chi2(11) = 16.09, Prob > chi2 = 0.1379

. estat gof, stats(all)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(11)	16.089	model vs. saturated
p > chi2	0.138	
chi2_bs(21)	163.229	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.057	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.114	
pclose	0.371	Probability RMSEA <= 0.05
Information criteria		
AIC	2825.400	Akaike's information criterion
BIC	2875.408	Bayesian information criterion
Baseline comparison		
CFI	0.964	Comparative fit index

	TLI	0.932	Tucker-Lewis index
Size of residuals	SRMR	0.064	Standardized root mean squared residual
	CD	0.825	Coefficient of determination



```
. sem (Assertiveness -> B202, ) (Assertiveness -> B204, ) (Assertiveness -> B205, ) (Assertiveness ->
B206, ) (As > sertiveness -> B207, ) (Assertiveness -> B208, ), cov(e.B207*e.B208) cov(e.B204*e.B206)
standardized nomeans la
> tent(Assertiveness ) nocapslatent
```

Endogenous variables

Measurement: B202 B204 B205 B206 B207 B208

Exogenous variables

Latent:

Assertiveness Fitting

target model:

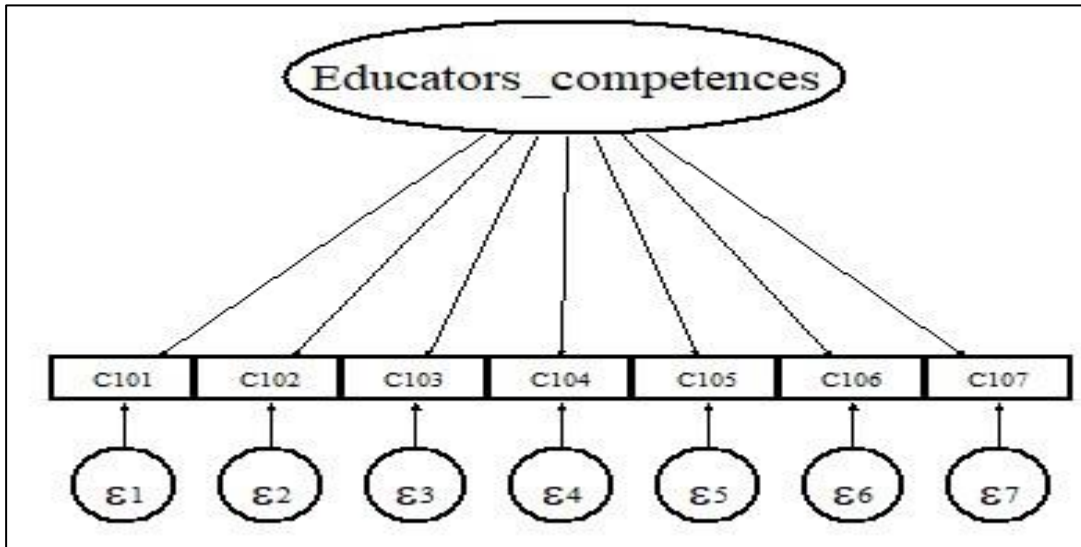
```
Iteration 0: log likelihood = -1216.756
Iteration 1: log likelihood = -1213.7976
Iteration 2: log likelihood = -1209.4718
Iteration 3: log likelihood = -1209.3387
Iteration 4: log likelihood = -1209.3383
Iteration 5: log likelihood = -1209.3383
```


Standardized	OIM		z	P>|z|	[95% Conf. Interval]	
	Coef.	Std. Err.				
Measurement						
B202 <- Assertiveness	.5106774	.0893724	5.71	0.000	.3355106	.6858441
B204 <- Assertiveness	.6495501	.0918437	7.07	0.000	.4695397	.8295606
B205 <- Assertiveness	.5211645	.0901138	5.78	0.000	.3445447	.6977842
B206 <- Assertiveness	.5229215	.0992674	5.27	0.000	.3283609	.7174821
B207 <- Assertiveness	.4799815	.0911777	5.26	0.000	.3012764	.6586866
B208 <- Assertiveness	.3595133	.0989175	3.63	0.000	.1656386	.553388
var (e.B202)	.7392086	.0912809			.5803055	.9416237
var (e.B204)	.5780846	.1193142			.3857509	.866315
var (e.B205)	.7283876	.0939282			.5657142	.9378385
var (e.B206)	.7265531	.1038181			.549083	.9613835
var (e.B207)	.7696178	.0875273			.6158422	.961791
var (e.B208)	.8707502	.0711243			.7419353	1.02193
	1	.			.	.
var (Assertiveness)						
cov (e.B204,e.B206)	.2327158	.1218511	1.91	0.056	-.0061081	.4715396
cov (e.B207,e.B208)	.2475237	.0893239	2.77	0.006	.072452	.4225953
LR test of model vs. saturated: chi2(7) =				5.19,	Prob > chi2 = 0.6369	

. estat gof, stats(all)

Fit statistic	Value	Description
---------------	-------	-------------

Likelihood ratio chi2_ms(7)	5.189	model vs. saturated
p >	0.637	
chi2		
chi2_bs(15)	132.038	baseline vs. saturated
p >	0.000	
chi2		
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.086	
pclose	0.808	Probability RMSEA <= 0.05
Information criteria		
AIC	2446.677	Akaike's information criterion
BIC	2487.860	Bayesian information criterion
Baseline comparison		
CFI	1.000	Comparative fit index
TLI	1.033	Tucker-Lewis index
Size of residuals		
SRMR	0.030	Standardized root mean squared residual
CD	0.667	Coefficient of determination



```
. sem (Educators_competences -> C101, ) (Educators_competences -> C102, )
(Educators_competences -> C103, ) (Educ
> ators_competences -> C104, ) (Educators_competences -> C105, ) (Educators_competences ->
C106, ) (Educators_com
> petences -> C107, ), cov(e.C104*e.C107) cov(e.C103*e.C104) cov(e.C105*e.C107)
cov(e.C104*e.C106) cov(e.C101*e.C
> 105) standardized nomeans latent(Educators_competences ) nocapslatent
```

Endogenous variables

Measurement: C101 C102 C103 C104 C105 C106 C107

Exogenous variables

Latent:

Educators_competences Fitting

target model:

```
Iteration 0: log likelihood = -1432.5422
Iteration 1: log likelihood = -1430.2942
Iteration 2: log likelihood = -1400.3654
Iteration 3: log likelihood = -1397.589
Iteration 4: log likelihood = -1397.4989
Iteration 5: log likelihood = -1397.4988
```

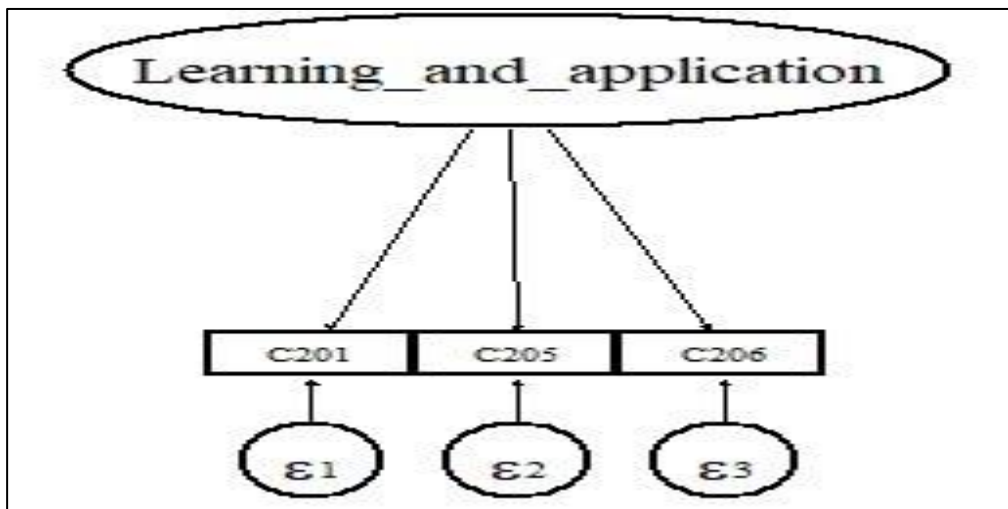

		1				
var(Educators_competences)						
cov(e.C101,e.C105)	-.2914675	.1422571	-2.05	0.040	-.5702862	-
cov(e.C103,e.C104)	.0126488	.0695057	-5.52	0.000	-.5201839	-
cov(e.C104,e.C106)	-.3839552	.0715043	-4.02	0.000	-.4277972	-
cov(e.C104,e.C107)	.2477264	.0649681	5.36	0.000	.2207913	
cov(e.C105,e.C107)	-.2876514	.0824133	3.31	0.001	.1113784	
	.1475056					
	.4754617					
	.4344326					

LR test of model vs. saturated: chi2(9) = 9.90, Prob > chi2 = 0.3586

. estat gof, stats(all)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(9)	9.901	model vs. saturated
p > chi2	0.359	
chi2_bs(21)	200.191	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.027	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.101	
pclose	0.611	Probability RMSEA <= 0.05
Information criteria		
AIC	2832.998	Akaike's information criterion
BIC	2888.889	Bayesian information criterion
Baseline comparison		
CFI	0.995	Comparative fit index

TLI	0.988	Tucker-Lewis index
Size of residuals	0.042	Standardized root mean squared residual
SRMR	0.819	Coefficient of determination
CD		



```
sem (Learning_and_application -> C201, ) (Learning_and_application -> C205, )
(Learning_and_application -> C206,
> ), standardized nomeans latent(Learning_and_application ) nocapslatent
```

Endogenous variables

Measurement: C201 C205 C206

Exogenous variables

Latent:

Learning_and_application

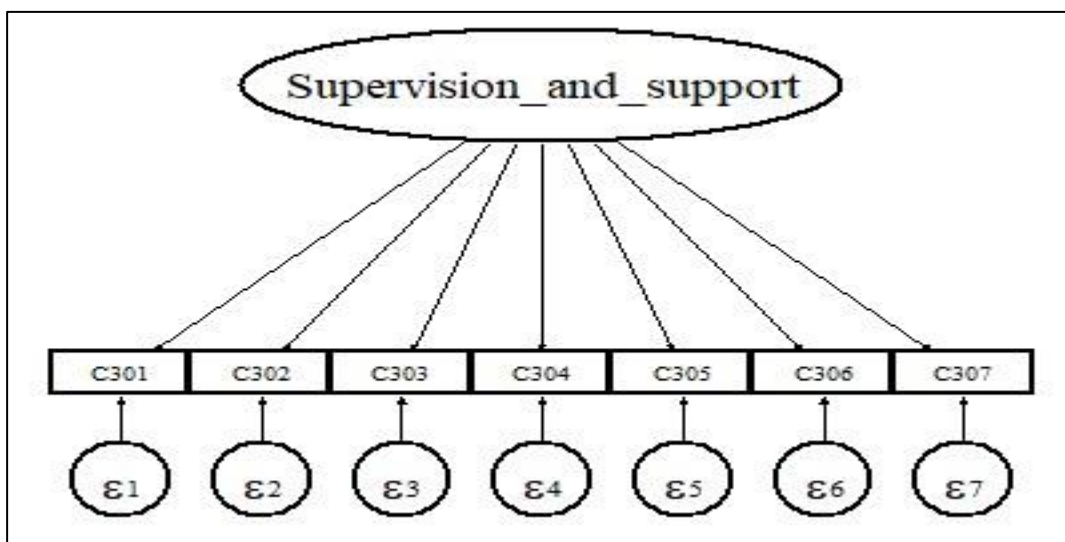
Fitting target model:

Standardized	OIM		z	P>|z|
	Coef.	Std. Err.		
[95% Conf. Interval]				
Measurement				
• C201 <- Learning_and_application	.4181782 .2499726	.0858207 .5863838	4.87	0.000
C205 <- Learning_and_application	.8266543 .6258781	.1024387 1.027431	8.07	0.000
C206 <- Learning_and_application	.6860986 .5029059	.0934674 .8692914	7.34	0.000
var(e.C201)	.825127 .6957863	.978511		.0717767
var(e.C205)	.3166427 .1109907	.9033417		.1693628
var(e.C206)	.5292687 .3291605	.8510297		.1282557
var(Learning_and_application)	1			.
LR test of model vs. saturated: chi2(0) = 0.00, Prob > chi2 = .				

. estat gof, stats(all)

Fit statistic	Value	Description
Likelihood ratio chi2_ms(0)	0.000	model vs. saturated
p > chi2	.	
chi2_bs(3)	74.104	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.000	
pclose	1.000	Probability RMSEA <= 0.05
Information criteria		
AIC	1193.941	Akaike's information criterion

	BIC	1211.591	Bayesian information criterion
<hr/>			
Baseline comparison	CFI	1.000	Comparative fit index
	TLI	1.000	Tucker-Lewis index
<hr/>			
Size of residuals	SRMR	0.000	Standardized root mean squared residual
	CD	0.765	Coefficient of determination
<hr/>			



```
. sem (Supervision_and_support -> C301, ) (Supervision_and_support ->
C302, ) (Supervision_and_support -> C303, )
> (Supervision_and_support -> C304, ) (Supervision_and_support -> C305,
) (Supervision_and_support -> C306, ) (Supervision_and_support ->
C307, ), cov(e.C305*e.C307) cov(e.C305*e.C306) cov(e.C303*e.C307)
standardized nonean
> s latent(Supervision_and_support ) nocapslatent
```

Endogenous variables

Measurement: C301 C302 C303 C304 C305 C306 C307

Exogenous variables

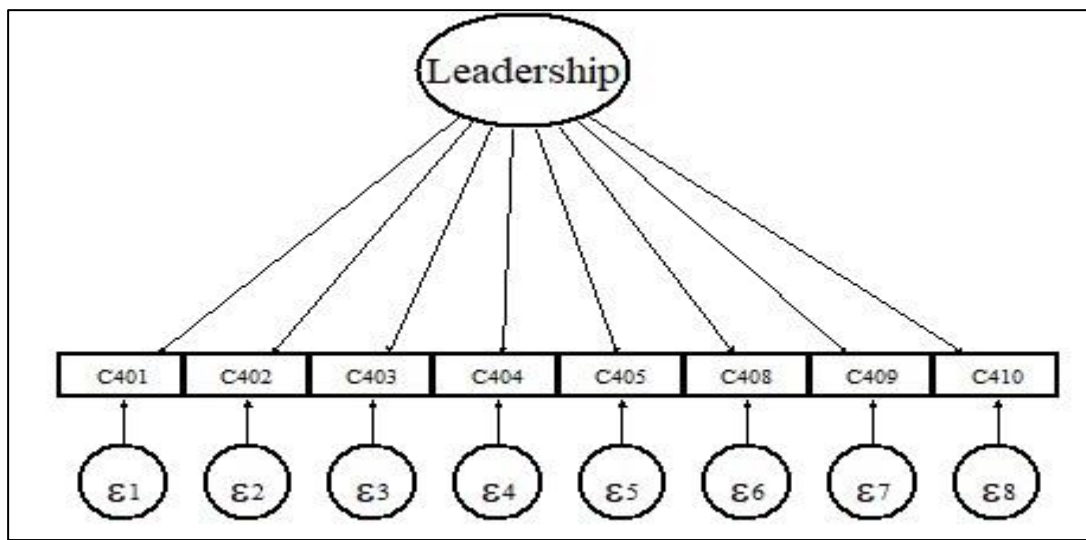
C306 <- Supervision_and_support	.4571667	.0895118	5.11	0.000	.2817268	.6326067
C307 <- Supervision_and_support	.5116546	.0911321	5.61	0.000	.3330389	.6902703
var(e.C301)	.6805185	.0826239			.5364051	.8633502
var(e.C302)	.7112831	.0781566			.573471	.8822131
var(e.C303)	.6495461	.0858388			.5013281	.841585
var(e.C304)	.7717758	.0740015			.6395491	.9313404
var(e.C305)	.4086312	.0962338			.2575557	.6483237
var(e.C306)	.7909986	.0818437			.6458073	.968832
var(e.C307)	.7382096	.0932564			.5763009	.9456056
	1	.			.	.
var(Supervision_and_support)						
cov(e.C303,e.C307)	.1430417	.108077	1.32	0.186	-.0687853	.3548687
cov(e.C305,e.C306)	.3570685	.1058295	3.37	0.001	.1496464	.5644905
cov(e.C305,e.C307)	-.3825575	.1279345	-2.99	0.003	-.6333046	-.1318104

LR test of model vs. saturated: chi2(11) = 15.02, Prob > chi2 = 0.1817

. estat gof, stats(all)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(11)	15.018	model vs. saturated
p > chi2	0.182	
chi2_bs(21)	227.708	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.051	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.109	
pclose	0.437	Probability RMSEA <= 0.05
Information criteria		
AIC	2856.795	Akaike's information criterion
BIC	2906.803	Bayesian information criterion

Baseline comparison			
	CFI	0.981	Comparative fit index
	TLI	0.963	Tucker-Lewis index
Size of residuals			
	SRMR	0.045	Standardized root mean squared residual
	CD	0.809	Coefficient of determination



```

. sem (Leadership -> C401, ) (Leadership -> C402, ) (Leadership -> C403, ) (Leadership -> C404, )
(Leadership ->
> C405, ) (Leadership -> C408, ) (Leadership -> C409, ) (Leadership -> C410, ), cov(e.C401*e.C402)
cov(e.C404*e.C405) cov(e.C409*e.C410) cov(e.C402*e.C404) cov(e.C403*e.C409) standardized nomeans
latent(Leadership ) nocapsla > tent

```

Endogenous variables

Measurement: C401 C402 C403 C404 C405 C408 C409 C410

Exogenous

variables Latent:

Leadership Fitting

target model:

```

Iteration 0: log likelihood = -1599.5195 (not concave)
Iteration 1: log likelihood = -1575.2885
Iteration 2: log likelihood = -1563.3051
Iteration 3: log likelihood = -1554.2864
Iteration 4: log likelihood = -1552.5364
Iteration 5: log likelihood = -1552.4035
Iteration 6: log likelihood = -1552.3897
Iteration 7: log likelihood = -1552.3895
Iteration 8: log likelihood = -1552.3895

```

```

Structural equation model           Number of obs   =           140
Estimation method = ml
Log likelihood = -1552.3895

```

(1) [C401]Leadership = 1

Standardized	OIM		z	P>|z|	[95% Conf. Interval]	
	Coef.	Std. Err.				
Measurement						
C401 <- Leadership	.3520805	.0876628	4.02	0.000	.1802646	.5238964
C402 <- Leadership	.315686	.0899966	3.51	0.000	.1392958	.4920761
C403 <- Leadership	.6134829	.0784826	7.82	0.000	.4596599	.7673058

C404 <- Leadership	.4665396	.0793128	5.88	0.000	.3110895	.6219898
C405 <- Leadership	.2624595	.0900465	2.91	0.004	.0859715	.4389475
C408 <- Leadership	.5936486	.0697524	8.51	0.000	.4569364	.7303608
C409 <- Leadership	.7676827	.0822436	9.33	0.000	.6064882	.9288772
C410 <- Leadership	.6625164	.0766316	8.65	0.000	.5123213	.8127116
var(e.C401)	.8760393	.0617287			.763036	1.005778
var(e.C402)	.9003424	.0568213			.795587	1.018891
var(e.C403)	.6236388	.0962954			.4607868	.8440462
var(e.C404)	.7823408	.0740051			.6499456	.941705
var(e.C405)	.931115	.0472671			.8429327	1.028522
var(e.C408)	.6475814	.0828168			.5040078	.8320538
var(e.C409)	.4106633	.126274			.2247769	.7502742
var(e.C410)	.561072	.1015394			.3935259	.7999518
	1	.			.	.
var(Leadership)						
cov(e.C401,e.C402)	.4466453	.0691989	6.45	0.000	.3110178	.5822727
cov(e.C402,e.C404)	.1608542	.0732133	2.20	0.028	.0173589	.3043495
cov(e.C403,e.C409)	-.304458	.1737117	-1.75	0.080	-.6449266	.0360106
cov(e.C404,e.C405)	.3386347	.0773281	4.38	0.000	.1870744	.4901949
cov(e.C409,e.C410)	.1714448	.1674233	1.02	0.306	-.1566989	.4995885

LR test of model vs. saturated: chi2(15) = 20.05, Prob > chi2 = 0.1702

. estat gof, stats(all)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(15)	20.045	model vs. saturated
p > chi2	0.170	
chi2_bs(28)	273.674	baseline vs. saturated
p > chi2	0.000	

Population error			
RMSEA	0.049	Root mean squared error of approximation	
90% CI, lower bound	0.000		
upper bound	0.100		
pclose	0.466	Probability RMSEA <= 0.05	
Information criteria			
AIC	3146.779	Akaike's information criterion	
BIC	3208.553	Bayesian information criterion	
Baseline comparison			
CFI	0.979	Comparative fit index	
TLI	0.962	Tucker-Lewis index	
Size of residuals			
SRMR	0.061	Standardized root mean squared residual	
CD	0.809	Coefficient of determination	

•

ANNEXURE F: LANGUAGE EDITING CERTIFICATE

Between *the* lines editing

Leatitia Romero
Professional Copy Editor, Translator and Proofreader
(BA HONS)

Cell: 083 236 4536
leatitiaromero@gmail.com
www.betweenthelinesediting.co.za

3 December 2020

To whom it may concern:

I hereby confirm that I have edited the thesis entitled: "STRATEGIES TO IMPROVE ACADEMIC PERFORMANCE OF STUDENTS IN A CLINICAL NURSING SCIENCE COURSE". Any amendments introduced by the author hereafter are not covered by this confirmation. The author ultimately decided whether to accept or decline any recommendations made by the editor, and it remains the author's responsibility at all times to confirm the accuracy and originality of the completed work.



Leatitia Romero

Affiliations

PEG: Professional Editors Group (ROM001)
EASA: English Academy of South Africa
SATI: South African Translators' Institute (1003002)
SEEP: Society for Editors and Proofreaders (15687)
REASA: Research Ethics Committee Association of Southern Africa (104)