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A MODEL FOR RETENTION-TO-GRADUATION OF UNDERGRADUATE NURSING STUDENTS AT UNIVERSITIES IN THE EASTERN CAPE PROVINCE, SOUTH AFRICA

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THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENT FOR THE DOCTOR OF PHILOSOPHY IN NURSING

FACULTY OF HEALTH SCIENCES

DEPARTMENT OF NURSING SCIENCE

AT UNIVERSITY OF FORT HARE

SUPERVISOR: PROF. E. SEEKOE

2018

DEDICATION

I dedicate this thesis to God Almighty who sustained and provided me with all the knowledge and wisdom; and to my children who stood by me throughout the course of this study. They believed in me and encouraged me by saying “it will be ok” when things seemed not to go well with my study.

ACKNOWLEDGEMENTS

This research would not have been possible without the love and support of many people. I would therefore, wish to acknowledge and thank the following:

- Firstly, my gratitude goes to my Almighty God, for the amazing wisdom and knowledge He has granted me by His grace to complete my research (PhD degree).
- Professor Eunice Pinky Seekoe, for her dedication, motivation, mentoring and commitment to my work, and for her expert guidance, support and encouragement throughout the duration of this study.
- Professor Yvonne Botma for her support and guidance during the earliest stages of my study.
- Professor Jody Lori who was my mentor in Michigan University in USA.
- My UMAPS fellows in Michigan and John's Hopkins friends in USA who supported and motivated me by checking on my progress throughout the research project.
- Professor Daniel Goon, for his support, guidance, assistance, and willingness to help when requested.
- Doctor Murray, a mother and a friend for her support throughout this period of my study.
- All the undergraduate nursing students who agreed to participate in my study, I thank you.
- My colleagues, whose encouragement and support made the completion of this thesis possible.
- Dr. Robert Kajiita for his meticulous editing and formatting of this thesis. Thank you for your commitment and dedication to your skill and expertise.
- The management of the universities which provided good settings for my study.
- The Eastern Cape Department of Health for granting me approval to undertake the study.
- The Health and Welfare sector for the financial support they offered to me to embark on this study.
- The Govan Mbeki Research and Development Centre (GMRDC) for the financial assistance provided throughout this study.

- The brethren at Butterworth Central, SDA Church for their prayers in the realization of this achievement.

In a special way, I would like to thank my sister Ntuthu, and Kenneth my partner who took care of my children when I was away on this project. Finally, I would like to thank my pastors, who have always remembered me in their prayers.

DECLARATION

In submission of this thesis, I hereby declare that:

(i) The information reported in this thesis, except where otherwise indicated, is my original research.

(ii) This thesis has not been submitted for any other degree or examination at any other university.

(iii) This thesis does not contain other persons' data, pictures, graphs or other information, and where used, it has been appropriately acknowledged as being sourced from other persons. Where sources have been quoted, then:

a) Their words have been re-written but the general information attributed to them has been referenced; and

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ABSTRACT

The retention of nursing students in the undergraduate programme in universities is a global concern for the health care system, because of the low rate of nurse graduates. The strategies for retention for nursing students in undergraduate programmes in South African universities arguably have limited success in curbing failure to graduate. The failure to graduate rate of nursing students is a global phenomenon, where for example in 2009, the rate of failure to graduate in the United States of America was 30%. However, countries like Jamaica and Australia reported good retention rates through the use of various successful initiatives, such as student bursaries, student loans, scholarships and academic assistance. Previous studies in South Africa have showed that the incidence of nursing students' failure to graduate rate is an ongoing challenge since the 1960s. Further, research has found that, despite the high annual enrolment of students into universities, only few nursing students graduate on time, while others fail to graduate. This phenomenon affects the rendering and quality of services to patients and clients in the health care facilities. When students fail to graduate from the programme, patients and clients get deprived of the services they would have got, had the students completed and graduated from the programme. On the other hand, the students themselves get frustrated due to the failure to complete the programme. Nursing Education Institutions (NEIs) also share in the disappointment and the loss of even one student who fails to graduate, because it is their obligation to graduate more nurses. Previous studies have sought to understand why students fail to complete their studies, and many factors have been identified. Therefore, there is need to further understand the factors associated with nursing student failure to complete their programme in different contexts such as South Africa. It is for this reason that the aim of this study was to develop a model for retention of nursing students in order to facilitate progression towards graduation in the undergraduate programme at the universities in the Eastern Cape Province of South Africa.

The study endeavoured to answer the following research questions: What are the factors associated with retention-to-graduation of nursing students from the undergraduate nursing programme in the Eastern Cape Province, South Africa? What are the strategies to enhance retention to graduation of nursing students in universities in the Eastern Cape Province, South Africa? What conceptual framework can be developed for retention-to-graduation of nursing students from the undergraduate programme in the Eastern Cape Province, South Africa?

What model could be developed for retention-to-graduation of nursing students from the undergraduate nursing programme in the Eastern Cape Province, South Africa? What guidelines should be formulated for the implementation of the model for retention-to-graduation of nursing students from the undergraduate nursing programme in the Eastern Cape Province, South Africa? To answer these questions, quantitative research approach with a descriptive, contextual and theory generation design was used. The study was conducted in four phases. Phase 1 used deductive concept identification to describe factors and strategies to enhance retention –to-graduation of nursing students in the undergraduate nursing programme. Phase 2 used inductive concept analysis for the development of a conceptual framework. In phase 3 reasoning strategies (inductive, deductive, derivation, synthesis and analysis) informed by data as well as the literature were used in order to generate a theory for model development. In phase 4, the guidelines for developing a preliminary model were formulated for theory implementation. The study setting was in the Eastern Cape universities, within faculties of Health Sciences. The researcher adapted Jeffreys' Nursing Undergraduate Retention and Success (NURS) 2012 model as a data collecting instrument, which was pilot tested for reliability and validity. Permission to utilize the model was obtained. The targeted population was full time nursing students in the undergraduate nursing programme. A multistage stratified random sample from first year to fourth year level was used. The inclusion criterion was based on one being full time nursing student, aged between 18 and 50 years and from the Eastern Cape Province universities. Student nurses in colleges and part-time students were excluded from this study. The study adhered to research ethics and procedures by for example obtaining ethical clearance from the ethics committee of the University of Fort Hare and the other two selected universities. The ethical components were met: The Ethical clearance based on the following aspects: written consent to undertake the study; approval from the two of the selected universities; and permission to conduct a pilot study from the University of Fort Hare. Permission was also sought and obtained from Quality Assurance Unit in the Eastern Cape Province, in Bisho. The principle of beneficence; respect for human dignity; the right to self-determination based on the ethical principle of respect for persons; the principle of self-determination; the principle of justice, the right to fair treatment, the right to privacy, the right to informed consent were all considered. Data analysis was done through Statistical Analysis Systems (SAS) version 9.3 for quantitative data and Atlas Ti was used to analyse and quantify the open-ended section of the questionnaire. The results showed multidimensional factors associated with retention-to-graduation of the nursing students in the undergraduate

programme. Strategies to enhance retention –to graduation were also indicated although there was no one perfect example since they were not evaluated for effectiveness. A retention-to-graduation model for nursing students in the undergraduate nursing programme was developed based on the results.

Key words: Model, Retention, Undergraduate nursing student, Undergraduate nursing programme.

ABBREVIATIONS

ANOVA	: Analysis of Variance
CHE	: Council for Higher Education
DENOSA	: Democratic Nurses Organization of South Africa
ECDOH	: Eastern Cape Department of Health
MTSF	: Medium Term Strategic Framework
NEIs	: Nursing Education Institutions
NHI	: National Health Insurance
NURS	: Nursing Undergraduate Retention and Success model
PHC	: Primary Health Care
RN	: Registered Nurse
RPHC	: Reengineered Primary Health Care
SAAIR	: South African Association for Institutional Research
SANC	: South African Nursing Council
SAQF	: South African Qualifications Framework
SAS	: Statistical Analysis Systems
UFH	: University of Fort Hare
WSU	: Walter Sisulu University

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CHAPTER 1: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

This study focused on retention-to-graduation of nursing students in the undergraduate programme at the universities in Eastern Cape Province, South Africa. The retention of nursing students in the undergraduate programme is a concern in the health care system as all countries need skilled nursing workforce (Angelino, Williams & Natvig 2007:2; Letseka & Maile 2008:5). To appreciate the need for this study, it was expedient for the researcher to describe factors that are associated with the undergraduate nursing students' failure to graduate. Failure to graduate has been and continues to be a challenge in training health care practitioners globally. Failure to graduate refers to students who delay to complete and graduate from the undergraduate nursing programme (Park, Perry & Edwards, 2011:39); non-completion of the nursing programme; and departure from the nursing programme, either voluntarily or involuntarily, prior to graduation (Alden, 2008:20).

According to Craig (2014:3) *failure to graduate* is defined as termination of studies before the student has successfully accomplished the desired outcomes, irrespective of the purpose or reason. For instance, in 2009 the failure to graduate rate from the undergraduate nursing programme in the United States of America (USA) was as high as 30% (Roos, Fichardt, MacKenzie & Raubenheimer, 2016:1). Notably, high failure to graduate rates from nursing programmes is experienced in most countries, and thus, many initiatives to improve throughput rates of nursing students from nursing programmes are constantly being undertaken (Roos et al., 2016:2). For example, in the United Kingdom, the failure to graduate rate of nursing students has been researched intensively; where some studies reports a failure to graduate rate of 56% (Waters, 2008:20). However, by 2011, this failure to graduate rate had been successfully reversed, as it was reported that few students (8.3%) failed to graduate from the nursing programmes (Clover, 2011:1). Since the 1960s, the failure to graduate rate has been a persistent problem in undergraduate nursing programmes in South Africa (Mashaba & Mhlongo in Roos, Fichardt, MacKenzie & Raubenheimer, 2016:2).

In some study, 40% failure to graduate rate of first and second year students was reported (Ogude, Kilfoil & DuPlessis, 2012:11). This raises a concern that only 15% of students in the undergraduate programmes in South African universities complete and graduate with degrees

(Department of Education and Training Annual Statistical Report (DHET), 2013:18). Despite the dismal rates of graduating students, the number of university enrolments has grown by 50% over the past decade, with 938,201 students enrolled in 2012 (National Development Plan, 2012:1). However, countries like USA, Jamaica and Australia reported good retention rates as a result of using various initiatives such as financial assistance through student bursaries, student loans, scholarships and academic assistance (Cook, 2010:17; Petersen, 2009:411; Stott, 2007:326; Wilson, 2010: Para.1).

According to the National Development Plan (2012:3) 25% increase in enrolment is anticipated by 2030 and 20% graduation rate thereof is anticipated in South African universities (Department of Higher Education and Training's 2010/11-2014/15). Thus, the need to increase retention-to-graduation rates will remain an issue of great interest. Figure 1.1 depicts the rates of failure to graduate and low graduation rates in South Africa; even though the percentage appears to have grown to 22% (2000-2003) (Letseka & Maile, 2008:5).

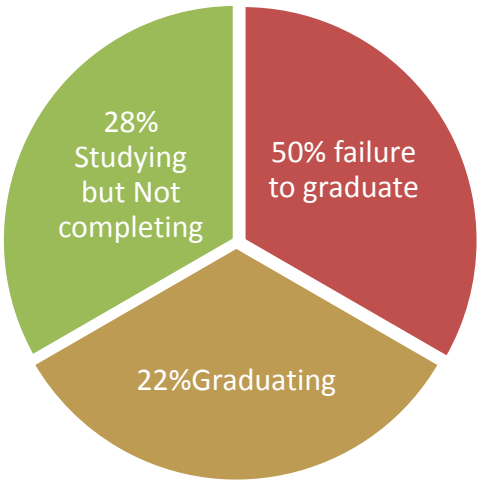


Figure 1.1: Failure to graduate, Throughput and Graduation Rates: Department of Education, 2005.

Unfortunately, the report does not highlight how many of the undergraduate nurses were enrolled, which makes it difficult to quantify or estimate nursing students who fail to graduate. However, one can assume that the progression in graduation rates from 15% (2001) to a meagre 22% in 2000-2003 is a cause for concern (Letseka & Maile, 2008:1).

From the above literature, more than twenty years after democracy, South Africa is still grappling with a problem of retention-to-graduation of nursing students from the undergraduate nursing programmes. In workshops and seminars, one of the main concerns regarding retention-to-graduation is students' academic readiness and preparedness for the courses they undertake at universities. It has been observed that sometimes students enrol in a nursing programme and suddenly change to another course without graduating from the nursing programme. This can be attributed to the shortage of nursing workforce, because those that remain in the programme struggle and delay in graduating from the programme. This does not curb the shortage of nursing workforce because those that remain in the programme struggle and delay in graduating from the programme. On the other hand the space could have been offered to some students who would persevere and graduate from the programme.

1.2 Background of the Study

The phenomenon of failure to retain students has been documented in various studies using cases of universities. For an example, in the undergraduate nursing programme, the cohort of 2009 enrolled 71 first year nursing students and 3 continuing students. Out of that cohort, 12 nursing students failed to graduate and only 56 graduated. In 2010, 83 undergraduate nursing students were enrolled, but 17 students failed to graduate and only 63 graduated. In 2011, 80 nursing students were enrolled; 11 out of that failed to graduate and 62 graduated. In 2012 cohort, 74 nursing students were enrolled, 8 of them failed to graduate and 55 students graduated. In 2013, 83 nursing students were enrolled and 5 failed to graduate. The total number of dropouts from the university from 2009-2015 was 65 nursing students (Statistics of dropout: 2016:1). Based on this data, clearly there is a need for early identification and monitoring all the characteristics and behaviours exhibited by nursing students at risk of failure to graduate.

'At-risk' students refer to the 18 year old nursing student or older with family commitments, the probability that a student will struggle during the nursing education programme and in nursing courses during the first two semesters, as well as withdrawal from any course (Jeffreys, 2012:25). In this study 'at risk' students are those nursing students who habitually missed classes or clinical sessions and had poor performance academically, or who had been absent for a considerable period of time, either due to sickness or serious family commitments. Given the shortage of nurses in healthcare facilities in South Africa, and especially in the

Eastern Cape Province, there is a need for a collaborative effort to support the nursing students in Nursing Education Institutions (NEIs) to enhance graduation rate. Thus, retention-to-graduate is a cause for concern.

1.3 Historical Overview of Retention

Retention is a buzz word in the corporate world and labor market; and it is also an important subject in higher education institutions worldwide. Institutions of higher education have become more alert on retention of students through a variety of programmes and services. A number of institutions have developed offices, programmes or departments specifically designed to improve retention and pass rates through orientation, or student and academic support services. This is because student retention is a political and a professional problem which impacts on clinical care (Cameron *et al.,* 2011: 1380). Thus, it is also important that universities devote financial and human resources for the success of student retention.

Findings of previous studies on the subject of retention lay a foundation on which arguments of this study are based. South Africa's universities graduation rate of 15% is one of the lowest in the world (Breier, 2009: 2). Thus, retention stems from the demand for nursing education institutions to produce more nurse practitioners to render health care services in the healthcare system. The demand for degree prepared nursing professionals is high, since it makes up the largest segment in the healthcare industry. This demand is tripled by the rates of reported attrition in developed countries (Rodgers *et al*., 2013:1301). For example, the United States (US) failure to graduate from associate degree programmes has been reported at 42% (Fraher *et al*., 2010:213), while other countries such as New Zealand (Knight *et al.,* 2012: 62), Australia (Gaynor *et al*., 2007: 11) and developing countries (WHO, 2010: 321) have also reported student nurse failure to graduate as a serious concern to be addressed.

The recent United Kingdom (UK) figures indicate failure to graduate rates of 25–30% (Roos *et al.,* 2016:1), and Scottish rate for the 2007/08 intake was reported as 24.8% (ISD Scotland, 2012:1). Failure to graduate rates for individual Higher Education Institutions (HEIs) have previously been reported at 51%, with several HEIs being at above 30% (Lister, 2009: online). These figures are significantly higher than those for the general student population where approximately 7 to 8% of students fail to progress to second year (HESA, 2011: online).

As projected by some researchers (Pitt *et al*., 2012:903) the nursing field will experience gross shortage of workforce in the coming few years. Nursing is a broad field and comprises many speciality fields. Nursing can turn out to be a great career-choice as this professional practitioner will be in demand as long as health care systems exist. An increasing demand for healthcare alongside an ever-growing number of older people has led to a worldwide shortage of nurses. This is an international concern and has been addressed in part by an increase in the number of students recruited to pre-registration programmes (Pitt *et al*., 2012:903). However, this strategy relies on students completing programmes in sufficient numbers. Thus, mentioning these statistics forms a basis for the reader to understand the background for the need for a retention-to-graduation model for nursing students. Understanding the general factors that influence students' decision to stay each semester and continue to graduation is vital for effective student retention improvement (Robbins *et al*., 2004:261).

1.4 The Department of Higher Education and Training as a stakeholder

The Department of Higher Education and Training (DHET) plays a vital role in supporting retention in universities. The funding formula for universities in South Africa is dependent on the institutional performance, access for success, throughput rates and increased graduation rates at the end of the four year programme. Therefore, the increase in the graduation rates would attract more funding to the university. Conversely, lack of funding from Higher Education (HE) can have dire consequences such as delayed graduation, shortage of human resources for health care and poor health outcomes.

The clinical grant that is allocated to universities by the Department of Higher Education, National Student Financial Aid Scheme (NSFAS) and government subsidies are offered to support education to increase production of nurses for service in the vast, underdeveloped areas of the country. Therefore, there is a need for retention models that would assist in addressing the complex failure to graduate rate and eventually improve health care outcomes, access and affordability, and ensure responsiveness to the needs of the population. Due to the persistent failure to graduate rate in the undergraduate programmes, the efforts by Higher Education are geared towards improving retention-to-graduation. DHET ensures that Institutional approaches for improving student retention rates address both academic and non-academic factors of student happiness and success.

1.4.1 The Higher Education Amendment Act (Act 23 of 2001)

According to Higher Education Act No. 101 of 1997 as amended, higher education means all learning programmes leading to qualifications higher than Grade 12 or its equivalent in terms of the National Qualifications Framework, as contemplated in the South African Qualifications Authority Act (SAQA) (Act 58 of 1995), and includes tertiary education as contemplated in schedule 4 of the constitution. Higher education engages in the pursuit of academic scholarship and intellectual inquiry in all fields of human understanding, through research, teaching, learning and community engagement. The nursing science departments at universities in South Africa have a dire need to strengthen research component and improve scholarship for it to be effective in meeting the policy objectives and principles of the government. All this begins with realizing and being certain that retention-to-graduation for undergraduate nursing students is aligned to these policy objectives and government principles.

1.4.2 Purposes of Higher Education

Higher education includes a wide range of institutions providing learning beyond the level of secondary education. They include institutions such as colleges and universities, community colleges, and vocational and technical schools. Higher education administrators, prevention coordinators, and community members play an important role in addressing risk factors and promoting safe and supportive environments to maximize opportunities for student success and academic achievement.

Training and technical assistance activities and resources are based on evidence-based approaches that promote positive behaviors and norms, which include:

- Environmental management through policy change;
- Intervention and treatment programmes for students experiencing problems; and
- Health promotion programmes to support positive behaviors and student success.

Higher education has several related purposes. In the context of present-day South Africa, they contribute to and support the process of societal transformation outlined in the Reconstruction and Development Programme (RDP), with its compelling vision of people-driven development leading to the building of a better quality of life for all. These purposes are:

(a) “To meet the learning needs and aspirations of individuals through the development of their intellectual abilities and aptitudes throughout their lives. Higher education equips individuals to make the best use of their talents and of the opportunities offered by society for self-fulfilment. It is thus a key allocator of life chances, an important vehicle for achieving equity in the distribution of opportunity and achievement among South African citizens.

(b) To address the development needs of society and provide to the labour market, in a knowledge-driven and knowledge–dependent society, with ever changing high level competencies and expertise necessary for the growth and prosperity of a modern economy. Higher education teaches and trains people to fulfil specialized social functions, enter the learned professions, or pursue vocations in administration, trade, industry, science and technology and the arts.

(c) To contribute to the socialization of enlightened, responsible and constructively critical citizens. Higher education encourages the development of a reflective capacity and a willingness to review and renew prevailing ideas, policies and practices based on a commitment to the common good.

(d) To contribute to the creation, sharing and evaluation of knowledge. Higher education engages in the pursuit of academic scholarship and intellectual inquiry in all fields of human understanding, through research, learning and teaching” (Gov. Gazette, 15 August 1997:7).

To achieve the above related purposes of higher education, the nursing science departments in the South African universities and the faculties in collaboration with other stakeholders in government and Non-Governmental Organizations (NGO’s) have formed partnerships to assist in the realization of the stated goals. Retention-to-graduation of nursing students is one of the strategies implemented to assist nursing students to realize academic and clinical competences, so that they can succeed and add value to the much needed human resource in the country.

1.4.3 The context of nursing education in South Africa

Nursing education in South Africa is a field of specialization, which focuses on educating, training and development of nursing students. This takes place with students in the undergraduate and postgraduate programmes in the nursing profession (SANC, Nursing Act,

33 of 2005). A nurse educator on the other hand is a registered professional nurse, with an extra qualification in nursing education (SANC, Nursing Act 33 of 2005). A nurse educator can work in the Nursing Education Institution (NEI) of higher learning, which can be either a university, university of technology, nursing college or nursing school as well as in a health establishment or hospital setting. The occupation of nurse educators can be a lecturer, clinical educator, education manager, researcher and a specialist (SANC, Nursing Act 33 of 2005).

1.4.3.1 Accreditation of pre-registration programmes

Universities are usually under the control of Higher Education, but they are however, allowed to formulate additional regulations that govern the education of nurses in order to ensure quality and to strengthen its functions in accordance with the requirements of higher education (HEQC, 2004:1). On the other hand, public nursing colleges are controlled by the Department of Health, which employs nurse educators for training and education of student nurses. Moreover, nursing colleges have additional rules and regulations which are aligned to the requirements of the Department of Health. Further, the nursing colleges have to implement teaching programmes according to the recommendations of the South African Nursing Council (SANC) which is the Education Training and Quality Assurance (ETQA) body in South Africa.

The nursing colleges have to affiliate to universities to ensure quality in rendering their academic services. In both nursing education institutions and the universities, the policies, rules and regulations have to satisfy the minimum requirements of the South African Nursing Council. The examinations written in these institutions are controlled by higher education quality requirements. Students who successfully gain entry into their programmes have to be registered with the SANC as student nurses on training and as professional nurses on completion of training. The SANC acts as an education and training quality controller, and it therefore approves and accredits programmes in educational and clinical facilities where student nurses are expected to receive their tuition and clinical or work integrated learning.

The SANC further provides specific guidelines and directives on how programmes should be developed through different regulations e.g. R425 for General (psychiatric, community) and Midwife.

The SANC (**ETQA)** does the following:

- ✓ Determines who may practise as a nurse and midwife, and maintains a register for persons who are qualified and authorized to practise nursing;
- ✓ Sets, promotes and controls the standards of nursing and midwifery education and practice; and
- ✓ Monitors and enhances the maintenance of ethical standards and the practice of nursing (SANC Draft Charter of Nursing Practice, 2004: 9). The South African Nursing Council (SANC) is deemed to be the designated ETQA for the nursing profession under the Nursing Act No. 33 of 2005..

The Functions of the ETQA include:

 Promoting quality among providers of education programmes or qualifications;

 Accrediting providers for specific qualifications and standards registered on the NQF;

 Evaluating assessment and facilitation of moderation among providers;

 Co-operating with relevant bodies appointed to moderate across ETQAs;

 Registering assessors for specified registered qualifications and standards in terms of the criteria established for this purpose;

 Monitoring the quality of service and training provision;

 Taking responsibility for the certification of learners; and

 Recommending new qualifications and standards to National Standard Bodies (NSBs) for consideration or modifying existing qualifications and/or standards.

The Nursing Council has to ensure that nursing education is practised according to the requirements and precepts of Higher Education. Retention-to-graduation as an outcome requires that nursing students are assisted, guided and coached to fulfil the requirements of these national bodies. Thus, universities are required to provide teaching and learning to nurses in terms of Higher Education Act (Act No. 23 of 2001).

Nursing Education Institutions are approved or accredited by the South African Nursing Council which is the regulating body for the nursing profession. The profession (nursing) is regulated by the Nursing Act Number 33 of 2005.

The nurse education is controlled under Chapter 2 of the Education, Training, Registration and Enrolment of the Nursing Act of 33of 2005. The Act, stipulates that, a person or institution, excluding a university or Technicon established by or under an Act of Parliament, may not offer or provide any education or training which is intended to qualify any person to practise nursing or midwifery, unless such education and training has been approved by the Council. Currently, in South Africa the education and training of nurses and midwives is for the cadres described under pre-registration and post-registration programmes below.

Pre-registration Programmes

✦ A comprehensive four-year diploma or degree qualification in General, (Psychiatric

Community Health Nursing) and Midwifery in accordance with SANC regulation No. R425 of 22 February 1985 as amended.

✦A two-year diploma in General Nursing (often referred to as the bridging programme)

leading to registration as a general or psychiatric nurse in accordance with the SANC regulation No. R683 of April 14, 1989 as amended.

✦ A two-year certificate programme leading to a qualification as an enrolled nurse (SANC

regulations No. R1664 as amended and R2175).

✦ A certificate programme leading to a qualification as an enrolled auxiliary nurse, of which duration varies depending on the institution.

Post-registration programmes

✦ Post-basic degree programmes leading to specialisation in nursing education, nursing administration and community health and nursing in combinations of two or three qualifications.

✦ Post-basic diplomas which lead to a variety of single diploma qualifications in the above fields or any of the disciplines in the comprehensive four-year programme.

✦ Supplementary basic diplomas.

✦ Post-basic certificates (short courses).

✦ Honours and Master's degrees, which both may be taken following any of the basic degree programme.

According to Breier (2009:32), underperformance and students' failure to graduate has been attributed to non-academic support, such as lack of accommodation, financial constraints to cater for educational needs, and upkeep (food). There is lack of information regarding retention-to-graduation of nursing students in the undergraduate nursing programme, which has motivated the researcher to embark on this study. It has been discussed in round tables that, academics are sometimes overly concerned about their research to the disadvantage of their teaching and learning. These are important issues that need to be addressed if retention and timely graduation rates are to be increased in the universities.

The shortage of nurses in South African health care system is a reality which is compounded by the growing population against the numbers of new students that pursue nursing degree in the universities (Statistics South Africa, 2015:1). Failure to retain nursing students, impacts negatively on health outcomes, as it runs against the health needs of the country and the health care design to meet the Primary Health Care (PHC) needs. Failure to graduate further impacts negatively on the nursing workforce as the aged nurses retire, while others migrate to other countries or leave the public sector for private sectors without being replaced (Cook, 2010:12; Mc Lachlan, 2010:1& O'Halloran, 2009:11). According to O'Donnell (2011:55), the emphasis on effects of failure to graduate is not only on the financial loss, but also on the devastating effect on the nursing students and their families who feel like they have failed their duty. The challenge of failure to retain nursing students also contributes negatively to the government's health outcomes.

According to the National Research Foundation Strategic Framework: 10-year Innovation Plan (2012:1), the Department of Higher Education and Training (DHET) funding framework transformational goals were: equitable student access; quality of teaching and research; student progression rates; equity in allocation of government funds; efficiency and effectiveness in use of financial resources.

Thus, efficiency and effectiveness in resource distribution and utilization is necessary to enhance retention-to-graduation rates of all students. The government has made it a strategic priority to strengthen the skills and human resource base by broadening access to post-secondary education and improving higher education throughput rate by 20% in 2014. This is pertinent to contribute to the socio-economic well-being of the country and the broader global community (Medium Term Strategic Framework 2011/12-2013/14) (MTSF Version 4).

- **Strategies for retention–to-graduation**

The nursing education institutions (NEIs) have revamped their curricula, created extra offices, built extra classrooms, introduced strategies of teaching and learning (problem-based learning, community-based education, case-based methods of teaching), and increased human resource capital to improve retention and accelerate graduation of nursing students with subsequent registration with the South African Nursing Council (SANC). The institutions of higher learning have a funding formula to relieve financial constraints on needy students in universities. This shows that retention-to-graduation of nursing students in the undergraduate programmes in South African universities is a concern for all the stakeholders, including the ministries of health, education, academia and the private donors. The funding formula for institutions is dependent on student enrolment, widening access, retention, success and graduation.

Some of the strategies to enhance retention-to-graduation were the use of exit interviews. Exit interviews were found to be useful in determining students' view of the faculty in their programme (Shelton, 2003:68). Earlier on Jeffreys' (2002:16) used a pre-test /post-test survey questionnaire that revealed students' perceptions of faculty advisement as greatly being supportive.

A qualitative study conducted by Amaro, Abriam-Yago and Yoder (2006:247) investigated ethnically diverse nursing students' perceptions of educational barriers and how they coped with such barriers. Their study listed major factors that influenced graduation in nursing programmes, which included:

- supportive faculty,
- individual motivation,
- peer support, and

- belonging to ethnic nursing associations.

Moreover, retention strategies from the nursing faculty's point of view are pivotal in clinical and classroom experiences of nursing students. Despite the strong evidence found in the literature in favour of study groups and peer mentors, these strategies were not well used or very effective according to the faculty respondents. Instead, the most used and highest-rated retention strategies for minority nursing students were those that entailed faculty involvement (Baker, 2010: 219). The three strategies found to be effective by most faculty respondents were faculty availability, timely feedback on tests, and timely feedback on clinical performance. Moreover, selection, recruitment and retention of high quality students were seen as enhancing retention (Rodgers *et al.*, 2013:1301). Therefore, it is imperative that NEIs develop models for retention-to-graduation of nursing students in the undergraduate programmes.

The statistics from the South African Nursing Council presented in Table1.1 depict the ratio of the provincial population against nursing manpower as at the end of 2015 in the Eastern Cape Province in South Africa. Retention models to enhance graduation of nursing students in the Eastern Cape Province universities are not currently available. Thus, retention strategies need to be closely monitored and evaluated in terms of effectiveness, if increasing graduation and registration of students with the South African Nursing Council for practice in the healthcare system is the goal for training institutions. The Eastern Cape Province is in need of more graduate nurses as seen in Table 1.1.

Table 1.1: Provincial Distribution of Nursing Manpower in the Eastern Cape Province of South Africa (in service and in training) as at 31 December 2015

Province	**Population 2015**	**Nursing Manpower as at 2015/12/31**				**In training as at 2015/12/31**		
Eastern Cape		**R/N**	**E/N**	**ENA**	**Total**	**Student Nurse**	**Pupil Nurse**	**P/N/A**
Females	3632397	13940	4950	6344	25234	2489	1617	895
Males	3283788	1452	783	1191	3426	1122	457	237
Total	**6916185**	**15392**	**5733**	**7535**	**28660**	**3611**	**2074**	**1132**

Key: R/N= Registered Nurse; E/N= Enrolled Nurse; E/N/A= Enrolled Nursing Assistant; P/N/A=Pupil Nursing Assistant

The nursing students in the Eastern Cape Province as at 31st of December 2015, was 6,817. Of these, only 3,611 were prepared to be professional nurses. On the other hand, the overall population at that time was 6,916,185 people. Clearly, these figures are evident of gross shortage of nursing staff in the Province. This also shows that the proportion of nursing students in training will not meet the service demands outlined in the Human Resource for Health strategy for 2030; and the envisaged health outcomes, especially if they do not all complete and graduate as expected. Moreover, the population size does not account for the illegal immigrants and refugees in the Province, who also need medical attention from the public health institutions. Notably, the total number of registered nurses of 15,392 is inadequate to render services to the greater rural part of the Eastern Cape Province. Therefore, it is apparent that the Eastern Cape Province is in dire need of graduate nurses and thus, retention-to-graduation of student nurses is crucial.

The Eastern Cape Province is mostly rural with the majority of the population uninsured and depending on PHC services. Therefore, this region has been prioritised by government for re-engineering of PHC, and a pilot site for the implementation of National Health Insurance (NHI) (White Paper on NHI, 2015:1 Version 40). For these government health initiatives (RPHC and NHI) to be realized, there is a need for effective retention-to-graduation strategies of nursing students in universities, who, upon graduation can be deployed to support and serve in rural communities in order to address the shortage of nursing workforce.

The shortage of nurses impacts negatively on the achievement of "*a long and a healthy life for all South Africans*" (National Development Plan 2012:1). This means that the recruitment, selection and retention-to-graduation of nurses of a high calibre to meet the needs of the population of South Africa is to be prioritized (Rodgers, Stenhouse, Mc Creaddie & Small, 2013: 130; South African Qualifications Framework (SAQF), 2013:3). It is under such observation that the researcher was prompted to develop a model for retention-to-graduation of nursing students in universities in the Eastern Cape Province.

When considering the health profile of the population of South Africa, out of the total population of more than 52million, 62% die of communicable diseases, 28% die of non-communicable diseases, and 10% die of injuries (South Africa Health Profile, 2012:1). Therefore, there is a need to retain more nurses and midwives to assist with realization of health service goals and outcomes. The re-engineering of Primary Health Care and the implementation of the National Health Insurance need highly qualified health care professionals including nurses. Thus, the undergraduate nursing students would be a vital workforce if they are retained to graduation and proceed with registration with the SANC. Based on these health care expectations, the development of a retention-to-graduation model for nursing students in the undergraduate nursing programme in universities in the Eastern Cape Province becomes imperative.

1.5 Research Questions

The researcher endeavoured to answer the following questions:

(i) What are the factors associated with retention-to-graduation of nursing students in the undergraduate nursing programme in the Eastern Cape Province, South Africa?

(ii) What are the strategies to enhance retention to graduation of nursing students in universities in the Eastern Cape Province, South Africa?

(iii) What conceptual framework can be developed for retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape Province, South Africa?

(iv) What model could be developed for retention-to-graduation of nursing students in the undergraduate nursing programme in the Eastern Cape Province, South Africa?

(v) What guidelines should be formulated for the implementation of the model for retention-to-graduation of nursing students in the undergraduate nursing programme in the Eastern Cape Province, South Africa?

1.6 Research Problem Statement

Retention-to-graduation of nursing students in academic programmes is a serious concern in all higher educational settings (Angelino, Williams & Natvig, 2007:2; Letseka & Maile, 2008:5). South Africa's need for retention and increased throughput and pass rates of nursing students has been reported severally in workshops, nursing summits and the Nursing Compact (2012:1). Because nurses are the "engine of an effective health care system" and play a "pivotal role in service delivery" (Roos *et al*., 2016:1) NEIs are obligated to produce increased numbers of nurses to boost the aging nursing workforce. However, strategies for retention-to-graduation of nursing students in the Eastern Cape Province seem to be ineffective in addressing issues related to retention in order to increase graduation rates. Despite the support in funding nursing education, it is not clear why NEIs in the Province fail to graduate adequate numbers of nursing students to support the nursing workforce.

Clearly, research regarding the models for retention-to-graduation of nursing students in South African universities, are very scanty. Because of this gap, the researcher used related literature from other countries to illustrate the significance of the need for retention models. There is vast information in the literature on factors associated with nursing students' retention and success (Crombie, Brindley, Harris, Marks-Maran & Morris, 2013:1285; Jeffreys, 2012:11).

Despite the high students' annual enrolment into universities, only few graduate on time, while others delay or fail to graduate (Roos, Fichardt, MacKenzie & Raubenheimer, 2016:7). Some studies have looked into how students in the undergraduate nursing programme could be retained to graduate from the nursing programme, in which results have been varied (Cameron, Roxburgh, Taylor & Lauder, 2011:1372; Fontaine, 2014: 1284). There is scanty statistics on retention-to-graduation rates of nurses in the Eastern Cape Province which might be hindering the reality and the sensitivity of the problem. The Department of Education (DoE) further reported that, at some institutions, the graduation rate ranged from 6% to 24%. Table 1.2 depicts the need for increased retention-to-graduation of more nurses.

Table 1.2: SANC Geographical Distribution 2015: Population Ratio per Qualified Nurse in the Provinces, South Africa

Province	Registered Nurse	Enrolled Nurse	Auxiliary Nurse
Limpopo	500:1	930:1	581:1
North West	385:1	1135:1	762:1
Mpumalanga	603:1	1313:1	1101:1
Gauteng	369:1	756:1	688:1
Free State	349:1	1183:1	846:1
Kwazulu-Natal	358:1	437:1	827:1
Northern Cape	527:1	2617:1	1095:1
Western Cape	371:1	937:1	728:1
Eastern Cape	449:1	1206:1	918:1
Total (RSA)	402:1	782:1	769:1

Table 1.2 shows the ratios of nurses to the population in each Province in South Africa and points to the need to quickly address the nurse shortage through training, increased number of students, improved retention and timely graduation (Strategic Plan for Nursing Education, Training and Practice 2012/13–2016/17). This attests to the statement by World Health Organization Report of 2006, which notes a chronic global shortage of well-trained health workers. It further "estimates a shortage of more than 4 million doctors, nurses, midwives and others" (WHO, 2006: 11). As stated earlier, the countries such as the United States of America, Jamaica, and Australia have been successful in graduating more nurses through various initiatives such as financial support (Cook, 2010:17; Peterson, 2009:411; Stott, 2007:326; Wilson, 2010:1). The re-engineering of Primary Health Care in South Africa requires nurses of a high calibre to provide and improve access to quality healthcare services to all; and to provide financial risk protection against health-related catastrophic expenditures (NDP 2013:1; Roos *et al*., 2016:1).

A high rate of failure to graduate of nursing students leads to reduction in the commercial assets (Medium Term Strategic Framework, 2011/12-2013/14) of the Department for Higher Education and Training (DHET). Apart from the financial drain on scarce government resources, patients are deprived of the services they would receive from the nursing fraternity. The government and other stakeholders are in support of nursing education in terms of funding and other necessary assistance to enhance retention-to-graduation. Thus, the overarching research questions to answer were:

what model of retention-to-graduation could be developed; and what guidelines could be formulated for the implementation of the model in the Eastern Cape universities?

For this reason, the researcher was prompted to develop a model for retention-to-graduation of undergraduate nursing students in universities in the Eastern Cape Province, South Africa. If a model of retention-to-graduation for undergraduate nursing students in South Africa could be developed to accelerate graduation rates and registration with the SANC, this would likely ameliorate the nursing workforce shortage in the country, and especially in the Eastern Cape Province.

1.7 Aim of the Study

The aim of this study was to develop a model for retention-to-graduation of nursing students in the undergraduate programme in order to increase throughput and pass rates to support nursing workforce in the Eastern Cape Province after registration with the South African Nursing Council.

1.8 Objectives of the Study

The study sought to:

(i) Determine and describe the factors and strategies associated with student nurse retention-to-graduation in the nursing programme at universities in the Eastern Cape Province, South Africa;

(ii) Develop a conceptual framework for retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape Province, South Africa;

(iii) Develop a model for retention-to-graduation of nursing students in the undergraduate nursing programme in the Eastern Cape Province, South Africa; and

(iv) Formulate and describe the guidelines for the implementation of a model for retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape Province, South Africa.

1.9 Significance of the Study

The developed model would contribute towards empowerment of undergraduate nursing students in the undergraduate nursing programme in order to increase throughput and pass rates; empower academic and administrative staff in designing and implementing strategies that enhance retention-to-graduation to ensure training of qualified nursing workforce. This would also add to the body of knowledge for nursing research sciences for quality service delivery.

The findings of the study would be useful for policy and legislative review and in bridging the knowledge gaps concerning retention-to-graduation of nursing students in the Eastern Cape Province institutions of higher learning. The implementation of the model's guidelines would contribute to new knowledge in improving strategies for retaining "at risk students" and enhancing throughputs and graduation rates in the undergraduate nursing programme.

While the findings might be most pertinent and significant to the undergraduate nursing education programme, they would also be important for personal, institutional, and societal development. The study would enable the students themselves to understand the context and the environment within which they operate as far as academic success is concerned. This would therefore, help improve their (student) performance, be empowered and capacitated so that they could align their goals with the programme to become qualified nursing practitioners. As they improve academic performance, they would also gain emotional stability and confidence as future health practitioners.

Institutionally, the study informs the universities of the importance to understand the students' background, and needs to enhance planning that addresses the challenges of students and promotes learning. Furthermore, the staff serving on the admissions committee would benefit from the findings of this study, in terms of identifying student attributes that are predictive of success and retention in the nursing programme. The findings are of particular interest to the faculties of the two universities selected in this study. Through the identification of factors that are associated with retention -to-graduation, it is possible to determine which students might be 'at risk' of academic difficulty in the first two semesters of the nursing programme, and what supportive strategies could be put in place to enhance retention-to-graduation.

1.10 Definition of Concepts

- **A model**

A model is a symbolic representation of an empirical experience in the form of words, pictorial or graphic diagrams, mathematic notations, or physical material such as a model airplane (Chinn & Kramer, 2011:157). In this study, a model is a diagram which shows the relationship of factors associated with retention-to-graduation of nursing students in the undergraduate programme within the context of a nursing education institutions in the Eastern Cape Province, South Africa.

- **Retention-to-graduate**

Institutions of higher education are increasingly focusing on improving the retention and graduation rates of their students through a variety of programmes and services. Retention as a function of faculty-student interaction is the most compelling strategy addressed in the literature. *Retention* as a noun refers to: "the continued possession, use, or control of situation". For example, "the retention of direct control by central government" the fact of keeping something in one's memory (Oxford dictionaries: online): "the children's retention of facts" and its synonyms mean ability to remember, powers of recall; powers of retention.

The concept *retention* is defined in so many ways by different researchers. For example, Shelton (2012:2) defines *nursing student retention* as based on two outcomes, persistence or choosing to remain in an academic programme, and successful academic performance, or achieving the academic standards necessary to continue in a programme and eventually graduate. Baker (2010: 216) and Jeffrey's (2012:9) define *retention* as remaining enrolled in the nursing programme without withdrawal until graduation. According to the Accreditation Commission for Education in Nursing (ACEN 2013:1), former National League for Nursing Accrediting Commission (NLNAC), *retention* is "the number of students who complete the programme within 150% of the stated programme length" (Fontaine, 2014:1). Meanwhile, one standard definition of the concept *retention* is, programme retention that tracks the full-time student in a 4-year degree programme over time (in six years for four-year colleges / universities) to determine whether the student has completed the programme.

In their integrative review, some researchers defined *retention* as successful completion of a programme of nursing and midwifery leading to eligibility to register as a nurse or midwife (Cameron *et al*., 2011: 1374). In this study retention refers to a good throughput and pass-rate until the student graduates from the nursing programme.

- **Undergraduate nursing student**

Undergraduate nursing student refers to a student who has met the requirements for enrolment as a student under the South African Nursing Council (SANC) regulation (R425) in the undergraduate nursing programme, leading to registration as a general nurse (Psychiatry, Community) and midwife (SANC R425). In this study, this concept refers to a nursing student who has not yet received a degree, i.e. from first year to fourth year, but who meets the criteria for entry into the undergraduate nursing programme as a full time student.

- **Universities**

Universities or private higher education institutions, mean any organization registered or conditionally registered as a private higher education institution in terms of Chapter 7 of the Higher Education Act 101 of 1997. In this study, universities refer to urban and rural institutions of higher learning which have schools or departments of nursing in South Africa, which are accredited to offer the undergraduate nursing programme by the SANC and Council for Higher Education (CHE). However, this excluded Rhodes University because it does not offer a nursing programme as well as the Nelson Mandela University because it does not fall under the predominantly disadvantaged category of universities; even though it is in the Eastern Cape Province and offers an undergraduate nursing programme.

- **Undergraduate nursing programme**

The undergraduate nursing programme is one of the pre-registration programmes which comprises a comprehensive four-year diploma or degree qualification in general, (Psychiatric, Community Health Nursing) and midwifery in accordance with SANC Regulation No. R425 (No. 33 of 2005). In this study, the concept *undergraduate nursing programme* refers to a degree programme in general, (Psychiatric, Community Health Nursing) and midwifery in accordance with SANC Regulation No. R425 (No. 33 of 2005).which is undertaken at a higher

educational institution which is accredited to offer such a programme by the South African Nursing Council.

1.11 The Paradigm Perspectives for this Study

A paradigm implies standards or criteria for assigning value or worth of both the processes and the products of a discipline, as well as for the methods of knowledge development (Chinn & Kramer 2011:157). A paradigm consists of the following components; ontology, epistemology and methodology. Ontology is the study of being (Crotty, 1998:10) and ontological assumptions are concerned with what constitutes reality. Researchers need to take a position regarding their perceptions of how things really are, and how things really work. In this study, retention-to-graduation is genuine; it is a phenomenon that must be experienced in the real world. It depends entirely on how the participant interacts with this phenomenon, how it shapes them, whether they are accepting failure or not. Thus, retention –to-graduation of nursing students is real and it is a fact.

Epistemology is concerned with the nature and forms of knowledge (Cohen, Manion & Morrison, 2007:7). Epistemological assumptions are concerned with how knowledge can be created, acquired and communicated. In other words, it refers to what it means to know. Guba and Lincoln (1994:108) explain that epistemology asks questions about "what is the nature of the relationship between the would-be knower and what can be known". In this study, human beings can agree or disagree with some issues, just as they cannot perceive things the same way; since even the way in which they acquire knowledge can be different. For example, experience, trial and error, tradition or the scientific method would be some ways of knowing.

Methodology is the strategy or plan of action that lies behind the choice and use of particular methods (Crotty, 1998:3). Thus, methodology is concerned with why, what, from where, when and how data is collected and analysed. Guba *et al*., (1994:108), explain that methodology asks the question, how can the inquirer go about finding out whatever they believe can be known? Every paradigm is based upon its own ontological and epistemological assumptions. Since all assumptions are speculations, the philosophical underpinnings of each paradigm can never be empirically proven or disproven. In this study, the positivist paradigm is used because of its quantitative principles and qualities. The understanding or meaning of phenomena formed through the participants and their objective views make up this worldview.

The assumptions discussed below were utilised to direct the study. Jeffrey's NURS model 2012 formed part of the meta-theoretical perspective of this study.

1.11.1 Meta-Theoretical Assumptions

The environment includes internal and external dimensions. The internal environment consists of the body, mind and spiritual dimensions of the individual, while the external environment consists of the physical and social dimensions. The internal environment of the undergraduate nursing students is affected by stress, when going through the process of training and development. When nursing student struggles in the academic environment, the incumbent is affected as a whole – body, mind and spirit. Nursing students are holistic beings whose minds, bodies and spirits interact, and have an effect on and are affected by the physical, spiritual and clinical environments in which they work and live. Students are also lifelong learners who are self-directed and goal-directed, with a partnership between the community members, the family, the university and the clinical area for developing the enquiring minds and clinical competencies.

The external environment is characterised by, among other issues, failure or success in the academic environment (classroom and clinical settings) which might include lack of commitment and poor relationships with the academic, clinical and sometimes the family and vice versa. These dimensions affect the performance of the nursing students in the undergraduate programme and in the workplace. Under stressful situations, nursing students cannot think properly. When they underperform, they blame themselves and others for their failures, weaknesses and lack of achievement. Hence, they become emotional, when they do not get the support they deserve from their academic staff, clinical facilitators, administrative staff and the family. The academic staff and administrators are in a position to assist the nursing students in academic environment. Therefore, it is imperative to develop a retention-to-graduation model in order to enhance throughput and pass rates to increase the nursing workforce after graduation.

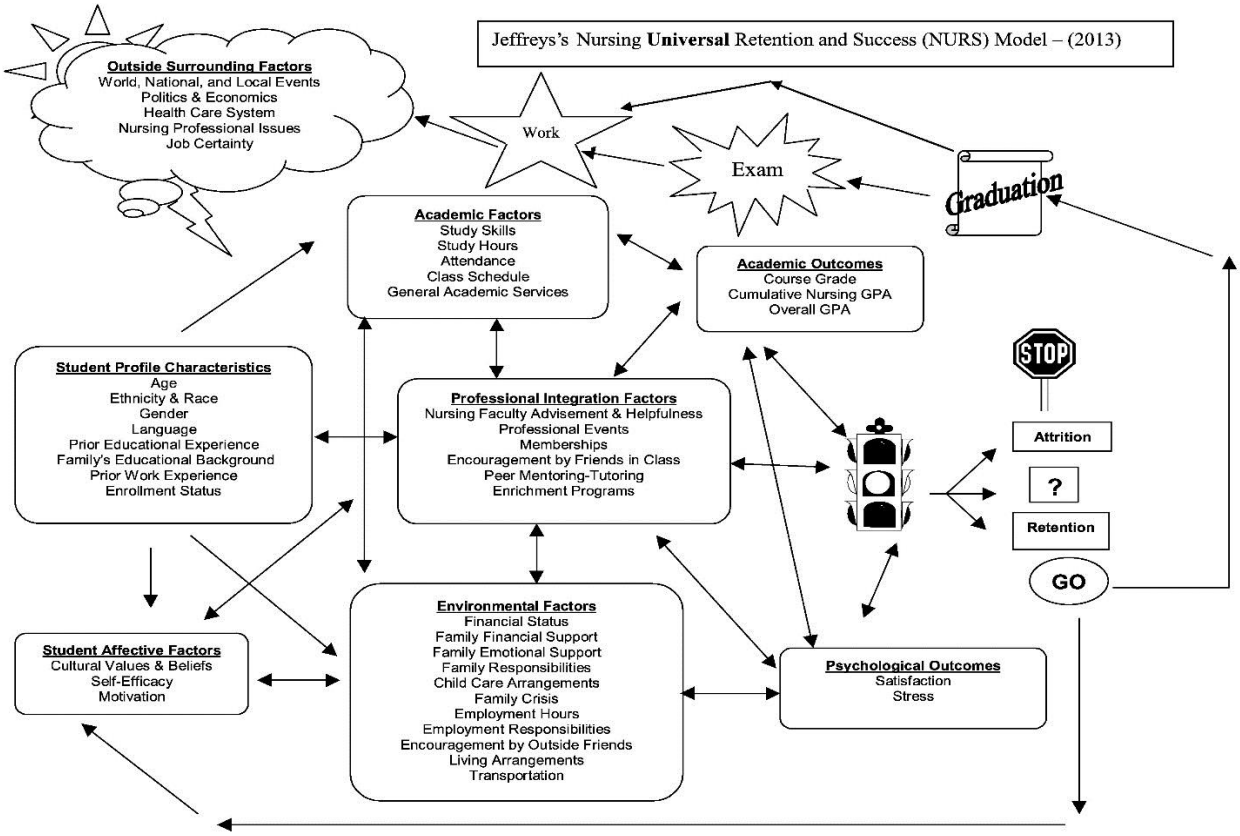
1.11.2 Theoretical Assumptions of Jeffrey's NURS Model

1.11.2.1 Jeffrey's Nursing Undergraduate Retention and Success Model (2012)

This model formed the basis for developing a retention-to-graduation model for nursing students in universities in the undergraduate nursing programme in this current study.

- **The NURS Model Constructs**

The researcher studied the constructs of Jeffrey's NURS model as depicted in Figure 1.2, and used it as the basis for developing a retention-to-graduation model in this study because of its relevance to the topic under inquiry.



Adapted from Jeffreys's Nursing Undergraduate Retention and Success (NURS) Model – (2012).
In Jeffreys, M. R. (2012). *Nursing Student Retention: Understanding the Process and Making a Difference. (2nd Ed.).* New York: Springer, p. 12.
Adapted and reprinted with permission from Springer Publishing Company, New York, New York, USA.

Figure 1.2: Jeffrey's NURS Model (2012)

The NURS model offers a comprehensive range of user-friendly resources that enhance student success, retention, graduation rates; facilitates academic progression and swift entry into the workforce.

The resources of this model specifically recognize factors that restrict or support retention; identify and assist at-risk students; design individualized as well as holistic strategies for diverse learners; implement culturally sensitive and competent teaching and advisement; foster professional development of students; create an inclusive practice environment; apply resources and strategies to make a positive change in students' lives and evaluate strategy outcomes (Jeffreys, 2012: iv).

When carefully explored, the model presents an overview of retention decisions which are based on a variety of multidimensional factors related to the student and student characteristics prior to entry into the nursing programme; introduces general concepts underpinning cultural values and beliefs, self-efficacy and motivation that can influence nursing student achievement, persistence and retention; and looks at academic factors on retention and success as well as external environmental factors that may affect students' performance. Therefore, this study adopted and adapted Jeffrey's Nursing Undergraduate Retention and Success (NURS) model in developing and describing a framework for model development for retention-to-graduation of undergraduate nursing students in the Eastern Cape Province, South Africa. The permission to utilize the model was obtained.

1.12 Research Design and Method

This section provides an overview of the research design and methodology that is discussed in detail in chapter three of this thesis.

1.12.1 Research design

The research design is the plan for directing research and mostly regulates the factors that could affect the legitimacy of the results (Grove *et al*., 2013: 692). The research design for this study was a quantitative, descriptive, contextual and theory generating design. This design will be described in detail in chapter 3.

1.12.2 Reasoning strategies

According to Banning (2008:178), reasoning is a process that pertains to the thought processes, organization of ideas and exploration of experiences to reach conclusions. Reasoning may be viewed as a form of thinking that is often apparent during the presentation of ideas or discourse in which the logics of an argument are collated in a logical manner in order to reach a rational

conclusion. In this study, reasoning strategies such as analysis, deduction, induction, inference, synthesis and derivation (Chin & Kramer, 2015:152) were used to develop a conceptual framework.

1.12.3 Theory generation

According to Chinn *et al*., (2011:155), a *theory* is "a creative and rigorous structuring of ideas that project a tentative, purposeful and systematic view of phenomena". In generating theory there are four steps to be utilised in the research. Step 1: concept analysis; Step 2: relationship statements; Step 3: description of a model; and Step 4: guidelines to operationalise the model.

1.12.4 Research setting

This study was conducted at universities which are situated in both rural and urban settings, in the Eastern Cape Province. Eastern Cape Province is one of the nine Provinces in South Africa. Its headquarters is at Bisho, but its largest cities are Port Elizabeth and East London.

1.12.5. Research method

The research was conducted in four phases.

1.13. Phase 1

Phase 1 determined factors associated with retention-to-graduation in the undergraduate nursing programmes at universities in the Eastern Cape, South Africa using deductive concept identification.

Research Population

The population was all the nursing students in the undergraduate programme at the universities in South Africa.

Target Population

The target population for this study was the nursing students in the undergraduate programme in the two selected universities of the Eastern Cape Province in South Africa.

Sampling

A multistage stratified random sampling was conducted in the selected universities from first year to fourth year level of the undergraduate programme.

Sample inclusion criteria

The inclusion criteria were:

- Nursing students from 18 to 50 years of age.
- Males and females.
- Full time students in the undergraduate nursing programme; irrespective of ethnicity or background.

Exclusion criteria

- Universities not offering a nursing bachelor's degree in the Eastern Cape Province.
- Distance learning students.
- Students above 50 years of age.
- Nursing students who do not attend in the two specified universities in the Eastern Cape Province.

Sample size

A sample size is defined as the number of respondents, recruited and agreeing to participate in research (Grove *et al*., 2013:708). In this current study, the research targeted a sizable sample to help in determining the difference in graduation rate between students who completed the courses and students who failed to graduate. The services of a statistician were employed in this regard.

1.13.1 Data collection process

1.13.1.1. Data collecting instrument

The instrument used to collect data was a questionnaire. This study adapted Jeffreys Nursing Undergraduate Retention and Success (NURS) model as a data collecting instrument, used with permission. Jeffreys NURS model (2012) was chosen because it possesses constructs and concepts which were of interest to the researcher and which could contribute significant knowledge to the study. Open-ended and closed–ended, and Likert scale type of questions were

designed. Six assessment tools and ten faculty-interactive retention strategy design modules were formulated by the researcher in order to be consistent with the purpose of the study.

Polit and Beck (2004:729) define questionnaire as an instrument for gathering self–report information from respondents through self-administration of questions in a paper-and-pencil format. Open-ended questions allow respondents to respond in their own words, in narrative fashion, while closed-ended questions offer respondents alternative replies, from which respondents must choose those that most or closely match their opinions (Polit & Beck, 2004:349; Chin & Kramer, 2011:151). The questionnaire used in this study had clarity on what information was needed.

The development of questions was guided by literature review. Questions that were asked pertained to the factors associated with failure to graduate and retention-to-graduation of nursing students in the undergraduate programme (Polit & Beck, 2004:349; Chin & Kramer, 2011:151). Questions were brief, clear and relevant to the purpose of the study. The vocabulary was understood by the respondents (Polit & Beck, 2004:349). The instrument was divided into three sections as follows:

- Section A dealt with questions related to the demography of the respondents and had 16 questions which are closed ended.
- Section B was about student perception appraisal 1 with 4 closed ended questions.
- Section C dealt with socio-economic status with closed and open-ended questions;
    - Student perception appraisal 2 with 4 Likert Scale type of questions on a scale of 1(strongly disagree) 2 (disagree) 3 (Somewhat agree) 4 (agree) 5 (strongly agree).
    - Student Perception appraisal 3 with 17 questions which dealt with the context of nursing education using a scale of 1 (lowest threat) to 5 (highest threat);
    - Educational requirements subscale (ERS) with 10 learning activities on a scale of 1 (not at all confident) to 10 (totally confident); and
    - Educational requirements sub-scale (ERS) with 10 learning activities.
    - The Enrichment Programme Satisfaction Survey with 8 questions on the scale, (1) is strong disagreement, (2) is disagreement, (3) is neutral, (4) is satisfaction and (5) is strong agreement.

- Nursing Student Resource Centre Satisfaction Survey with 9 questions on a scale, (1) is strongly dissatisfied, (2) is dissatisfied, (3) is somewhat satisfied, (neutral), (4) is satisfied and (5) is strongly satisfied.
- Student withdrawal questionnaire with 5 open – ended questions.

1.13.1. 2. Data collection procedure

After obtaining the ethical clearance from the university of Fort Hare and the Department of Health Eastern Cape Province, the researcher communicated via e-mails with the Heads of Departments at the selected universities to request for permission to conduct the study with the undergraduate nursing students from all the levels. The researcher explained the details of research including purpose and objectives of the study. An agreement was reached as to when to visit for the briefing of the staff and the students. On the appointed date, the researcher met with the staff in university 1 (in the urban setting) where the study was to be conducted and gave a briefing on the study, its purpose and objectives.

The Head of Department of the school gave permission to access the students. Students were assembled in one of the auditoria to listen to the briefing together with their level coordinators. The students agreed to have their registers accessed for the purpose of getting their names and agreed to participate in the study if selected. However, they were informed that they may not all be selected but everyone had an equal chance of being selected. Thereafter, a random number generating facility was applied to select the respondents from each level. Those that were selected from each cluster were assigned numbers to differentiate them from each class level at each stage. Hence, a multistage, clustered stratified random sampling was conducted from first year to fourth year level of study.

Informed consent forms were given to the participating respondents to sign. After obtaining permission to participate by way of signed consent form, a questionnaire was distributed to the respondents for data collection. A questionnaire is a printed self-report form designed to solicit information that can be obtained from a respondent's written responses (Grove *et al.,* 2013:425). In quantitative research, data collection involves obtaining numerical data to address the research objectives, questions or hypotheses. The same process was followed in university 2 (in the rural setting) where the study was conducted to discuss the data collecting instruments and how the process was going to unfold. On the appointed date, the researcher

met with the sampled respondents in the auditorium to inform them of the study and how it would be undertaken, the purpose and the objectives of the study.

All respondents in both rural and urban settings were informed of the following:

- The expectations while participating in the study like, the questionnaires were to be filled by individual respondents and not a group.
- That they needed not to write their names on the questionnaire.
- Not to ask questions from the other respondents.
- That, if they were not sure or did not understand, they would raise a hand and ask the question from the researcher.
- That they would be provided with a lead pencil and rubber to use when filling the questionnaire.
- That the information they shared on the questionnaire would be kept confidential.
- That the information shared would be kept under lock and key which would be kept by the researcher alone.
- That they would not to be remunerated for participating in the study; and
- That they might withdraw anytime without being penalized.

The duration of the questionnaire took approximately 30-45 minutes to complete. The researcher spent four days in each university, so that all the respondents would complete the questionnaires. Day one was meeting and briefing first year students with their class coordinator, giving them information relating to the study, so that they could sign the informed consent forms. The signed consent forms were signed in turn by the researcher after collection from the respondents. Thereafter, the completion of questionnaires began. Each completed questionnaire form was accepted by the researcher, and the class batch was bound with rubber bands and placed in the marked envelope for that particular university.

The second day was for second year respondents; days 3 and 4 were followed by respective levels in the same manner. The data collection instrument was administered by the researcher herself to the respondents. The completed questionnaires were collected at the same time to prevent potential loss. The raw data was placed in two envelopes marked by a coloured sticker of each University for confidentiality purposes. The filled questionnaires were packed and prepared for data capturing and analysis. The development of questions was guided by literature review. Questions that were asked in the questionnaire pertained to the factors

associated with failure to graduate and retention-to-graduation of nursing students in the undergraduate programme (Polit & Beck, 2004:349; Chin & Kramer, 2011:151). Questions were brief, clear and relevant to the purpose of the study. The vocabulary used was understood by the respondents (Polit & Beck, 2004:349).

1.14 Reliability and Validity

1.14.1 Reliability of a questionnaire

Reliability is the ability of a data collecting instrument yielding same results every time it is administered (Grove *et al.,* 2013:45). Homogeneity ensures that all the items on the research questionnaire consistently measure the same variable of interest (Botma *et al.,* 2010:177). To ensure reliability of the instrument in this research, a pilot study was conducted. A pilot study is defined as a smaller version of a proposed study that is conducted to refine the methodology. It is developed just like the proposed study, uses similar subjects, the same setting, the same treatment if it is an experimental study, and the same data collection and analysis techniques. It can also be used to develop various steps in the research process such as to develop and refine an intervention, a measurement method, a data collection tool, or a data collection process (Grove *et al.,* 2013: 46). Thus, to ensure reliability of the research instrument for this study a pilot study was conducted.

1.15 Pilot Study

The pilot study is a small scale version of the main study and is viewed as part of planning phase of research as it may bring about changes before data collection commences (Brink, van der Walt & van Rensburg, 2018:45). The purpose of a pilot study was to investigate the feasibility of the proposed study and to detect possible flaws in the data collection instrument, such as ambiguous instructions in wording, inadequate time limits and incorrect phrasing. Brink (2009:166) points that, the time and effort expended in conducting a pilot study are well spent, if pitfalls and errors that may prove costly in the actual study can be identified and avoided before the instrument is administered to the research participants.

In this study, a small sample of 60 respondents from first year to fourth year level in the undergraduate nursing programme was asked to participate in the piloting of this instrument. These students did not form part of the respondents in the actual study. Some researchers, (Feeley, Cossette, Cote, Heon, Stremler & Martorrella, 2009: 87), have cited some of the reasons for conducting pilot studies as follows: to determine whether the proposed study is

feasible (e.g. are the subjects available, does the researcher have time and money to do the study?) According to Grove *et al.*, (2013:46) some of the reasons for conducting a pilot study could be:

- To develop or refine a research treatment or intervention;
- To develop a protocol for the implementation of an intervention;
- To identify problems within a study design;
- To determine whether the sample is representative of the population or whether the sampling technique is effective;
- To examine the reliability and validity of the research instruments;
- To develop or refine data collection instruments;
- To refine the data collection and analysis plan;
- To give the researcher experience with the subjects, setting, methodology, and methods of measurement; and
- To try out data analysis techniques.

In this pilot study, any misunderstanding within the tools were dealt with and explained by the researcher. This means that any grey areas or any ambiguities were removed or clarified by the researcher. The pilot study confirmed the reliability of the data collecting instrument.

1.16 Validity

Validity is the criterion for evaluating if the data collecting instrument measures the attribute of a person or an object under study that it is supposed to measure (Brink, van der Walt & van Rensburg, 2015: 218). Validity is crucial in the development, selection and application of an instrument. In this study, validity was ensured through face, content, construct and criterion validity.

- **Face validity**

Face validity is the assessment of whether the instrument measures what it is intended to measure (Brink *et al*., 2015: 166). Face validity was ensured through the departmental research committee meeting. The committee looked at all the questions that were asked, both the closed and open-ended questions; and they were satisfied that the questionnaire measured what it was intended to measure.

- **Content validity**

Content validity is the extent to which a data collecting instrument has an appropriate sample of items for the concept being measured (Polit & Beck, 2014: 205). The statements in the questionnaire reflected all the concepts from Jeffrey's instrument, during the intensive literature search that was conducted on students' failure to graduate, retention, success and graduation. The instrument was adjusted to suit the target population for this current study. Content validity was also ensured by giving the questionnaire to the supervisors who were experts in the faculty of Health Sciences to check whether the items in the questionnaire measured the content of the construct, and whether there was no ambiguity. Therefore, the content of the questionnaires was controlled.

- **Criterion validity**

Criterion validity is the measure of whether the relationships between the scores on a data collecting instrument are valid, when compared with scores of the corresponding criterion (Polit & Beck, 2015: 206).

In this study, criterion validity was ensured by comparing the findings from phase one, two and phase three with literature during the development of the conceptual framework and guidelines for retention.

- **Construct validity**

Construct validity is the ability of a data collecting instrument to measure what it is intended to measure (Brink *et al.*, 2018:154).To explore the relationships between the instrument's results and measures of the underlying theoretical concepts, a factor analysis was done on the analysed data to ensure construct validity.

1.17 Study Variables

Study variables are concepts of various levels of abstraction that are measured, manipulated, or controlled in a study. Variables may be discrete, such as temperature, weight, and blood pressure or abstract like creativity, social support to mention but a few (Grove *et al.*, 2013:42). In this study, the researcher sought to understand the factors and strategies associated with failure to graduate, retention, success and graduation of undergraduate nursing students using the Jeffrey's (NURS) model as a measuring instrument. The literature review conducted in this study revealed several factors that could contribute to failure to graduate, retention success and graduation of undergraduate nursing students. The variable of interest in this study was the

measure of retention at each level. The second variable of interest was the measure of success / progression to graduation which is evidenced by the graduation output at the end of the programme.

1.17.1 Dependent variables

According to Brink *et al.,* (2018:75), a dependent variable is the "outcome variable as it reflects the effect of the independent variable'. For instance, in this study the question was; what is the measure of retention? The first dependent variable or outcome in this study was retention which is evidenced by increased graduation rates at each level. Another question was; what is the measure of success? The measure of success was, academic success and progression of each student from all the levels of training until the end of the programme (duration of study/progress rate evidenced by graduation output). Table 3.5 shows the subject content or curriculum, duration for training nurses as stipulated by the South African Nursing Council (SANC) over 4 years with the approved minimum clinical hours. Table 3.5 also depicts the content covered, both the core and fundamental courses, in the undergraduate programme that determine the outcome of successful completion of the programme as accredited by the South African Nursing Council, which is the dependent variable of retention-to-graduation.

1.17.2 Independent variables

The independent variable is the 'agent' for change (Brink *et al.*, 2018: 75). The independent variables in this study were those factors that were associated with success and retention-to-graduation in the programme. These variables are categorized as cognitive, non-cognitive, and demographic. These factors have an impact on retention-to-graduation.

- **Cognitive variables**

The cognitive variables include reading comprehension, math skill, science average mark and cumulative average mark, number of science credits, previous degree, repeating a science course, academic background and course repeat (Jeffreys, 2012:79).

- **Non-cognitive variables**

The non-cognitive independent variables are psychological outcomes like stress and self-efficacy. In addition, academic, socio-economic status, time, academic and workplace are other

non-cognitive variables that influence retention and success or academic completion (Jeffreys, 2012:164).

- **Demographic variables**

Demographic variables are age, gender, marital status, support, and ethnicity. The inclusion of self-efficacy or other non-cognitive variables into predictor models of academic success and retention improved the value of study findings and applicability to practice.

1.18 Data Analysis

1.18.1 Descriptive data analysis

The data analysis was carried out using the Statistical Analysis Systems (SAS) version 9.3 software. Atlas Ti was used to analyse open-ended questions which were quantified and integrated into the results. Tables and graphs were used to present the statistical results. Means and standard deviations were used to summarise all quantitative variables. Percentages were used for the categorical data. Analysis of variance (ANOVA) or its nonparametric counterpart (Kruskal-Wallis test) was used for comparing the two universities in terms of the quantitative responses to the questionnaire. For categorical responses, the chi-squared test for independence was used. All tests for statistical significance were carried out at a 5% level of significance.

Phase 2

Phase 2 focused on the development of a conceptual framework that facilitated the development of the retention-to-graduation model for nursing students in the Eastern Cape universities. This exercise emanated from the emerged concepts from the qualitative data analysis which was quantified and integrated with literature verification processes.

1.19. Conceptual Framework

A conceptual framework involves the process of clarification and analysis of the concepts that emerged in the study, supported by the body of relevant literature around the topic under study. It is also a framework that guided the entire study. The retention-to-graduation model for the nursing students in the undergraduate programme is discussed according to the adopted survey of Dickoff, James & Wiedenbach (1968:421). The list comprises the agent, recipient, context, dynamics, process and terminus. The concepts underlying retention-to-graduation of nursing students were identified through the multidimensional factors that emerged from phase 1. The

conceptual framework for a model for retention-to-graduation of nursing students was identified and conceptualised. The researcher discussed various concepts related to retention-to-graduation of nursing students. Lastly, relational statements derived from this discussion were postulated.Phase 2 used inductive concept analysis for the development of a conceptual framework based on the results of Phase 1. A conceptual framework for retention of undergraduate nursing students in universities in the Eastern Cape Province, South Africa was developed.

The research design for this phase was reasoning strategies (inductive, deductive, synthesis, derivation and analysis), which was informed by data from Phase 1 as well as the literature. A conceptual framework was developed according to Dickoff *et al*., (1968) in Murray (2017:45), using the six elements of practice theory and literature. This phase ended up with model evaluation. The building block for conceptual framework was data analysis through reasoning strategies (analysis, inductive and deductive reasoning, synthesis and derivation).

Phase 3

Phase 3 developed and described a model for retention-to-graduation of nursing students at universities in the Eastern Cape Province, South Africa. The design for this phase was theory generation for model development. The population for the phase were the experts in model development and literature sources. The sample and techniques for this phase was the recipients of the model. Data analysis used building blocks for model development and the evaluation of the model was done by the experts using reasoning strategies (inductive, deductive, derivation, synthesis and analysis) which were informed by data as well as literature.

Phase 4

Phase 4 formulated and described the guidelines to implement the model for retention-to-graduation of nursing students in the undergraduate programmes in the Eastern Cape, South Africa. Model evaluation, formulation and description of the guidelines for implementation of the model was conducted. Reliability and validity was ensured by experts in model development and literature sources. The sample for this phase was the recipients of the model. Data analysis for the phase was the building blocks for model development.

1.20 Ethical Considerations

Globally, governments issue out funding for research and establish rules for adhering to ethical principles. Thus, the principles of the Belmont Report as described by Polit & Beck, (2014: 83) on ethical consideration were upheld.

- **Permission to conduct the study**

In this study, all the ethical components were met. Written consent to undertake the study was obtained from the Ethics Committee of the Faculty of Health Sciences of the University of Fort Hare. The two of the selected universities approved the study as well. Permission to conduct a pilot study was sought from the University of Fort Hare. Permission was also sought from Quality Assurance Unit in the Eastern Cape Province, in Bisho which culminated in obtaining of ethical clearance for conducting the study.

- **The principle of beneficence.**

This principle implies that human subjects should not be exposed to injury or any harm whether physical or emotional. In this study, the principle of preventing respondents from harm was ensured throughout. This also means that the involvement of the respondents in this study did not expose them to exploitation by the researcher. They were informed that this study would not expose them to any form of danger. The nature of the study, the time commitment and the nature of their involvement was explained to participants. The researcher protected the respondents from any form of discomfort and harm. Participants were not coerced to take part in the study (Grove *et al*., 2013:174; Polit & Beck, 2014: 83).

- **Respect for human dignity**

This principle includes the respect for the right to self-determination and the right to full disclosure. The right to self-determination is based on the ethical principle of respect for persons. In order to adhere to this principle, the respondents were assured of self-determination by not coercing them to participate in the study, when they did not feel like doing so (Grove et al., 2013: 164). In line with ethical guidelines, the researcher explained to the participants everything concerning the research study, without deception. Their participation in the study was voluntary, and that they were allowed to withdraw from participation anytime they felt

uncomfortable to continue with the study. Besides, the respondents were also assured that they would not be penalized if they refused to participate in the study (Polit & Beck, 2014:84).

- **The principle of Justice**

This principle implies that the respondents have a right to fairness and their right to privacy. Justice refers to fair treatment of all participants (Grove *et al*., 2013: 173). All respondents in this study were treated fairly irrespective of who and what level of training as well as their cultural, racial or socio-economic status. Respondents were informed that there were no financial benefits for participating in this study.

- **Right to fair treatment**

Respondents who chose to withdraw from this study were not prejudiced in any way. All the agreements made with the respondents were honoured with respect of their beliefs and values. To uphold this principle, the respondents were treated courteously, equally and tactfully throughout the timeline of the study (Polit & Beck, 2014:85).

- **The right to Privacy**

The principle of privacy implies that the study did not interfere with the respondent's lives in any way, and that their privacy was maintained. In upholding this principle, respondents were assured of confidentiality and they were not to write their names. The envelopes for each university were sealed so that no unauthorized person would gain access to the respondents' information (Grove *et al*., 2013:172). Anonymity exists if the respondents' identity cannot be linked, even by the researcher with their individual responses (Polit & Beck, 2014:85).

- **The right to informed consent**

This implies that, before respondents embark on a study, they are well informed, they take an informed decision and had agreed to participate (Polit & Beck, 2014: 87). A written informed consent form was given to all respondents. Respondents were requested to sign this consent form after explanation and giving their permission before they respond to the questionnaires. The fact that respondents were required to sign an informed consent to participate was not binding on them.

This means that, even if they had consented to participating in the study, they might withdraw any time if they did not feel comfortable to continue participating. That would not put them into any risk or penalty in any way.

1.21 Limitations

Limitations are influences that the researcher cannot control. They are the shortcomings that place restrictions on the methodology and conclusions. Due to the small sample and the fact that the study was done in 2 universities in the Eastern Cape, generalisations cannot be made. However, the findings could be compared and possible trends identified.

1.22 Dissemination of Research Results

The results were published and disseminated through workshops, awareness campaigns and shared with the management of the different institutions where the research was conducted. A copy of the report was forwarded to the University of Fort Hare to be kept in the library for public use. Articles were also submitted to an accredited journal for publication.

1.23 Chapter Summary

In this chapter, the scientific foundation of the study was provided through a brief description of the introduction, background, problem statement, purpose, objectives, research question and significance of the study, the definition of terms, the research methodology, phases and ethical considerations. The next chapter reviewed literature related to retention-to-graduation; theories related to the concept under study and analysed and described the constructs of Jeffrey's 2012 NURS model of retention. Using factor analysis the results of retention and success were identified, described and synthesized the factors associated with retention-to-graduation of nursing students, which were used to conceptualize a framework for retention-to-graduation in this study.

1.24 Chapter Outline

- **Chapter 1**: The chapter covered introduction and background, retention strategies, problem statement, research questions and research objectives, significance of the study and an overview of design and methodology
- **Chapter 2:** Literature review
- **Chapter 3:** Research Design and Methodology

- **Chapter 4:** Data collection and Data analysis, interpretation of results and literature control.
- **Chapter 5:** Development of a conceptual framework for the model development.
- **Chapter 6:** Development and evaluation of a model for retention-to-graduation.
- **Chapter 7:** Formulation and description of the guidelines for implementing the model.
- **Chapter 8**: Limitations, recommendations and conclusion of the study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviewed literature related to nursing students' failure to graduate and retention-to-graduation rates from 2007 to 2016. The chapter provides a historical background of nursing student retention; describes the context of nursing education in universities, and the legal framework within which nursing education exists and operates in South Africa, among other relevant issues within the subject matter in this study.

2.2 Overview of Literature

2.2.1 Nursing student retention-to-graduation

The nursing student retention has become a challenging phenomenon for academic institutions, and thus it needs effective measures to be implemented in order to increase retention-to-graduation in the undergraduate nursing programmes. In order to guide the planning and execution of this study, literature review involved exploring theoretical and empirical research studies and theories related to the topic. This was done in order to understand and identify knowledge gaps on issues surrounding failure to graduate, retention, and success of undergraduate nursing students (Burns & Grove, 2011:541).

According to Jeffreys (2012: 9), retention refers to continued enrolment in the nursing course or programme without withdrawal, failure or course repetition. Retention is about tracking students who start and finish the programme (Porter, 2008:3). In this study, retention refers to measures taken to assist undergraduate nursing students to master their learning content and complete their course of study without withdrawal. This also extends to include those who will meet the requirements for graduation, and be registered as professional nurses and midwives by the South African Nursing Council (Nursing Act No. 33 of 2005 Under R425) and approved by the higher degrees.

A cursory literature review was done to justify the need of this study in relation to what is already known and covered on retention-to-graduation by previous researchers. It is hoped that the new knowledge would add value on the subject of retention-to-graduation of nursing students. In Tinto's schema (1975:89), family background, individual attributes, and pre-college schooling are linked to goals and institutional commitment that interplay with the academic and social system, thus affecting student integration.

Tinto's model is influential, but it is important to understand the barriers that students overcome in order to be successful, the knowledge that students possess in order to overcome barriers to success, and the actions taken by students in order to overcome the barriers.

In quest for higher education, retention is needed, the elements that help students to overcome these challenges, and positive role models that inspire them to pursue higher education until graduation. Literature has alluded to the fact that collective, personal, social, and institutional factors may affect students in HEIs (Segovia, Parker & Bennett, 2015: 43). For example, gender differences contribute to college adjustment in male and female as it was found with Hispanic college students (Arbona & Nora, 2007:1; Toews & Yazedjian, 2007: 891). Arbona and Nora (2007:1) found that female Hispanic students were more likely to obtain a college degree than male Hispanic students. Generational differences, for example, foreign born immigrants to the United States, second, and third generation, also contributed to Hispanic student college adjustment (Tseng, 2004:966; Zell, 2010:167).

Apart from the demographic characteristics, a personal desire to succeed was also associated with Hispanic college adjustment (Zell, 2010: 169). Self-esteem and peer support were positively correlated with college adjustment in Hispanic females. However, in Hispanic males, only self-esteem and not peer support was related to college adjustment. This pattern was not found in white male and female students. Moreover, self-esteem and peer support were related to college adjustment in both white males and females (Toews & Yazedjian, 2007:891). These findings might indicate that Hispanic females relied more on peer groups as a source of support, which aided in their adjustment to college and possibly higher rates of degree attainment. Morrison (2008:987) found that, successful Hispanic students confirmed coping skills such as forming support groups of Hispanic and non-Hispanic allies, and keeping close ties with family and friends as a way of developing their cultural identity and resiliency. This topic, peer groups as a source of motivation and encouragement, was elaborated later in this study.

2.3 Models for Students' Retention

Related models of retention like Bandura's self-efficacy and social cognitive theory (1997, 1986, 1980), Tinto's social integration theory (1993), Knowles (1990) theory of andragogic learning, and Shelton' retention theory (2012) were used as the basis or foundations that contribute to retention and success of nursing students.

Specific models and factors for retention of nursing students were discussed in depth in this chapter, with the ultimate purpose of developing and describing a conceptual framework and model for retention-to-graduation of nursing students in the undergraduate nursing programme.

2.3.1 Bandura's Self-efficacy Theory and Social cognitive Theory (1997)

According to Bandura, a person's attitudes, abilities, and cognitive skills comprise what is known as the self-system. This system plays a major role in how we perceive situations and how we behave in response to different situations. Self-efficacy is an essential part of this self-system. According to Bandura, self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations." In other words, self-efficacy is a person's belief in his or her ability to succeed in a particular situation. Bandura described these beliefs as determinants of how people think, behave, and feel. This theory aligns well with this study in that, nursing students' beliefs and values about themselves determined if they would be able to succeed in their course of study from enrolment to graduation.

2.3.2 Tinto's Social Integration Theory (1993)

The most commonly referred model in the student retention /failure to graduate literature is Tinto's theory. It probably gains much support because it immediately appeals to people's common sense with its central notion of "integration". Social integration of undergraduate nursing students into academic environment and norms of the nursing profession is vital if retention-to-graduation is to be successful.

2.3.3 Knowles Theory (1990)

The theory uses approaches to learning that are problem-based and collaborative, rather than didactic. It also emphasizes more equality between the teacher and learner. It recognizes the individual student as an adult social being, who is internally motivated and an intellectual who interacts within a specific environment; which may either be in the classroom, in a clinical setup or in the community. Students are holistic beings in that they are practical, whose minds, bodies and spirit interact with the environment, have an effect on and are affected by the physical, spiritual, psychological and clinical environments in which they work and live.

2.4 Synthesis of journal articles reviewed

This section describes the synthesis of journal articles that were reviewed and evaluated on the strategies and factors associated with nursing student retention-to-graduation rates globally. In depth review of titles and abstracts to determine studies' relevance for inclusion was conducted. An intentional research and empirical review was conducted using the internet-based search of peer-reviewed and refereed articles in the following databases: PubMed, Medline, Ebsco Host and Cumulative Index of Nursing and Allied Health Literature (CINAHL). Journal articles published within the period of 2007-2016 were reviewed focusing on emerging themes on the nursing students' failure to graduate, retention, completion, success and graduation.

Comprehensive electronic search was conducted for published longitudinal and cross-sectional studies. The specific search terms used were: ["student" OR "nursing"], OR ["failure to graduate AND "dropout" OR, "retention"], OR ["graduation", OR "education" OR "success" OR "completion"] AND "universities" OR "undergraduate" AND ["strategies" OR "interventions"].

All the articles that reported on nursing students on a fulltime basis in the undergraduate programme from 2007-2016, whether qualitative or quantitative in nature were included. On the other hand, all articles reporting on online or distance education programmes, postgraduate programmes, those not in the English language and randomised controlled trials were excluded. Randomised control trials were excluded because the study was descriptive in nature and not experimental.

The studies that were reviewed after meeting the criteria for inclusion are depicted in *appendix H* of this thesis report. The majority of studies in this review were conducted by nurse researchers in the United States of America, Canada, UK, and Australia which are all outside of South Africa. Very few studies have been conducted on the topic within the undergraduate nursing programme in South Africa. The articles used were published in nursing and peer reviewed educational journals during the last ten years. This section began with delineating failure to graduate rates for various countries, which forms the basis for the analysis of the factors which contributed to retention and academic success of undergraduate nursing students. This review significantly informed and guided the researcher into developing the conceptual framework in this study.

Literature revealed that factors related to failure to graduate varied from country to country and were characterized by inconsistency in percentages with a range of 10-45% (Craig, 2014:1). In Britain, the failure to graduate rate was approximately 25% (Fowler & Norrie, 2009:1194) and 20.9% in the United Kingdom (Mulholland, Anionwu, Atkins, Tappern, & Franks, 2008:48). Further, Jeffreys (2007b:407) reported 25% failure to graduate rate for associate degree students in the United States (equivalent to a two year diploma programme in Canada); while Peterson (2009:411) found 43.9% of students in a baccalaureate programme in New York did not continue as full-time students after first semester. Failure to graduate rates in undergraduate nursing programmes in Canada was 10-18% (Pockock 2012:2).

Failure rates, graduation rates, persistence rates, and retention rates had been of interest to researchers (Robertson, Westlake Canary, Orr, Herberg, & Rutledge, 2010; Shelton, 2012:7). Recently, the studies conducted by researchers such as Pockock (2012:2) and Thelin (2010: online) on failure to graduate rates, between 35% and 44% were reported since the 1990s by the universities in America, Canada, the United Kingdom and Australia. It is worrisome that, despite the efforts by the Higher Education Institutions (HEIs) to improve quality, the problem of failure to graduate remains disturbingly high. In a feasibility study conducted by the Organization for Economic Co-operation and Development (OECD), it was found that an average of 31% of students entering higher education institutions around the globe failed to graduate (Tremblay, Lalancette & Roseveare, 2012: online).

South Africa is not different when it comes to high failure to graduate rate. Universities still fall below the goal of 75-80% of graduation set by the South African Department of Education (Bunting, 2004:22; HESA, 2009:10). For instance, a graduation rate of 44% was reported in 2007 (CHE 2007: online) and in 2009, only 2% graduation increase was noted (Strydom, Mentz & Kuh, 2010: online).

Despite the fact that students were given a financial aid scheme, it is worrisome that 48% of students in the scheme had failed to graduate from the undergraduate programmes (Wangenge-Ouma, 2012:834). The failure to graduate rates of the non-traditional students was double that of the traditional ones (CHE, 2007:17; HESA, 2009:11; Letseka & Maile, 2008:1; Wangenge-Ouma, 2012:833). This signifies that there is more to be done than financial support to curb failure to graduate and improve retention-to-graduation. Literature revealed that, the factors leading to failure to graduate and retention-to-graduation for undergraduate nursing students in

universities are multifactorial (Elkins, 2015:218; Jeffrey's, 2012:8). Thus, themes were extracted from literature results to focus on specific areas. Three themes that emerged from literature search regarding failure to graduate and retention-to-graduation were academic, non-academic, and personal factors. Themes that emerged were further synthesized into categories and subcategories as presented in Table 2.1.

Table 2.1: Synthesis of literature review findings (n=34)

No.	Themes	Categories	Sub-Categories
	Academic Factors	Academic Preparedness	Academic support Academic success Programme flexibility Academic facilities Clinical placement Pre-nursing Courses Faculty support
	Non-Academic Factors	Socio-economic	Poverty Financial Constraints Peer support Family support Dependents, family
		Psychological	Failure to cope Stress Fear of failure Hostility/Aggression Environmental Factors / strikes
	Personal Factors	Student Profile characteristics	Age Gender Language Race

According to the data in Table 2.1, the synthesis showed that, fifteen (15) (44.12%) of the studies reported on failure to graduate, 16 (47.06%) studies reported on retention and 3 (8.82%) studies reported on completion and graduation. However, studies related to retention, success and graduation did not clearly reveal the effective retention strategies because the strategies were not evaluated. This being the gap, there is a need for further research on effective strategies for retention-to-graduation. The themes are discussed below.

2.4.1 Academic factors

The academic factors contributing to failure to graduate and retention-to-graduation included the following:

2.4.1.1 Student academic preparedness

The programme for undergraduate nursing students is prescribed by the SANC with minimum requirements that must be met by all registered or enrolled students. It is necessary that the flexibility of the programme is checked in order to meet the diverse needs and expectations of the students. The students' needs include study skills, study hours, communication skills, class attendance, notes and test taking, language comprehension, and time schedule. Research has evidenced that these factors have an impact in influencing the student stay or dropping from the course (Andrew *et al*., 2008:866, Anonson *et al.,* 2008:277; Fowler & Norrie, 2009:1194). Moreover, according to these authors, previous studies have shown that students should be prepared with positive and genuine support from lecturers. That is because students who lack preparation for the university find difficulties with the content of the curriculum.

Student preparation is important because presumably, students have their own expectations of the content; and thus they get disappointed at themselves when they do not cope. Furthermore, literature has showed that Science as a subject was a culture shock for some of the students (Andrew et al., 2008:870). It is therefore, important that academic preparation for university starts from recruitment through selection, so that the right candidates for the programme are selected. Faculty related factors such as the support, advisement, mentoring, research, teaching and learning, and community engagement activities need careful planning and implementation as they can influence the student failure to graduate or stay in the course. Importantly, communication also emerged in some of studies as a predictor for student failure to graduate especially for 'at-risk' students, whose English language was not their first language (Anonson, Desjarlais, Nixon, Whiteman, & Bird 2008: 275; Jeffreys, 2012:32).

Academic factors are the main reasons for involuntary failure to graduate among many students (McLaughlin *et al.,* 2008:220). When students cannot meet academic requirements, they fail to graduate from the programme, discontinue certain courses, or repeat academic courses, semesters, or years.

Due to lack of academic preparedness, many students are unable to cope with the academic demands of nursing programmes (Andrew *et al.*, 2008:868). According to Hinsliff-Smith *et al*., (2012:31), some students develop coping skills to balance academic and domestic demands, while others struggle with time management skills and usually experience difficulty with workloads (O'Donnell, 2011:60). Specific subjects, such as Sciences, tend to be academically challenging for students (Andrew et al., 2008: 867). Thus, mentorship in such circumstances is necessary. Other facets linked to academic factors are academic services, course availability and attendance.

2.4.1.2 Academic support

Academic support relates to the adequacy of human and material resources, services and course availability. The availability and use of general academic facilities such as writing centres, the library, counselling units, computer laboratories, and simulation laboratories are perceived by students to moderately or strongly support success. Flexibility in course and availability increases the potential for success, especially for mature students (Jeffreys, 2012: 27). The class schedule may interact with environmental factors to influence retention. For example, for single mothers with classes over four days and who do not stay on campus due to family commitments, may find it even more expensive due to transportation. Thus, their ability to remain in the programme may be affected.

2.4.1.3 Attendance

Attendance in classroom, computer laboratories, and clinical placement is critical for success for nursing students, as good attendance is associated with retention-to-graduation. Learning opportunities in laboratory sessions and at clinical placement cannot be replaced by classroom or independent learning strategies. Attendance may not be as simple as being present in class or attending clinical or laboratory sessions, as students may physically be present but not engaged mentally to learn. On the other hand, high absenteeism was correlated with poor academic performance and failure to graduate (McCarey *et al*., 2007:357). Detachment and avoiding classes often happens in advance and can be treated as a warning signal for failure to graduate (O'Donnell, 2011:60). It may be difficult to determine whether poor attendance leads to weak academic performance or if weak academic performance or some other factors like disenchantment with the programme, financial concerns, and health issues lead to poor

attendance. Therefore, nursing students need to be informed from the beginning of the course that, class or laboratory attendance is compulsory for all students and it should be monitored closely.

Some universities have policies in place to monitor class attendance and a special percentage of class attendance of 85% is allocated at the end of semester. If student is habitually absent from classes, the reason is sought and warnings given, that is if they do not make up 85% of the class attendance. This is important because they may not enter for the semester examinations, without a valid reason. The valid reason in this case might be illness or bereavement. This in a way keeps reminding the students about their responsibility of being present in class. Various studies have reported on the nature of the academic environment which should be supportive and facilitating teaching and self-directed learning (Wilson, McKinney & Rapata-Hanning, 2011: 59).

2.5 Non-Academic Factors

2.5.1 Socio-economic Status & Family's educational background

Family educational background is thought to be influential on the student's decision to leave or stay in the course, especially for first generation students. Thus, awareness of family's educational background and the issues surrounding the overall experience of the first generation college student can assist nurse educators to plan and proactively, design interventions to help the students during entry into the university, thus enhancing retention-to-graduation through positive experiences and realistic expectations (Jeffreys, 2012:37).

However, it is difficult to determine whether family socialization, expectations, and/or support play pivotal roles in failure to graduate (Jeffreys, 2012:37). First generation students are students whose parents or guardians have not attended college, university, or an apprenticeship programme (Sinacore & Lerner, 2013:69). First generation students are at a higher risk of attrition than the students whose parents or guardians went to college or university (Jeffreys, 2012:38). However, there are no studies in the literature selected for this study that addressed this factor. Nonetheless, the findings from the study conducted by Veal *et al*., (2012:323) concurred with findings of studies of undergraduate students that reported family support as a critical factor influencing retention of minority students (Coleman, 2008:10).

Family involvement in a student's academic life is very important for emotional support (Bryan & Simmons, 2009:391). Positive emotional support can be expressed by being present, encouraging goal attainment, positive self-confidence and self-worth, believing in the student's ability to succeed, offering assistance, and being optimistic (Jeffreys, 2012:99). Unfortunately, many students due to various reasons of family breakdown or family crisis find themselves without that kind of support. Instead, they are themselves heads of their families especially if parents died. This category of students may be vulnerable and they need the support of other members in the faculty, or be referred to the services of a psychologist and social workers. These are important professionals to help the student deal with family related responsibilities and stress.

Nonetheless, strong family support does not always translate into a better chance of success at school, especially if family ties are prioritized before school responsibilities. Jeffreys (2012:99), suggests that a lack of emotional support from family is not always a barrier for students. Williams' study (2010:363) sought to explore the reasons why certain students did not surrender in their studies. The study found out that, students were inspired to remain on the course because of their determination, availability of family and peer support, having the focus to prosper; and the motivation to fulfil the long-term goal of being a nurse or graduating.

2.5.2 Students with dependants

Students with children may be confronted with numerous emotional and logistical issues regarding school attendance. When a parent attends school, financial issues, balancing family and educational priorities, and role changes within the family present a challenging transition. Child care arrangements are often difficult for parents attending school, especially when nursing students have clinical rotations during the day, evening, or at night in various locations (Jeffreys, 2012:103).

Balancing family and academic obligations is a significant obstacle to student success. As more of the student population is made up of non-traditional students, the number of students with family responsibilities may also increase. In a study by Montgomery, Tansey and Roe (2009:38), 62% of nursing student respondents had dependents and 42% identified childcare as a major issue that affected their studies (Montgomery *et al*., 2009:37).

The researchers argue that, the stress of balancing family responsibilities with school was identified as a major factor in attrition decisions by students (Andrew *et al*., 2008:866; Hinsliff-Smith *et al*., 2012:29; Montgomery *et al.,* 2009:38).

The needs, concerns and issues surrounding students' residential environment while in the undergraduate programme play a significant role in retention-to-graduation. Students living arrangements vary, with some preferring to live on campus, with family, friends, or alone. For students living on campus, integration into campus life plays a positive role in success at school. For non-traditional students, co-habitation with family may help the transition to school. Literature indicates that, various factors present problems for students which may include; long distances from school; having a cultural background different from the majority; and difficulty with parental separation (Jeffreys, 2012:110). The issue of accommodation of students is important if success and timeous graduation is the desirable outcome.

Student residences need not be far away from the lecture halls. In case of long distances, there is need to provide transport to help the students to and from study halls. On the other hand, students with families may not be allowed on campus, but separate quarters may be arranged for the deserving students. Based on the literature review undertaken in this study, there is no research that had investigated the living arrangements for such students.

2.5.3 Transportation

Transportation of students to classroom and clinical areas is such an important aspect for academic success. Public transportation of students may not be a better option for nursing students. A dedicated transport service by the university needs to be set aside for all student transportation needs. As the number of non-traditional nursing students increase, issues with transportation may increase as well.

Nursing students have a particular challenge with transportation as clinical placements may be in a variety of locations. Transportation issues influence other factors, such as academic and psychological outcomes (increasing stress especially during taxi violence), financial stress, and family responsibilities (Jeffreys, 2012:111). If success in retention is envisaged, student transportation should be made a priority.

2.5.4 Financial status

A student's financial status affects their stay on the academic programme. For example, students who cannot pay tuition fees may not be able to register for classes. Financial stress may also contribute to attrition by increasing the number of hours' students work outside of school and psychological stress that comes with the balancing of school and work. Often, family financial support is required for students to persist. Currently however, there are grants, bursaries, or community financial supports for students (Jeffreys, 2012:110). Minority students, older female students with dependent children, and students from low or poor socio-economic backgrounds are considered to be at a higher risk of failing to succeed academically (Jeffreys, 2012:98). The undergraduate nursing programme is a very demanding programme and that is why the governments spend large sums of money to assist in the education of each student, with the hope that, when they complete their studies, they will plough back into the community by rendering a service.

In addition, private donors do assist the deserving students who struggle financially, but again these students must prove themselves to be hard working and completing their courses on time. In the literature, financial status was frequently cited as source of stress and attrition for nursing students (Andrew *et al*., 2008:867; Fowler & Norrie, 2009:1196; Montgomery *et al.*, 2009:38), with as high as 53% of students identifying financial issues as negatively affecting their studies (Montgomery *et al*., 2009:39). Thus, assistance with costs helps students to succeed (Fowler & Norrie, 2009:1195).

Literature repeatedly reveals the value of support, particularly family support (Williams 2010:364) and faculty advisement (Baker, 2010:218). Thus, appropriate support has been seen as vitally necessary, and not just in terms of academic performance but also in overall development and success of students in life. Besides, Faculty and Student Counselling and Guidance Centre personnel need to have a keen observation to cases of this nature, in order to prevent attrition from the programme. Collaborative support in assisting students towards retention and success is important and necessary. Thus, peer support and family support are very important to enhance retention-to-graduation of undergraduate nursing students.

2.6 Psychological Factors

Academic outcomes are represented by the student's grades, cumulative and grade point averages. Academic outcomes are often used in the literature to measure student's success. However, variables such as methods of evaluation, instructor variability, and teaching methods may skew this quantitative measure. Academic outcomes also influence retention-to-graduation. Many students fail courses, which they have to repeat (Jeffreys, 2012:158). Students who experience stress and fear of failure mostly suffer from depression, hostility and aggression. Sometimes, if not detected and addressed they end up leaving the course. This outcome is not desired for the institution and the student.

Educational experience is an important variable. Traditional students graduating from high school immediately prior to entering a degree programme tend to have similar grades as in high school. This does not hold true for non-traditional students who may have not been in school for years, or may hold other credentials (Jeffreys, 2012:155). In the literature, comparisons between traditional versus non-traditional students is hard to analyse because researchers have not clearly distinguished between sub groups of these students. Generally, it has been found that students with higher grade point averages in high school were more likely to succeed in nursing programmes, while students with lower grade point averages were less likely to succeed (Fowler & Norrie, 2009:1196; Hopkins, 2008:255; McCarey *et al*., 2007:358; Peterson, 2009:412; Salamonson *et al*., 2011:86).

Student affective factors consist of the values, attitudes and beliefs that students have about their own ability to succeed in education, and nursing as profession in particular. On self-efficacy, the student's perceived ability for learning or performing skills, was found to increase grades is some studies (McLaughlin *et al.*, 2008;212). However, no clear relationship with attrition was identified in others (Peterson, 2009:412). In addition, Jeffreys (2012:68) relates high self-efficacy with high motivation, characterizing students with high self-efficacy with behaviours that will maximize their abilities; and equating learning with an opportunity to grow, thus lowering attrition rates.

Another important factor was cultural congruence. Cultural congruence is the degree to which students' values fit within the professional and peer values. Students with a high degree of cultural congruence have a greater chance of positive academic and psychological outcomes,

and less risk of failure to graduate (Anonson *et al.*, 2008: 275; Jeffreys, 2012:157). Academic factors such as study skills, number and quality of study hours, schedules, and academic services have been critical to nursing students' success (Jeffreys, 2012:157; McLaughlin *et al.*, 2008:213). To the contrary, many students are unprepared for the amount of work and lack adequate time management skills (Hinsliff-Smith *et al*., 2011:28). Suggestions for improving this situation include: increasing communication between nurse educators and high school teachers about expectations in undergraduate education, thus altering the expectations of students coming into nursing programmes.

Importantly, changes in high school expectations and selection criteria may influence the skills students have when coming into nursing school. Therefore, criteria for entry into nursing programmes may have to be changed to have students that are prepared for the challenging workload. Student expectations affect their satisfaction and stress. If student expectations of the course do not match the reality, there is a higher risk of attrition. Previous studies have indicated that, students are often surprised by the amount of work, and the application of scientific evidence based knowledge to practice (O'Donnell, 2011:55).

The other non-academic factor was environmental factors, which also impact on retention-to-graduation of nursing students. Environmental factors are those factors that are external to the educational process which affect student success. Important environmental factors have been identified as: finances; hours of employment; outside support; family responsibilities; and opportunities to transfer to other programmes. Family emotional support, child care arrangements, family crisis, living arrangements, and transportation influence student persistence (Jeffreys, 2012:94). Good environmental support is critical for retention-to-graduation.

2.7 Personal Factors/ Characteristics

According to Bandura (1997:620), Jeffreys (2012:23), Shelton (2012:5), and Tinto (1993:2nd ed), students' biographical characteristics have a part to play in influencing the student's retention, success and graduation. Academic studies that predicted attrition and retention have been cited by a number of researchers (Andrew *et al*., 2008:865; Anonson *et al*., 2008:274; Roos *et al*.. 2016:online).

This finding is supported by existing literature reporting academic difficulties to be the main reason why nursing students discontinue from nursing programme (Cameron *et al*., 2011:1373; O'Halloran, 2009:online; Park *et al.*, 2011:38; Pryjmachuk *et al*., 2008:151; Wright & Maree, 2007:597).

Academic factors consist of students' study skills and habits, academic services, absenteeism record, and course availability (Jeffreys, 2012: 25). Study skills which include reading and writing skills, notes-taking, preparing for papers, exam preparation, listening in class, attitude about responsibility for studying, time management, study hours, class schedules, and general academic services are crucial to nursing students' success (Jeffreys, 2012:78). Approximately, one-third of nursing students recognize challenges with one or more study skills, and the figure may be rising due to the increasing variety of students entering nursing programmes.

During study periods, active engagement is very important and students need to be allowed to work their way through under supervision. As excellent time management skills, effective organization, and planning are better predictors of success than the number of study hours, quality is more crucial than quantity. Nevertheless, students with sufficient personal study hours are expected to be more enthusiastic with positive academic outcomes than students with insufficient study hours (Jeffreys, 2012:81). These characteristics include: age, ethnicity, race, gender, language, educational experience, family educational background, work experience, and enrolment status. Certain characteristics that put students at a higher statistical risk of failure to graduate may not be adjustable. Therefore, under such circumstances, additional supports may help students to succeed.

- **Age**

Generally, Jeffreys (2012:25) findings are consistent with the literature in that, contradicting evidence exists about the relationship between age and failure to graduate. For example, mature students have often developed strategies to cope with multiple demands. Mulholland *et al*., (2008:49) and Pryjmachuk, Easton & Littlewood (2008:149) found that mature students have lower attrition rates, while McCarey, Barr, & Rattray (2007:357) found no difference between age and attrition.

Notably, adults older than 25 years are returning to school in bigger numbers for second careers or to upgrade their education qualification (Jeffreys, 2012:25).

Based on their age, various stereotypes and myths may serve to create barriers for success for the older students. One of the myths is that, older students are poorly equipped to meet the challenges of higher education, yet some research indicates more effective study habits, greater goal commitment and motivation, effective time management skills, and higher grades in older students. Traditionally, social integration into school activities and clubs was perceived as important to the retention of students, yet in the mature group, this seems to be less important (Jeffreys, 2012:25). Therefore, the issue of age seems to be controversial as far as academic success is concerned. The age difference, backgrounds and academic abilities are challenging factors for educators who must offer support for students' widely changing needs. The challenging concern is what forms of support are effective in enabling these students to remain on programme?

Some researchers have expressed that younger age groups have a higher tendency of leaving the programme than older age groups whilst previous studies have reported elderly students to be more persistent and usually do well in the programme than the young ones (Pryjmachuk, Easton & Littlewood, 2008:149). Hence, Higher Educational Institutions (HEIs) should actively aim at recruitment of mature applicants and increase the level of academic qualifications for entry to the programme. However, this is ground for further research. Consistent with Jeffreys' work, the literature reflects a growing number of mature students entering nursing education (Andrew *et al*., 2008:865).

Mature students tend to have more responsibilities than younger students; but the mature students have developed coping strategies to balance academic and domestic demands (Hinsliff-Smith, Gates, & Leducq, 2011:27). Montgomery, Tansey, and Roe (2009:35) identified characteristics such as commitment, focus, hard work, and previous experience that facilitate success in older students. Alluding to these characteristics Jeffreys, (2012:28) further states that, mature students have challenges unique to them in school. These challenges relate to the environmental factors. She perceives that environmental factors are more important for non-traditional students than are academic factors. For example, family responsibilities may play a much larger role in success or failure in a nursing programme for a mature student, who

has multiple roles of being a student and a wife; with family commitments as compared to a traditional student who is living at home with his/her parents with no family responsibilities.

Montgomery *et al.,* (2009:35), also identified issues that affected mature students' studies which include: family commitments (46%); childcare issues (42%); financial concerns (53%); and work commitments (25%). Two studies examined in this study found that mature students have lower attrition rates (Mulholland, Anionwu, Atkins, Tappern & Franks, 2008:49; Pryjmachuk, Easton & Littlewood, 2009:149), while another found no significant difference between mature and younger students (McCarey, Barr & Rattray, 2007: 357). In other studies, however, age is positively correlated with academic achievement (Andrew, Salamonson, Weaver, Smith, O' Reilly & Taylor, 2008:865).

- **Ethnicity and Race**

Jeffreys (2012:82) found that ethnicity and race play a vital role in the experience of nursing students. For example, white, non-Hispanic nurses of European American heritage represent approximately 83% of all registered nurses in United States, but minority students were attending nursing programmes with increasing rates (Jeffreys, 2012:82). Minority students come with unique needs which tend to be neglected by nursing faculty. Minority students experience higher rates of failure to graduate from nursing school and the nursing discipline (Jeffreys, 2012:82). The minority populations are another group that would benefit from more specific research to address their needs.

Researchers concede that minority students have a higher attrition rate (Jeffreys, 2007b; Pryjmachuk *et al*., 2008:150), and on average they take longer to complete their educational programmes. Diversity in ethnic backgrounds is becoming more common in nursing education which is reflective of the Canadian population (Andrew *et al*., 2008:866). Students from minority populations may have unique needs and experiences. For example, in an article regarding aboriginal youth in nursing school in Saskatchewan, Canada, researchers describe challenges that aboriginal youth experienced as: being academically unprepared; English as an additional language; cultural change; family responsibilities; child care; study space; lack of role modelling and mentors; and financial concerns (Anonson, Desjarlais, Nixon, Whiteman & Bird, 2008:274).

The authors found aboriginal students were required to lose their cultural identity to fully assimilate into nursing culture, presenting not only academic challenges but also expectations of cultural and value changes.

Furthermore, Love (2010:342) found similar expectations of socialization and assimilation into the dominant culture when examining the lived experiences of socialization of African American students at a university with predominantly Caucasian students. The following themes were uncovered: having the strength to pursue more; encounters with discrimination; pressure to succeed; isolation and sticking together; to fit in and talk white; and to learn with new friends and old ones. One student discussed the discrimination she faced,

> "I was telling a past teacher that I was applying to the program and that it's really competitive and not everyone's getting in. And the first thing she said to me, is well, is there some type of minority quota they have to fill? Basically saying that I was going to get in because I was a black woman," (Love, 2010:346).

It is hard to assess how discrimination by faculty and students affects students' success (Craig, 2014:1). This calls for increasing the number of minority students to bridge the widening gap between the minority nursing students and the white nursing students (Saha & Shipman, 2008: 236; Institute of Medicine of the National Academies, 2004:online).

- **Gender**

The majority of applicants who apply and are admitted in the nursing undergraduate programmes are females. Males represent approximately 6% of the nursing workforce in United States (Jeffreys, 2012: 30). Studying gender as a factor in nursing attrition is difficult due to the low numbers of males entering the profession.

Social isolation, fears of being perceived as unmanly and questions about sexual orientation may contribute to low propensity of men entering the nursing profession, which may contribute to attrition in male nursing students (Jeffreys, 2012:31). Males are a minority both in undergraduate nursing education and nursing practice. The unique challenges male student nurses face come from all angles, such as from patients, educators, nurses, and citizens.

Failure to graduate rates for male students when compared to female students are inconsistent in the literature (McCarey *et al.*, 2007:357; Salamonson *et al.*, 2011:84; Stickney, 2008;422; Jeffreys, 2007b:). Specific retention strategies to support male students may be helpful because they have a great duty and an important role in the health care system.

The results of studies examining the relationship between attrition and gender reveal a higher attrition rate in males (Mulholland *et al*., 2008:349; Pryjmachuk *et al*., 2008:150). To the contrary, others' report show no difference or inconsistent differences between the genders (Jeffreys, 2007b; McCarey *et al*., 2007:357; Salamonson *et al.*, 2011:85; Stickney, 2008:422). Clearly, male nursing students have a different experience than the females. According to Stott (2007:325), males face additional challenges in their careers and education due to stereotypes. They feel isolated and may find that the caring aspects of nursing do not come as naturally as the technical aspects.

> "The science sort of clicks for me... but I think it's... they talk about that bedside manner that you learn in practical. I think that's when it comes more naturally to girls and I find myself nervous at times," (Stott, 2007:325).

Men may face discrimination based on gender and may be prevented from going to certain clinical areas such as maternity or paediatrics (Jeffreys, 2012; Stott, 2007:326). However, in South Africa, male nursing students are such an important cadre, especially during the season of initiation of young boys that graduate to manhood according to *Amaxhosa* custom and all other ethnic groups that practice the rite of passage. Therefore, more of male nursing students into the programme have to be assisted as much as possible to achieve their degrees and add to the workforce, especially in the rural areas of South Africa. There is consistent information about minority students between Jeffreys' findings and attrition literature suggesting the number of minority students as increasing in nursing programmes. It is disturbing to note that, minority students have higher attrition rates than other students (Jeffreys, 2012:159; Pryjmachuk *et al*., 2008:151).

Moreover, researchers have gathered qualitative data from minority students, facilitating an understanding of the process of assimilation into dominant white culture with Canadian students. It was also identified that educators had not done enough in supporting the unique needs of these students (Anonson *et al*., 2008:275).

2.8 Theoretical Frameworks

Table 2.2: Theoretical Perspectives

Theory	Founder	Purpose	Assumptions	Advantage	Disadvantage
Andragogical Learning Theory (1990)	Knowles	Leading adults to learn	• Self-concept • Adult learner Experience • Readiness to learn • Orientation to learning • Motivation to learn	Emphasises the value of the process of learning. Uses problem-based learning and collaborative. Equality between the teacher and the learner. Students are holistic beings, practical minds, bodies and spirit interact.	None
Self-efficacy AND Social integration theory (1997)	Bandura	Capabilities to produce a certain level of performance.	• Regulatory Function. • Competence, • Confidence • Psychological perspective	Belief in oneself Self-system.	None
Social Integration Theory (1993).	Tinto	Incorporation of students into an educational institution - Greater interaction =	• Sociological perspective. • Sense of belonging. • Satisfactory connections. • Networks	Common abilities. Pre-entry characteristics influence. Dialogue.	None

		greater perseverance.			
Retention Model (2012)	Shelton	Enhance nursing student retention	• Collaboration. • Persistence. • Academic performance.	-	None
NURS model (2012)	Jeffreys	Identify student at risk. Develop strategies for retention. Support effective teaching innovations. Encourage educational research.	• Undergraduate nursing students – a priority. • Retention dynamic and multidimensional. • Students, environmental and professional integration factors influence retention. • Professional socialization & enrichment. • Psychological and academic outcomes may interact.	Identify students at risk.	None

Table 2.3 shows prominent theoretical theorists whose ideas or theories were extracted to support this study. This study drew from Knowles' andragogic theory (1980: online), Bandura's Self-efficacy Theory (1997: online), Tinto's Social Integration Theory (1993: online), Shelton Retention Theory (2012), and Jeffreys NURS Model (2012). This study considered the application of these theories because, their ideas provided guidance and building blocks in developing conceptual framework and model in this study.

The researcher combined all the aspects that could influence the nursing students' retention such as psychological and sociological perspectives, because in one way or the other they had an impact on student performance and perseverance in the programme until graduation. The

study considers the interaction of the student's background, internal psychological processes, and external environmental supports in bringing about student retention-to-graduation.

The student is affected by internal psychological processes within him / her and this can determine whether the student will graduate or not. Internal psychological processes also affect how the student perceives and uses external supports, such as support from family, peers, employers/funders, and the academic institution itself. Without adequate support, the student is unlikely to persist in a programme until graduation. Internal psychological processes determine the kind and extent of support required for the individual to be effective (Bandura, 1997:191 Tinto, 1993:2nd ed.). External supports such as peers, family and faculty / academic staff have been shown to be very effective in bringing about academic persistence of the students in the undergraduate programmes (Veal, Bull & Miller, 2012: 322). However, these researchers highlight that there is little attention given to academic climate and social integration, and their influence on the educational experiences of undergraduate students in nursing programmes. These theories are now discussed below.

2.8.1 Knowles Theory of Andragogic Learning (1980)

The concept *andragogy* refers to a process of leading adults to learn as opposed to *pedagogy,* which is a process of leading children to learn. Andragogy emphasizes the value of the process of learning. According to Knowles, andragogy can be used synonymously with adult education. He describes andragogy as the art and science of adult learning. Hence, andragogy refers to any way of helping an adult to learn (Kearsley, 2010: online).

The theory uses approaches to learning that are problem-based and collaborative rather than didactic. It also emphasizes more equality between the teacher and learner. It recognizes the individual student as an adult social being who is internally motivated and an intellectual who interacts within a specific environment which may either be in the classroom, in a clinical setup or in the community. It further views students as holistic beings who are practical, whose minds, bodies and spirit interact with one another, and has having an effect on and being affected by the physical, spiritual, psychological and clinical environments in which they work and live. Notably, adult learners like being respected in the learning process.

According to this theory, students are self-directed, critical, analytical, and goal-directed (Knowles, 1980: online) with a partnership between the community members, the university and the clinical area for developing enquiring and reflective minds, and clinical competencies.

Students come to the classroom or clinical setup with a variety of factors that may motivate or de-motivate them along the way to completion and graduation.

For example, the student's personal characteristics and background in terms of age, ethnicity and race, culture, language, prior educational background, family educational background, socio-economic background, prior work experiences and enrolment status will have a bearing on the academic progress and academic outcomes (Baker, 2010:216; Jeffreys, 2007:406; Williams, 2010:363).

Moreover, the student's personality, cultural values and beliefs, self-efficacy and motivation will determine if the student will succeed, persist or drop out of the programme. The student as a social and an intellectual being comes to the learning environment with some expectations such as to obtain a degree at the end of the programme. Thus, there is a need to create an environment for inclusion for culturally diverse nursing workforce. Programmes set up to retain multicultural and multilingual nursing students are important organizational priorities. Therefore, higher education institutions and clinical practice centres need to build responsive and welcoming environments where all students feel engaged (Jeffreys, 2012:406).

2.8.1.1 Knowles' five assumptions of adult learners

In 1980, Knowles described four assumptions about the characteristics of adult learners (andragogy) that are different from the assumptions on child learners (pedagogy), and later introduced a fifth (5th) assumption in 1984. These assumptions are described below.

•Self-concept

As the person matures his / her self-concept moves from one of being a dependent personality toward one of being a self-directed human being. According to McLeod (2007:1), the term self-concept is a general term used to refer to how someone thinks about, evaluates or perceives themselves. Self-concept is the way one feels or perceives oneself to be or the mental image one has of oneself. Nursing students are taught to be critical, analytical and reflective thinkers who are able to work independently and be able to take ethical decisions regarding nursing and care issues; and importantly solve patient or client problems. This is required from the nursing students of today because their programme from conception is designed such that, they must reason and be able to correlate theory with clinical practice as well as take ethical decisions in solving clients' problems.

For the students to be successful and effective there has to be accompaniment, nurturing or mentoring in a safe environment, which commands respect for one another. This is necessary, so that in difficult situations they can have a professional or senior peer or academic person on their side to consult. Secondly, the mentors, preceptors or clinical facilitators need to be careful when addressing students whether in the classroom or in the clinical settings because words can destroy the mentor / facilitator / preceptor – student/mentee relationship and reputation. The use of certain words and phrases can 'sink in the students' psyche' and mar their self-concept and future development. That could be a reason for early departure from the programme which should be guarded against.

•Adult Learner Experience

As a person matures he/she accumulates a growing reservoir of experience that becomes an increasing resource for learning. An adult learner is an individual who is 18 years or older, who can take decisions and be accountable for ones' actions. Adult learners come to a learning environment with a wealth of life experiences, even though they may need to be channelled and guided to the needs of the programme. This is true for the nursing students who come to nursing institutions. However, prior knowledge and experience needs to be channelled correctly and safely especially when they deal with vulnerable individuals, families and communities who may be adversely affected by the way they utilise their knowledge and experience. In the nursing profession, undergraduate nursing students are taught ethics inculcated in the attitude in which they handle their clients / patients. On the other hand, nursing students are also affected by the environments in which they practise from day-to-day. Therefore, it is important that their experiences as learners are nurtured so that they may be able to succeed and graduate from the programme.

- **Readiness to Learn**

Readiness to learn becomes more oriented and increasingly to the developmental tasks as a person matures. Readiness to learn refers to a degree of curiosity or concentration or eagerness one shows and the state of preparedness for learning. It can be likened to a state of being physically, mentally, and emotionally prepared to receive information. If students are ready to learn, one can judge by their alertness in class, active participation through question and

answers, with up to date equipment for that particular learning experience. It is an attitude of interest one demonstrates in learning.

It is important for the educators or facilitators to take note of learners' readiness to learn and be able to determine their level of understanding. The curriculum or content for undergraduate nursing students is so organized that, it meets the students' needs for learning. Small achievable tasks according to the level of training must be organized, planned and administered in a meaningful way, so as to activate nursing student's willingness to learn. Constant supervision thereof is necessary to see that, the student is always on track. Stimulating learning opportunities must be created for the student in the classroom or simulation laboratory where students are given meaningful tasks to work on, with clear learning outcomes under the supervision of a facilitator. In so doing, the readiness to learn will be directed towards success.

•Orientation to Learning

As one ages, his / her time perspective changes from one of postponed application of knowledge to immediacy of application. Accordingly, therefore, his / her orientation toward learning shifts from one of subject-centeredness to one of problem centeredness. Because adults are motivated to learn after they experience a need, they enter an educational programme with expectations for life, task or problem centred orientation to learning. Thus, a step by step process of events helps to orientate them to learning. Nursing students' orientation to the learning content teaches them a step by step process of the skill before they are able to see the big picture in all situations, taking their clients or patients in totality, considering the uniqueness of each situation or individual, critically analysing each and reflecting on each learning phase.

Therefore, instructions should be task-oriented instead of memorization and learning activities should be in the context of common tasks to be performed by the students.

- **Motivation to Learn**

As one matures, the motivation to learn is internal (Knowles 1984). Once the individual student feels the need to learn and is met with committed and enthusiastic academics that are willing to support them, they feel motivated to learn because they know they have someone behind, who cares and who can assist them to make things happen. There are a number of motivating

factors for learning within the student. For example, a student who knows what he/she wants in life will be motivated to learn. Passing a test or performing a skill competently is a motivating factor to learn and be successful. However, the students need to set achievable goals and keep focusing on those goals. Nurse educators on the other side should focus on giving prompt feedbacks to students to motivate them.

2.8.2 Knowles' Four Principles of Andragogy

Knowles also described principles of andragogy that are applicable to learning and suggested the following:

Adult learners need to be involved in the planning and evaluation of their instruction. Although it is not always easy to involve students in the planning and evaluation of their instruction, however, there are a few ways they can be included. For example, allowing students to evaluate the content at the end of the session by giving them learning outcomes; by giving them evaluation forms or surveys to give an anonymous feedback that asks for how better can the course be structured and designed, gives them an active role in how they might wish to see the learning experience improve.

This principle applies well within the nursing education programme, because nursing students from the first to the fourth level of their training are advised to take an active part in planning and evaluating their learning. Giving them an overall schedule in advance allows them to plan, but it is also important that they are involved in time management seminars to keep track of their time schedules. If they know when and what is expected of them in advance, students are usually successful in planning and evaluating their instruction.

Experience (including mistakes) provides the basis for the learning activities. This means a cyclic process involving setting goals, thinking, planning, experimenting and making decisions, and finally action, followed by observing, reflecting and reviewing. Andragogy uses participants' own experience and their own reflection about that experience, rather than the lecture as the primary approach to learning. Furthermore, experiential learning theory allows for the generation of understanding and allows for the transfer of skills and knowledge. It involves doing something and discovering what it is like; how it makes the learner feel, what it means to the learner, i.e. experiential learning is the learner's experience. Therefore, it is particularly effective in adult education as it addresses the cognitive, emotional and the

physical aspect of the learner. Learners participate in cooperative learning activities which allow them to repeat until they master the skill.

Nursing students are usually exposed to demonstrations in the simulation laboratories where they can practise and make mistakes under supervision until they feel confident of doing the task safely and independently without supervision. Likewise, in the classroom they are exposed to series of exercises such as pre-tests and post-tests so as to establish needs and gaps. In all these, they gain the experience which addresses the psychomotor and affective aspects in them as learners.

Adults are most interested in learning subjects that have immediate relevance and impact to their job or personal life. This means that individuals like to focus or learn more the courses that will be of immediate usage and suited to their job in their daily work environment or personal life. It is vital for educators to really pay attention to what training they are giving their students, and how it will best help them in their professional role.

Most of the nursing students join the programme because they have had a longing to be a nurse; either because of many previous experiences or encounters and the perception that nurses hold a high social status in the society. Although there is no empirical evidence, the majority of students search through internet and take an initiative of visiting institutions where nursing is offered or attend career exhibitions, which are sponsored by institutions to learn more of career choice. Through those encounters, they learn the requirements for admission and the courses that are offered, including the relevance of those courses to the career they want to follow. Once admitted, majority do not perform very well in the programme due to the difficulties they come across in the programme.

Nonetheless, some persist because they know at the end, they will make it. Moreover, nursing boasts itself of being a noble profession and everyone wants to belong to it. Despite the fact that, nurses work long hours, their job is stable. Therefore, if students perceive the content to be relevant to their needs, they develop an attitude of acceptance to study it and do well. Nurse educators need to support students in this regard so that they can be able to correlate theory to practice, progress and graduate.

Adult learning is problem-centred rather than content-oriented (Kearsley, 2010: online). Many institutions have introduced problem–based learning in order for students to develop critical

and analytical thinking skills. Problem-based learning is an instructional strategy that encourages critical thinking, self-directed learning and problem-solving skills. Students confront contextualized, ill-structured problems and strive to find solutions. In this way, educators need to present scenarios, ask questions built around case studies, and gather responses of the decisions that students would make based on specific data. By engaging them in this way, they are being prepared to take what they learnt in the classroom and apply it in real-life situations when facing a problem. In the process, they can also develop effective communication and time management skills. This allows them to be active participants and be able to reflect on the content of their work meaningfully. Under the keen eye of a caring facilitator, many students are retained and are geared towards success and graduation.

From all these theoretical proponents, one clear aspect is that, undergraduate nursing students operate within an environment which needs to be nurtured carefully with understanding of the context and the pressures encompassing the student and the health care system. There is a need to timely graduate nurses in universities, whilst recognizing and understanding the needs of the very student.

Drawing from these theorists, the modern day nursing student is likely to be older, have more family responsibilities, be employed while attending school, and will have been out of school for some years (Jeffreys, 2007:406). These non-traditional students face many stressors as they pursue their education, and the percentage of these students who persist to graduation is estimated to be lower than for traditional students (Tinto, 1993:2). Thus more support needs to be offered to them.

2.8.3 Bandura's Self-efficacy Theory (1997)

In the search for literature related to retention of students in universities, the theory of Bandura's self-efficacy (1997, 1986, and 1980) was identified as relevant to this search and so his ideas were also utilised. Self-efficacy is defined and explained in many ways by different researchers (Bandura, 1997:191; Jeffreys, 2012:140; Shelton, 2012:14). Simply put, self-efficacy is a belief in one's self, or one's belief of his or her capabilities to produce a certain level of performance or maintain certain goals.

According to Bandura's theory (1977:191) the concept self-efficacy defines whether performance will be initiated, how much effort will be spent, and how long it will be continued (Bandura, 1977:1193). It also includes an individuals' ability to exercise a measure of control

over their thoughts, feelings, motivation, and actions called self-system. This self-system provides reference mechanisms and a set of sub-functions for perceiving, regulating, and evaluating behaviour, which results from the interplay between the system and environmental sources of influence (Bandura, 1986:1). Therefore, it serves a self-regulatory function by providing individuals with the competence to inspire their own thought processes and actions and thus alter their environments.

To initiate performance and sustain the effort necessary to perform a task, one needs to believe in their competence and confidence to perform the task. Bandura's (1997:191) theory offers an interesting psychological perspective for most individuals. While the theory does not have specific relevance for nursing student retention, success and graduation, it can be applied with meaning. In a nursing programme, self-efficacy defines whether a student chooses to apply for entry into the programme or not. Once admitted into that programme, self-efficacy defines whether the student will persevere until graduation (Shelton, 2012:1).

2.8.4 Tinto's Integration Theory (1993)

Tinto's Integration Theory (1993:2nd ed.) is based on the incorporation of students into an educational institution. The theory is limited to a sociological perspective of what happens within a system to affect the student. Integration occurs when students are incorporated into a community and develop a sense of belonging and fitting into the community in which they belong. In order for integration to take place, the student must have satisfactory connections or networks with other individuals and peers within the educational community.

These would either be in the classroom with academic staff or peer students, mentors, tutors, preceptors / clinical facilitators; student residence or apartments; clinical laboratories or health care facilities. Students must believe that they share common abilities, goals, and values with others within the institution in order for integration to occur. Integration determines whether the nursing student identifies the benefits to be greater than the costs of persevering and remaining enrolled in the programme in an institution. The theory suggests that student retention is influenced by student pre-entry characteristics and the interaction between the academic and social systems of the campus environment.

Pre-entry characteristics include family and community backgrounds, personal attributes such as age, sex, skills (intellectual and social), as well as precollege educational experiences and

achievements. These pre-entry characteristics have a direct influence on student departure decisions, student commitment to the institution, and commitment to the goal of graduation. Academic variables focus on academic performance in college / university and interactions with faculty/staff. Social system variables include aspects such as involvement in peer group interactions and extracurricular activities. Tinto hypothesized that, the greater the interaction with the academic and social systems of the institution, the greater the probability of persevering in the programme through to graduation. The likelihood of withdrawal is increased when there is limited social integration into the campus environment.

Tinto's ideas concur with the NEIs in that; professional integration factors introduce the nursing students to the ethics and norms of the profession. It provides the expectations as to the kind of behaviour and conduct they must adopt as they enter the profession and throughout their lifetime in the profession. Therefore, smooth integration needs to be facilitated earlier in the programme, so that the student makes a decision in advance to accept or leave.

It is one thing to give the student a whole pack of rules and regulations, but it is another thing to explain and apply the meaning of each of these. Perhaps, this creates an opportunity of dialogue with the students and it is the best time to identify even those at risk of leaving the course early without completion.

2.8.5. Shelton's Model of Nursing Students' Retention 2012

Shelton developed a model for nursing student retention in non-traditional associate degree nursing students. She defined student retention as "persistent or choosing to continue in an undergraduate nursing programme which was characterised by a successful academic performance or meeting the necessary academic standards to continue in a nursing programme" (Shelton 2012: 5). Her model of retention portrays a collaboration of various constructs and variables such as internal motivation and mental processes, external supports, and their relationships to persistence and academic performance. According to Shelton (2012: 5), student background variables are factors that have influenced the student's academic performance in the past, as well as factors within the student's immediate or present environment.

The background variables in the Model of Nursing Student Retention were a derivative of Tinto's theory as well as from the appraisal of literature that was theoretically consistent with Tinto's (1993:2nd ed) work. These variables correlated with persistence and academic

performance, and identified academic risk factors for college students in general and nursing students in particular (Bowden, 2008:48; Jeffreys, 2007:408; Seago, Wong, Keane, & Grumbach, 2008:184). Although there is no literature which defines these constructs, motivation is a stimulus or an incentive that induces one to act or react in a certain way hoping to receive or attain the desired goal.

Internal motivation is a purposeful behaviour or a driving force which comes from within and causes people to act in a way that makes them feel good about themselves when they accomplish the results of their good works. Mental processes are perceptions / thoughts, or all the things that an individual can think of or do with their minds. External supports are any forms of help or aids / material which may be funding, emotional or even family, faculty, and peer support which assist one in the realization of their desired goals. Shelton found that perceived faculty support was related to both persistence and academic performance.

The nursing students with higher perceived faculty support were more likely to continue in a nursing programme until graduation and were more likely to be successful academically. Furthermore, students with higher perceived faculty support also had higher outcome expectations of earning an associate degree in nursing.

2.8.6 Jeffreys Nursing Undergraduate Retention and Success Model (NURS) (2012)

The last theoretical aspect the researcher discussed in this chapter is the Nursing Undergraduate Retention and Success (NURS) model. This model was appraised for development and describing the conceptual framework in this study. The figure below depicts factors that impinge on nursing students as they enter and progress in the undergraduate programme until they drop out or graduate; and be registered into the National Council Licensure Examination for Registered Nurses (NCLEX- RN).

The organizing framework presents six multidimensional factors, namely; student profile characteristics, student affective, academic, environmental, professional and social integration, and outside surrounding factors. It also has two outcomes, namely; academic outcomes and psychological outcomes that have an influence on attrition and retention.

Goals of the NURS model

The goals of the model are to enable programme designers to:

(i) Identify students 'at risk' of dropping out of undergraduate nursing programmes;
(ii) Develop strategies to facilitate retention and success;
(iii) Support effective teaching innovations;
(iv) Encourage educational research within the framework; and
(v) Evaluate interventions aimed at promoting nursing students' retention and success.

The goals are multi-factorial, addressing attrition from several points of view. For example, from a student's perspective, the model identifies students 'at risk' and can lead to development of strategies for support and to prevent students from dropping out. From a research perspective, the model may streamline definitions like attrition, retention, and minority or 'at-risk' students; introduce concepts like teaching and learning interventions, support for students, evaluation of teaching and learning to encourage uniformity in the information collected in a programme, thereby facilitating contrasts. However, this multidimensional nature of attrition may make interventions difficult to address the challenge. Higher educational institutions may appraise interventions leading to an increase in student success. To that effect, Jeffreys' NURS model may be used to assess, plan, develop, describe interventions, and evaluate student success strategies.

Why the NURS model?

This model is unique to nursing students' retention, success, graduation and registration for entry to the Nursing Council registers as professional nurses. The model has been chosen because it has a focus on the type and needs of students that are almost similar to the student in the Eastern Cape Province. It is evidence-based for retaining students and ensuring success; and can be used with all kinds of nursing programmes, traditional and non- traditional. It also has constructs that offer a variety of educational activities and support for diverse learners and settings. According to Jeffreys (2012:27), this model presents an encompassing framework for examining the diverse factors that affect undergraduate nursing student retention in order to identify 'at-risk' students, develop diagnostic-prescriptive strategies to facilitate success, guide innovations in teaching and educational research, and evaluate strategy effectiveness.

Since many previous studies have focused on identifying causes of attrition, this study narrowly focuses on retention strategies. This narrow focus fit the user-friendly NURS model, which suggests that retention choices will be based on the interface or collaboration of student profile

characteristics, student emotional or affective factors, educational or academic factors, environmental factors whether in the classroom, clinical or community setting, professional integration factors, academic results, psychological outcomes, and outside surrounding factors. Therefore, the model is evidence-based. The NURS model includes elements that can improve student success, advance retention, increase graduation rates, reduce attrition rates, as well as facilitates academic advancement and swift entry into the labour force, all which, would be a panacea for the plight and nurse shortage in the vast rural communities of South Africa.

The model specifically identifies and describes factors that restrict or support retention; recognizes and assists 'at–risk' students who do not speak English as their first language; designs personalized holistic strategies for different learners; implements culturally sensitive and competent teaching and advisement; and fosters expert development of students.

At the centre of the model, are professional integration factors that intersect with the choice of whether to persist, drop out, or stop out. This choice is made during and at the end of each nursing course, and involves the voluntary and/or involuntary choice to remain in a course, persevere in the nursing programme, graduate, take the licensing examination, and enter the nursing labour market and/or begin a more advanced nursing programme (Jeffreys 2012:13).

The NURS Model Constructs

Jeffreys' NURS Model has the following constructs:

(i) The undergraduate nursing students and their characteristics;
(ii) The educational experience and practices;
(iii) The clinical practice characteristics;
(iv) The faculty; and
(v) The outcomes.

2.9 Summary of Reviewed Studies

This chapter dealt with the review of the literature which informed this study. It was interesting to note that the themes that emerged from empirical data support the current study. The themes revealed multifactorial reasons that could contribute to dropout, retention and graduation rates in the undergraduate programmes. However, studies related to retention, success and enhanced

graduation did not bring out clearly the effective retention strategies, because some of the mentioned strategies were not yet evaluated. Some studies reflected on mentorship programmes that were used in the undergraduate nursing programme (Baker, 2010:216; Nkutu, & Seekoe, 2013:171). Mentorship is important, and as such is recommended especially in the undergraduate programmes. However, it was not clear in this chapter if the mentorship programme brought about the desirable results as it was not evaluated. Dubison and Richmond (2008:1) submit that the role of a mentor is to function as a role model, overseer, teacher, counsellor, promoter, sponsor, advocate, expert, trainer, alternatives identifier, collaborator, learning process specialist and fact-finder.

Therefore, research regarding the evaluation of effective retention strategies is necessary. On academic factors, four main themes were synthesized from the literature, which are: personal or student related factors; curriculum /content related factors; faculty related factors and communication.

Majority of the researchers in this topic conclude that, the students profile or biographical factors play key role in influencing the student's retention, success and graduation (Baker, 2010:216; Jeffreys, 2007:406; Jeffreys 2012:24; Williams, 2010:363; Shelton 2012:5). On curriculum content related, the needs and expectations of the student, study skills, study hours, communication skills, class attendance, notes and test taking, language comprehension, time schedule and research related issues have an impact in influencing the student retention-to-graduation. Faculty related factors, such as the support, advisement, mentoring, research, teaching and learning, and community engagement activities need careful planning and implementation, as they can influence the student to leave or stay to graduate. Finally, communication emerged in majority of studies as a predictor for student attrition especially for 'at-risk' students, whose English language was not their first language.

2.10. Chapter Summary

The literature review revealed the non-academic factors that impact on student failure to graduate and factors that impact retention-to-graduation, which includes financial issues, residence or accommodation, student bodies, professional bodies such as the South African Nursing Council (statutory) and Nursing Organization bodies, professional events, rules & regulations, and policies. However, the literature did not clearly indicate which factors were positively related to retention for the fact that there has been no literature that individually looked into each factor. The literature related to attrition and retention-to-graduation in undergraduate nursing programme revealed many challenges. The literature in this study gave an understanding of the factors that are pivotal in influencing dropout and retention of nursing students in the undergraduate programme. Therefore, there is a need for more research on retention-to-graduation models. The next chapter dealt with the research design and methodology.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The purpose of this chapter is to describe and justify the choice of research design and methods used in executing this study. This study was conducted in four phases, where Phase 1 focused on determining the factors and strategies associated with retention-to-graduation of nursing students in the Eastern Cape Province, South Africa; Phase 2 of the study focused on developing the conceptual framework for the retention-to-graduation model; Phase 3 focused on development of the retention-to-graduation model of nursing students in the undergraduate programme in the Eastern Cape Province, South Africa; and Phase 4 focused on formulating and describing the guidelines for operationalizing the model for retention-to-graduation of nursing students in the Eastern Cape Province, South Africa.

The researcher used this design with the aim of developing a retention-to-graduation model. Retention theories and models were broadly consulted and reviewed to provide variables and constructs that would support the development of the model in this study. Theories were used deductively and inductively with the aim of verifying, advancing and confirming theory with results.

A flow diagram was utilised to illustrate a concise overview of the research process in this study (See Table 3.1). The research design used in each phase is discussed and illustrated in Table 3.1. The research design enabled the collection of data that would contribute to the development of a retention-to-graduation model for nursing students in the undergraduate programme in the Eastern Cape Province, South Africa.

3.2 Setting for the Study

Figure 3.1: The study setting: Map: Eastern Cape Province

There are three common settings for conducting research. These settings are: natural, partially controlled, and highly controlled settings (Grove *et al*., 2013:37). Natural settings are ordinary settings that are unrestrained, real life settings where studies are conducted (Fawcett & Garity, 2009:1). This study was conducted in as natural and uncontrolled setting; because it was descriptive in nature. Descriptive and correlational types of quantitative research studies are often conducted in natural settings. Conducting a study in an ordinary setting means that, the researcher does not manipulate or change the environment for the study (Grove *et al*., 2013:37). This study was conducted at universities which are situated in both rural and urban settings, in the Eastern Cape Province.

As depicted in the map above, Eastern Cape Province is one of the nine Provinces in South Africa. Its headquarters is at Bisho, but its largest cities are Port Elizabeth, East London and Umtata. The Province was formed in 1994 out of the amalgamation of *Xhosa* homelands of *Transkei* and *Ciskei* and the eastern portion of the Cape Province. The Eastern Cape Province is a home to many of the South Africa's great leaders – where they were born and bred. These are the likes of the world known late Oliver Reginald Tambo, Walter Sisulu, Nelson Rolihlahla Mandela, Steve Bantu Biko, Chris Hani and Thabo Mbeki (Eastern Cape Provincial Archives and Records Service, 2014). The Eastern Cape's population increased from 6.6 million people in 2011 to 7 million in 2016 making it the third largest Province in South Africa.

It is situated in the right South Eastern part of Southern Africa. On the eastern side, the Eastern Cape is bordered by the Indian Ocean which has a warm Mediterranean current; on its western side it is bordered by the Western Cape Province. The Eastern Cape is bordered on the north–western side by the Northern Cape Province and on the northern part it is bordered by the Free State Province. The north-eastern part of the Eastern Cape Province is bordered by Kwazulu-Natal (KZN) Province. The Eastern Cape Province is a province characterised by vast geographic communities with very diverse cultural backgrounds.

The Province is well known for its pre-democratic era of 1994. It is a province which was ruled by separate governments during the apartheid era, which saw it divided into the original independent states of *Transkei*, *Ciskei* and the Greater Eastern Cape which was characterised by separate governments, gross inequities in the distribution of material, human and financial resources. The non-urban population of the Eastern Cape amounts to nearly 4,100,000 (HSRC Report, 2012, online). The Eastern Cape Province continues to be one of South Africa's provinces with the highest levels of poverty, underdeveloped infrastructure and unemployment (HSRC Report, 2012: online). This Province has eight (8) district municipalities namely; Oliver Reginald Tambo, Amatole District Municipality, Western, Chris Hani, Joe Gqabi, Alfred Nzo, and East Griqualand Kei. This Province has four (4) residential universities namely; Nelson Mandela Metropolitan University (NMU) in Port Elizabeth, Rhodes University in Grahamstown, now Makana, University of Fort Hare with main campus in Alice, and other campuses in Bhisho and East London Campuses in Amatole District; Walter Sisulu University in Umtata (O.R Tambo District) and one distance learning university, University of South Africa (UNISA).

Three (3) out of the four (4) residential universities have faculties or schools of Health Sciences which are accredited by the South African Nursing Council under regulation R425 to offer an undergraduate nursing programme, which is a four year programme. The other one (Rhodes University) does not have an undergraduate nursing programme. The actual settings for the study were within the Amatole and Oliver Reginald Tambo District Municipalities. Some of these municipalities are in urban and the deep rural and remote areas of South Africa. The universities in this region offer full range of degree programmes, masters and doctoral studies for the vast populations of the Eastern Cape Province, as well as other areas of the country. The majority of the students in these universities come from the mostly rural, underprivileged and low socio-economic background of the Province (Letseka & Maile, 2008:5).

The interest on studying these universities arose from the fact that, the researcher is "born and bred" in this area, and therefore, she understands the challenges faced by the province health-wise. The challenge of health care in the province culminates from the shortage of nurses to provide the needed services in the most rural areas of the province. Despite the fact that the Province serves vast areas which are rural in nature, it is also experiencing a high rate of nurse plight for other provinces which are more urban than Eastern Cape. That leaves the health services at the Province in a desperate situation of gross shortage of nurses.

The challenge for Nursing Education Institutions (NEIs) in this province is to graduate timeously more nurses to bridge the gaps in order to facilitate increased registration of graduate nurses with the South African Nursing Council. It is for this reason that the study focused on the undergraduate nursing programmes offered at these universities as accredited by the South African Nursing Council under regulation R 425 of 1985 as amended and the Council for Higher Education (CHE). On qualifying, the graduates from this programme get to be registered as a general (Psychiatric nursing, Community health) nurse and midwife. The universities were chosen because they are geographically situated in both rural and urban settings, thus they accommodates students from diverse racial and socio-cultural backgrounds. Interestingly, some of these universities have been identified as having remarkable or noticeable rates of failure to graduate. Therefore, the attributes of the study areas perfectly present the real challenges this study sought to address.

It is hoped that with increased retention and graduation; these newly qualified nurses could be an asset to the health care sector to render services to the areas that are severely affected by gross shortage of nurses.

3.3 Research Process

The research process for this study was illustrated as follows in Figure 3.2.

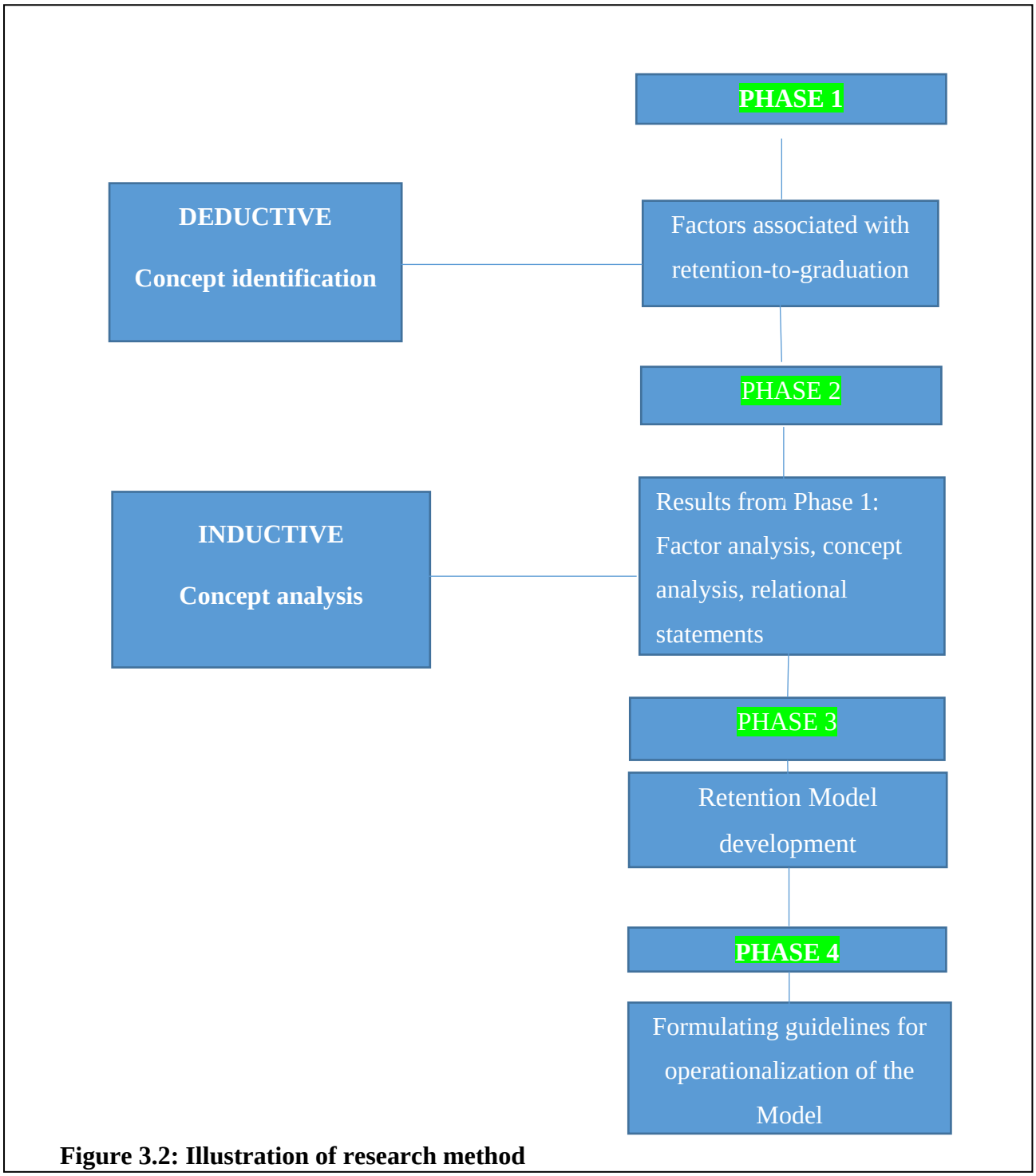


Figure 3.2: Illustration of research method

3.3.1 Phase 1: Description of factors associated with retention-to-graduation

Phase one was undertaken according to research objective, research design, population, research methods and instrument, reliability and validity, data collection, analysis and interpretation and ethical considerations.

- **Objective 1**

The objective of Phase 1 was to determine and describe the factors associated with retention-to-graduation of nursing students in the undergraduate nursing programme in the Eastern Cape Province, South Africa.

- **Research design for Phase 1**

A quantitative, descriptive, contextual and theory generating design was utilised in this study. A research design is a plan or an outline for maximising or taking full advantage to control the factors that could affect the validity of the findings or a study's desired results or outcome (Grove *et al.,* 2013: 214).

- ***Descriptive Design***

According to Burns *et al.,* (2011:256), a descriptive design aims at gaining access to information about features within a particular field of study, with the purpose of providing an understanding of a situation as it occurs naturally. The main objective of descriptive research is to clearly and correctly describe the features of persons, situations and groups, or the frequency with which certain phenomena occur (Polit *et al.,* 2008:752). The description comes in, when the researcher observes and then describes what was observed. Because scientific observations are careful and deliberate, scientific descriptions are typically more accurate and precise, than are casual observations (Babbie *et al.,* 2008:99). Therefore, in this study a descriptive design was appropriate in order to generate new knowledge to understand the factors that may influence retention-to-graduation. This was important in order for nursing students to receive support from the respective faculties, the nurse educators and the family, with the aim to generate a new theory through model development that could be tested in further research.

- ***Contextual Design***

According to Babbie and Mouton (2001:272), a researcher should aim at unfolding and understanding all the proceedings that are pertinent to the study in the real and natural context in which it occurs. Similarly, Speziale *et al.,* (2007:28) suggest that the reason for conducting data collection in the field is to "maintain the natural settings where phenomena occur". To this end, the design in this study had to be contextual; meaning, data collection was carried out within the nursing education context in order to understand and enhance retention-to-graduation of nursing students at nursing education institutions (NEIs).Thus, the research design in Phase 1 was quantitative, descriptive and contextual in nature.

3.4 Reasoning Strategies in Developing the Model

Reasoning strategies such as analysis, deduction, induction, inference, synthesis and derivation (Chin & Kramer, 2015:152) were used to develop a conceptual framework. According to Banning (2008:178), reasoning is a process that pertains to the thought processes, organization of ideas and exploration of experiences to reach conclusions. Reasoning may be viewed as a form of thinking that is often apparent during the presentation of ideas or discourse in which the logistics of an argument are collated in a logical manner in order to reach a rational conclusion. Banning (2008:177), describes dialectic reasoning as involving and looking at situations in a holistic way. "A dialectic thinker believes that, the whole is greater than the sum of the parts; and that the whole organizes the parts" (Burns & Grove, 2005:7). This form of reasoning focuses on the identification and exploration of opposing factors that are then combined in order to explore problems.

In this study, the reasoning strategies enabled the researcher to analyse and organize the data during the theoretical and empirical concept analysis; explored and described the retention-to-graduation of nursing students in the undergraduate programme; drew conclusions and suggested recommendations from the data analysis; conceptualized findings; developed the model's essential concepts; formulated and described guidelines for the operationalization of the model. The techniques of reasoning as indicated earlier were analysis, induction, deduction, inference, synthesis and derivation. These techniques were used to gather the data from literature and the empirical data from the field in order to develop the model through exploration and description of the factors associated with retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape Province. A discussion of the reasoning strategies in detail is presented thereof.

- **Analysis**

Analysis allows the theorist to dichotomize a whole into its component parts so they can be understood better. Researchers support the notion that it is often through the parts, that the whole can be encountered (Newman, Thomson & Hammond, 2008:1539). Thus, in analysis, the theorist examines the relationships of each of the parts to each other and to the whole. Analysis is especially useful in areas in which there is an existing body of theoretical literature. Analysis allows one to elucidate, enhance or improve concepts, statements or theories. It also allows the theorist to examine and re-examine existing knowledge about a phenomenon as a means to improve the accuracy, currency or relevance of the knowledge (Walker & Avant, 2011:64).

For the purpose of this study, analysis was also used to review existing models and theories of retention-to-graduation and to clarify vague and confusing concepts. In this study, analysis was used inductively during the collection of empirical data in Phase 1. Deductive and inductive analysis was also used during data analysis for the identification and classification of concepts for the establishment of relationships between statements during the conceptualization phase and the literature control. These concepts and statements form the basis for the development of the retention-to-graduation model for undergraduate nursing programme.

- ***Inductive reasoning***

According to Speziale *et al*., (2007:10), inductive reasoning is a process that starts with the details of the experience and moves to a more general picture of the phenomenon of interest. Once the researcher has collected data from the sample, the next step is usually to generalise the findings to the target population. This movement 'from' the sample to the population involves inductive generalization. Some researchers have argued that representative samples are not required, if one wishes to generalize beyond the evidence collected (Mouton, 2009:81). From this point of view therefore, induction is a reasoning strategy that relies on multiple particular instances and then combines them into a larger whole (Chin & Kramer, 2015:67). It is less structured and starts from the general before moving to the specific.

After collection of data in Phase 1 of the study, the phenomenon was analysed and scrutinised by inductive abstraction and generalizations. It was used to define retention in relation to research and describe the strategies and factors associated with retention-to-graduation of nursing students. Inductive inferences were therefore drawn from the knowledge gained

through the study of the literature to reformulate concepts, statements and the definition of the model for retention-to-graduation of nursing students in the undergraduate programme (Chin & Kramer, 2015:67). After data collection, inductive reasoning was used to formulate concepts, relational statements and a definition of the model. For the purpose of this study, inductive reasoning was used during the stages of model development and evaluation. The analysis, synthesis and derivation reasoning strategies influenced inductive and deductive reasoning independently.

- ***Deductive reasoning***

Deductive reasoning is important when it is based on a valid premise and grounded in empirical validity (Burns & Grove, 2011:250). Deductive reasoning was used from the initial phase of literature study in Chapter 2 and the conceptual framework development in Chapter 5, in order to build on the model. In deductive reasoning, premises are used as relational statements to draw conclusions. In this research process, deductive, an abstract or nonconcrete theoretical relationship was used to derive specific questions (Chin & Kramer, 2015:197).

Deductive reasoning was employed during the initial literature review and the conceptual framework development to extract empirical data. This enabled the researcher to conduct the study with a flawless conceptual framework to ensure rigour in conceptualization and data collection. Deductive reasoning was used to extract empirical data to develop a conceptual framework that ensured content validity for the describing and analysing of factors for retention-to-graduation of nursing students.

Deductive reasoning occurs when a researcher examines an existing theory and thereafter generates research assumptions. Theories are usually nonconcrete and broad statements that ensure empirical validation, and are quite challenging. However, if a theory is true, or at least provides a trustworthy explanation of a certain phenomenon, it must be empirically testable. It must be possible to derive research hypotheses from such a theory in order to gather evidence that would either support or refute such assumptions or hypotheses (Mouton, 2009:80). Speziale *et al.,* (2007:10) suggests that deductive reasoning moves from general to specific.

A researcher interested in conducting research within a deductive framework would develop a hypothesis about a phenomenon and then seek to verify it. Deductive reasoning was applied during the analysis of the data using concepts and the literature. The use of deductive analysis

and arguments were assumed during the conceptualization stage to facilitate the formulation of relational statements. Model description and evaluation was done according to the principles described by Chinn *et al.*, (2015:26-30).

- ***Inference***

According to Burns and Grove (2009:452), inferences are seen as precise and thoughtfully made. When using inferential thinking, one can never prove things and one can never be certain. Mouton (2009:71) specifies that inferential validity does not refer to the truth or reliability of the premises, but rather to the relationship between premises and conclusion. Empirical data that can provide support for the truth or likelihood of a conclusion must therefore be 'true', or at least highly probable, and also relevant to the conclusions. Inferences were made from the conceptualization and description of the model, with guidelines for operationalization in this current study.

- ***Synthesis***

Synthesis sharpens and refines concepts, statements or existing theories, combines isolated pieces of information that are theoretically unconnected, and pulls together various elements of data into a pattern, leading to the use of relationships to design new concepts, statements or theory. Synthesis works well when a theorist is collecting data or trying to interpret data without an explicit theoretical framework. Much descriptive clinical research consists of collecting large amounts of data in the hope of sifting out important factors and relationships. Synthesis can aid in this sifting process (Walker & Avant, 2011:64). Synthesis was applied in this study during the conceptualization of the findings, the development of relational statements and the description of guidelines for the operationalization of the model.

- ***Derivation***

Derivation employs analogy or a symbol to rearrange and redefine a concept, statement or theory from one discipline to another. This approach to theory building can be used to areas where the theory does not exist. Derivation may also be used in fields in which existing theories have become outdated and new innovative perspectives are needed.

It also provides a means of theory building through shifting the terminology or the structure from one field or context to another. In this study, the procedure for conducting concept derivation was applied as described by Walker and Avant (2011:87) as follows: the researcher

thoroughly familiarized herself with the existing literature on collaboration within nursing education. This includes not only reading the literature, but also evaluating the level and usefulness of existing concept developments found therein.

The development of a conceptual framework involved the process of elucidation and analysis of the concepts that emerged in the study. The need for a conceptual framework for retention of undergraduate nursing students in universities was discussed according to the adapted survey list of Dickoff, James & Wiedenbach, 1968 in Seekoe (2014:115). The list comprised of the agent, recipient, context, dynamics, process and terminus. The concepts underlying retention-to-graduation of nursing students were identified through the factors that predicted retention-to-graduation.

- ***Literature control***

Literature control was carried out to verify the results of the factors and strategies associated with retention-to-graduation of nursing students. Concepts were then identified from the results and relational statements were synthesised for the model development.

3.5 Population and Sampling

The population for the first phase of the study consisted of nursing students at the two Eastern Cape Universities with faculties of health sciences.

3.5.1 Sampling at the universities

A sample is a subset of the population under a particular study (Grove et al., 2013:44). Sampling on the other hand is the process for selecting a group of people, events, behaviours or other elements with which to conduct research (Grove *et al*., 2013: 708). A multi-stage, stratified, and clustered random sampling technique was used (Brink *et al.,* 2018:122). The sampling process was categorised according to 8 strata at both universities. The sampling strata are indicated in Table 3.2.

Table 3.1: Sampling Frame

Stratified	Setting	%	n	%	Random selection	Total
Higher Education	Universities	-	4	-	2	2
District	Amathole	-	OR Tambo	2	2	2
Nursing Education Institution	1	-	1	2	2	2
Urban	UFH	-	186	52.84	186	186
Rural	WSU	-	166	47.16	-	166
First year	57	30.65	60	36.15	-	-
Second year	43	23.11	36	21.69	-	-
Third year	40	21.51	35	21.08	-	-
Fourth year	46	24.73	35	21.08	-	-
Total	186	100	166	100	186	352

According to data in Table 3.2, the sampling at universities followed an eight strata approach. The first stratum was drawn from the higher education institutions in the Eastern Cape Province. These institutions in the Eastern Cape Province are the University of Fort Hare (UFH) which is in the Amathole District Municipality; the Walter Sisulu University (WSU) which is in the Oliver Reginald Tambo District Municipality, the Nelson Mandela University (NMU) in the Cacadu District Municipality and the Rhodes University which is in the Sara Baartman District Municipality. These district municipalities formed the second stratum according to which the population for the study was sampled.

However, only two universities were selected for the actual data collection. The third stratum was according to the nursing education institutions which had a nursing department or school. The fourth stratum was whether the nursing education institution was situated in a rural or an urban setting. Thus, under such characteristics UFH was selected as an urban institution with a nursing department and WSU was selected as a rural institution with a school or department of nursing.

The fifth stratum was according to the different levels of study in the undergraduate nursing programme. Therefore, the fifth stratum was the first year level, the sixth stratum was the second year of study, the seventh stratum was the 3rd year of study and the eighth stratum was the fourth year of study. The sample from the undergraduate nursing programme was a random selection, so all the respondents had an equal chance of being selected. Thus, the sample comprised of 186 respondents who were randomly selected from the nursing education institution in the urban setting in the Amathole District Municipality and 166 respondents from the nursing education institution in the rural setting in the OR Tambo District Municipality. These two institutions were the focus of interest to the researcher. The sample had the following characteristics:

- 352 respondents who were registered with the South African Nursing Council as nursing students in the undergraduate nursing programme under R425.
- A mixture of male and female nursing students at NEIs in schools or departments of nursing.
- Black, white, coloured and Indian nursing students according to the geographical distribution and diversity of the population in the Eastern Cape Province.
- Nursing students in the undergraduate nursing programme at an NEI from first year to fourth year of study.

3.5.2 Sample inclusion / exclusion criteria

- ***Inclusion Criteria***

The inclusion criteria were:

- Nursing students from 18 to 50 years of age.
- Male and female students.
- Full time students in the undergraduate programme; irrespective of ethnicity.

- ***Exclusion criteria***

- Universities not offering a nursing bachelors' degree in the Eastern Cape Province.
- Distance learning students.
- Students above 50 years of age.
- Nursing students who do not attend in the two specified universities in the Eastern Cape.

3.5.3 Sample size

A sample size is defined as the number of respondents, recruited and agreeing to participate in research (Grove *et al*., 2013:708). In this study, the research targeted a sizable sample to help in determining the difference in graduation rate between students who completed their courses and those who failed to graduate. The services of a statistician were employed in this regard. The formulae for calculating the sample size was based on the following: Assuming 90% graduation rate for nursing students completing the classes and 10% graduation rate for drop-out, we needed 30 subjects to detect a difference under 80% power. Under a power of 80%, we needed 376 subjects to determine a significant difference at a significance level of 0.05. Therefore, a sample size of approximately 376 student nurses in undergraduate programme was appropriate.

The researcher targeted to get 188 respondents from each university; with 47 students being selected from each year of study in the undergraduate nursing programme. From each class, the study required a random selection of 30 respondents to make a total of 120 respondents from each university. However, to allow for 10% attrition from the study, an extra 17 respondents per class, per university was sampled, so that the effective sample size would be at least 376 respondents using the formula below.

- *N = Sample size for calculations*
- *M = Mean*
- *SD = Standard deviation*
- Cronbach's Alpha (a) = reliability of measurement methods for this study.
- Students from each class were selected via random selection, so that in each university students could be included in the study to make a total of 376 respondents. The sample size calculations assumed a sampling method that was stratified based on academic institution. Within each institution, the number of respondents by year of study was based on proportional representation based on class enrolment. These calculations were based on the finite sample size calculation formula given below.
- $n = \frac{Nz^2_{\propto/2}P(1-P)}{d^2(N-1)+z^2_{\propto/2}P(1-P)}$.
- In this formula:
- n $is\ required\ sample\ size$
- N $is\ population\ size$

- $\propto$ *is the significance level*
- $z_{\propto/2}$ *is two tailed critical value*
- p *is the hypothesised dropout rate*
- d *is desired precision of the dropout rate estimate*

The results shown in the sample size table were obtained based on a 5% significance level, margin of error of 5%, dropout rate of 40%, and the current enrolment figures for the individual institutions which were 186 for university 1 and 166 for university 2. To cater for respondents' attrition rate, 10% was added to each level of the study (1^{st} – 4^{th} year).

3.6 Data Collection Instrument and Method

The instrument used to collect the data was a questionnaire. This study adapted Jeffreys Nursing Undergraduate Retention and Success (NURS) model as a data collecting instrument with permission. Jeffreys NURS model was chosen because it provided constructs and concepts which were of interest to the researcher and which could contribute significant knowledge to the study. Open and closed–ended, and Likert scale type of questions were designed. Six assessment tools and ten faculty-interactive retention strategy design modules were formulated by the researcher in order to be consistent with the purpose of the study.

Polit and Beck (2004:729) define *questionnaire* as an instrument for gathering self–report information from respondents through self-administration of questions in a paper-and-pencil format. Open-ended questions allow respondents to respond in their own words, in narrative fashion, while closed-ended questions offer respondents alternative replies, from which respondents must choose answers which closely match their opinions (Polit & Beck, 2004:349; Chin & Kramer, 2011:151). The questionnaire had clarity on what type of information was needed.

The development of questions was guided by the literature review. The questions asked pertained to the factors and strategies associated with drop-out and retention-to-graduation of nursing students in the undergraduate programme (Polit & Beck, 2004:349; Chin & Kramer, 2011:151). The questions were brief, clear and relevant to the purpose of the study. The vocabulary used was understood by the respondents as advised by Polit and Beck (2004:349). The data collection instrument was divided into three sections as follows:

- Section A dealt with questions related to the demography of the respondents and had 16 closed ended questions.
- Section B was about student perception appraisal 1 with 4 closed ended questions. Section C dealt with socio-economic status with closed and open-ended questions; Student perception appraisal 2 with 4 Likert scale type of questions on a scale of; 1(strongly disagree) 2 (disagree) 3 (Somewhat agree) 4 (agree) 5 (strongly agree).;Student Perception appraisal 3 with 17 questions which dealt with the context of nursing education using a scale of 1 (lowest threat) to 5 (highest threat); Educational requirements subscale (ERS) with 10 learning activities on a scale of 1 (not at all confident) to 10 (totally confident); and Educational requirements sub-scale (ERS) with 10 learning activities.
- The Enrichment Programme Satisfaction Survey with 8 questions on the scale, (1) is strong disagreement, (2) is disagreement, (3) is neutral, (4) is satisfaction and (5) is strong agreement.
- Nursing Student Resource Centre Satisfaction Survey with 9 questions on a scale, (1) is strongly dissatisfied, (2) is dissatisfied, (3) is somewhat satisfied, (neutral), (4) is satisfied and (5) is strongly satisfied.
- Student withdrawal questionnaire with 5 open – ended questions.

3.6.1 Data collection procedure

After obtaining the ethical clearance from the university of Fort Hare and the Department of Health Eastern Cape Province, the researcher communicated via e-mails with the Heads of Departments at the selected universities to request for permission to conduct the study with the undergraduate nursing students from all the levels. The researcher explained the details of research including purpose and objectives of the study. An agreement was reached as to when to visit the study cite for the briefing of the staff and the students. On the appointed date, the researcher met with the concerned staff in the university 1 in the urban setting, where the study was to be conducted and gave a briefing on the study, its purpose and objectives. The Head of Department of the school gave permission to access the students.

Students were assembled in one of the auditoria to listen to the briefing together with their coordinators. The students agreed to have their registers accessed for the purpose of getting their names and agreed to participate in the study if selected.

However, they were also informed that they may not all be selected, but everyone had an equal chance of being selected. Thereafter, a randomizer was used to select the respondents from each level. Those selected from each cluster were assigned numbers to differentiate them from each class level at each stage. Hence, a multistage, clustered stratified random sampling was conducted from first year to fourth year level of study.

Informed consent forms were given to participating respondents to sign. After obtaining permission to participate by way of signed consent form, a questionnaire was distributed to the respondents for data collection. A questionnaire is a printed self-report form designed to elicit information that can be obtained from a respondent's written responses (Grove *et al.,* 2013:425). In quantitative research, data collection involves obtaining numerical data to address the research objectives, questions or hypotheses.

The same process in university 1was followed in university 2 in the rural setting, where the study was conducted to discuss the data collecting instruments, and how the process was going to unfold. On the appointed date, the researcher met with the sampled respondents in the auditorium to inform them of the study to be undertaken with them, the purpose and the objectives of the study.

All respondents in both rural and urban settings were informed of the following:

- The questionnaires were to be filled by individual respondents and not a group.
- That they needed not to write their names on the questionnaire.
- Not to ask questions from the other respondents.
- That, if they were not sure or did not understand anything, they would raise a hand and ask the researcher questions.
- That they were provided with a lead pencil and rubber to use when filling the questionnaire.
- That the information they shared on the questionnaire would be kept confidential.
- That the information shared will be kept under lock and key, which would be kept by the researcher alone.
- That they were not to be remunerated for participating in the study; and
- That they might withdraw from the study anytime without being penalized for their actions.

The duration of the questionnaire took approximately 30-45 minutes to complete. The researcher spent four days in each university so that all the respondents would complete the questionnaires and submit.

As described earlier, day one was meeting and briefing first year students with their class coordinator, giving them information relating to the study, so that they could sign informed consent forms. The completed consent forms were signed in turn by the researcher after collection from the respondents. After this exercise, then the completion of questionnaires began. Each completed questionnaire form was accepted by the researcher, and each class batch was bound with rubber bands and placed in the marked envelope for that particular university.

The second day was for second year respondents; while days 3 and 4 were for the respective levels in the same manner. The data collection instrument was administered by the researcher herself to the respondents as it was done in the previous classes. The completed questionnaires were collected upon completion to prevent potential loss. The raw data was placed in two envelopes marked by a coloured sticker identifying each University and for confidentiality purposes. The filled questionnaires were packed and prepared for data capturing and thereafter analysis.

3.7 Reliability and Validity

Reliability of a questionnaire is the ability of a data collecting instrument yielding same results every time it is administered (Grove *et al.*, 2013:45). Homogeneity ensures that all the items on the research instrument (questionnaire) consistently measured the same variable of interest (Botma *et al.*, 2010:177). To ensure reliability of the instrument in this research, a pilot study was conducted.

Pilot study

A pilot study is commonly defined as a smaller version of a proposed study that is conducted to refine the methodology. It is developed just like the proposed study, uses similar subjects, the same setting, the same treatment if it is an experimental study, and the same data collection and analysis techniques. It can also be used to develop various steps in the research process

such as to develop and refine an intervention, a measurement method, a data collection tool, or a data collection process (Grove *et al.,* 2013: 46).

The pilot study is viewed as part of planning phase of research, as it may bring about changes before data collection commences (Brink, van der Walt & van Rensburg, 2018:45). The purpose of a pilot study was to investigate the feasibility of the proposed study and to detect possible flaws in the data collection instrument, such as ambiguous instructions in wording, inadequate time limits and incorrect phrasing. Brink (2009:166) points that, the time and effort expended in conducting a pilot study are well spent, if pitfalls and errors that may prove costly in the actual study can be identified and avoided before the instrument is administered to the research participants.

Some researchers, (Feeley, Cossette, Cote, Heon, Stremler & Martorrella, 2009: 87), have cited some of the reasons for conducting pilot studies as to determine whether the proposed study is feasible (e.g. are the subjects available, does the researcher have time and money to do the study?) According to Grove *et al.,* (2013:46), some of the reasons for conducting a pilot study could be:

- To develop or refine a research treatment or intervention;
- To develop a protocol for the implementation of an intervention;
- To identify problems within a study design;
- To determine whether the sample is representative of the population or whether the sampling technique is effective;
- To examine the reliability and validity of the research instruments;
- To develop or refine data collection instruments;
- To refine the data collection and analysis plan;
- To give the researcher experience with the subjects, setting, methodology, and methods of measurement; and
- To try out data analysis techniques.

In this study, a sample of 60 nursing students (15 from each level) of the undergraduate nursing programme was asked to participate in the piloting of this instrument. These students did not form part of the respondents in the actual study.

Any misunderstanding within the tool was dealt with and explained by the researcher. This means that any grey areas or any ambiguities were removed or clarified by the researcher. The results of the pilot study helped in verifying the clarity of the tool; therefore, the final tool had no ambiguities or unclear wording instructions. The feasibility of completion of the tool was also estimated in terms of time frames, meaning the students took 30-45 minutes to complete. The results of the pilot study revealed that there are complex issues with failure to graduate and retention-to-graduation of undergraduate nursing students.

These results concur with the multifactorial aspects that were identified during literature review in chapter 2 of this study. The pilot study confirmed the reliability of the data collecting instrument.

3.7.2 Validity

Validity is the criterion for evaluating if the data collecting instrument measures the attribute of a person or an object the study is supposed to measure (Brink, van der Walt & van Rensburg, 2015: 218). Validity is crucial in the development, selection and application of an instrument. In this study, validity was ensured through face, content, construct and criterion validity.

Face validity

Face validity is the assessment of whether the instrument measures what it is intended to measure (Brink *et al*., 2015: 166). Face validity was ensured through the departmental research committee meeting. The committee looked at all the questions that were asked, both the closed and open-ended questions; and they were satisfied that the questionnaire measured what it was intended to measure.

Content validity

Content validity is the extent to which a data collecting instrument has an appropriate sample of items for the concept being measured (Polit & Beck, 2014: 205). The statements in the questionnaire reflected all the concepts from Jeffrey's instrument during the intensive literature search that was conducted on students' failure to graduate, retention, success and graduation. The instrument was adjusted to suit the target population for this current study. Content validity was also ensured by giving the questionnaire to the supervisors who were experts in the Faculty of Health Sciences to check whether the items in the questionnaire measured the content of the

construct, and whether there was no ambiguity. Therefore, the content of the questionnaires was controlled.

Criterion validity

Criterion validity is the measure of whether the relationships between the scores on a data collecting instrument are valid when compared with scores of the corresponding criterion (Polit & Beck, 2015: 206). In this study, criterion validity was ensured by comparing the findings from phase one, two and phase three with the available literature during the development of the conceptual framework and guidelines for implementing retention model.

Construct validity

Construct validity is the ability of a data collecting instrument to measure what it is intended to measure (Brink *et al.,* 2018:154).To explore the relationships between the instrument's results and measures of the underlying theoretical concepts, a factor analysis was done on the analysed data to ensure construct validity.

3.8 Study Variables

Study variables are concepts of various levels of abstraction that are measured, manipulated, or controlled in a study. Variables may be discrete such as temperature, weight, and blood pressure, or abstract like creativity, social support to mention but a few (Grove *et al.*, 2013:42). In this study, the researcher sought to understand the factors and strategies associated with dropout, retention, success and graduation of undergraduate nursing students using the Jeffrey's (NURS) model as a measuring instrument. The literature review in this study revealed several factors that could contribute to failure to graduate, retention, success and graduation of undergraduate nursing students. The variable of interest in this study was the measure of retention at each level. The second variable of interest was the measure of success / progression to graduation which is evidenced by the graduation output at the end of the programme.

3.8.1 Dependent variables

According to Brink *et al.,* (2018:75), a dependent variable is the "outcome variable as it reflects the effect of the independent variable'. For instance, in this study the question was; what is the measure of retention? The first dependent variable or outcome in this study was retention, which was evidenced by increased graduation rates at each level. Another question was; what is the measure of success? The measure of success was, academic success and progression of

each student from all the levels of training until the end of the programme (duration of study/progress rate evidenced by graduation output).

Table 3.5 shows the subject content or curriculum, duration for training nurses as stipulated by the South African Nursing Council (SANC) over 4 years with the approved minimum clinical hours. Table 3.5 also depicts the content covered, both the core and the fundamental courses, in the undergraduate programme that determine the outcome of successful completion of the programme, as accredited by the South African Nursing Council. This was treated as the dependent variable of retention-to-graduation.

3.8.2 Independent variables

The independent variable is the 'agent' for change (Brink *et al.*, 2018: 75). The independent variables in this study were those factors that were associated with success and retention-to-graduation in the programme. These variables are categorized as cognitive, non-cognitive, and demographic; and they have an impact on retention-to-graduation.

Cognitive variables

The cognitive variables include reading comprehension, Math skill, science average mark and cumulative average mark, number of science credits, previous degree, repeating a science course, academic background and course repeat (Jeffreys, 2012:79).

Non-cognitive variables

The non-cognitive independent variables are psychological outcomes like stress and self-efficacy. In addition, academic, socio-economic status, time, academic and workplace are other non-cognitive variables that influence retention and success or academic completion (Jeffreys, 2012:164).

Demographic variables

Demographic variables refer to age, gender, marital status, and ethnicity. The inclusion of self-efficacy or other non-cognitive variables into predictor models of academic success and retention improved the value of study findings and applicability to practice. While the journey through nursing education may induce stress, it is important to recognize that most students enter nursing education programmes with pre-existing personal and environmental stressors that may influence their ability to adjust and succeed (Steele, Lauder, Caperchione, & Anastasi,

2005:573). The interface of pre-existing stressors with those inherent in nursing education programmes can potentially hamper academic performance and programme completion (Hegge & Larson, 2008:27).

3.9 Data Analysis

The data analysis was carried out using the Statistical Analysis Systems (SAS) version 9.3 software and Atlas Ti for the open-ended questions of the questionnaire. Tables and graphs were used to present the statistical results. Means and standard deviations were used to summarise all quantitative variables. Percentages were used to present the categorical data. Analysis of variance (ANOVA) or its nonparametric counterpart (Kruskal-Wallis test) was used for comparing the two universities in terms of the quantitative responses from the questionnaire. For categorical responses, the Chi-squared test for independence was used. All tests for statistical significance were carried out at a 5% level of significance.

- **Factor analysis**

A factor analysis was conducted on certain items of the data. The respondents completed a structured questionnaire with 49 items. The first step in analysing the data was to reduce the 49 items into fewer manageable variables. Two variable reduction techniques were used, namely; variable cluster analysis and factor analysis. The internal consistency of the instrument was assessed using the Cronbach's alpha and the results gave an overall reliability coefficient of 0.78. Based on widely agreed criteria, a Cronbach's alpha coefficient between 0.70 and 0.90 is reflective of good internal consistency. This means the instrument reliably measured the variables this study intended to measure.

The second step was to group the educational requirement items separately from the rest of other items. This was done because these items are measured on a 10 point scale while the rest of the items were on a 5 point scale. The results of the data reduction exercise for these two sets of items were presented, starting with the 5 point scale items. The variable cluster analysis data reduction technique reduced the 49 items into 12 variable clusters which explain 58.8% of the variability in the data. Factor analysis also reduced the 49 items to 12 factors that account for 63.3% of the variability. While 50% is considered by some researchers as acceptable, others argue that at least 60% is reasonable. Therefore, the higher the variability explained by the item groupings the better. Thus, the factor analysis groupings were considered for onward analysis.

According to the factor analysis results, the 49 items used in this instrument represent at least 12 dimensions.

The initial factor solution grouped almost all the items into the first three factors, resulting in an uninterpretable factor. The *varimax rotation* was used and produced a much better factor pattern, resulting in seven factors that matched seven of the clusters identified by the variable cluster analysis technique.

The third step involved classification and rotation to keep the factors which were similar or had the same meaning together. The reliability of the questionnaire was evaluated. After each analysis, the results were discussed and concluding statements were made. To determine if the identified dimensions were reliably measuring the dimension they represented, the Cronbach alpha reliability analysis was carried out on each of the 12 factors, and the values are shown at the bottom of the factor pattern table. The results show acceptable to good reliability on seven of the twelve factors, while on the remaining five, the Cronbach's alpha coefficient was lower than 60%, which represents poor reliability. The results of the test showed that the questionnaire was reliable. There were no deleted items.

- **Cronbach's Alpha**

Cronbach's Alpha is a measure of internal consistency. That is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability, a record of interior regularity that being the variant to which a group of objects touch a sole, one-dimension structure; commonly referred to as alpha coefficient. Cronbach's alpha results deemed that the two variables were unalike (Nugent, 2013:1). In this study, Cronbach alpha was used to determine if the identified factors were reliably measuring the dimension they represent. The Cronbach alpha reliability analysis was carried out on each of the 12 factors and the values are shown at the bottom of the factor pattern in Table 4.8. The results show acceptable to good reliability on seven of the twelve factors, while on the remaining five, the Cronbach's alpha coefficient was lower than 60%, which represents poor reliability. The open-ended questions in item 7 were analysed using Atlas Ti and results were quantified. The results were then integrated into the literature description of results in chapter 4.

3.10 Phase 2: Conceptual Framework

Phase 2 focused on constructing conceptual framework that facilitated the development of a retention-to-graduation model for undergraduate nursing students in universities in the Eastern Cape Province.

Objective of Phase 2

The objective of phase 2 was to develop a conceptual framework for retention-to-graduation of nursing students in the undergraduate nursing programme in the Eastern Cape Province, South Africa. This emanated from the emerged concepts from data analysis in Phase 1 enhanced with literature verification processes. A conceptual framework involves the process of clarification and analysis of the concepts that emerge in the study, supported by the body of relevant literature around the topic under study. This is important because it guides the entire study. The retention-to-graduation model for the nursing students in the undergraduate programme was discussed according to the adopted survey of Dickoff, James & Wiedenbach (1968:421).

The list comprises of the context, agent, recipient, dynamics, process and terminus. The concepts underlying retention-to-graduation of nursing students were identified through the empirical data that emerged from phase 1. The conceptual framework for a model for retention-to-graduation of nursing students was identified and conceptualised. The researcher discussed various concepts related to retention-to-graduation of nursing students. Lastly, relational statements derived from this discussion were postulated. A brief outline of the six elements is as follows below:

Context: In what **context** is the activity performed? - This is the environment within which activities are taking place. Retention-to-graduation process would take place within the Department of Nursing Sciences within the Faculty of Health Sciences at the University of Fort Hare in the Eastern Cape Province, South Africa.

Agent: Who or what performs the activity? The agents in this model, namely undergraduate nursing students, and all relevant role players who could facilitate the process of having support programmes in place, both in the classroom and the clinical settings would be the agent.

Recipient: Who or what is the recipient of the activity? In this model, the beneficiaries would be the undergraduate nursing students who are undergoing training in the undergraduate nursing programme.

What is the end product of the activity - purpose or terminus? A model of retention-to-graduation of nursing students in universities in the Eastern Cape Province was the end product.

It is anticipated that this model would increase throughput and pass rates of undergraduate nursing students. Undergraduate nursing students would be empowered, because they would be able to take control of their own studies and graduate. Performance would be improved and they would be more productive. They would be mentally stable, and fewer mistakes would be made in the course of learning. They would regain their self-esteem and dignity as well. Moreover, the health facilities in the Province would be provided by qualified degree prepared professionals who would enhance service delivery in the facilities facing gross shortage of nurses and midwives.

What is the guiding process/procedure? Policies on recruitment and admission would be reviewed, and a support programme would be launched for nursing students. Intervention strategies, namely, the retention specialist and assistants would be in place.

Communication strategies would be improved between the nursing students, academic staff, clinical facilitators and administrative staff; peer-mentorship programme would be strengthened; regular meetings would be held; and monitoring and evaluation strategies would be put in place.

What is the energy source for the activity - dynamic? A multidisciplinary team would be formed with all role players, including experts on teaching and learning, community engagement, research and clinical specialists (social and psychological) and would be coordinated by a task team with the retention specialist. At risk students would receive individual consultation and counselling from this team.

The conceptualisation of every element of practice and theory took place through an extensive literature review and the use of the following reasoning strategies; analysis, deductive and inductive reasoning, synthesis, inferences and derivation (Chinn *et al.*, 1995:63; Walker & Avant, 2011:71). The relational statements emanating from the conceptualisation of each of the elements of practice and theory were used to form the basis for the development of the

model, as well as guidelines for the operationalization of the model of retention-to-graduation of nursing students in the undergraduate programme in universities in the Eastern Cape Province.

3.11 Phase 3: Development of the Model

Objectives of Phase 3

The objective of this phase was to develop a model for retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape Province, South Africa. The guidelines for implementation of the model for retention-to-graduation were described. Theories on and models of retention were employed to provide variables and constructs to formulate a theory, and this was supported by the literature.

Research Approach

A functional approach was applied during the development of the model. This approach utilized the application of knowledge in practice, which is the academic practice domain. Knowledge that guided the development of the model for retention -to-graduation was gained through the literature review, the findings of the factors associated retention of nursing students, conceptual framework and the experiential knowledge of the researcher. A quantitative, descriptive, and contextual design for theory generation was suitable for this study, to explore and describe the retention-to-graduation model for nursing students in the undergraduate programme in NEIs and clinical settings.

Phase 3: Theory generation

For model development in phase 3, theory generation was used as the research design (Chinn &Kramer, 2015:97). The conceptual framework and the results from Phases 1 and 2 were used to develop the model. Theory is the creative and rigorous structuring of ideas that project a tentative, purposeful and systematic view of the phenomenon (Chin & Kramer, in Murray 2018:46). Polit and Beck (2008:57) support this definition by defining a theory "as a systematic, abstract explanation of some aspects of reality". Therefore, a theory is seen as concepts that are knitted together into a logical system to describe some aspects of the world.

According to Chinn and Kramer in Murray (2017:46), research that generates theory is designed to discover and describe relationships without commanding preconceived ideas of what these phenomena mean. This is usually thought of, as an inductive approach.

However, when events are observed in the real world, it is difficult not to have preconceived ideas of what they mean. Pre-existing mental pictures are inherent in the experience of being socialized in a human culture. When studies are designed to generate a theory, observations are made with as open a mind as possible in order to see things in a new viewpoint. Induction is a form of reasoning that moves from the specific to the general. "In inductive research, particular events are observed and analysed as a basis for formulating general theoretical statements, often called grounded theory" (Chinn & Kramer 2011:145). In the theory-generating method, there are four steps to be utilized. Step 1: Concept analysis; Step 2: Relationship statements; Step 3: Description of the model; and Step 4: Guidelines to operationalize the model. These steps are now described below.

Step 1: Concept analysis

The first step in the research method is to identify, describe and classify the concepts to be utilized in model development.

Concepts are the basic foundation of theory construction, and have to be solid and strong to be able to uphold the structure of the theory (Walker & Avant, 2011:157). Concepts contain within themselves the attributes or characteristics that make them unique from other concepts. Burns and Grove (2005:12) support this notion that concept analysis is a strategy that identifies a set of characteristics that are essential to the conceptual definition of concepts.

In analysis, the theorist dissects a whole into components or parts so that, they can be understood, and examines the relationship between each other (Creswell in Seekoe, 2014:111). Analysis is the clarification, refinement or sharpening of concepts, statements or theories. In this research, analysis was used during exploration and description of concepts relevant to the model, and during data analysis of the factors associated with retention-to-graduation of nursing students. This was possible because there is existing theoretical knowledge regarding dropout and retention of students in undergraduate nursing programme. This body of existing knowledge (concepts, statements, theories and models) was analysed and reformulated within the context of this study to develop a retention-to-graduation model. Analysis was used to

refine ambiguous concepts and clarify vague concepts in the orientation to the study, literature review, conceptual framework and the retention-to-graduation model.

Step 2: Relationship statement

Relationship statements describe, explain or predict the nature of the interactions between the concepts of the theory. The statements range from those that simply relate two concepts to relatively complex statements that account for interactions among three or more concepts. Theories usually contain several levels of relationship statements, which compose a reasonably complete explanation of how the concepts of the theory interact. The relationships begin to take form as the concepts are identified and emerge (Chinn & Kramer, 2011:96).

The relationship statement sets forth a connection or association between two or more phenomena. This statement is used to denote both tentative and confirmed types of statements, such as propositions, laws, axioms and hypotheses. As a more general term, it does not imply a particular form of logic or a particular context in which the statement is used (Chinn & Kramer, 2011:218).

In this study, the relationship focuses on the factors that are associated with dropout and retention-to-graduation of nursing students in the undergraduate programme.

Step 3: Description of a model

The results from the conceptualization made the description of the model possible. The questions for model evaluation were used to facilitate the description of the model (Chinn *et al.*, 1995:117)

Step 4: The process of model development

According to Walker and Avant (2015:126), a *model* is described as a symbolic representation of empirical experience. The symbolic form of a *model* may be words, physical material or mathematical connotations. Models are described by Chin and Kramer (2011:75) as not the real thing, but an attempt to portray the concept they represent. A model of any object, content, event or property replicates reality with various degrees of precision. The process of model development is seen as being fluid, complex and diverse, and it forms a unified whole when brought together.

Dickoff, James and Wiedenbach 1968 in Murray (2017:47) refer to the conceptualization framework for model generation, which focuses on context, content and process. The context describes the nature of the background in which the research took place.

In this study, the context is the nursing education environment in higher education. The intervening factors in this model are the factors associated with retention-to-graduation of nursing students in undergraduate nursing programme (academic environment). The content refers to the theory of the research domain, which is the retention-to-graduation of nursing students and theoretical domains that will influence the retention model for undergraduate nursing students. The content of the model was acquired through the literature study in chapter 2, the findings of factors associated with retention-to-graduation of nursing students in chapter 4, and the conceptual framework in chapter 5. The process refers to the retention-to-graduation of nursing students in nursing education institutions of higher learning.

3.12 Phase 4: Formulation of Guidelines for Operationalization of the Model

Guidelines were deduced from the model by the researcher to direct retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape Province, South Africa. Guidelines for the operationalization of the model were derived through reasoning strategies such as analysis, deductive and inductive reasoning, synthesis, inference and derivation. Relational statements derived from the conceptualization phase formed the basis for the description of guidelines.

Step 1: Definition and classification of concepts

According to Chinn and Kramer (2011:75), conceptual definition is designed from three sources of expertise related to the concept: the word, object or property, and feelings, values and attitudes. The meaning of a concept is created by increasing awareness of the range of possible uses and meanings of words. It is important to create conceptual meanings as exact as possible to bring meaning of what it is intended, so that the members of the discipline can follow the reasoning and the logic on which theory is based. This process is a logic structure on which the theory is based on.

Concept identification was done during literature study and the analysis of the descriptive data. The factors were identified through the factor analysis procedure. The conceptual meaning was therefore created by considering all sources of literature and experiences related to the

concepts. Classification of concepts was ensured by using the survey list of Dickoff, James and Wiedenbach in Murray (2017:48). Identified concepts were structured within the parameters of integrating theories and models as follows:

Self-efficacy theory & Social cognitive theory (Bandura, 1997:2); social integration theory (Tinto 1993: 2nd ed.); and andragogic learning theory (Knowles, 1980:2). Jeffreys Nursing Undergraduate Retention and Success (NURS) model 2012 was adopted for this study. The survey list of Dickoff *et al*., (1968) in Murray, (2017: 48) was applied using the agent, recipient, procedure, context and terminus to clarify concepts. The researcher thereafter classified concepts and determined the relational statements.

At this level of theory development, concepts were seen in relation to each other and represent a higher level of complexity. Relationship statements were formulated to provide links between and among concepts. Tentative relationships were identified. The nature and characteristics of the relationships were discussed.

According to Chin and Kramer (2011:14), the relationship within a theory that creates meaning and impacts understanding often links multiple concepts in a loose structure. These structures emerge from relationships in the theory. The relationship between major or central concepts was clear and individual concepts were structured to create greater clarity (Chin & Kramer, 2011:117).

Step 2: Critical evaluation of the Model

The researcher evaluated the model in this step. A guide for critical reflection by Chin and Kramer (2011:128) and Walker and Avant (2011:135) was utilised for evaluating the model. The following questions were used to establish if the model brings new knowledge about the retention.

- **What is the purpose of this model?** - The purpose of the model was to develop a retention-to-graduation model for nursing students in order to enhance throughput and pass-rates in the undergraduate programmes at the universities in the Eastern Cape Province. This would culminate in the registration as professional nurses with the South African Nursing Council, which would eventually lead to alleviation of shortage of nursing workforce.

- **How are concepts defined**? Concepts were identified through the process of concept analysis and from the views and opinions of the respondents. These are then defined and clarified through the conceptualization process, using the six elements of practice theory as described by Dickoff *et al*., in Murray (2017: 48).
- **What is the nature of the relationships**? Relationship statements provided links among and between concepts within a model. As concepts were identified, ideas about relationships between nurse educators, clinical facilitators, preceptors and nursing students began to form. The ways in which the relationships emerged provided clues to the purpose of the model and the assumptions on which the model was based.
- **On what assumptions is the model built**? The researcher made assumptions regarding the development of the retention-to-graduation model for undergraduate nursing students in universities to promote increased graduation in order to enable them to provide community services and quality patient care. The overall purpose after community service was to see the graduate nurses registered as professional nurses and midwives with the SANC.
- **What is the structure of the model?** The structure of the model gives an overall form to the conceptual relationships within it. The researcher considers the form and structure within which all concepts fit in a circular reciprocal relationship, which is coherent and in unified network. Consideration was given to the relationship statements within the structure of the model.
- **What is the process/procedure of this model**? In an educative and practice discipline, the processes/procedures for model development are creating conceptual meaning, structuring and contextualizing the model, refining and verifying concepts and theoretic relationships, and deliberately applying and verifying the model. From the results of Phases1 and 2, a model was developed.
- **How clear is the model?** This question was addressed through considering semantic clarity, structural clarity and structural consistency.
- **How simple is the model?** This question could be answered if the overall structure of the model could be followed using a structured diagram. The major concepts of the model needed to be defined and the bases of the assumption were consistent with one another.
- **How general is the theory?** This question referred to the soundness of the research evidence and how widely the model could be utilized in explaining the phenomenon.

- **How accessible is this theory?** This question addressed the extent to which empirical indicators could be identified for concepts within the model and how attainable outcomes of the theory were.
- **How important is this model?** The importance of the model was closely tied to the idea of its practical value. An important model should be valuable for greater or desired prospect. Both verbal and written comments received from the discussion groups were incorporated into the model.
- **Does the theory help or hinder in any way?** The model should not hinder progress in its implementation in nursing education.
- **Does the theory impart creativity?** The model should facilitate creativity in improving the practice of nursing education.

3.13 Ethical Considerations

Globally, governments issue out funding for research and establish rules for adhering to ethical principles. Thus, the principles of the Belmont Report as described by Polit & Beck, (2014: 83) on ethical consideration were upheld in this study as describe below.

❖ ***Permission to conduct the study***

In this study, all the ethical components were met. Written consent to undertake the study was obtained from the Ethics Committee of the Faculty of Health Sciences of the University of Fort Hare. The two of the selected universities approved the study. Permission to conduct a pilot study was sought from the University of Fort Hare. Permission was also sought from Quality Assurance Unit in the Eastern Cape Province in Bisho, which culminated in obtaining of ethical clearance for conducting the study.

❖ ***The principle of beneficence.***

This principle implies that human subjects should not be exposed to injury or any harm whether physical or emotional. In this study, the effort of preventing respondents from harm was ensured throughout. This also means that the involvement of the respondents in this study did not expose them to exploitation by the researcher. They were informed that this study would not expose them to any form of harm. The nature of the study, the time, commitment and the nature of their involvement was explained to participants. The researcher protected the respondents from any form of discomfort and harm by neither coercing nor harassing the

respondents in the study (Grove *et al*., 2013:174; Polit & Beck, 2014: 83). Moreover, respondents were informed that they would not be punished even if they withdrew from participation from this study (Brink *et al*., 2018:32).

- **Respect for human dignity**

This principle includes the right to self-determination and the right to full disclosure. The right to self-determination is based on the ethical principle of respect for persons. In order to observe this principle, the respondents were assured of self-determination by not coercing them to participate in the study, when they did not feel like doing so (Grove *et al*., 2013: 164). In line with ethical guidelines, the researcher explained to the respondents everything concerning the research study, without deception. Their participation in the study was voluntary, and that they were allowed to withdraw from participation anytime they felt uncomfortable to continue with the study. Besides this, the respondents were also assured that they would not be penalized if they refused to participate in the study (Polit & Beck, 2014:84).

- ***The principle of Justice***

This principle implies that the respondents have a right to fairness and their right to privacy. Justice refers to fair treatment of all participants (Grove *et al*., 2013: 173). All respondents in this study were treated fairly irrespective of who and what level of training they belong to or their cultural, racial or socio-economic status. Respondents were also informed in advance that there was no reimbursement for participating in this study.

- ***Right to fair treatment***

Respondents who chose to withdraw from this study were not prejudiced in any way. All the agreements made with the respondents were honoured with respect to their beliefs and values. To uphold this principle, the respondents were treated courteously and tactfully throughout the timeline of the study (Polit & Beck, 2014:85).

- ***The right to Privacy***

The principle of privacy implies that, the study did not interfere with the respondent's lives in any way, and that their privacy was maintained. In upholding this principle, participants were assured of confidentiality and they were advised not to write their names on the questionnaire. The envelopes for each university were sealed so that no unauthorized person would gain

access to the subject's information (Grove *et al*., 2013:172). Anonymity exists if the subject's identity cannot be linked, even by the researcher with his or her individual responses (Polit & Beck, 2014:85).

- ***The right to informed consent***

This implies that before respondents embark on a study, they are well informed and they have agreed to participate (Polit & Beck, 2014: 87). A written informed consent form was given to all respondents. Respondents were requested to sign this consent form after understanding the explanation about the study, so as to grant permission before they respond to the questionnaires. The fact that the respondents were required to sign an informed consent to participate, was not binding them to participate. This means that even if they had consented to participating in the study, they could withdraw any time if they felt uncomfortable in participating. By doing so would not put them into any jeopardy or be penalized thereof.

3.14. Chapter Summary

This chapter described and justified the choice for the research design and methods that were used in the study. The study was conducted in four phases. Phase 1 dealt with the factors and strategies associated with failure to graduate and retention-to-graduation of nursing students in the undergraduate programme. Phase 2 dealt with the development of a conceptual framework for the retention-to-graduation model. Phase 3 dealt with the development of the model and Phase 4 dealt with formulation of guidelines for operationalization of the model. A diagrammatic presentation of research phases was presented. Designs, objectives, research methods, validity, reliability and data analysis for Phases 1 to 3 were discussed. Reasoning strategies, the different steps in a model, and critical reflection to validate the model on the factors associated with failure to graduate and retention-to-graduation were also discussed. The formulation of guidelines for implementation of the model was highlighted. The ethical consideration and measures observed throughout the study were described. The next chapter focused on presentation of the results.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter covers presentation and interpretation of the results. In detail, the chapter presents the sample realization or the sample response rate; demographic characteristics of respondents; academic background of the nursing student; strategies and factors associated with failure to graduate and retention-to-graduation; educational requirements for retention-to-graduation; enrichment programme satisfaction survey, and Nursing Student Resource Centre satisfaction Survey. Furthermore, a factor analysis was used to elicit factors and strategies associated with retention-to-graduation of nursing students at selected universities, which informed the basis for the development of the conceptual framework and model for retention-to-graduation of nursing students at universities in the Eastern Cape Province.

4.2 Sample Realization

The sample in this study was recruited according to the distribution of student profile characteristics or demography as tabulated in Table 4.1. The highest number of respondents 102 (29%) were in their third year of study, 95 (27%) in second year, 82 (23.2%) in first year and 73 (20.7%) in the fourth year. The total sample was 352 respondents, a number that was considered representative enough for the study. The sample distribution was as follows; 186 (52.8%) respondents at University 1 and 166 (47, 2%) at University 2. The respondents were almost equally distributed across the four levels of study, with 291 (82.7%) being female students and the rest males. The sample distribution showed that 330 (93.75%) students were in both clinical and nonclinical settings. Age wise, 270 (76.7%) were younger than 25 years of age, while racially and ethnically, 340 (96.6%) were black, and 281 (94.3%) were *IsiXhosa* first language speakers. On marital status, 334 (94.9%) were single and on accommodation, 268 (76.1%) stayed at the university residences on campus.

4.3 Demographic Profile of the Sample

Section A in the questionnaire sought to elicit information about the demographic characteristics of the respondents prior to the beginning of the course. This information includes age, gender, race/ ethnicity, language, prior educational experience, prior work experience, and family's educational background.

Table 4.1: Demographic Characteristics of the Respondents (n=352)

Characteristics	Category	Number	Percentage %
Institution	**University 1**	**186**	**52.8**
	University 2	166	47.2
	Total	352	100
Gender	Female	291	82.7
	Male	61	17.3
	Total	352	100
Age group	Under 25 years	270	76.7
	25-30 years	61	17.3
	Over 30 years	21	6.0
	Total	352	100
Racial group	Blacks / African	340	96.6
	White	12	3.4
	Total	352	100
Mother tongue	IsiXhosa	281	79.8
	Other	71	20.2
	Total	352	100
Marital Status	Single	334	94.9
	Married	18	5.1
	Total	352	100
Residence status	On Campus	268	76.1
	Off Campus	84	23.9
	Total	352	100

Source: Field Data

Table 4.1 shows the demographical distribution of respondents of the 2 institutions labelled university1 and university 2 for confidentiality purposes, which were the settings for the study. From this distribution, it is shown that figures in university 1 were higher than those of University 2. This can be attributed to the fact that, university 1 is more urbanised than University 2 which is in a rural setting, in one of the previously disadvantaged States of the time (apartheid regime ruled South Africa).

4.3.1 Gender of the respondents

The analysis revealed that 291 (82.7%) of the respondents were females and 61 (17. 3%) were males. Traditionally, the nursing profession is a female dominated career. However, nowadays more male nurses are joining the ranks of the profession, thus, the changes of the demographic profile of nursing professionals as seen in this study despite the lower percentage of male respondents. Due to the disproportionate number of men to women in the study, gender has generally been examined as a sample descriptor within studies of nursing student failure to graduate.

Therefore, understanding that, the experience of the male nursing student is unique, it is an important step in enhancing retention-to-graduation. Previous researchers have found that male nursing students seldom complete the programme as compared to their female counterparts (Mulholland *et al*., 2008:49). To the contrary, Salamonson *et al*., (2009: 85) did not find any relationship between completion, gender, and nursing experience in his study. While majority of female nurses have traditionally made the profession their career choice, males on the other hand were provided with greater freedom to pursue other studies (O'Brien, Keogh & Neenan, 2009: 638). Therefore, the findings in this study could too, be attributed to such dynamics, especially the study settings being dominated by African students by origin, where care is mostly culturally associated with the females.

4.3.2 Age of respondents

In this study, the majority 270 (76.7%) of the respondents were younger than 25 years of age. The fact that the larger proportion of the sample was below 25 years of age, it gives an indication that, they (graduate students) would have many years to serve the government after qualification; unlike if they were over 30years of age which would mean they were closer to retirement according to the South African retirement age from public service.

The respondents (students) of lesser than 25 years of age need to be mentored in order to develop in career and continue to add value to the nursing profession. On the other hand, considerable number of older students is entering the higher education institutions worldwide. Notable increase is being realized in countries such as United Kingdom, United States of America, Australia and Ireland (Jeffreys, 2012:25; O'Brien, Keogh & Neenan, 2009:638). Whilst this is happening, elderly students continue to struggle with the academic component of the nursing course. For instance, the older generation that enrols for nursing courses, has been allegedly prone to poor academic performance, an aspect that leads to stigmatization and stereotyping (Jeffreys, 2012: 25). On the other hand, the age group under 25years has been found by previous studies to be prone to failure to graduate (CHE, 2007:17; HESA, 2009:11; Letseka & Maile, 2008:1; Wangenge-Ouma, 2012:833). However, the younger generation of students that enter nursing career in early life, have a potential to work more years and be useful to the country's service delivery in the health sector. Thus, more interventions targeting this group for retention-to-graduation must be implemented on entry into the profession training.

4.3.3 Racial distribution

The study showed that, 340 (97, 4%) of the respondents were black students and 12 (3.4%) were white students. The high number of black students is attributable to the demographic profile of the country in the sense that, the universities in the rural areas of the Eastern Cape are serving predominantly the black community. In essence, the university environments are small-scale version of the larger society. This may represent racially insensitive practices that create feelings of cultural incongruence and seclusion among underrepresented groups. As a subculture of the university environment, the nursing department may also explicitly or implicitly be perpetuating insensitive practices which may have caused the skewed racial distribution.

Based on this finding, nurse educators need to move beyond passively tolerating diversity to actively accepting it. More importantly, nurse educators need to expect student fears and actively working reducing or abolishing stereotypes, prejudice, discrimination and racism within academia, nursing profession, health care and the society at large. This is because these elements affect student achievement, persistence and retention (CHE, 2013:1; Jeffreys, 2012:56; Letseka & Maile, 2008:1). Racial integration is an important aspect in academia. For instance, a study conducted by Dapremont (2011:256) showed that black students valued peer

support, and interaction with white students' study groups. Thus, intensive recruitment of nursing students from various racial groups is important to enhance diversity in the universities under the study.

4.3.4 Home language of the respondents

The findings indicated that 281 (79.8%) of the respondents were *IsiXhosa* speaking, while 71(20.2%) were English speaking as their first language. The students whose English was their second language of communication were seen to be struggling in communication and had been identified as 'at-risk' of failure to graduate in countries like USA, Canada, United Kingdom and Australia. These categories of students had confirmed exceptional educational needs (Jeffreys, 2012:32). Thus, the nurse educators need to focus on recognizing the students' first language to help in identifying groups of students who are struggling with English as a second language, which in many cases is used as medium of instruction. It is necessary to identify and develop suitable interventions to improve retention-to-graduation of students. The efforts geared at professional socialization and retention must assess the unique needs of various students (English as second language category) on a subgroup and individual basis, by integrating language development skills, socialization and acculturation measures within a culturally congruent framework (Jeffreys, 2012:32).

4.3.5 Marital status of respondents

The findings revealed that the majority 334 (95%) of the respondents were single; while 18 (5%) were married. The high number of single respondents in this study is due to the fact that, the majority of learners from high school enter universities while they are still single especially those below the age of 25 years. In undertaking the nursing course, single students are assumed to have lesser challenges as compared to the married students. The assumption is that, the married students have multiple family responsibilities such as, being a wife, a mother and may be the breadwinner of the family.

The married students have been found to report difficulties in balancing the home and university workload (Dlungwane, 2017:113). Further, such students could have an added challenge such as having a dependant or children to take care of.

These responsibilities could have a potential impact on academic achievement and retention-to-graduation because the student will have a divided attention while in class or in a clinical setting. Child care for instance, might pose a challenge in retention-to-graduation.

Therefore, it is important that nurse educators identify stress related to child care in students, especially those with dependants, so as to provide appropriate support such as counselling and stress management to enhance retention-to-graduation. On the other hand, child care arrangements must be done before one embarks on an educational career to allow for full concentration on his or her studies, without having to worry about such concerns. Child care arrangements are the needs, concerns and issues surrounding family responsibilities and these have been reported as a barrier to academic achievement and retention (Jeffreys, 2012:103). An investigation into understanding student perceptions of child care arrangements as supportive or restrictive for academic achievement and retention is important.

4.3.6 Location of residences for the respondents

According to the data presented on Table 4.1, the majority 268 (76.14%) of the respondents stated that they lived on campus; and 84 (23.9%) stayed off-campus. Living arrangements can support or restrict student nurse retention-to-graduation. The benefit of living on campus is that students have dedicated transportation arrangements to attend lectures or clinical facilitations. Meanwhile, those who stay off campus have to make their own transport arrangements. However, sometimes due to various reasons some students decide to stay off campus.

It is important that students are informed of the benefits of staying on campus as compared to staying out of the campus. A suitable arrangement for accommodating students in university residences is an important strategy to enhance retention-to-graduation of nursing students. It is for this reason that most of the universities have revamped their campuses and new structures have been erected to accommodate students (Jeffreys, 2012:110).

Lack of a safe and nurturing living environment conducive to studying will affect retention-to-graduation directly or indirectly. The majority of students who come from the Eastern Cape Province are from communities that are homeless or poor conditioned shelters. Thus, if they do not have a safe accommodation, they may face additional barriers that interfere with academic achievement as argued by Jeffreys (2012:111).

4.3.7 Concluding statements

- The demographic profile of students may determine whether students will stay in the programme until graduation or dropout.
- As much as very little can be done with regard to demographic characteristics of students, it is of utmost importance that students' curriculum be designed to meet the needs of the diverse backgrounds so that retention-to-graduation can be enhanced.
- It is important that the academic staff should seek to understand and accept diverse student characteristics.

4.3.8 Summary on demographic analysis of respondents

The demographic profile of the students has been clearly delineated in this study. It was interesting to note that demographic profile of students in the undergraduate programme is pivotal in whether students persist within the programme or decide to leave the programme. The academic staff and the university system should seek to understand and accept diverse student characteristics and begin to consider that diversity is instrumental for student success.

4.4 Distribution of Respondents by Educational Characteristics

4.4.1 Students distribution by year of study

Table 4.2: Distribution of Respondents by Year of Study (n=352)

Year of study	Number	Percentage
First year	82	23.2
Second year	95	27.1
Third year	102	29.0
Fourth year	73	20.7
Total	352	100

Source: Field Data

Table 4.2 shows the data of the respondents by the year of study. It appears that, the majority of the students were in third year 102 (29%), while the number of second year was 95(27.1%); first year 82 (23.2% and fourth year level was the lowest 73 (20.7%). It is interesting to note an increased number in the second and third year levels respectively. However, this could imply that, there were some students who had failed in second year and third year levels and therefore, they had to repeat the modules in those levels.

A study by Ogude, Kilfoil & Du Plessis (2012:11) found that, most of the students fail to proceed from first and second year level of study. However, the results in this study show a different picture, where at the fourth year of study there was a decline in number of students. This raises a vital concern because the hope of the health care system lies on the completion of the fourth year level of training, when the graduates join the nursing profession. Some researchers agree that, failure to graduate has an overwhelming effect on delivery of much desired health care in the country (Roos *et al*., 2016:3).

- **Concluding statements**

  Recruitment and selection of nursing students should consider orientation of nursing students around the programme expectations and all that the programme demands, especially clinical components without frightening the prospective students. This includes marketing of the programme and holding road shows to the high school learners and making briefings to the high school educators on assisting the learners on the selection of subjects which would help them gain entry into the nursing programme.

- All young students who enter the programme for the first time must be regarded as "at risk"**.**
- Tracking and support for first year students should be done quarterly.

4.4.2 Allocation of students by setting

Table 4.3: Allocation of students by Setting (n=352)

Setting	Number	Percentage %
Classroom	330	93.75
Clinical setting	22	6.25
Total	352	100

- Classroom (n=330)
- Clinical setting (n=22)

According to the data presented in Table 4.3, the findings indicate that majority 330 (93.75%) of the respondents were allocated in both classroom and clinical settings. This is in accordance with the requirement of the South African Nursing Council (R425 of Act No. 50 of 1978) that all nursing students must during their period of training, be allocated in both classroom and clinical settings. The purpose of the dual settings is to enable students to correlate theory to

practice for effective training and later on service delivery. This in turn assists them to gain clinical competences as well as moulding their behaviour and attitude to be in line with what is expected of them, in their day-to-day encounter with the clients, patients and other members of the multidisciplinary team in clinical practice.

On the other hand, 22 (6.25%) of the students were allocated in the clinical setting at the time of data collection. This might mean that, these 22 students were at the skills laboratory, where the number is required to be minimal for effective clinical teaching, learning and active engagement.

❖ **Concluding statements**

- The round table discussions on clinical allocation and support are very important for every level in the nursing programme.
- Clear guidelines and learning outcomes for each level of study should be well constructed with measurable assessment criteria so that students can understand how to attain the competences of the skills required.
- On-going assessments and support is necessary at every clinical exposure.

4.4.3 Family generation to attend university

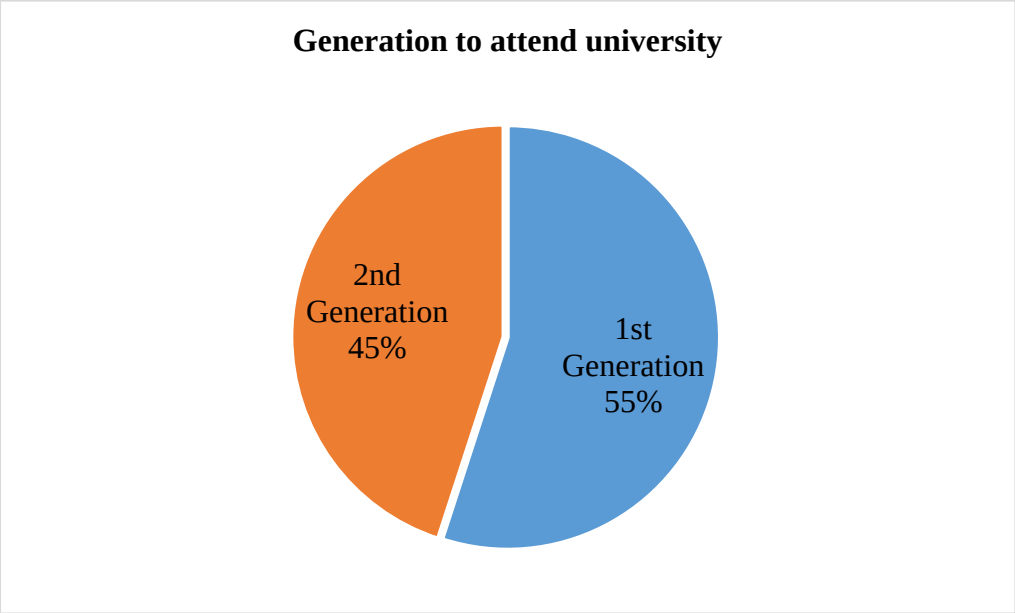


Figure 4.1: Generation in family to attend university (n=352)

The Figure 4.1 indicates the generation of respondents attending university in the family. When respondents were asked if they were the first generation to attend university in their family, 190 (55%) replied that they were not the first generation to attend university in their families; and 162 (45 %) agreed that they were the first members in their families to attend university. Some researchers have found that, first generation students from underrepresented groups fail to graduate as compared to the second generation. This is due to a number of factors that have been identified in the empirical studies (Jeffreys, 2012:26; Letseka & Maile, 2008:1).

However, this factor has not been addressed thoroughly by the literature reviewed in this study. Being the second or third generations in family to be in university does not mean that the student had all the support one can get from family, friends and academic staff to successfully go through the university life and achieve a fulfilling life. Literature has indicated that parents' level of formal education can be a predictor of undergraduate nursing students' persistence, thus placing first generation students at greater risk of failure to graduate (Jeffreys, 2012:125) for lack of family role model who has attended university. From selected nursing students, trends have shown that, to be the first member to attend university in one's family could have an impact in one's performance in the nursing profession. To the contrary, others view this as an opportunity to prove a point, while this could also bring about negative results on performance because one does not have family role models with university experience (Anonson *et al*., 2008:275).

The Higher Education Management Information System (HEMIS) data show that the total number of undergraduate enrolments in South Africa's public universities grew by 194 000 in 2013 compared to 2006, with less than 10% of the growth among first time-entering undergraduates. The average annual growth rate for first time-entering undergraduates between 2006 and 2013 was only 1.7%, compared to an average annual growth rate of 4.7% for the category of undergraduate students who had previously been in the university system. This shows that more and deliberate strategies need to be developed to attract, retain and support more undergraduate students to join the tertiary institutions, particularly in the undergraduate nursing programme. However, if there no support from the family in preparation of their children for university education, or from administrators, faculty and staff to bridge the transition gap between high school and university, then students are likely to fail to graduate from their respective courses.

❖ **Concluding statements**

- The support of first generation students to become nurses has the potential to enrich the diversity of the nursing profession and reach out to various socio-economic and educationally diverse populations (Jeffreys, 2012:26).
- If a student has a problem with integrating academically and socially within the university environment, this could increase the risk for a stressful, unsatisfied, or unhappy university experience. Undoubtedly, this could negatively affect the student's retention-to-graduation in the undergraduate nursing programme.
- There is a dire need to have family support involvement to ease transition into tertiary education for students leaving high schools for university education.
- Peer mentors can play a vital role in socializing and supporting the junior nursing students to professional maturity and adulthood, therefore there should be an opportunity for them to interact.

4.5 Educational Background and Academic Performance

On the educational background, 352 (100%) of the learners had matriculated when entering the programme. Matriculation is the entry requirement into the undergraduate programme according to the South African Nursing Council regulations (R425) and the Higher Degrees Council regulations. In addition to matriculation, twenty (20) (5.7%) of the respondents had post matric Diplomas / degrees. Increase in the number of second degree / diploma holders, has been noted in other studies and this can be assumed to prevent failure to graduate as a result of academically under preparedness (Jeffreys, 2012:25). Nurses with diplomas or degrees in other fields can boost the nursing profession by blending multidisciplinary approaches into nursing profession.

Nurses with academically diverse experiences may widen the overall perspective, especially when dealing with socio-economic and educationally diverse clients. Thus, educational background can be an indicator of supporting or restricting retention-to-graduation for the students in undergraduate nursing programme.

In most cases, the respondents with second degrees or diplomas are usually mature individuals who are well conversant with the demands of the academic environment, and they usually perform better than those who come directly from a high school environment.

❖ **Concluding statements**

- There is a need to consider students coming from poor educational background and underdeveloped infrastructure such as internet, electricity, and computers. This is important because this type of students meet with such equipment for the first time in university, thus they are likely to lag behind other students who are more privileged.
- Support and special attention need to be devoted to students from such as needy backgrounds.

4.5.1 Repeating of levels

Table 4.4: Students Repeating a Level (n=60)

Level	Number	%
First year	36	60
Second year	20	33.33
Third year	3	5
Fourth year	1	1.67
Total	60	100

Source: Field Data

When asked if the respondents had ever repeated a class, 292 (82.95%) replied in the negative, while 60 (17, 5%) of the respondents agreed to have repeated a class. Out of the 60 respondents who had agreed to have repeated, 36 (60%) was at first year level, followed by second year level at 20 (33.33%); three (5%) respondents repeated at third year level and only one (1.67%) repeated at fourth year level. The issue of repeating a class was distributed across the levels as illustrated in Table 4.4. For the first year respondents who had repeated the level, it is assumed that they were straight from high school environment and they might have had transition challenges.

The students who repeat a class or a semester need to be identified early enough; and be supported since they may be underprepared for university academic environment. This is important because they may have been away from the usual family support for the first time hence lacking commitment to the educational and learning process. On the other hand, the elderly respondents who had repeated classes might have been married and thus burdened with family responsibilities and multiple roles (parental, as well as being wives or husbands). These

multiple roles or responsibilities can interfere with academic success and retention-to-graduation; and later on negatively impact on their career. In this case therefore, entry into nursing practice may be delayed and total work years in the nursing profession might be decreased due to repeating the levels during training (Dlungwane, 2017:113).

These results are in agreement with what many researchers have found in previous studies, in that majority of students repeat classes in first and or second year. Notably, students who repeat levels are seen to be at risk of failure to graduate (Ogude, Kilfoil & Du Plessis, 2012: 11). Students entering universities from high school by virtue of having outstanding performances might get disappointed when they underperform in their first and second year of their studies at the university level.

- **Concluding statement**

  High school performance is less predictive of academic success, especially for students who might have been disadvantaged or underrepresented at the university level. Therefore, academics must offer support to the first and second year nursing students both in classroom and in clinical settings in order to enhance retention-to-graduation.

- Pre-clinical block can assist ‘at risk’ students to learn, sharpen and strengthen their skills especially mathematical, computer and literacy skills.
- Adequate resources such as computer and simulation laboratories must be accessible under supervision for learners ‘at risk’.

4.5.2 Reasons for repeating levels

Table 4.5: Reasons for Repeating a Level (n=60)

Reason	Number	Percentage %
Lack of support and commitment	30	50
Financial constraints	10	16.66
Sickness	7	11.67
Accommodation problem	7	11.67
Poor performance	4	6.67
Other	2	3.33
Total	60	100

Source: Field Data

According to the data in Table 4.5 above, 30 (50%) of respondents reported lack of commitment to the learning process as the main reason for failure to graduate. It should be noted that support and commitment is key for success in any endeavour. With reference to nursing care, the concept commitment is entrenched in the Nurses' Pledge of service to mankind. Thus, the same applies to nursing students, if they want to succeed and become committed future professionals.

On the other hand, ten (16.66%) of the respondents stated that they repeated the level because of financial constraints. In South Africa, the government is funding the majority of students through a financial aid scheme known as National Students' Financial Aid Scheme (NSFAS). However, students often complain that the funding is not enough for their studies and the daily living expenses especially learners coming from needy socio-economic and disadvantaged backgrounds, who lacks extra source of funding (Letseka & Maile, 2008:5). When financial and accommodation problems are not addressed, students could easily be stressed and thus, resulting to poor health /sickness and later on poor academic performance. Moreover, lack of enough financial support may lead to some students devising other means to augment their financial constraints and in the process they lose out on their studies, perform poorly and eventually fail to graduate.

The current study found 48% failure rate among students receiving financial assistance. According to CHE (2007:17), HESA (2009:11), Letseka & Maile (2008:1) and Wangenge-Ouma (2012:834), failure to graduate is double among the non-traditional students than traditional students. Therefore, academic staff needs to address this trend in order to enhance retention-to-graduation.

According to the data presented on Table 4.5, sickness during the training was reported by 7 (11, 67%) of the respondents as a cause for repeating levels. It is not known whether the respondents were sick on admission to the course or during the course of training. In relation to health issues, literature does suggest that, undergraduate nursing students who show good physical and mental health achieve better academically (Van Lingen, Douman & Wannenberg, 2011: 405). Thus, it is important that, on admission to the undergraduate nursing programme, all new students undergo a full medical examination so that their physical wellness is ensured and those with abnormalities or chronic health conditions can be referred for further management in good time.

As far as accommodation is concerned, 7 (11, 67%) reported having challenges with places of residence. Lack of accommodation during training does affect students' focus and could result to poor academic performance, which invariably affects nursing student retention-to-graduation. This is because they are usually away from either classroom or clinical settings. The challenge is also exacerbated by the fact that, many students enter the tertiary institutions and if there is no adequate accommodation prepared for them it impacts negatively on their performance and retention-to-graduation. Further research is needed in this aspect.

For poor performance as represented by 7 (6.67%) of the respondents, could be attributed to academic factors such as poor study skills, reading, writing, note taking, preparing for exams, reading notes, listening in class; poor attitudes about the responsibilities for study activities; poor time management, organization, and effort expended with academic pursuits. The ultimate outcome usually is that, they might perform poorly academically and end up repeating a level. In most cases, students do seek employment whilst on training which clashes with their studies. Perhaps, this is because they come back from work tired and they have to attend classes or clinical practical. This undertaking may thus interfere with the programme they are undergoing, and the chances that they will lose focus on their goals to complete studies and graduate are high. Thus, some students decide to withdraw from the programme and focus on work issues.

A smaller number (2) (3.33%) of the respondents repeated classes as a result of substance abuse. The reason for this might be ascribed to many factors. For instance, it might be due to inadequate value of pre-nursing courses or due to the students' negligence and failing to fully immerse themselves into the learning environment. Further research is needed in this aspect for a deeper understanding of the problem.

❖ **Concluding Statement**

- Academic support for retention-to-graduation is imperative in nursing education institutions.
- Commitment to the teaching and learning process and learning experiences needs to be taken very seriously by all the role players to enhance retention-to-graduation especially in Eastern Cape institutions. Nursing students need to show a certain level of commitment to their learning process and experiences (Jeffreys, 2012: 80). The concept *commitment* needs to be explored further, for it is a core value in the nursing practice.
- Proper accommodation and transportation of nursing students is imperative if retention-to-graduation as a goal for higher institution is to be achieved.

4.5.3 "At risk" students

Students were also requested to reflect on whether they were 'at risk' of failure to graduate from the undergraduate nursing programme or not. The responses are presented in Table 4.6 below.

Table 4.6: Students "at risk" of Failure to Graduate (n=352)

"At risk" of withdrawal?	Response	Number	%
	Yes	13	4
	No	309	87
	Not sure	30	9
	Total	352	100

Source: Field Data

According to the data on Table 4.6, 309 (87%) of the students were not 'at risk' of failure to graduate, while only 13 (4%) of the students agreed that they were "at risk". The rest of the respondents 30 (9%) were not sure of their status. In this case, the nurse educators need to be able to identify the 'at risk' students early enough for necessary support (Jeffreys, 2012:81).

Early identification of students at risk is significant in preventing failure and improving graduate rates. This is achievable through interventions such as continuous assessments and feedback, monitoring and evaluating progress and performance in the programme and one-on-one counselling sessions. 'At risk' students need to be flagged and counselled to help them go through the programme successfully. Additional tutorial sessions and clinical accompaniment are important to ensure the student is successful and retained. Further, students need to have access to all the university support programmes through, dedicated units such as the well-equipped and adequate resource centres like the Teaching and Learning Centre and the Counselling Unit.

The Teaching and Learning Centre offers academic writing workshops, peer assisted learning and support on the use of e-learning. Mechanisms to monitor student progress, evaluating programme impacts and making improvements need to be in place through continuous assessment mechanisms throughout the programme.

Data gathered from the summative assessments as well as the attendance registers and observation of learner participation in class is very important for course improvement to provide prompt feedback to learners. This information can also assist to identify students who are 'at risk' of poor academic performance.

❖ **Concluding statements**

- Active involvement of learners and self-directedness evokes a sense of discipline and ownership of learning in students, which thereafter, helps to develop self-confidence and maturity.
- Proper guidance, availability and interaction of nurse faculty, mentors, facilitators and academic support will invariably aid in retention-to-graduation of nursing students (Baker, 2010:218; Dapremont, 2011:255).
- Unequivocally, academic support is crucial in enhancing retention-to-graduation of students in any academic programme.
- The more time spent and involved in academic support services, the higher the likelihood of graduation (Grillo & Leist, 2013:387).

4.5.4 Performance variables in nursing subjects

The performance of respondents in the core subjects in the undergraduate nursing programme was captured as shown in Table 4.7. This was important to identify problem areas that students might be struggling with.

Table 4.7: Descriptive Statistics for Performance Variables in Nursing Subjects (n=352)

Variable	N	Mean	95%CL	Mode	Median	Min	QI	Q3	Max
General Nursing	249	63.8	62.73-64.93	60	62	40	60	70	89
Community Nursing	216	67.9	66.52-69.18	70	70	40	60	75	98
Psychiatric nursing	170	66.4	64.89-67.87	60	65	50	60	73	92
Midwifery	169	62.3	60.71-63.94	60	60	28	55	70	88

Source: Field Data

Table 4.7 shows descriptive statistics for performance variables of respondents. The highest number of respondents 249 (70.73%) with a mean of 63.8 were enrolled in General Nursing Science, Community Nursing had 216 (61.36%) with a mean of 67.9; Psychiatric Nursing Sciences had 170 (48.29%) with a mean of 66.4; and Midwifery had 169 (48.01%) with a mean of 62.3.

According to R425 of the South African Nursing Council, all students in the undergraduate nursing programme should take General Nursing Science as a subject from level 1 to level 3 of their training. Midwifery Nursing Science and Psychiatric Nursing Sciences are special courses that are done at level 3 to 4, while Community Nursing Science is done at level 1 to 2 including Community Based Education. Thus, it forms a foundation for students entering into the profession.

The performance of the students was measured using their marks in four subject areas, namely, General Nursing Sciences, Midwifery, Community Nursing Sciences and Psychiatric Nursing. The average performance in these subject areas ranged between 62% (Midwifery) and 67.9% (Community Nursing). Table 4.7 shows the mean performance and the corresponding 95%

confidence limits, the mode, median, minimum, lower quartile, upper quartile and maximum score for each subject area.

The results showed that respondents in this study had a challenge with Midwifery as the average mark was less than 40%, which is the minimum score for all the nursing subjects. The average performance for all other subjects was 63.8% in General Nursing and highest average of all the subjects was Community Nursing Science with 67. 9%. The results were however, encouraging for Eastern Cape Province to have a performance of above 60% on average, because the majority of the Province is vast, rural and needs nurses who are highly qualified and competent in Primary Health Care and community based nursing care to provide the direly needed services.

The minimum scores for all the nursing subjects were between 28 and 50 which is not a very good overall performance. However, the maximum scores were between 88 and 92. Below average scores in nursing majors pose a risk of poor academic performance, delayed completion or failure to graduate. As stated by researchers, academic failure is amongst the major reasons students withdraw from the undergraduate nursing programme (Cook, 2010:12; O'Halloran, 2009:11; Prymachuk, Easton & Littlewood, 2008:151).

❖ **Concluding statement**

- Nurse educators need to conduct an inquiry on poor performance and advise students on undergoing remedial classes in order to improve academic performance to enhance retention-to-graduation rate.
- Academic advisers, nursing resource assistants and administrators can plan, organize and implement team building and capacity building workshops to enhance performance, instil confidence and assist nursing students towards developing self-directedness in their learning.

4.6 Data Reduction

4.6.1 Factor analysis

Factor analysis was used in this study to manage the data. Factor analysis is a method of data reduction using software such as SPSS. Factor analysis is a statistical method whose goal is to identify the underlying relationships between manifesting variables (Norris & Lecavalier, 2009: 8). According to Rahn (2017:1), factor analysis is a useful tool for investigating variable

relationships for complex concepts such as socio-economic status, dietary patterns, or psychological scales.
It allows researchers to investigate concepts that are not easily measured directly by collapsing a large number of variables into a few interpretable underlying factors.

In this study, factor analysis reduced the 49 items to 12 factors that account for 63.3% of the variability. While 50% is considered by some statisticians as acceptable, other statisticians argue that at least 60% is reasonable. Bottom-line, the higher the variability explained by the item groupings the better. The factor analysis groupings were considered for onward analysis. According to the factor analysis, the 49 items used in the data collection instrument, at least 12 dimensions which were interpretable in the study were identified; whilst the initial factor solution grouped almost all the items into the first three factors, resulting in an uninterpretable factor which will be discussed later in this chapter.

4.6.2 Exploratory Factor Analysis (EFA)

Exploratory factor analysis is a statistical tool used to explore or uncover the underlying structure of a relatively large set of variables or data (Osborne & Banjanovic, 2016:1). It is a technique within factor analysis whose overarching goal is to identify the underlying relationships between measured variables (Norris, & Lecavalier, 2009:8). Exploratory factor analysis involves several steps such as: data cleaning, extraction, rotation, interpretation, and replication. The last step (replication) is discussed less frequently in the context of EFA, but the results are of considerable use (Osborne & Banjanovic, 2016:1).

Exploratory factor analysis was conducted during the process of data reduction. The respondents completed a structured questionnaire with 49 items. The first step in analysing the data was to reduce the 49 items into fewer manageable variables. Two variable reduction techniques were used, namely, variable cluster analysis and factor analysis. The internal consistency of the instrument was assessed using the Cronbach's alpha and the results gave an overall reliability coefficient of 0.78. Based on widely agreed criteria, a Cronbach's alpha coefficient between 0.70 and 0.90 is reflective of good internal consistency. This means the instrument reliably measured the variables this study intended to measure. The following table presents results on factor analysis.

Table 4.8: Factor Analysis Results

Items by section	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
Social					0.54							
Economic									0.67			
Psychological					0.81							
Physical/ Physiological					0.78							
Academic					0.58							
Personal study skills										0.43		
Staff advisement/ helpfulness						0.51						
Transportation arrangements										0.67		
Class schedule						0.66						
Personal study hours										0.53		
Library service										0.47		
Family emotional support				0.71								
Family crisis				0.71								
Tutoring service						0.68						
Counselling service						0.64						
Family responsibilities				0.73								
Financial aid/scholarship									0.76			
Poor academic performance												0.48
Off school peer influence								0.78				
Within school peer influence								0.73				
Computer lab. Inadequacy												0.65
Child care arrangements											0.72	
Nursing is my career choice							0.79					
Pre-nursing courses							0.39					
Valuability of courses							0.65					
Learning opportunities	0.76											
Staff advisors help	0.65											

Peer mentor-tutors helpful	0.58											
Informativeness of workshops	0.63											
Location of the centre		0.73										
Operating times of the centre		0.72										
Technology enhanced learning		0.39										
Internet facilities		0.39										
Study groups		0.60										
Individual study facilities		063										
Student resource assistants			0.63									
Bulletin announcements			0.75									
Workshops and seminars			0.78									
Cronbach's alpha	**0.77**	**0.75**	**0.79**	**0.75**	**0.72**	**0.63**	**0.56**	**0.69**	**0.49**	**0.57**	**-**	**0.38**

According to the results in Table 4.8, the factors are complex and pivotal in students' decision to stay or quit the programme. Factor 1 (F1) relates to the created learning opportunities, how helpful and advising the staff were, the programmes and strategies for teaching that have been used, such as the peer mentorship and workshops, and valuableness which is represented by Cronbach's alpha 0.77. In the above table, factors 1 to 6 and 8 were represented by a Cronbach's alpha of above 0.60 to 0.79 which shows strong internal consistency reliability. On the other hand, F7, 9, 10, 11 and 12 were below Cronbach's alpha 0.60 which show weak internal consistency. These factors were further classified into categories and subcategories as presented in the sub-sequent tables.

Table 4.9: Categorization of Factor 1 (F1): - Support

Category	Sub-category	p. Value	Croncach'alpha
Support	Learning opportunities	0.76	0.77
	Staff advisor's helpfulness	0.65	
	Informativeness of workshops	0.63	
	Peer- mentor/tutor helpfulness	0.58	

Factor 1 (F1) in Table 4.9 above relates to the category of support. This category was further divided into subcategories which described the learning opportunities with a p. value of 0.76; how helpful the staff advisors were with a 0.65 p value; how informative the workshops or programmes were with a p. value of 0.63; and the helpfulness of peer mentors or tutors with a p. value 0.58. This category was represented by an overall score of Cronbach's alpha 0.77.

The findings imply that, the staff advisors have been supportive by creating learning opportunities in the clinical platforms and used strategies for teaching such as the peer mentorship and workshops which emerged as very valuable forms of support. Mentors, tutors, preceptors and clinical facilitators are tasked with the responsibility to create learning opportunities for all nursing students according to their level of training. Moreover, they need to align the learning opportunities to the level of outcomes for each student. Learning opportunities must be relevant to each discipline in each level. Preceptors should be available to welcome the student to the clinical facility or department, orientate the student and assist with realization of the learning outcomes to ensure student success and to improve competences in the clinical learning environment.

Staff advisors help is important in enhancing retention-to-graduation. The academic environment might be too complex especially for nursing students when it comes to correlating theory to practice. Therefore, expert advisement would boost their confidence, reduce level of stress, enhance their self-efficacy and motivate them to achieve good academic performance (Jeffreys, 2012:63).

Faculty advisement and helpfulness are manifested through interventions such as encouraging realistic educational and career goals. This invariably promotes positive feelings of self–worth, verbalizing belief in the student's ability to succeed, listening to problems and concerns, expressing interest in academic progress, optimism, offering assistance and by their presence wherever the student is (Jeffreys, 2012: 224).

Workshops on reading and writing skills, computer programmes, time management and communication skills are amongst other competences that nursing students need to enhance retention-to-graduation. These workshops or seminars can be organized at the beginning of

each semester and on entry into the academic environment. First year students have benefitted from support programmes such as mentorship, faculty advisement and study groups (Baker, 2010: 216; Kift *et al*., 2010:15). Conclusively, there is a need to strengthen support of undergraduate nursing students through peer mentorship programmes. Literature indicates that students benefit from peer support and by getting assistance from faculty, academic and clinical staff (Crombie *et al*., 2013:1284; Dapremont, 2011: 256).

Table 4.10: Factor 2 (F2) Nursing Student Resource Centre

Category	Sub-category	P. value	Cronbach 'alpha
Nursing student Resource Centre	Location of the centre	0.73	0.75
	Operating Times of the centre	0.72	
	Individual study facilities	0.63	
	Terminology enhanced learning	0.39	
	Internet facilities	0.39	

Factor 2 (F2) represents the resource centre availability, its location and its operating times; study facilities, technology and internet facilities for individual student which was represented by Cronbach's alpha 0.75. These are important variables in nursing students' retention-to-graduation. Support services and resources may encompass a variety of strategies based on students' diverse needs. According to Tinto (1997:599), effective strategies must demonstrate commitment to the welfare and education of all students above other institutional goals and aim to integrate students as full members of a cohesive learning community. There is need for a well-equipped user-friendly nursing student resource centre within the academic environment, where students can go from time to time to use the resources according to their learning outcomes and needs. Adequate planning and resourcing of the centre is the responsibility of a resource centre specialist.

Table 4.11: Factor 3 (F3) Nursing Student Resource Assistants

Category	Sub-category	p. Value	Cronbach's alpha
Student resource Assistants	Workshops and seminars	0.78	0.79
	Bulletin announcements	0.75	

	Student Assistants	Resource	0.63

According to Table 4.11, Factor 3 (F3) represents student resource assistants. Services rendered by this individual are organized workshops and seminars pertaining to utilization of the centre and is represented by 0.78 p value; bulletin announcements with a p. value of 0.75, and student resource assistants with a p. value of 0.63. Factor 3 (Nursing Student Resource Assistants) is represented by Cronbach's alpha 0.79. Student resource assistants could be a very important human resource in enhancing student retention-to-graduation especially for the first year learners in both classroom and clinical settings. A criteria for selecting the resource assistant especially one with a clinical and computer literacy expertise should be developed (Jeffreys, 2012:321).

Each level of training should have a resource assistant who is an expert in a particular learning area, and who can be placed in the resource centre with sole responsibility to organize workshops, put notices on bulletin boards, and network with each level of students on important notices. This would lead into drawing attention of every student especially on meeting deadlines to enhance retention-to-graduation.

Table 4.12: Factor 4 (F4) Family Financial Background

Category	Sub-category	P. Value	Cronbach's alpha
Family financial background	Family emotional support	0.71	0.75
	Family crisis	0.71	
	Family responsibilities	0.73	

According to the data in Table 4.12 above, Factor 4 (F4) representing the category family financial background with Cronbach's alpha 0.75 refers to family emotional support, family crisis and family responsibilities. Family emotional support is the active emotional involvement of family members in the student's academic and career goals. According to Jeffreys (2012: 101), families have very important roles to play in supporting retention-to-graduation of their children. A healthy family support system is necessary in enhancing retention and academic success. However, if there is a crisis in family of any nature, such as loss of a loved one, loss of a job, or sickness, that could be restrictive to retention-to-graduation.

Therefore, family emotional support is imperative to enhance retention-to-graduation for undergraduate nursing students.

Table 4.13: Factor 5 (F5) Synthesis of Factors Associated with Retention-to-Graduation

Category	Sub-category	P. Value	Cronbach's alpha
Synthesis of factors associated with retention-to-graduation	Psychological	0.81	0.72
	Physical/ Physiological	0.78	
	Academic	0.58	
	Social	0.54	

Factor 5 (F5) with Cronbach's alpha 0.72 refers to social, psychological/emotional, physiological and academic factors contributory to retention-to-graduation and will be discussed separately. According to the data in Table 4.13, on a scale of 1(strongly disagree), 2 (disagree), 3 (Somewhat agree), 4 (agree), and 5 (strongly agree), the respondents strongly agreed that the psychological, physical / physiological, academic factors, and social factors could be restrictive or supportive of the student's successful goal achievement. These factors are discussed in detail.

- **Psychological Factors 0.81 (Cronbach alpha 0.72)**

According to results in Table 4.13, the respondents strongly agreed that the state of mind / psychological (0.81) and the physical or physiological aspect (0.78) will greatly impact on goal achievement. The state of mind determines readiness to learn in individuals (Knowles 2011:1). Therefore, if the psychological aspect is not balanced due to some disturbances that compete with learning, the goal achievement will be compromised and vice versa. This means that if the mind is balanced and stable, the potential for goal achievement will be high and hence higher retention -to-graduation rate.

Some researchers have alluded to episodes of higher psychoticism as a cause for students' withdrawal, displaying behaviour which is aggressive, interpersonal hostility; and other personal reasons (McLaughlin *et al*., 2008:220). In such cases, students experience lower self-

esteem, personal failure and embarrassment, anger, frustration, and resentment (O'Donnell, 2011: 60).

From the above analysis, psychological factors can bring about positive or negative outcomes and would result to persistence, retention-to-graduation or failure to graduate, embarrassment and hostility in students (McLaughlin *et al*., 2008:221; 0'Donell 2011:60). Thus, students 'at risk' need to be identified early enough, counselled or referred to the student counselling services in the faculty to avoid failure to graduate. In relation this, there is a need for constant individual counselling and support for students 'at risk'. This is because, students who do not cope often feel that their affective safety is threatened; they mourn the loss, and have feelings of frustration, guilt, anger and low self-esteem.

This is evidenced by poor performance, behavioural problems, delinquent behaviour, along with adjustment difficulty and feelings of guilt and anger (Motataianu, 2015:160). In such circumstances, there is need for them to express their feelings, by talking to someone such as a psychologist, and peer or nurse educator. In that case, the student counselling unit needs to be consulted and students monitored for improvement to enhance retention-to-graduation.

- **Physical / physiological 0.78 (Cronbach alpha 0.72)**

A balanced state of wellness is necessary to enhance retention-to-graduation. Poor health and/or health problems were cited as the reason why students fail to graduate from the undergraduate nursing programme (Roos *et al*., 2016:6). According to the World Health Organization (WHO, 2006:1), health is a mode of existence that indicates complete physical, social and mental wellbeing, and not merely the absence of an illness or disability. Wellbeing is a contented, positive condition of the body, mind and spirit and social adaptability, where social and economic networks and resources exist to encourage development and nurture health in all dimensions (Basson & Roets, 2013:39).

Conclusively, nursing students need to have a balanced state of wellness in order to accomplish their goals. Thus, a stakeholder support is imperative for nursing students to enhance retention-to-graduation during the undergraduate programme.

- **Academic factors, 0.58 (Cronbach alpha 0.72)**

Academic factors have emerged as an important variable that can be restrictive or supportive of students' goal achievement in enhancing retention-to-graduation of nursing students in the

undergraduate programme in universities in the Eastern Cape. This finding is supported by existing literature reporting on academic difficulties to be the main reason why nursing students fail to graduate in a nursing programme (Cameron *et al.*, 2011:1373; O'Halloran, 2009:online; Park *et al.*, 2011:3; Pryjmachuk *et al.*, 2008:151; Wright & Maree, 2007:597). The use of academic services like library, computer laboratories and counselling services should be accessible and convenient to assist students with their academic goal achievement. In relation to this, Jeffreys (2012:85) emphasises that nurse educators must assess if students perceive these services individually to be valuable and important for academic achievement, positive psychological outcomes, and retention-to-graduation.

Finally, educators need to evaluate if the academic services are convenient and accessible for both the student and the educator's point of view. They should also survey the frequency and duration of services used by students.

- **The social factors** (Cronbach alpha 0.72)

The social factors with a p. Value of 0.54 were perceived as restrictive or supportive in goal achievement depending on whether students experience social integration and easier adjustment into the academic environment.

❖ **Social connectedness and student involvement**

According to Tinto's social integration theory (1993:2nd ed.), social connectedness and student involvement are also important elements influencing student retention-to-graduation (Tinto 1993: 2nd ed). Tinto has argued that, social integration and commitment to the institution are major considerations for student persistence. Researchers have also found that students are more reluctant to leave an institution after joining a campus (Levett-Jones *et al*., 2009:318). Social connections allow students to "bond with other students to achieve a common goal," such as completing their degree programme.

Therefore, despite temptations to cut "soft activities" during budgetary cutbacks, it is important that students have a variety of opportunities to engage with peers through campus activities. This requires that educators to be able to identify the development of a strong affiliation with the university environment, both inside and outside of class. It is for this reason that, Jeffreys (2012:85) emphasises that nurse educators must assess if students perceive these services to be

valuable and important to their academic achievement, psychological support, and their course completion.

Finally, the use of academic services like library, computer laboratories and counselling units, must be accessible and convenient to assist students with their academic goal achievement. The nurse educators need to evaluate if the academic services are convenient and accessible for both the student and the educator's needs.

Table 4.14: Factor 6 (F6) Academic Support

Category	Sub-category	P. Value	Cronbach's alpha
Academic support	Tutoring Service	0.68	0.63
	Class schedule	0.66	
	Counselling service	0.64	
	Staff advisement / helpfulness	0.51	

In Table 4.14, Factor 6 (F6) represents the academic support with Cronbach's alpha 0.63. This refers to tutoring services with a p. value of 0.68; class schedule with a p. value of 0.66; counselling service with a p. value of 0.64; and staff advisement / helpfulness with a p. value of 0.51. These services have been found by researchers to be very important in order to assist the students to develop confidence in their pursuit of academic success (Baker, 2010:218; Beauvais *et al*., 2014:914; Crombie *et al*., 2013:1282).

Therefore, academic support and services are imperative for retention-to-graduation of nursing students in the undergraduate programme. Notably, if students perceive that there is lack of academic support; failure to graduate is likely to increase. However, retention-to-graduation will be enhanced if academic support services follow a student-centred approach, rather than institutional-centred philosophy. Thus, the student academic services must be accessible, and convenient.

Table 4.15: Factor 8 (F8) Peer Influence

Category	Sub-category	P. Value	Cronbach's alpha
Peer influence	Off school peer influence	078	0.69
	In school peer influence	0.73	

According to the data in Table 4.15, Factor 8 (F8) refers to off-school and within school peer influence and is represented by Cronbach's alpha 0.69. Friends and peers in and off school can influence each other in retention-to-graduation. It is important that nursing students have curricular and extracurricular activities which are geared toward enhancing academic success, and retention-to-graduation (Tinto 1993:2nd ed.; Kift, Nelson & Clarke, 2010:5). In relation to this, peer influence needs to be channelled along positive lines, whether in and off school. Contrary to the positive alignment of peer influence, students can be more and easily distracted along negative lines especially during stressful moments; and in that way resort to alcohol and drug abuse. Such behaviours will result to poor performance in academia and failure to graduate altogether.

In conclusion, positive encouragement is manifested by supporting the students' academic endeavours and career goals; promoting positive feelings of self-worth; believing in students' ability to succeed, listening to their problems and concerns; showing interest in academic progress; expressing optimism; offering assistance and by being present for them always. In addition, the nurse educators need to further explore and consider the impact of external friends in relation to other demographic factors of the students, because some may perpetuate stereotypes and lead to unsupportive attitudes.

4.6.3 Varimax Rotation (The stand-alone variables)

The varimax rotation is a method in statistics which is used to simplify the expression of a particular sub-space in terms of just a few major items (Seekoe, 2014:1). In this study, the varimax rotation was used and produced a much better factor pattern, resulting in seven factors that matched seven of the clusters identified by the variable cluster analysis technique. Based on the test for reliability of the rotated factor solution, seven variables were derived as arithmetic means of the items within each factor.

This left out the items on factors 7, 9, 10, 11 and 12, which were treated as stand-alone variables in the onward analysis. These factors are now presented and discussed.

Table 4.16: Factor 7 (F7) Nursing as a Career Choice

Category	Sub-category	P.value	Chronbach's alpha
Nursing as Career Choice	Nursing is my career choice	0.79	0.56
	Valuability of courses	0.65	
	Pre-nursing courses	0.39	

From the table above, Factor 7 (F7) represented by Cronbach's alpha 0.56 refers to nursing as career choice, valuability of courses and pre-nursing course adequacy. When students were asked in an open ended question about why they chose nursing as a career 172 (48.86%) respondents did not answer this question. However, the majority 180 (51.14%) of the respondents answered the question. Some respondents 159 (88.33%) perceived nursing to be a career that 'helps the sick' and that needs people who are 'passionate about nursing sick people'; of which, those that lose this passion decide to quit the course. Moreover, 110 (61.11%) saw nursing as a 'well-paying job'; 56 (31.11%) saw nursing as 'secure' job and 15 (8, 33%) explained that nursing was 'not their career choice in the first place'.

The issue of valuability of courses with a p. value (0.65) was important in this study. The pre-nursing courses with a p.value (0.39)was also highlighted as helpful, as it orientates nursing students towards understanding and building expectations about what awaits them in the academic environment both classroom and clinical. The findings of this study relate to many authors who regard nursing to be a noble profession that looks after the interests of the sick and vulnerable people, and is the backbone of many healthcare systems (Loftin *et al*., 2012:1; Matsoso, 2013:1; Roos *et al*., 2016:7).

Table 4.17: Factor 9 (F9) Economic Factors

Category	Sub-category	P-value	Cronbach's alpha
Economic factors	Financial support / scholarships	0.57	0.49

Factor 9 (F9) as presented in Table 4.17 has Cronbach's alpha 0.49 and refers to economic factors. This analysis revealed that the financial status of the students will affect student engagement and participation in class or clinical settings.

In regard to this factor, some researchers are of the opinion that the challenge of finance has been a bone of contention in the recent "fees must fall" campaign by the students countrywide (in South Africa). According to Letseka & Maile (2008:5), the problem of poverty has been identified within the historically disadvantaged provinces and schools coupled with unequal distribution of resources as an impediment to academic success; and this has plagued the education system especially higher education institutions. Research has revealed painful instances where students coming from poor backgrounds have to attend classes without having proper meals (Letseka & Maile, 2008:5). Living expenses, financial obligations and commitments like rentals, clothing accounts are a concern for the students, if there is no source of economic support.

It should be noted that the diverse backgrounds where students come from, will affect their academic performance and retention-to-graduation. Students from poor socio-economic background struggle when they enter the educational programme as compared to those from well-off economic background. Hence, there is a need for financial support for students in the learning programmes to ensure completion. The family financial support in this regard is crucial. In South African context, inadequate financial support from NSFAS has been reported. Therefore, other forms of support in the form of scholarships and free bursaries are necessary to enhance retention-to-graduation especially for nursing programme.

Table 4.18: Factor 10 (F10) Academic Support

Category	Sub-category	P-value	Cronbach's alpha
Academic support	Transportation	0.67	0.57
	Personal study skills	0.53	
	Library Services	0.47	
	Personal study skills	0.43	

Factor 10 with Cronbach's alpha 0.57 refers to transportation, personal study skills, and library services. These factors have been discussed under academic factors.

Factor 11 (F.11) represents child care arrangements with no Cronbach's alpha. This factor has been discussed under social factors. For example, family support is very important in enhancing retention-to-graduation (Jeffreys, 2012: 101). Family support, child care arrangements and dependants have been discussed earlier under social factors.

Table 4.19 (a): Factor 12 (F12) Academic Performance - Clinical Computer Lab

Category	Sub-category	P-value	Cronbach's alpha
Academic performance	Computer lab adequacy	0.65	0.38
	performance	0.48	

Factor 12 (F12) with Cronbach's alpha 0.38 refers to library services and, computer lab adequacy and academic performance. These factors were discussed under academic performance, in educational requirements subscale. Academic performance is very crucial if retention-to-graduation goal is to be achieved.

Table 4.19 (b): FE2 Academic Performance and Achievement - Classroom

Category	Sub-category	p-value	Cronbach's alpha
Academic performance and achievement	Study adequately before examinations	0.81	0.81
	Obtain at least a passing grade for the theory	0.81	
	Obtain a passing grade for clinical laboratory	0.80	
	Complete assigned papers on time	0.77	

The Table 4.19 (b) on academic performance (FE2) focused on whether the respondents had studied adequately before examinations, whether they obtained a pass mark for theoretical and clinical examinations and academic achievement. Academic achievement depends on a number of variables that influence students' retention-to-graduation.

The institutions should consider efforts to understand schools and classrooms as systems to preserve the integrity of the educators, classrooms, or schools that are the focus of change (Gustello & Liebovitch, 2009:1). The direct impact on student achievement is based on what students and teachers do in classrooms. Although there are variety of variables that could be the focus of a school improvement project, there is a belief that providing formative evaluation data to teachers' effectiveness of their classroom practice, points to the importance of collecting

data on intermediate student outcomes as a core element of putting research into practice (Hatties, 2009:1). The results will provide the principals and teachers with an understanding of student classroom behaviour at every stage of a school reform process. Researchers have cited academic performance as a predictor in student success to graduation or failure in the programme (Benn & Pacquiao, 2010:26; DeLapp, Hautman & Anderson, 2008: 295; Gilchrist & Rector, 2007: 280; McEnroe-Pettite, 2010: 82; Sutherland, Hamilton & Goodman, 2007: 350).

❖ **Concluding statements**

- Academic achievement is influenced by classroom/clinical interactions between the student and the teacher. Therefore, the teacher characteristics and the student characteristics during the interactions are very important.

  Coupled with the teacher/ educator, clinical facilitator and student interactions, and the family involvement in the teaching and learning of the student, academic performance is determined. Based on this, the family need to play a supportive role to the student to enhance academic achievement. Interactions between the three will enhance retention-to-graduation.
- The teaching strategies, teacher behaviour and student behaviour during class attendance will determine the academic achievement outcome.
- The curriculum which is broken down into small units /modules will enhance academic achievement if the student engages actively, and studies adequately before examinations.
- If the students obtain a pass mark and become competent in clinical skills and client care then this would be described as an achievement for the student.
- Pressure from parents, legislatures, and business has given educators an increased incentive for improving academic achievement (Hess & Petrilli, 2006:1).

4.7 Educational Requirements Sub-Scale

The educational requirements sub-scale with 10 items was grouped separately from the rest of the items. This was separated because these items were measured on a 10 point scale of 1 (not at all confident) to 10 (totally confident). The respondents were to rate how confident in successfully carrying out the learning activities they were. The results of the data reduction exercise for these two sets of items are presented in Table 4.15. The three groups were tested for reliability and gave reliability coefficients of at least 80%.

Consequently, three variables were derived from the ten items as the arithmetic mean of the items within each group. Together with the seven factors identified earlier, the 49 items in the instrument were reduced to ten quantitative continuous variables and 12 stand-alone factors. The 12 stand–alone factors were further rotated into three categories namely; FE 1 Attendance; FE 2 Academic performance; and FE3 commitment to the learning Process. The three categories further described subcategories as presented in Table 4.20.

4.7.1 Classroom and clinical attendance

Table 4.20: FE 1 Classroom and Clinical Attendance (Cronbach alpha 0.84)

Factors: Attendance	Sub-category	P-value	Cronbach's alpha
Attendance	Attend all simulation skills laboratories	0.87	0.84
	Attend all lecture classes	0.83	
	Attend all clinical laboratories	0.81	

Class and clinical attendance (FE1) in the undergraduate nursing programme is important for one reason. It is an academic factor influencing retention-to-graduation and it is governed by specific national and state accreditation guidelines and a framework for attendance policies. Therefore, these attendance policies need to be strictly adhered to by all nursing students in the undergraduate programme. For instance, 85-100% attendance is expected from all nursing students. Nevertheless, despite the strict nursing programme attendance policies, students are allowed a maximum number of absences /or a maximum number of attendance hours with valid reasons. Attendance may be differentiated between the various nursing course components. For example, it is usually expected and prescribed how much time students spend for theoretical, clinical and or skills laboratory sessions.

In conjunction to class attendance, a ratio of 40% theoretical and 60% clinical experience has been debated; and some institutions find that the time is not enough and not equitably distributed. The SANC and the CHE have stipulations on the factor of attendance in each programme. Clinical attendance is a very important factor in undergraduate nursing programme as it assists in the correlation of theory to practice, and introducing the student to an environment where the use of knowledge, insight, skills and client care can be best observed.

The nursing students need to understand that unlike other students in the institution, their course deal with humanistic, caring and life-and-death component.

Jeffreys (2012:81) submits that absenteeism at clinical settings may render the nursing student underprepared and incompetent for client care. With limited opportunities to apply learning, students may be at a risk of failure, dissatisfaction, stress and that may put them at a risk for voluntary or involuntary attrition (Jeffreys, 2012:81).

Absenteeism from the programme is discouraged unless in the cases of sickness or family bereavement, in which case the student has to produce a sick certificate and a family responsibility leave of absence. Strategies for make-up of period of absence are in place for a student to cover up what they missed out during their period of absence. Therefore, nurse educators need to monitor strictly the attendance of nursing students in the programme. Intervention strategies that can offer appropriate interventions to reduce absenteeism and enhance academic achievement, satisfaction, stress reduction and retention-to-graduation through strict attendance are very important and necessary to identify early and support 'at risk' students (Jeffreys, 2012:83).

The results of this study showed variability on educational requirements because students come from diverse population backgrounds, diverse cultural backgrounds and diverse belief systems. Therefore, the student profile characteristics will have an impact on how the student perceives the academic environment and that will have an impact on retention-to-graduation of the student. For example, students are expected to present themselves for classroom, clinical, tutorial and mentor-mentee sessions. Thus, it is important for nurse educators to take note of student's attendance at classroom, tutorials and clinical settings. However, student's attendance does not guarantee active engagements in learning. Even if the students are aware of attendance policies, what matters is active engagement (what students do during classes or clinical laboratory sessions). Importantly, the utilization of their study skills such as note taking, reflective learning, asking questions, engaging lecturers meaningfully and listening actively are necessary for success of students. Out of frustration and disappointment at themselves, nursing students fail to graduate from the programme.

From the above discussion, academic achievement should be preceded by attendance, engagement and performance.

The nurse educators should identify students "at risk" of poor academic performance and academic achievement early in the programme if retention-to-graduation is anticipated.

Concluding statements

- Attendance as a dichotomous variable (present or absent) needs to be closely monitored because students may be physically present, but mentally absent. Such students do not benefit by being just present and but mentally away.
- Attendance as a spectator limits the potential of active engagement and learning and also the critical, analytical and reflective thinking that occurs with attendance as an active learner (Jeffreys, 2012: 83). Any omission thereof can result in students continually missing out on classes, submitting unfinished tasks, performing poorly in class and clinical settings.

4.7.2 Commitment to learning process

Table 4.21: FE3 Commitment to the Learning Process

Category	Sub-category	p-value	Cronbach's alpha
Commitment	Complete all computer programmes on time	0.76	0.81
	Review classwork after each class	0.76	
	Complete all assigned readings on time	0.75	
	Complete assigned papers on time	0.61	

The educational requirements sub-scale also shows whether the respondents complete all computer programmes on time, and whether they review classwork after each and every class; whether they complete all their assigned readings on time; and whether they complete all assigned tasks and papers on time. Nurse educators are continually challenged to appraise the influence of academic factors on retention-to-graduation. Tasks that are on computer programmes need to be closely supervised because if there are students among the groups that are not computer literate, there will be challenge of unfinished tasks.

On the other hand, inadequate computers and internet services where one finds a queue of students waiting to use the computers can demotivate students and can be a recipe for failure to graduate from the programme. Thus, nurse educators can assist the students to learn to reflect and comment on what has happened in class, at the labs and out of class. This will help them to learn to appreciate their work and understand their strengths and gain skills to deal with their weaknesses. One of the problems that lead to incomplete tasks is the issue of inequitable distribution of resources both material, human, and financial resources (Letseka & Maile, 2008:5). Some of the respondents cited the challenge of time constraint against the amount of work that must be covered.

Concluding Statement

- The in-depth exploration of each academic factor assists nurse educators in identifying areas of strengths and weaknesses of each student.
- A political will by government to support nursing education will bring relief to some of the challenges raised in this study.

4.8 Analysis of Variance (ANOVA)

The Analysis of Variance, popularly known as the ANOVA, is a statistical test that can be used in cases where there are more than two groups of variables. Since the programme of study had four categories, the appropriate method would be one way analysis of variance (ANOVA) which was carried out using the Kruskal-Wallis Chi-squared test. The Kruskal-Wallis test is the nonparametric version and was chosen because the variables under comparison were found to be violating the assumptions for parametric tests.

4.8.1 Comparisons between sites

The two universities that participated in the study showed variations in comparisons in terms of various factors as indicated in Table 4.22.

Table 4.22: Comparisons of Quantitative Variables between Study Sites

Variable	University 1	University 2	Mann-Whitney Z	p-value
Attendance	8.8	8.5	-1.50	0.1333
Performance	7.6	6.8	-3.40	0.0003
Commitment	8.1	7.9	-0.70	0.4782

According to the data in Table 4.22, a comparison of the extracted factors and performance scores across the two universities was carried out using the Mann-Whitney Z approximation. This method was chosen because the variables failed the test for normality which made the parametric statistical methods inappropriate. The results in Table 4.22 show that the universities significantly differ in terms of attendance; performance and commitment. University 1 performed slightly better than university 2 in attendance, performance and commitment.

Table 4.23: Comparisons of Quantitative Variables between Sites

Variable	University 1	University 2	Mann-Whitney Z	p. Value
Nursing student Resource Centre	3.7	3.2	-0.07	0.0001
Learning opportunities	3.2	3.2	-0.07	0.9431
Student Resource Assistants	2.9	2.5	-3.40	0.0007
Synthesized factors (Psychological, Physiological, Academic and Social Factors)	2.6	2.5	-1.50	0.1423
Family emotional support	2.4	2.4	-0.05	0.9623
Academic services	2.4	2.6	1.90	0.0569
Peer influence	1.9	1.7	-0.70	0.492

Table 4.23 showed slight difference between the 2 sites. For an example, university 1 performed better in terms of the nursing student resource centre than university 2, whereas there was no difference between these 2 sites in terms of learning opportunities.

In terms of the nursing student resource centre, university 1 performed better than university 2. Further, university 1 performed better in terms of the nursing student resource assistants than university 2. In terms of Factor 4 on family, there was no difference. In Factor 6 when the factors were synthesized into 4 groups, university 1 performed better than university 2. In terms of academic services, university 2 performed better than university 1. In Factor 8 peer influence seemed to be stronger in university 1 than in university 2.

Table 4.24: **Comparisons of Quantitative Variables (subjects/courses) between Sites**

Variable	University 1	University 2	Mann-Whitney Z	P.value
Community nursing sciences	67.8	67.9	0.03	0.9791
General nursing sciences	64.2	63.4	-0.80	0.4171
Psychiatric nursing	61.8	71.1	6.20	0.0001
Midwifery	57.9	66.8	6.00	0.0001
Dependents	3.1	2.1	4.40	0.0001

Table 4.24 shows that both sites performed well in Community Nursing and General Nursing Sciences. On dependants, it appears that university 1 slightly differs from university 2, whereas with nursing subjects, Midwifery and Psychiatric Nursing, university 1 underperforms than university 2. These results show that university 1 scored significantly higher on all the variables with the exception of performance in Midwifery and Psychiatric Nursing.

From the above analysis, these universities are almost performing well in terms of academic achievement to enhance retention-to-graduation. However, the inequitable distribution of educational resources can lead to disadvantages over the sites, if one site is more favoured or well managed than the other. Such conditions, would invariably affect retention-to-graduation in both sites.

4.8.2 Comparison: Across levels of study on academic factors

A comparison of quantitative values across levels 1 to 4 in both institutions yielded results as tabulated in Table 4.25. This was done for both campuses combined and within each campus. The results are provided below with p-values.

Table 4.25: Academic Comparisons across Levels of Study

Variable	First	Second	Third	Fourth	KW Chisq	p-value
Attendance	8.9	8.1	8.7	8.9	6.0	0.1111
Commitment	8.3	8.0	7.6	8.2	6.9	0.0740
Performance	7.3	6.9	7.0	7.7	6.0	0.1107
Nursing student Resource Centre	3.5	3.4	3.4	3.5	2.0	0.5744
Learning opportunities	3.4	3.3	3.1	3.1	5.5	0.1373
Student Resource Assistants	2.8	2.7	2.7	2.7	0.4	0.9400
Synthesized factors (Psychological, Physiological, Academic and Social Factors)	2.6	2.5	2.6	2.5	1.8	0.6144
Academic services	2.6	2.7	2.5	2.2	11.4	0.0097
Family emotional support	2.4	2.5	2.4	2.2	2.8	0.4158
Peer influence	1.8	2.0	1.7	1.6	5.3	0.1498

Table 4.25 shows that attendance was an important factor across all levels of study. However, first years and fourth years showed high attendance reporting rates (8.9), followed by third years (8.7), and finally second years (8.1). Performance was high amongst the fourth year (7.7), followed by first year (7.3), and third year (7.0). Second years were lower (6.9) compared to all the classes in performance. It is interesting to note that first years were the most committed level (8.3), followed by fourth years (8.2) and then second years (7.7). Third years were the lesser in commitment, although they still had good scores. In terms of the learning opportunities, first years responded more (3.4) than the second years (3.3). On the other hand, third and fourth years were the same (3.1).

The response on the importance of the nursing student resource centre was high among the first and fourth years (3.5) than the other levels which were the same at 3.4. With the student resource assistants, first years showed more response than the rest of the levels. This might mean that there is a need for more student resource assistants for first year level students. On the family emotional support, second year level reported more than all the other levels, and fourth year reported the least. Looking at the synthesized factors in this study, first and third years reported more factors than second and fourth year levels.

On the academic services, second years reported more than all the other levels followed by the first and third years. Meanwhile, fourth years reported the least. Peer influence was reported more by second year levels followed by first, third, and fourth year respectively.

In summary, nurse educators are the best positioned in monitoring and management of academic factors and must ensure that students understand their priorities to enhance retention-to-graduation. However, the support of nursing students by all the stakeholders is key if retention-to-graduation is to be achieved. On the other hand, a level of commitment from the student's point of view is imperative to enhance retention-to-graduation.

4.8.3 Comparison in subject performance and dependents across levels of study

Table 4.26: Comparisons in Subject Performance and Dependents across Levels of Study

Variable	First	Second	Third	Fourth	KW Chisq.	p. Value
CNS	68.8	68.5	65.4	70.1	5.1	0.1618
GNS	66.3	63.6	62.8	64.8	4.3	02285
PN	-	50.0	64.4	69.3	13.8	0.0010
MW	-	-	57.9	68.4	41.1	0.0001
Dependants	3.2	2.1	2.6	1.9	10.0	0.0185

The results in Table 4.26 show the undergraduate nursing programme is well managed by the students as reflected by the higher scores in Community Nursing Science and General Nursing Science respectively. Fourth years were rated highest (70.1) in Community Nursing Science followed by first and second years at 69% and the lowest score by third years (65%) scores. Dependents were reported more by first year level, followed by third year level. Second year reported more than the fourth year level. In nursing subjects, General Nursing Science was reported more by first years followed by fourth year level, second year and lastly third year level. The table also showed that Midwifery and Psychiatric Nursing are dependent on the level of study. Hence, first and second years do not do Midwifery and Psychiatry according to R425 guidelines.

The results show that academic commitment was found to be positively correlated with performance in Community Nursing Sciences. This means that the higher the commitment, the higher the academic performance and vice-versa. However, the psychosocial dimension was found to be negatively correlated with performance in Midwifery and Psychiatric Nursing. This means higher psychosocial scores were consistent with lower performance in Midwifery and Psychiatric courses.

The challenge of increased workload in the undergraduate nursing programme was mentioned. As much as there is very little that can be done about the workload in the undergraduate nursing programme, it is also advisable that nursing students acquaint themselves with the prescripts of the rule R425 of the SANC which prescribes minimum requirements for registration as General Nurse (Community, Psychiatric Nursing) and Midwife and the minimum hours for qualifying or completion of the programme.

It is also of essence that nursing students efficiently and effectively manage their time, because their curriculum is set to include all the key areas and competencies that they need to acquire to be quality nurse practitioners on completion of the programme. The suggestions for improving the quality of nurses include faculty support, as research indicate students with perceived faculty support had higher outcome expectations of earning an associate degree in nursing (Shelton, 2012:68) Thus, increasing faculty support and communication between academic staff and high school teachers about expectations in undergraduate education; altering the expectations of students coming into nursing programmes would enhance retention-to-graduation. Changes in high school expectations and criteria may be influencing the skills students have when coming into nursing school. Therefore, criteria for entry into nursing programmes may have to be revisited to have students that are prepared for the challenging workload.

Students' expectations affect their satisfaction and stress. If student expectations of the course do not match the reality, there is a higher risk of failure to graduate from the undergraduate programme. Students are often surprised by the amount of work, and the application of technical evidence-based knowledge to practice (O'Donnell, 2011:55). The other important aspects "are keeping up, not giving up, doing it, and connecting to the use of resources" (Williams, 2010:362).

Even though a mentorship strategy for retention was mentioned, the strategy has not been evaluated to see its effectiveness of increasing retention-to-graduation in the undergraduate nursing programme.

The analysis identified 8 dimensions, namely; educational resources, academic commitment, learning experiences, attendance, family support, learning environment (infrastructural) and psychosocial factors. Among these factors, academic commitment was found to be positively correlated with performance in Community Nursing Sciences. This implies that the higher the commitment, the higher the academic performance and vice-versa. On the other hand, the psychosocial dimension was found to be negatively correlated with performance in Midwifery and Psychiatric Nursing. This means higher psychosocial scores were consistent with lower performance in Midwifery and Psychiatric courses. The results show that Midwifery and Psychiatric Nursing are dependent on the year of study. According to the curriculum content R425 of the SANC, Midwifery and Psychiatric Nursing science studies are done at 3rd and 4th year level of study (SANC R425).

4.8.4 Item 7 – Open-ended Questionnaire: Description of Results

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Student feedback was essential for meeting future students' needs. As such the respondents were requested to answer the open ended questions on this section as honestly as possible:

Table 4.27: Why did you undertake to follow a nursing degree programme (n=180)

Response	Number	Percentage
Nursing is a career that helps the sick	102	56.66%
Not my career choice	29	16.11%
Nursing "a well- paying job"	28	15.56%
nursing as a *"secure job"*	21	11.67%
Total	180	100

When respondents were asked "Why they chose to follow a nursing degree programme, they responded as follows: 172 (48.86%) did not answer this question whilst 180 (51.13%)

respondents gave different feedbacks on the question as: 102 (56.66%) responded that they chose nursing because "nursing is a career that *helps the sick*; 29 (16.11%) said nursing was "*not their career choice*"; 28 (15.56%) responded saying nursing "a *well- paying job"*; whilst 21 (11.67%) saw nursing as a *"secure job"*. These results are in line with the round table discussions and seminars that NEI's academics experience.

Most people have attested to the nursing still being taken as a noble profession as opposed to those that merely see it as a paying job.

When asked "In your opinion, how could retention-to-graduation of nursing students be enhanced in the undergraduate nursing programme; 52 (14.77%) respondents did not answer the question. 300 (85.22%) responses ranged from "need for support" of the programme 146 (41.45%); 124 (35.23%) "*Financial aid or bursaries*"; 45 (12.78%) "Increase in the time to complete the programme" and 19 (5.4%) was *"need for more accommodation for students*" and 16 (4.55%) cited too "*much work overload"*. These results are in line with what Dlungwane (2017:111) and O' Donell (2011: 55) found in their studies, where workload was often associated with failure to graduate and the expectations that students have about a nursing programme which often leaves them stressed when they cannot meet the standards for success (O'Donnell, 2011:56). The need for financial support for students in the undergraduate programme is a cause for concern as some of the students come from poverty stricken backgrounds (Letseka & Maile: 2008: 8).

The other question asked was: What are the needs of undergraduate nursing students during their training to enhance retention-to-graduation? The responses were as follows:

The majority of respondents 96 (27.27%) needed more support with the teaching strategy problem –based learning (PBL). Some of the respondents 76 (21.59%) needed more time to complete their study; whilst 70 (19.87%) stated the need for financial support and even qualified this by reason for *food and uniform*. On the other hand 34 (9.66%) respondents also cited the time constraints for clinical exposure, which they complained it is short and that it makes correlation of theory to practice to be difficult. The other 34 (9.66%) did not answer this question.

The issue of *relationships* between the academic staff and students as a need to enhance retention-to-graduation was mentioned by 12 (3.40) respondents, whilst 10 (2.84%) mentioned *too much workload* and a need to reduce workload; another 10 (2.84%) of the respondents cited

a need for *more resources* to be allocated and 10 (2.84%) cited a need for *positive attitudes from academic and clinical staff*. As we can see from the above results the undergraduate nursing programme is fraught with complex needs to enhance retention-to-graduation.

On a question of what strategies could be used to enhance retention-o-graduation, the respondents reacted as follows: Majority of respondents 180 (51,14%) cited their need for funding stating that NSFAS does not meet with their needs for *food and upkeep* even mentioning a need for *uniform allowance*. It is important to note that, most of the communities around these universities are from rural and remote areas with low socio-economic background and some of the respondents in this study are from such background as cited by Letseka & Maile (2008:5).

Another sizable number 120 (34.09%) of respondents felt that the recruitment and selection of nursing students should be only the "*ones who are hard- working… passionate and who really want to be nurse; not dodging the clinical".* This statement was alluded to by researchers Rodgers *et al*., (2013:1302) on the recruitment and selection of high quality student nurses for the undergraduate nursing programme. On the other hand, as it was discussed in Chapter 1, some of the strategies for retention included revamping and reconstruction of old and new classrooms; offices and changing strategies of teaching from traditional to problem-based learning, introduction of peer mentorship programmes, and community-based education. These were to create a self-directed learning and develop critical and analytical thinking skills in students.

Some 50 (14.20%) respondents mentioned that the programme is very *busy and must give breaks and holidays like other students.* Twenty (5.68%) respondents did not answer this question. According to R425 of the SANC, the programme runs over 4 academic years with minimum prescribed 480 credits which make the programme not accommodative for flexible time frames as the respondents perceived it. However, more research into this is necessary. When asked what could be done to enhance retention-to-graduation of nursing students, almost all respondents in the study 254 (71.16%) mentioned *support and additional funding* .as a necessity; whilst 98 (27.84%) cited *improvement in relationships* and *extra- curricular* activities.

According to Tinto (2012:1*),* the classroom attributes such as clear expectations, timely support, feedback on assessment, engaging instructions and improving teaching skills, are

universal and are transferrable across national boundaries and applicable to higher education educators, leaders and policy makers globally. Thus health promotion programmes to support positive behaviors are necessary to enhance retention-to-graduation of nursing students as well (Government Gazette august 1997:7).

When asked about "in your opinion what do you think can be improved in this programme;" 335 (91.17%) cited Programme being '*overloaded and does not give time to socialise like other students,* while 10 (2.84%) cited that the programme is *ok as it is* and 7 (1.99%) said *don't know'*. This comment has been cited repeatedly, but, nursing students in this programme have a regulation that prescribes the successful completion of the programme and how it can be delivered. However, support is pivotal in achieving the desired outcome of this model.

4.9 Data Analysis: Description of Results

This study, aimed at developing a model for retention-to-graduation of nursing students. The results indicated that the successful completion of an undergraduate nursing education programme is complex, and that it is fraught with numerous barriers such as lack of support resulting to poor academic performance. Lack of commitment, financial constraints, and unpreparedness for higher education were among the leading reasons why respondents thought many students fail to graduate from the undergraduate nursing programme. The following factors have been identified to be associated with retention-to-graduation in undergraduate nursing programme.

The respondents perceived that nursing was not their career choice, while others reported problems of time management, overwhelming clinical setting; lack of insight into nursing and its demands; lack of breaks or holidays; stress resulting to ill-health and attitudes of lecturers and clinical staff. These results are in line with previous researchers citing diverse barriers to success and graduation, of which financial constraints, inadequate emotional and moral support, insufficient academic advising, and professional socialization (Loftin, Newman, Dumas, Gilden & Lou Bond, 2012:1; Roos *et al.*, 2016:6) were among the leading barriers to academic success and retention-to-graduation.

Sometimes, it happens that one enrols in a nursing programme, but it was not their career choice. In the plight of unemployment and poverty in areas like the Eastern Cape Province, which is vast and rural with no enough facilities, one gets many of the working force who lament that, the careers they followed are not what they anticipated to be, when they were

young. In the nursing context, conditions of poverty lead to many students choosing to pursue nursing because it is the only profession that gives stipends during training.

Therefore, the stipend becomes a motivator or as a quick fix to solve poverty issues of their families' low economic status. That being the case, some students have persevered and made success of the profession, but others have taken that reason to be a contributory factor to fail to graduate in nursing programme. Most of these students look at the immediate benefit of the profession and when they take the demands of the programme itself into consideration, and the demands of the profession, some struggle to go through. Thus, when they fail to stand up to those demands, they fail to graduate from the programme.

Through the media and social networks reports on the shortage of nurses in the health services, the institutions of higher learning have widened the access in response to training of more nurses. That has attracted majority of qualifying young people to come to the universities to be trained as nurses. In America, one reason for gross shortage of nurses was the insufficient number of students entering nursing trainings (American Association of Colleges of Nursing [AACN], 2012a). Nursing schools cited insufficient number of nursing faculty, lack of clinical placements and shortage of classroom space as the major reasons for turning away of qualifying applicants (AACN, 2012:1).

In South Africa, even though there are almost similar challenges with the training of nurses, the number of students wanting to be trained as nurses have increased in the last decade (South African Nursing Council Statistics, 2015:1), and the transformation of nursing education has undertaken the restructuring and revamping old structures and built new ones, purchasing of equipment and appointments of new staff to assist with strengthening of the programmes and clinical platforms in order to enhance retention-to- graduation.

Literature has also highlighted on students' academic unpreparedness and their inefficiency as far as adequate time management skills are concerned (Hinsliff-Smith, Gates & Leducq, 2011: 30). It was not surprising to find respondents who report that nursing was not their career choice 10 (5.46%). This has been supported by various researchers.

For example, the majority of nurses from the United Kingdom, the Irish Republic and some of nurses from South Africa reported earlier that nursing students in the undergraduate nursing programme possess insufficient knowledge and understanding of what is contained in the undergraduate nursing programme, what the nursing profession expects from its practitioners

and thus they just found themselves in a profession that was not of their career choice (Cook, 2010:12; O'Donnell, 2011:58; O'Halloran, 2009:online; Wright & Maree, 2007:597).

However, some have developed a passion for it along the way and have found it to be responsive to their family financial burdens because of the stipends they get during training. Another worrisome result from this study is the issue of the perceived attitudes from the academic staff. Sinacore & Lerner (2013:80) and Urwin *et al*., (2010:2002) also identified societal, educational and psychosocial obstacles facing immigrant undergraduates. In classroom settings, respondents blame their educators for inadequate performance, assessment methods, teaching strategies used in preference of the lecture method and the attitude they get from the educators if they complain about the assessment results. The teaching styles of the educators make this worse, especially if the communication is not in the student' first language (Cameron, Roxburgh, Taylor & Lauder, 2011:1373; Park, Perry & Edwards, 2011:38; Wright & Maree, 2007: 597).

The teaching strategies used are geared towards developing reflective, self-directed and actively involved learners who are critical, analytical thinkers, innovative and capable of developing problem solving skills. Thus, it is of essence that nurse educators empower the nursing students to develop these skills using a variety of teaching strategies including problem based learning, community based education, and case based methods of teaching which will ultimately assist the students in achieving their goals. As much as these are innovative strategies in teaching and learning, without a caring attitude from both parties, the desired outcomes of retention-to-graduation may not be achieved.

In a study by O'Donnell (2009:745), unrealistic student expectations of nursing preparation programmes were a significant factor in later decisions to voluntarily withdraw from the programme. In the clinical laboratory environments, nursing students reported that they are "overwhelmed" by the visuals of patients. It is not surprising for nursing students, especially first year level to find clinical setting overwhelming because some of them are getting exposed to such environments for the first time.

Thus, services of sensitive understanding clinical facilitators and preceptors for mentoring the student become vital to ease the frustrations of those experiences.

Another strategy that was found working in previous studies was peer mentorship, where senior students were to mentor junior ones (Baker, 2010: 216; Nkutu & Seekoe, 2013: 51).Support in

terms of family, peers and loved ones was also mentioned as an enhancer of success especially for the first generation students in the programme. All students do need some level of support to ease integration and transition as they enter the academic environment (Tinto, 1975:120). Therefore, personal commitment and good support in mentorship seems to be essential for students to remain in undergraduate programmes of nursing and midwifery (Baker, 2010:216).

Clearly, in this study, the respondents pointed that adequate support is imperative to enhance retention-to-graduation. This was supported by the other respondents who mentioned the need for adequate resources including funding. Direct faculty interaction and mentorship was mentioned by a few of the respondents. In my view, these variables (support, resources and funding) are intrinsically linked together. One cannot exist without the other. For retention-to-graduation to be achieved, all of them have to be in place.

Escalating costs in higher education remains a grave concern in South Africa, making higher education unaffordable for many students, and creating difficulty for graduation (McLachlan 2010:online; Wright & Maree 2007:601). Thus, government and non-governmental bodies need to offer added support to higher education. These are fundamental and a necessity for the success of nursing students.

Therefore, there is a need for methods of assessing inefficiency in higher education institutions. One of those methods is analysing the total number of undergraduate students entering and exiting the public university system on an annual basis (Cloete *et al*., 2016:2). The Higher Education Management Information System (HEMIS) show that the total undergraduate enrolments in South Africa's public universities grew by 194 000 in 2013 compared to 2006, with less than 10% of the growth among first time-entering undergraduates. The average annual growth rate for first time-entering undergraduates between 2006 and 2013 was only 1.7%, compared to an average annual growth rate of 4.7% for the category of undergraduate students who had previously been in the university system. Thus, inefficiency in higher education institutions needs to be closely monitored.

Baker (2010:216) and Crombie *et al.* (2013:1283) found that mentorship programmes tended to be facilitators of success for undergraduate nursing students. A well planned and well managed mentorship programme can enhance retention, success and graduation of undergraduate nursing students (Nkutu & Seekoe 2013: 174). The transition from being a high school learner to being a nursing student and to being a professional practitioner requires

effective planning and active participation by the student, the educator, mentors and the clinical facilitators. The development of a more formal mentorship and socialization programme will provide a conducive environment which is safe for students to be able to reach their potential as they reach out to the available mentors and faculty advisors. The majority of the students in the current study were under age of 25years and they needed to be mentored in order to develop in their career choices and continue to add value to the profession of nursing. On the other hand, a greater number of older students are entering the higher education institutions worldwide. For instance, notable increase is reported in United Kingdom, United States of America, Australia, and Ireland (Jeffreys, 2012:25; O'Brien, Keogh, and Neenan, 2009:638). Whilst this is so, elderly students continue to struggle with the academic component of the course; but some develop resilience and through persistence they make it to graduation. Hence, age maturity was seen as a predictor of success by Jeffreys (2012: 26).

Academic preparedness from the students' perspective became a concern as they find the course challenging, difficult, and not what they had expected it to be (Andrew *et al.,* 2008:865; Anonson *et al.,* 2008:274). However, a study by Beauvais *et al.* (2014:918), concluded that academic success and emotional intelligence together with resilience and psychological empowerment are important in predicting retention-to-graduation in undergraduate nursing programmes. The majority of research studies found study groups and direct interaction between nurse faculty and students as predictors of success (Dapremont, 2011:255; Igbo *et al.,* 2011: 375; Jeffreys, 2007a:161).

The results of this study concur with other studies in as far as student characteristics like age and gender are important predictors of success in nursing programme (Bosch *et al.,* 2012:90; Cameron *et al*., 2011:1373; Dapremont, 2011:255 ; Dante *et al.,* 2013:46; Eick *et al.,* 2012:406; Hinsliff-Smith *et al*., 2012:31; Jeffreys, 2012:26). Aggressive steps to monitor throughput in the age group below 25 years are necessary.

There has to be specific programmes to keep them actively engaged in their studies, interesting activities to socialize them into the profession, like community engagement, debates, group interactions and visits to the South African National Resource Centre for the first year experience and students in transition (Van Zyl, 2015:online).

Whilst nurses are indispensable in the provision of effective quality health care outcomes, if they are not supported during their education and training, and if failure to graduate rate is not

reduced, the goal of "a long and healthy lifestyle for all" will not be reached in South Africa. The previous studies have indicated that there are a variety of factors that are associated with failure to graduate and retention-to-graduation of nursing students worldwide as well as enough reasons to substantiate why students fail to graduate from the programme. Researchers have frequently cited financial issues as negatively affecting students' studies and a source of stress for nursing students (Andrew *et al.,* 2008:867; Fowler & Norrie, 2009:1195; Montgomery *et al.,* 2009:35). These findings are in line with previous studies conducted by Letseka & Maile (2008:5) on the issue of poverty and financial constraints. It is worrisome to note that the reviews revealed that most students were from poor background with no source of financial support because parents earned between R500 and R1600 per month for the whole household. The greater number of these students was from predominantly black populations in South Africa and suits to believe that they are also affected by issues of poverty and financial constrains (Roos *et al.,* 2016:5).

This is not strange for the Eastern Cape Province which is very rural and hard hit by unemployment, because the majority of families in the communities were supported by mineworkers who majority were retrenched due to industrial revolution and ill health. Some of the people live on wood cutting for their living and selling of fruit and vegetables. This study also supports the notion that poor retention is related not only to student ability, but also to a lack of necessary support, intervention by faculty, beginning with the admission process and continuing throughout the curriculum (Baker, 2010: 218).

The Council on Higher Education (CHE) has identified inequities in Higher Education. Reducing these inequities in higher education is a call which must be responded to by government and private sectors as a matter of urgency, if high graduation rates are to be realized in South Africa.

Throughout nursing programmes, activities which encourage professional integration must be planned thoughtfully and introduced to students. The faculty must be caring, available, empathetic and supportive towards students, together with strong peer and tutor – student relationships, if effective retention and increased graduation is to be achieved (CHE, 2007:1).

4.10 Chapter Summary

The findings have confirmed that nursing students in the undergraduate programme are challenged by their lack of perseverance and commitment to their learning process; stress,

inability to cope with the academic demands of higher education; health and sickness; lack of integration into the academic environment; lack of support, and inability to cope with the demands of the clinical environment. However, the majority of students do make use of the various retention strategies offered to them in the form of mentorship programmes, student counselling services and academic advising.

In this study, I argue that any form of education takes place successfully when relationships among people are engaging and mutually supportive of one another. This point is substantiated by Tinto's (1993:2nd ed.) Student Integration Model (SIM) which endorses that, students who strongly identify with the institution's internal characteristics will succeed, and those who do not will fail to graduate from the programme. Since the findings point to a number of factors to failure to graduate, there is a need for retention models in the undergraduate nursing programmes to developed and implemented. Unless collaborative efforts are made, it seems that failure to graduate from the nursing programme and retention-to-graduation will always be issues of ongoing debates in South Africa. Institutional support which inculcates the values which are pillars of nursing for both the student and educators is necessary with sufficient condition to improve student retention-to-graduation. Thus, following the analysis in this study, caring and commitment to the learning process should also be enhanced.

Based on these results, the conceptual framework for retention-to-graduation of nursing students will be developed in the next chapter.

CHAPTER 5: A CONCEPTUAL FRAMEWORK FOR RETENTION-TO-GRADUATION OF NURSING STUDENTS IN THE UNDERGRADUATE PROGRAMME

5.1 Introduction

The previous chapter presented empirical data on retention-to- graduation of nursing students. The researcher conducted a descriptive analysis of retention of nursing students as described in Chapter 1 and Chapter 4. The identified factors were classified under the context, outcome, stakeholders, structure, process and the underlying dynamic of retention. A concept analysis was conducted to identify concepts underlying retention-to-graduation model for nursing students in the undergraduate nursing programme. This chapter focuses on the development of a conceptual framework for a model for retention-to-graduation of nursing students in the undergraduate programme. A framework is a set of highly abstract, related constructs and it broadly explains phenomena of interest, expresses assumptions, and significantly reflects a philosophical standpoint (Chin & Kramer, 2011:9 & Meleis, 2012:1).

In this study, a framework was deduced through the identified factors that were indicative of a relationship between the dependent an independent variables and that explained factors associated with retention-to-graduation of nursing students in the undergraduate nursing programme.The need for retention-to-graduation of nursing students in the undergraduate programme is discussed according to the adapted survey of Dickoff *et al*., 1968 in Murray (2017: 106). The list comprises the agent, recipient, context, dynamics, process and terminus. The concepts underlying the retention-to-graduation of nursing students in the undergraduate nursing programme were identified and conceptualized through the results of chapter 4. The researcher discussed various concepts related to the main concepts of nursing student retention-to-graduation. Lastly, relational statements derived from this discussion will be postulated.

The initial factor analysis of the data in Chapter 4 analysed important concepts relating to retention-to-graduation of nursing students in the undergraduate nursing programme. The researcher further identified essential attributes of the concepts of retention-to-graduation of nursing students.

The factors are the essential attributes of the central concept of retention-to-graduation of nursing students. The identified factors for retention-to-graduation of nursing students in the undergraduate programme will be discussed according to Table 5.1.

5.2 Description of Concepts

5.2.1 Retention-to-Graduation of Nursing Students

The objective of concept analysis is to identify, describe and classify the concepts that will be utilised in model development, and forms the first step in theory development. According to Walker *et al.,* (2011:157), concepts are the basic foundation in theory construction, which must be solid and strong to be able to uphold the structure of the theory. Concepts contain within themselves the attributes or characteristics that make them unique from other concepts. Burns and Grove (2005:12) support the notion that concept analysis is a strategy that identifies a set of characteristics that are essential for the conceptual definition of concepts. The factors underlying retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape Province, South Africa will be reflected in Table 5.1.

5.2.2 Support in Retention-to-Graduation

The initial descriptive analysis of data in the previous chapter revealed important concepts in retention-to-graduation of undergraduate nursing students. The factors that emerged from the findings were academic factors, physical/physiological factors, social, psychological factors, politics, and economic factors. These factors informed the recommendations for the development of the retention-to-graduation model.

After synthesis of the results in Chapter 4, the nursing student retention-to-graduation, the context of nursing education, support and commitment were identified as important concepts in this study. The initial factor analysis was further conducted to identify the essential attributes of the concept retention-to-graduation.

Table 5.1: Support as a Concept in Retention of Nursing Students

Factors	Category	Sub-category
Academic Factors • Classroom and Clinical attendance	Academic support	Resources, Programme, Academic services, resource centre, encouragement in class
• Academic performance and achievement		Self-efficacy, Self-control, resilience
• Commitment to learning process		Self-determination persistence
Physical/Physiological factors	Social support	Nursing students' characteristics Personal profile, Values, beliefs, State of wellness
Social and psychological Factors, • Transition, Social integration, Professional Integration, Family support, Friends and peers influence, encouragement support		Professional events, membership affiliation, Family support, Peer support, Professional integration, social integration, Friends and peer influence , encouragement,
Political & Economical factors • Environmental, Financial support	Commitment of Stake-holders: DHET, DOH, ETQAs (SAQA, SANC) Environment	Support:- funding, scholarships, bursaries, loans Strike actions

Table 5.1 presents the factors that impact on retention-to-graduation which were identified in chapter four. The factor analysis identified multidimensional factors for retention-to-graduation which were classified according to the context of nursing education. In this study, the concept support has been central in enhancing retention-to- graduation of nursing students in the undergraduate programme.

The empirical studies on the concept of retention-to-graduation were confirmed by the findings obtained in chapter 4 of this study. Generally, support is provided by family members, significant others, friends, school or work peers, and nursing faculty. Support is intended to encourage and promote a sense of self-worth or contribute to feelings of love, fulfilment, affection, attachment or acceptance. This support may take the form of encouraging words from a heartfelt conversation with a close confidant, a casual conversation with an acquaintance or from a chance encounter with a stranger. This concept is subcategorized into academic support, social support, psychological support, professional support, and economic and political support. The concept has been pivotal between:

- Academic support (classroom and clinical attendance, resources, programme, academic services, resource centre; academic performance, achievement and commitment to learning process).
- Physical/Physiological (personal profile characteristics).
- Social and psychological support (affective factors e.g. culture, values & beliefs; transition, social integration, professional integration, professional events, membership encouragement in class; family support and friends/peers, environmental (friends / peers encouragement, motivation & support); and
- Political and economic factors (financial support).

The factors emanate from various contexts and the current situation within an environment in which nursing education in South Africa exists and operates. These factors have been discussed in the literature and are pivotal around the need for support and commitment from all the role-players to enhance retention-to-graduation.

5.3 Academic Support

Academic support involves or commences with the curriculum. In South Africa, the SANC supports academic endeavours by approving all curricula pertaining to training of nursing students in all the different categories of nursing institutions. It is important therefore, that this curriculum meets the diverse needs of the very students it is designed for. Respondents in this study complained that the curriculum was overwhelming.

They lamented on inflexibility in time frames as there was “no free time for their personal life engagements”.

For instance, they complained that they do not have "breaks or holidays;" this is because even during recess, the nursing students have to be in clinical laboratories or in the wards. Therefore, the nursing students have to be informed and orientated to the minimum requirements of the programme they are engaging with.

The SANC makes these prescriptions in the rules and regulations. However, the NEI's decide how to shape their individual curriculum, whilst aligning it to the requirements of the SANC (R425 of the Nursing Act No. 33 of 2005). This curriculum comes with specifications as to how it should be delivered. For example, a 4 year bachelor degree requires a minimum of 480 credits which must be split between the theoretical content and clinical hours. Anything below these does not qualify anyone to be granted or conferred with a degree.

- **Attendance**

The 60% of theoretical exposure and the 40% exposure to clinical settings is compulsory for nursing student to qualify for the degree. The SANC requires that all nursing students spend time in classroom for theory and thereafter move to clinical laboratory or clinical facilities to correlate theory to practice. The purpose of this arrangement is for empowering students to gain skills and competences that make them qualified nurses and midwife. The competences they gain allow them to be independent practitioners and competitively marketable in the health facilities of South Africa and abroad. Thus, institutions must consider efforts that understand schools and classrooms as systems to preserve the integrity of the educators, classrooms, or schools that are the focus of change (Gustello & Liebovitch, 2009:1). Conclusively, academic support is central to NEIs' obligation to provision of qualified nurse practitioners and promotion of retention-to-graduation of nursing students.

5.3.1 Academic achievement

Academic achievement assesses whether the students have studied adequately before examinations, and whether they obtained a pass mark for theoretical and clinical examinations. Academic achievement depends on a number of variables that influence student's retention-to-graduation. For instance, it is influenced by classroom/clinical interactions between the student and the teacher. The teacher characteristics and the student characteristics during the interactions are very important.

The teaching strategies, teacher behaviour and student behaviour during attendance will determine the academic achievement outcome. The curriculum which is broken down into small units /modules will enhance academic achievement, if the student engages actively, and studies adequately before examinations. Academic achievement is realized if students obtain a pass mark and become competent in clinical skills. Pressure from parents, legislatures, and business community have given educators an increased incentive for improving academic achievement (Hess & Petrilli, 2006:1). Academic achievement should be preceded by attendance, engagement and performance. Nurse educators should monitor attendance, identify students at risk of poor performance and academic achievement earlier in the programme if retention-to-graduation is anticipated.

5.3.2 Academic performance -tasks completion (Commitment to learning process)

The educational requirements sub-scale also measured whether the students complete all assigned tasks, papers and computer programmes on time, and whether they reviewed classwork after each and every class. On this matter, some students expressed challenges in regard to time constraint and as a contributory factor to poor performance. The findings in this study revealed that, classroom and clinical attendance; academic performance and achievement and commitment to learning process as variables that impact on retention-to-graduation of nursing students. Researchers have cited academic performance as a predictor in student retention-to-graduation from the programme (Benn & Pacquiao, 2010:26; DeLapp, Hautman & Anderson, 2008:295; Gilchrist & Rector, 2007:277; McEnroe-Pettite, 2010:80; Sutherland, Hamilton, & Goodman, 2007:211).

Nurse educators are continually challenged to appraise the influence of academic factors on retention-to-graduation. In-depth exploration of each academic factor assists nurse educators in identifying areas of strengths and weaknesses of each student. Any omission thereof can result in students continually missing out on classes, submitting unfinished tasks, performing poorly in class and clinical settings. Out of frustration and disappointment at themselves, nursing students fail to graduate from the programme.

Tasks that are to be done in computer programmes need to be closely supervised because if there are students who are not computer literate, challenges of unfinished tasks will be found.

On the other hand, inadequate computers and internet services can demotivate students, thus becoming a recipe for early departure from the programme.

The nurse educators can assist the students to learn to reflect and comment on what has happened in class, at the labs and out of class. This will help them to learn to appreciate their work and understand their strengths and gain skills to deal with their weaknesses. One of the problems that led to incomplete tasks is the issue of inequitable distribution of resources like computers and library resources.

Under prepared students with poor study habits, do not see value in assignments and courses. Poor academic performance, work load, lack of educational and career goals, and the feedbacks that is too little and too late were associated with retention-to-graduation of nursing students. Therefore, clinical and the classroom or tutorials sessions, monitoring academic performance and achievement from the first quarter of the academic programme commencement and how far committed nursing students are to their learning process should be undertaken. All universities have general academic services specifically designed to assist students with their academic goals. It is the students' perceptions of these services that most strongly influence retention-to-graduation of the programme. If students perceive the lack of adequate academic support, failure to graduate will increase despite the presence of academic services. According to Jeffreys (2012:84) retention-to-graduation will be enhanced if academic support services follow a student centred rather than an institutional-centred philosophy.

This means that students' academic services must be accessible and convenient to all students. General academic services that are convenient, accessible and helpful to students will encourage more active use of these support services. Therefore, it is necessary to assess the nursing students' perceptions concerning general academic services (Tinto 1997 in Jeffreys, 2012:85).

5.3.3 Supportive academic environment

Another major challenge identified by the study was overwhelming clinical environment as well as attitudes of academic staff and heavy work overload with limited time to master it. All these have been perceived by participants as impacting negatively to retention-to-graduation of nursing students from the undergraduate nursing programme.

Previously, researchers have pointed out that a supportive academic environment is important to the recruitment, and retention-to-graduation of nursing students, faculty and staff (Bowman, Olson & Profetto-McGrath, 2017: 1). On the same breadth, academic nurse leaders also view a supportive academic environment as enjoyable and conducive to career development. This is also true for undergraduate nursing students. When there is lack of respect in the academic environments, whether in the residences, classroom or clinical settings, that can have permanent and disturbing effects on students, performance. Perhaps, this could result to increased nonattendance, separation, poor academic performance, increased sickness and eventually failure to graduate from the undergraduate nursing programme (Clark, 2013:98).

Researchers concur that one way to address and improve the workplace within the academic nursing settings is by establishing a committee that works together with students, faculty members, and staff to foster a gratifying, strong academic environment (Fontaine, Koh & Carroll, 2012: 557). As Cavanaugh (2014:33) puts it, a "psychologically unhealthy work environment leads to higher levels of absenteeism, sick-leave usage, short and long term disability claims and turnover". Therefore, a supportive academic environment will enhance retention-to-graduation from the undergraduate nursing programme and it should be nurtured at all cost.

5.3.4 Personal study skills, hours, library services and transportation services

Personal study skills refer to specific study skills (reading and writing skills, note taking, preparing papers, studying for examinations, reading notes, listening in class), attitudes about the responsibility for study activities, time management and organization, and effort expected within academic pursuits (Jeffreys, 2012:86). In this study, the students' personal study skills, study hours, library services are all directly linked to academic factors. This study revealed that most students are challenged in the utilization of these skills. This is where the services of mentors and preceptors become important. Researchers have alluded to the fact that personal study skills affect retention-to-graduation through academic performance and psychological outcomes (Dante, Valoppi, Saiani, & Palese, 2011: 60; Jeffreys, 2012; 79).

In this study also, the respondents mentioned the challenges of inadequate resources in the library, problem with distance to the library and transportation services to and from classes and or library. Thus, there is a dire need to ensure that resources are adequately and equitably

distributed in HEIs. That also warrants a dedicated transportation services to and from classroom and clinical settings.

Beginning nursing students may experience challenges with personal study skills and need advising and support to cope. Therefore, nurse educators must make a priority to identify all the students with challenges of study skills and assist them with time management. Prior successful study skills may need to be revised to meet special demands of the nursing programme, because they may not bring about the same successes when it comes to the undergraduate nursing programme. Therefore, guidance and self-appraisal is very necessary for beginning nursing students. Self-appraisals are usually based upon the students' prior academic experience and performance in terms of successes and failures (Jeffreys, 2012:87).

5.3.5 Academic services and academic goals (Cronbach's alpha 0.38)

In academic services, the strategies to assist students to realize their academic goals are of great importance. These strategies include the availability and utilization of library services, counselling units and computer laboratories. Academic services are perceived as enablers in supporting students in their goal realization. The lack of these essentials together with the other necessary support of faculty and staff, then failure to graduate from the programme increases. Therefore, retention-to-graduation will be enhanced if academic support follows a student-centred rather than an institutional-centred philosophy. This means that, student academic services must be available, adequate, accessible and convenient for all students (Jeffreys 2012:84).

Researchers are of the opinion that counselling services in an institution of higher learning are beneficial to students' academic and psychological outcomes (Lee, Olson, Locke, Michelson, & Odes, 2009:204). Students who perceive services to be valuable will expend greater effort in using them. Greater and comprehensive use of support services together with other academic factors have a positive influence on retention-to-graduation by enhancing academic and psychological outcomes.

For example, maximising use of various library services appropriate to course objectives can help with improved study skills and academic integration, thus enhancing retention-to-graduation.

Higher education literature reports that, counselled students have higher retention rates than non-counselled students (Lee *et al.*, 2009:204). It is expedient therefore, that nurse educators assess if students perceive the individual service to be valuable, important to academic achievement; positive psychological outcomes and retention. They should survey the frequency and the duration; evaluate whether the services are convenient and accessible in terms of time and financial status for both the student and the educator point of view; and they also should survey the frequency and duration of services used (Jeffreys, 2007:164). This is especially important in institutions where there is unequal distribution or scarcity of resources.

The support for undergraduate nursing students was identified as an essential overarching concept for retention-to-graduation in nursing programme. The support may be provided by anyone with whom the nursing student interacts with. Retention-to-graduation can be effective if all the stakeholders partner and collaborate in support of nursing students in the nursing academic programme.

5.4 Physical/Physiological Factors (0.78)

Physical or physiological factors that have an impact on retention-to-graduation have been reported in the literature. Among the reasons cited are stress out of the heavy workload on the programme, the difficulty of the programme, lack of family support, the needs of dependants and lack of support have had impact on the physiological status of students (Dlungwane, 2017:113). On a very serious note, the issues around the scourge of HIV and AIDS and TB in the workplace were other sub-factors that impact on retention-to-graduation (Roos *et al*., 2016:7). These were noted as a cause of discomfort and sickness for the undergraduate nursing students. The fear of contracting these viral infections / communicable diseases influenced the failure to graduate from the programme. Therefore, the need for social support of nursing students in the undergraduate programme becomes imperative to enhance retention-to-graduation.

Diversity in student personal profile characteristics exists in various forms and can impact on retention-to-graduation. As it was discussed in chapter 4, the students' demographics, educational and family backgrounds are some of the variables that can impact on retention-to-graduation. However, nurse educators must assess each student individually to determine special students' needs and strengths. The variables such as language, gender, age and culture can interact with one another and provide information that would lead to identification of

students at risk of completion and graduation (Jeffreys, 2012:32). This is where the services of the academic staff, family and peers come into play.

Academic staff, family and peer support is the system in which important values, norms, attitudes and patterns of behaviour are formed. This can pretty lead to involvement and engagement of these parties in support of retention-to-graduation (Tinto, 2012:4). An important protective factor is the system of social relationships and social support that a family provides, which is the social investment of the family (Tomcikova *et al*., 2009:202). The life issues related to personal profile, child care arrangements, insecurity about financial circumstances, job and school time conflicts, home and family difficulties, personal problems, health problems, and tertiary can also impact on retention- to-graduation of nursing students. Family support and peer-support can also play a pivotal role in retention-to-graduation of nursing students (Levitz, 2014:202).

- **Nursing as a career choice**

In chapter 4 of this study, it was revealed that some respondents associated the failure to graduate from the undergraduate nursing programme to career choice. This is because career choice would lead to persistence on the course until completion or dropping out. In this study, some students reported that they just found themselves in the profession. There are many people who are in the jobs and positions that they never thought they would be. The main reason for choosing any career is passion for the work. A person who chooses a career in nursing should love to care for and work directly with people, despite the many challenges a job like this can present. The faculty can be of assistance and support in this case during career guidance and marketing sessions of the programme to inform prospective candidates on the several reasons why nursing as a career is needed in job market. Some of those reasons are:

- Nursing shortage: This problem is expected to intensify over the next 15 years. “Baby boomers” are aging and with the growing elderly population (coupled with people living longer) nurses will even be in more demand in the future considering that they form the bulk in the healthcare system (Laack, 2013:1).
- Nursing is a recession-proof career. People will always get injured and become ill. Therefore, there will always be employment for medical professionals, including nurses.

- Due to the nursing demand, nurses are often in the 'driver's seat' with employers. For instance, there is a good chance that you will be able to set your own schedule. You will also have more job offers to choose from.
- Nursing skills can take one 'anywhere', and one can take them 'anywhere'! As a nurse, one is not limited to living in or near a certain city in order to get a good job in the industry.
- There are many specialties to choose from and one can have many opportunities to find one's niche area.
- There are plenty of part-time, full-time, and traveling career opportunities. A profession in nursing can lead one travel globally, even to places one never thought would go.
- Nurses are paid well and have good benefits.
- Nurses help people, which can be very rewarding. It is also a highly respected and regarded as a noble profession.

Due to these benefits, there is a serious need to recruit more nurses to join the profession. The marketing strategies used to recruit nurses to the profession need to consider to what extent is the support necessary. Because of the overwhelming clinical environment and workload that has been cited in this study, there is a reason to doubt one's stay on the programme unless some aggressive strategies are used to assist the students to manage the demands of the programme and personal life (Dlungwane, 2017: 114). This calls for early identification of those nursing students at risk of failure to graduate.

Further, the educational experience of nursing students, the pre-nursing course adequacy and the valuability of nursing courses should be considered. Educational experiences and pre-nursing course adequacy were perceived as factors in nursing student decision to support or restrict retention-to-graduation from the programme. According to Jeffreys (2012:39) students with prior health care experiences are at an advantage when they commence nursing. On the other hand, those without this experience might perceive themselves as at a disadvantage. The majority of students who enter nursing do so from high school and they are not aware of the realities of the workplace and academic environment coupled with the demands of the programme.

They bring with them some expectations, values and beliefs about nursing. Some come because probably they had a prior work experience and think that if they can be admitted into the

programme they would fit and make great nurses. When they do not get what they expect, they poorly perform and fail to graduate. On the other hand, students with prior experience may feel pressurized to avoid making mistake. The need to excel may also interfere with learning, performance and decision to graduate. Low self-efficacy (confidence) may lead to low goal commitment, more stress and decreased persistence. It is important therefore to determine special students' needs, talents and strengths. Importantly, the students should be informed of the obligations and the nature of the programme packages from the onset (Jeffreys. 2012:64).

Therefore, the nursing education institutions have an obligation to nurture nursing students during their training so that they can develop personally, academically and professionally to add value to the nursing profession.

5.5 Social and Psychological Support Factors (Cronbach's Alpha 0.54)

Social support has an impact on retention-to-graduation of nursing students especially with the first year levels.

5.5.1 Social support

According to Levitz (2011:6), problems of alienation and social isolation, subject to negative peer pressure, lack of involvement in tertiary activities, little involvement with faculty members or advisors can be barriers to retention-to-graduation of nursing students. Participants in this study revealed feelings of being 'left behind' when they did not understand the content in class. They also felt that there is "no one to support them". Even their peers declined their assistance by 'minding their own business'; this made them to feel isolated from the rest of their classmates.

Programmes designed to anticipate and meet the needs of students while transitioning and adjusting to tertiary life and academia are imperative for retention-to-graduation of nursing students. Researchers submit that on entry into tertiary institution nursing students need to be mentored by senior students so as to support, integrate and socialize them into the university environment (Nkutu & Seekoe, 2013:171). Some of the support strategies may be:

- **Student / Faculty advisors forum**

Meeting with faculty advisors and having degree / career plans during the first year of college has been correlated with academic success (DeLapp, Hautman & Anderson, 2008:295;

Mamiseishvilli, 2011:7; Shelton, 2012:5). Nursing programmes may have to consider mandatory advising for students at particular times throughout their education. Discussion of ultimate educational goals and clinical area of interest should be addressed. It is also important for faculty and nursing staff to demonstrate the nursing tenets of caring and holism by being supportive of their students in an open and non-judgmental way (McEnroe-Petitte, 2011:82; Poorman, Mastorvich & Webb, 2008:272). The staff and faculty must also model and promote accepting, non-discriminatory behaviours toward all students (Coleman, 2008:10; Dapremont, 2011:256). They can further endeavour to assist nursing students with the following:

- **Building self-efficacy**

Self-efficacy has also been correlated with academic success (Gibbons, 2010:1299; McLaughlin, Moutray & Muldoon, 2008:211). Some methods of improving self-efficacy include, validating students verbally and in writing, promoting problem-based learning, and assistance with development of adaptive coping mechanisms. Self-efficacy may be enhanced through student involvement in campus organizations. Student involvement and engagement with other peers has also been found to be important in forging social support in undergraduate programmes. However, there is need for clarity on how social support, existing retention strategies and actual retention interventions are interconnected. There is also need to identify what Nursing Education Institutions (NEIs) can do in order to improve the organizational structure and how support is perceived in undergraduate nursing programmes; and to what extent will it impact on retention and graduation of the very students. More research into these aspects is necessary.

On the other hand, it is important to understand what effects do current retention strategies have on social support as perceived by nursing students.

- **Academic advising in undergraduate nursing programmes as a form of social support**

Academic advising in undergraduate nursing programme has been viewed as a form of support. Drake (2011: online) argues that "academic advising is more than secretarial record keeping. It is the very human talent of building relationships with students and assisting them to link their personal strengths and interests with their academic and life goals" and objectives. Conclusions drawn from Cuseo's "Academic Advisement and Student Retention" build a strong case for the value of academic advising. This is because it "exerts a significant

impression on student retention through its positive association with student satisfaction with the college experience, effective educational and career planning and decision making, student use of campus support services, student-faculty interaction outside the classroom, student mentoring programmes".

The important correlation between student involvement on campus and student success is perhaps best understood by what Tinto (1975:87) suggests in his 1975 article entitled "Dropouts from Higher Education" from the *Review of Educational Research*. Tinto (1975:89) states that, instances of social integration occur chiefly "through informal peer group associations, semi-formal extra-curricular activities and interaction with staff, faculty and administrative personnel within the college. Successful encounters in these areas result in various degrees of social communication, friendship support, faculty support, and college affiliation". Student retention-to-graduation must be at the centre of all institutional work and decision making. Therefore, academic advising is critical to the retention to graduation of higher education. Robust academic advising programmes indicate an organization's obligation and commitment to the achievements of its students. Good academic advising also provides perhaps the only opportunity for all students to develop an individual, stable relationship with all personnel in the institution who cares about them. As defined by Cuseo, the academic advisor is:

- One who "supports students to become more conscious of their unique interests, talents, values and or beliefs, and prior concerns;
- Who empowers students to see the 'connection' between their present academic experience and their future life plans;
- Who helps students discover their potential, purpose, and passion;
- Who broadens students' perspectives with respect to their personal life choices; and
- Sharpens their intellectual skills for making these choices, through effective problem-solving, critical thinking, and reflective decision-making".

Role of the academic advisor

- Advisors *inspire* students to:
    - Understand and participate in opportunities offered by the higher education networks,
    - Make effective, meaningful and thoughtful choices about their futures,

- Acclimatize their life skills to the new academic world, and
- To foster the academic skills and knowledge needed to succeed.

- Advisors help the students get linked and stay engaged in their learning experience and, thus, persevere to reach their academic goals, their career and personal objectives;
- "Help the students become more self-aware of their distinctive interests, talents, values, and priorities;
- Enable the students to see the 'connection' between their present academic experience and their future life plans; and
- Help the students discover their potential, purpose, and passion.

Conclusions drawn from Cuseo's "Academic Advisement and Student Retention" build a strong case for the significance of academic advising because it "exerts a significant impact on student retention through its positive association with;

(1) Student satisfaction with the college experience,
(2) Effective educational, career planning and decision making,
(3) Student utilization of campus support services,
(4) Student-faculty contact outside the classroom, and
(5) Student mentoring".

This calls for meaningful interactions between staff and students, and all the stakeholders who are directly and indirectly involved within the nursing education context. Researchers (Igbo, Stracker, Landson, Symes& Hughes, 2011:375; Levett-Jones, Lathlean, Higgins & MacMillan, 2009:316) found the importance of staff-student relationships and collaboration between faculty and students as influential in the student experience and decision to retention-to-graduation. Receptiveness, inclusion or exclusion, legitimization of the student role, recognition and appreciation were the most important forces on student's sense of belonging and learning (Levett-Jones *et al.*, 2009:318). In line with the student perception appraisal, enrichment programmes and student resource centre within the micro context academic advising has been viewed as supportive of the undergraduate nursing programme and necessary to enhance retention, success and increased graduation (Jeffreys, 2012:209).

According to Shelton (2012:5) perceived faculty support was also related to both persistence and academic performance, such that students with higher perceived faculty support were more

likely to continue in a nursing programme until graduation and were more likely to be successful academically. Students with higher perceived faculty support also had higher outcome expectations of earning an associate degree in nursing (Shelton, 2012:5). According to Veal, Bull & Miller (2012:323) and Dlungwane (2017:113), the process of learning to balance stressors with moderators was key to academic persistence and retention.

Therefore, it is proper to look into the theme of support in the undergraduate nursing programme. Support of nursing students has emerged as an important theme and hence it will be discussed in depth. However, understanding this theme in its entirety was effected by outlining the concept according to social support, economic support, academic support, and family support according to various contexts. Addressing these issues has an association on psychological, physical or physiological status for retention of nursing students and its effects on graduation rates. They overlap with each other because one aspect is influenced or influences another. Linking the roles played by the stakeholders from the macro, meso and micro contexts; retention-to-graduation has been pressured or influenced by the lack of commitment from the students to a large extent.

Notably, programmes designed for inclusion, transition and social integration of nursing students in undergraduate nursing programme must be introduced early on arrival into the institution. Where there is no smooth transition and integration, nursing students suffer from alienation.

5.5.2 Psychological support

Psychological support has also impacted directly or indirectly on retention-to-graduation. According to Jeffreys (2012:80) feelings of being lost to a strange environment raise fears, stress, closed to new ideas and experiences, undisciplined, unmotivated, insecure, uninformed, unrealistic expectations, and result to student-institution mismatch. Hence, for some participants in this study felt that, nursing was not their career choice. These feelings become challenges for an individual student and if there is no support offered, students may decide to quit the programme. In other previous studies, some students have reported to have been assisted by *keeping up, not giving up, doing it, and connecting to the use of resources* (Williams 2010:365).

Absence of emotional and moral support was alleged to be a main obstacle by participants in this study. Literature concur with the lack of support as manifesting itself in multiple ways including feelings of social isolation and loneliness, racism and discrimination (Loftin *et al.*, 2012:1). A student enters higher education with a set of background characteristics, objectives and prospects, and his/her choice to persevere or leave is a function of the extent to which he or she has succeeded in becoming integrated into the institution socially and academically. Tinto (1993:2nd ed) suggests that the individual tends to experience reduced academic and / or social integration and may conclude that the costs (academic, social, emotional and / or financial) of persevering outweigh the benefits of continuing. At this point, the individual fails to graduate (Yorke in Koen 2007: 61).

In South Africa, a 20 % rate of failure to graduate for both the undergraduate and postgraduate cost ZAR 1.3 billion each year (National Department of 2015:1). Failure to graduate costs is not only borne by institutions, society, and professions, but also by students who suffer financial, emotional and psychological consequences. To avoid these consequences, researchers submit that persistence and resilience during the first semester of the first year are crucial for students to succeed in higher education (Elkins, 2015; & Tinto1993: 2nd ed.; CHE, 2009:251). Therefore, it is vital that nurse educators and clinicians identify early signs that have been found to precede failure to graduate and begin to offer or refer them for emotional and psychological support at the onset of the programme. This means that proactive systems must be in place to 'nip them in the bud'.

Conclusively, the emotional and moral support of nursing students is a matter of importance to enhance retention-to-graduation of nursing students in the undergraduate programme.

5.5.3 Student affective factors

This study also looked into the affective factors of the students. Student affective factors have direct influence on academic factors, cultural values and beliefs, self-efficacy, motivation and environmental factors (Jeffreys, 2012:56). It must be taken into consideration that all students belong to one or more cultural groups before entering nursing education, and therefore they bring along their patterns of learned values, beliefs, and behaviours into the academic and professional settings. The vision of the Transcultural Nursing Society states that "Human care/caring is defined within the context of culture. Culturally competent care can only occur

when culture care values are known and serve as the foundation for meaningful care" (Laack 2013:2).

Thus, increasing the diversity of the nursing workforce is one of the measures that can help nursing to meet the varied healthcare needs of a culturally diverse patient population. These are student attitudes, values and beliefs about education, nursing, teaching and learning. This includes one's ability to learn and perform the necessary tasks required for the course and nursing programme success. Student affective factors differ from the student profile characteristics in that, they deal with variables that may change over time and may be positively or negatively influenced by all the other variable sets.

- **Culture, values and beliefs**

This section refers to patterns of learned values, beliefs, and behaviours that are shared from generation to generation within a group (Leininger, 1994:1). Values are standards that have eminent worth, meaning and importance in one's life with implicit or explicit conceptions of desire held by individuals or groups (Lynch, 2000:20). Values also guide behaviour patterns. According to Leininger (1995:1), values are the "powerful directive forces that give order and meaning to people's thinking, decisions and actions". Cultural values influence thinking, decisions and actions within the student's role and other aspects of people's lives. The nursing profession has a unique culture that reflects its own cultural style. Therefore, it is critical to preserve certain values and beliefs within the nursing profession.

The code of ethics or the standards of practice of nursing are values that need to be taught to all students as they enter the profession. The prominent code in nursing is the "Pledge of Service" that nurses recite on completion of their programme.

The health system also has its own values that need to be taught to the nursing student on entry into the nursing and health care system. Some of these values are respect for human rights, their names and their properties; punctuality, hard work to mention but a few. According to Legal (2008:3), the capacity to make decisions, judgements, social and political involvement, honesty, respect and effective communication with learners and staff are emphasized in nursing education institutions of higher learning. Nurse educators are also expected to adhere and uphold the professional and healthcare values and policies (Seekoe, 2011:6). These values take precedence over the individual's values. Enculturation into the nursing profession is a learning

process that must be undertaken by all the nursing students. This means that nurses should unlearn some of their values that would conflict with the profession and learn to live by the values of the nursing profession (Seldomridge & DiBartolo, 2007:1). Therefore, sufficient assistance into this can reduce stress and enhance enculturation (Storr, Wray, & Draper, 2011:1).

Nurse educators are challenged to explore various cultures, values and beliefs within nursing, nursing education, and the nursing students' background. In that way, students would be able to take or make ethically, culturally sensitive and appropriate decisions and actions. Nurse educators need to seriously consider the impact of the student affective factors on nursing student achievement, persistence and retention-to-graduation.

5.5.4 Professional integration

Participation in professional events and memberships is viewed as an essential activity in nursing for professional growth and career mobility. It provides opportunities for professional socialization, networking, skill enhancement, knowledge expansion and professional behaviour development (Jeffreys, 2012:237; Vance, 2011:1). According to Vance (2011:1), involvement in professional matters assists in networks which ultimately eliminate the fear of isolation and promote feelings of inclusion which are desired goals for retention-to-graduation. The integration of the nursing students into the norms, values, beliefs and ethics of the nursing profession can have an impact on retention-to-graduation of nursing students and needs to be conveyed in a very careful manner within the organization. Nurse educators should act as role models and active promoters to socialize and integrate nursing students into the profession.

Professional integration can also act as a strategy for retention-to-graduation of nursing students. The empirical studies of Anonson, Desjarlais, Nixon, Whiteman & Bird (2008:277) provide numerous strategies that have shown to be successful in assisting the students "at risk" of departure before graduation. Some of these strategies have been implemented with great success by NEIs to improve retention and graduation. Among them is mentorship programme (Anonson *et al.*, 2008:273; Baker, 2010:216; Crombie, Brindley, Harris, Marks-Maran & Morris, 2013:1283), which when well planned and managed has been found to increase a sense of belonging, assist with writing skills, time management and study skills.

5.5.5 Peer mentoring

Literature on mentoring indicates that, student integration into the academic environment is best achieved through mentorship programmes (Anonson *et al.,* 2008:280; Baker, 2010:216; Nkutu & Seekoe, 2013:171). Peer mentoring was cited by the respondents in this study as a strategy that could assist nursing students to succeed in the programme. Research has also evidenced that peer mentoring relationships provide a wide range of support and raise self-confidence and consciousness in the nursing student, thus enabling the mentee to develop within the context of academia (Nkutu and Seekoe, 2013:173). However, no literature has evaluated how effective the strategies are for retention-to-graduation. The figure below shows various peer mentoring strategies that are perceived to be functional and stable in assisting retention-to-graduation (Jacobi, 1991:506).

Table 5.2: Typology of Peer Mentoring

Type of Peer Mentoring	Form of Mentoring	Constituents
Pre-entry peer mentoring	Generally offered via social network sites or e-mail. Existing students mentor future students.	Targeted or generic [all first years].
One-to-group peer mentoring at transition	Often known as 'Peer Guiding' this form of peer mentoring has the advantage of providing a 'friendly face' upon arrival making transition positive for students (and in many cases their parents). More experienced students mentor new arrivals.	- Often offered on an 'opt-out' basis. - Institutional, School or Departmental. - Can be 'targeted' depending on institutional needs. - Some matching may be possible. - Generally one mentor to four or five mentees (in some cases this is higher).
One-to-one longer term peer mentoring	Pastoral in nature; this form of peer mentoring tends to be carefully managed. It can involve an element of informal peer counselling. More experienced students mentor their less experienced peers - or mentoring peers at same level.	- Resource intensive, usually offered on an opt-in basis. Mentoring pairs carefully matched. - Needs close supervision of student pairings. - Student peer mentors may need additional support - Can be cross-university or school focused. - Relationships often last throughout the mentees university career and beyond.
Group peer mentoring	A group of students specifically placed together with the purpose of mutual support. This form of mentoring relies on group cohesion and reciprocity. Usually mentors and mentees from same year.	- Can be resource intensive as management of peer support groups may be problematic. - Generally School or subject focused. - Usually offered on a short term basis [one term]

- ***The value / benefits of peer mentoring in higher education***

Jacobi (1991:507) adopts a functional approach arguing that relationships within mentoring serve three main functions: (a) emotional and psychological support; (b) direct assistance with career and professional development; and (c) role modelling. Programmes such as mentorship are among the strategies which have been implemented to assist students to complete their programmes. The involvement of peer mentors, tutors or faculty mentors have been found to develop a sense of belonging in the student, develop leadership skills, improve retention, assist with study skills, aid with time management, improved communication skills especially for the students whose English is not their first language (Seekoe, 2014:5).

- ***Emotional and psychological support***

The high number of students who fail to graduate from the undergraduate programme has a major impact on national resources and negatively impacts on the labour market seeking for highly skilled personnel. This aspect has been discussed earlier in this study.

- ***Direct assistance with career and professional development***

Direct assistance with career and professional development is pivotal if retention-to-graduation is to be realized. Clearly, there is a need for support in career guidance, assistance and professional development. Strategies to mentor and motivate nurses already in the working force and career opportunities must be created and supported.

- ***Role modelling***

Providing mentorship by senior students as an ongoing process could assist students in dealing with the life changes that studying brings (Dlungwane *et al*., 2017:114). It is therefore, important that the seniors or mentors from the faculty staff and senior students support structures that help students see beyond the immediate stresses to the future benefits the study will bring, by identifying achievable goals.

5.5.6 Environmental factors

Environmental factors may be defined broadly as factors outside of the academic process that may also affect students' academic performance and retention-to-graduation. They emanate from various contexts including the current situation within which nursing education operates.

These factors include friends/peer encouragement, motivation and support. Significantly, finances and family responsibilities may even be more influential than other variables in this context. A detailed holistic appraisal of student profile characteristics and student affective factors is necessary to determine how the environmental factors are perceived by individual students and special student groups in need of support (Jeffreys, 2012: 96). This will assist in early identification of those factors which will influence retention-to-graduation from the programme.

5.6 Economic and Political Support

The economic climate within which nursing education exists and operates demand faculty, academic and administration staff who are efficient and effective in planning, organizing, implementing and evaluating their strategic educational goals. This is in order to enhance retention-to-graduation of nursing students in the undergraduate nursing programme. Adequate provisioning for these activities is vital for retention-to-graduation of nursing students. On the other hand, it is compulsory that the student is able to meet all expenses including tuition, stationery / books and other learning materials. However, there are other impediments that students have besides the compulsory financial needs. For instance, living expenses, financial obligations and commitments like rentals, clothing accounts are other economic aspects students have to deal with. It should be noted that the diverse backgrounds of students will affect their academic performance and retention-to-graduation ultimately. Students from poor socio-economic background struggle when they enter the educational programme. Hence, there is a need for financial support for such students in the programme.

Moreover, family financial support in this regard is crucial. Students' financial needs are worsened if they come from a poverty stricken family background where there is no hope of support financially. The severity of the challenge may be more on those students who have obligations of supporting their elderly family members or dependants (Jeffreys, 2012:35).

In South African context for example, some students are orphaned by the menace of HIV/AIDS pandemic leaving them to rely on neighbourhood for support even at tertiary level of education. Without financial support to help such student to survive, they find challenges to continue with the programme.

In the Eastern Cape, which was the setting for this study, the majority of students come from such backgrounds and where the family income is less than R18000 per year or none at all. Economically disadvantaged students perceive financial constraints as an obstacle in them pursuing a career.

Even though the students are given financial aid during training, they report that it is not enough to pay for their tuition, accommodation and living expenses. The fact that they come from poverty stricken communities rife with unemployment, some of this stipend is used to support their families, hence affecting the budget met to support academic completion. The financial constraint was identified as predictive to failure to graduate from the undergraduate nursing programme.

In this current study, the students further suggested that the financial challenge could be averted by allowing them an 'increased stipend from their financial aid scheme', giving them a 'salary whilst they are on clinical block when the university is closed' or 'allowing them to work whilst they receive their training'. The study participants were very particular about their reasons to augment their financial constraints by getting a job to make ends meet; even if it meant 1-12 hours per week. However, the programme does not have allowance for that due to the prescribed time frame (a fulltime 4 year programme). In relation to time schedules to complete the programme, students need to be informed that working and studying simultaneously would jeopardize their success and completion in required time. Allowing such arrangements would also defeat the purpose of massive training of nurses to alleviate nurse shortage in the province. Financial aid information is needed in this regard so that students can know and understand other funding sources to leverage their financial responsibilities.

Remarkably, the current economic policies and limited scholarships in South Africa present a financial challenge and a resource barrier that directly affects retention-to-graduation of nursing students. Hence, there is a need for government and political will to support nursing education by all means.

5.7 The (NEIs) Commitment to Retention-to-Graduation

The commitment of the Nursing Education Institutions is pivotal to retention-to-graduation programme.

The organizational commitment by the institution of higher learning, the staff inside in the classroom, clinical and on campus residences can determine the commitment of the organization to the welfare of nursing students in the undergraduate programme. The climate within the institution, the infrastructure, clinical component, human resources, professional integration and communication are important characteristics within the NEIs. These will be briefly discussed as to how they feature in supporting the nursing student retention-to-graduation.

5.7.1 The climate

The campus climate can determine whether students do gain the necessary support that they deserve to enhance retention-to-graduation or not. The nurse educators and faculty staff should encourage and support the formation of study groups among nursing students. Curricular and extra-curricular activities are essential to encourage development of teamwork among nursing students and social integration into the university culture. An enabling supportive climate will support the nursing student retention-to-graduation. Participating in nursing conferences, events, meetings and memberships exemplifies a professional commitment to lifelong learning that can be uplifting and motivating to nursing students.

Additionally, practice placements, mentorship and clinical placements have the greatest impact on student retention-to-graduation. The clinical placement experiences emerged as one of the most important factors in whether a student graduate from the course (Crombie *et al.*, 2013:1285). Affiliation to professional events and memberships is viewed as an essential component for enhancing professional integration and minimizing social isolation. However, for students who are financially constrained, this might be a deterrent and not attractive to diverse student groups. This could be addressed by incorporating these costs in student fees and or made mandatory for all students (Jeffreys, 2012:241).

5.7.2 The infrastructure

The presence of good infrastructure tells more about how committed the NEIs are in retention-to-graduation of undergraduate nursing students. Physical space on campus should be made available for the various academic activities including study groups (Dapremont, 2011: 256). Physical space includes adequate classrooms, tutorial rooms, auditoria, clinical laboratories, simulation laboratories, library facilities and computer rooms with internet facilities which are suited and adequate to accommodate groups of students.

Thus, physical facilities which are not well resourced with suitable furniture, supplies and equipment will not be assisting with retention-to-graduation of undergraduate nursing students. Instead, it is the availability of internet facilities within the campus that will enhance retention-to-graduation of undergraduate nursing students.

5.7.3 Clinical component

In an organizational commitment, the clinical component is crucial. How enabling, supportive and committed are the nurse practitioners in assisting the students in retention-to-graduation must be the priority. Clinical supervision as a way of organizational commitment in retention-to-graduation is very important and has an impact in the decision by nursing students' persistence in the programme. Because nursing is a discipline that requires nursing students to demonstrate a minimum standard of 'competency' to gain registration as health professionals with the South African Nursing Council (SANC) and to practise as professional nurses, it is important that they demonstrate a level of competency in a clinical education environment.

The SANC standards aim to enable nurses to provide and support high quality care in rapidly changing environment. The standards reflect on how future services are likely to be delivered, acknowledge national health priorities, re-engineering primary health care, and National Health Insurance. Nurses and midwives must be able to develop practice, promote and sustain change. Therefore, clinical placements must provide nursing students with the opportunity to integrate theory to practice, familiarise themselves with the clinical environment and afford students with "real world opportunities to develop the knowledge, attitudes and skills" required by the statutory body for professional practice (Nursing Act No. 33 of 2005:1). Thus, the organizational commitment to ensure students get what is required for them to be competent is the pivotal in clinical placements.

According to the South African Nursing Council Circular No.3 / 2010:1, the new institutions need accreditation as NEIs as well as their curricula and learning programmes before commencing training. Therefore, accreditation includes looking at the infrastructure and the feasibility of them being accredited for offering the programmes. This is problematic if there is no physical space (Blaauw, Ditlopo & Rispel, 2014:5).

5.7.4 Human resources

Adequate staff and clinical personnel with suitable qualifications and expertise are important in the delivery of sound teaching and learning, research, clinical practise and community

engagement activities. However, currently there is a shortage of nurse educators in South Africa. With such shortage, it becomes difficult to operate effectively within clinical academic settings. While the shortage of nurse educators remains a global phenomenon, it is not easy to obtain the exact number of nurse educators in the NEIs because the number in the SANC registers include those that are not practising in NEIs and a sizeable number of them work for the colleges under the provincial government. This means that, instead of NEIs getting fresh newly qualified nurse educators they 'poach and head hunt' from each other or hire retirees on contract (Blaauw *et al*., 2014:7). This shortage may affect retention-to-graduation of undergraduate nursing students.

5.7.5 The family

The family is one of the important role players in the success for nursing students 'retention-to-graduation. The study by Taruvinga (2011:72) revealed the importance of family communication in conveying support and care, to constitute what can be regarded as a protective factor during crisis situations. This factor and its impact could be discussed within families and further be adopted to strengthen positive patterns in families. Strategies from this study could be used to assist nursing students and individual family members to adapt and improve their level of functioning.

An important protective factor is the system of social relationships and social support that a family provides, namely; the social investment of the family. Social support from the family is considered to be an important buffer against stressful life events and plays an important role in coping with demanding life situations (Tomcikova *et al*., 2009:202) to enhance retention-to-graduation of nursing students.

Pride, trust in the family and loyalty towards each other within the family unit help in managing development changes and crisis successfully (Greeff, 2000:948). Families normally find strength in self-confidence to make a difference, working through problems rather than giving up. Most families believe that they gain strength from a higher power through faith, rituals and prayers.

Some families believe that they gain strength from being there for each other, by showing love, care, concern and interest in each other, and by sharing activities to give them a sense of belonging. Family members should spend more time with each other, both to celebrate good times and to provide emotional support. Children in these families should be taught how to

express themselves emotionally, how to calm themselves when stressed and how to resolve conflict.

Family members view each other as capable, competent and basically healthy in mind, body and spirit. A spirit of family togetherness and support is nurtured in the families. Social support from the family is considered to be an important buffer against stressful life events and plays an important role in coping with demanding life situations. If the family unit is sound, the nursing student is able to cope and find comfort in the knowledge that there is presence of support from the caring family members. This then enhances retention-to-graduation from the nursing programme.

5.7.6 The South African Qualifications Authority (SAQA)

This is another body that operates within the National Qualifications Framework (NQF) and assists in developing standards of quality in education. This body ensures that the nursing students in the undergraduate programme are able to deal with complex issues both systematically and creatively, making sound judgment and decisions using data and information at their disposal and communicate their conclusions clearly to specialist and non-specialist audiences; demonstrate self-direction and originality in tackling and solving problems, act autonomously in planning and implementing tasks at a professional or equivalent level, and continue to advance their knowledge, understanding and skills (Higher education Act no. 101 of 1997:19). For the success of undergraduate nursing students in their education and training, the peer mentoring programmes should be geared towards meeting these requirements of this Act.

Nursing is an essential skill in any country. The profession in South Africa has enjoyed an enviable reputation for quality, competence and the comprehensive nature of training provided. There is a concern to maintain this quality and comprehensiveness going forward as the country works to transform health care provision through properly planned, coordinated and well managed peer mentoring programmes as retention strategies for nursing students.

The identified needs of South Africa's various communities are for comprehensively trained undergraduate nurses (SAQA). Therefore, retention-to-graduation of nursing students should be enhanced by all involved role-players.

5.7.7 Communication

Channels of communication and leadership development within the NEIs should denote the extent to which the organization is committed to the support of retention-to-graduation of nursing students. The organization should demonstrate skills in conflict resolution, problem solving policies and procedures, and ensure independence in ethical decision making for nursing students to emulate. In view of the global shortage of nurses, the nursing education institutions are strongly advised to commit in encouraging and supporting education and health care providers to ensure and maintain a clinical learning environment that will recruit nursing students, retain all levels of nurses and offer expert clinical supervision (O'Mara, McDonald, Gillespie, Brown, & Miles, 2014: 208).

5.8 The NEIs Role in Supporting Retention-to-Graduation

5.8.1 Teaching and learning

The nursing education institutions have a major role to play in enhancing retention-to-graduation in undergraduate nursing programme. Institutions must recognize the challenges facing nursing profession today and be able to forecast the impact these challenges will have on future nursing practice and nursing student retention. Fourfold activity namely, teaching and learning, leadership and management development, clinical practice, research and community engagements are the characteristics of scholarship in each nursing education institution. These have a major role to play in influencing retention-to-graduation of nursing students in the undergraduate programme.

5.8.2 Leadership and management development design

Nurse educators and the faculty design supportive programmes that enhance retention-to-graduation. Mentorship programmes in class and off class activities like team building, orientation and induction programmes are among the programmes that are planned and special attention is geared towards enhancing first year experience.

5.8.3 Research

Scientific enquiries into various issues related to nursing education, practice, public health, research supervision and management are conducted within the nursing education institutions. Workshops and seminars are other important activities that are carried out. National and

international conferences are attended and research papers are presented in these conferences. These bring a lot of money to the university to keep the institution viable and all staff are encouraged to be involved. This invariably improves their practice and scholarship. Papers that are published within the institution into peer review journals also market the institution for the expertise of the staff within and that also brings partnerships into the institution. Research conducted empowers academics in enhancing retention-to-graduation.

5.8.4 Community engagement

The NEIs are involved with other disciplines within the campuses and other various activities of health promotion and prevention through community based education and community based health care to enhance retention-to-graduation.

5.9 Classification of Concepts

Dickoff *et al*., (1968:422) make use of six elements of practice as a means to classify concepts as part of creating a conceptual framework required in theory generation. The survey list has been described as an "organized, empirically grounded guide to achieve a purpose" (Chinn *et al,* 1995:69). Therefore, the survey list described by Dickoff *et al*. (1968) was used to classify the concepts that were then utilised in the development of a model for retention-to-graduation of nursing students in the undergraduate programme. The concepts to be classified are agent, the recipient, the context, the dynamics, the process and the terminus.

The Agent Who is responsible for the activity to take place?

In this model, academic staff, support staff, clinical and all relevant role players who can facilitate the process to enhance throughput and pass-rates of nursing students in the Department of Nursing Science and clinical settings for clinical component in the health facilities.

The Recipient: Who are the beneficiaries of the activities?

In this model, the beneficiaries will be nursing students, patients, families and the Health facilities.

The context: This is the environment within which activities are taking place. The process of retention-to-graduation will take place within the Department of Nursing Science within the Faculty of Health Science of the University of Fort Hare, its clinical facilities in partnership

with as accredited by the South African Nursing Council and approved by higher degrees which comprise hospitals, community health-care centres and clinics.

The dynamics: What is the energy source for the activity to take place?

A multidisciplinary team will be formulated with all role players, including experts on teaching and learning, community engagement, research, and clinical practice and will be coordinated by a task team. A retention specialist and retention assistants will be added to the human resource. Services of an onsite social worker or psychologist and residential managers will be part of the team. Nursing students will receive individual consultation and counselling from this team when necessary.

The process/ procedure: What are the procedures, techniques or protocols that will ensure realization of the activity?

Recruitment and admission, RPL Examination, and other Policies related to nursing education including rules and regulations of the SANC will be reviewed, and a support programme will be launched. Career expos marketing the programme and interventions strategies will be in place. Peer mentorship groups will be strengthened. Communication strategies will be improved. Regular meetings will be held especially to improve relationships between students and the academic, administrative and support staff. Monitoring and evaluation strategies will be put in place.

Terminus/Purpose: What is the expected end goal or outcome of the activity?

Effective management of the undergraduate nursing programme to enhance throughput and pass-rates is the end goal. Nursing students will be empowered because they will be able to take control of their own programme. Performance will be improved and they will be more productive. They will be mentally stable, and fewer mistakes will be made.

They will regain their self-esteem and dignity. They will be registered with the SANC on completion and will add to the gross shortage of nurses in the Province and worldwide.

This chapter has led to the following relational statements.

5.10 Relational Statements

- Nursing students in the undergraduate programme are challenged by:

    - Lack of perseverance and commitment to their learning process;
    - Stress, due to inability to cope with the academic demands of higher education;
    - Health and sickness;
    - Lack of integration into the academic environment;
    - Lack of support, (academic, socio-economic); and
    - In-ability to cope with the demands of the clinical environment.
- There is a need to evaluate the existing strategies for teaching and learning, among others; mentorship programmes, student counselling services and academic advising to see if they enhance retention-to-graduation of nursing students in the undergraduate programme.
- Any form of education take places successfully when relationships among people are engaging and mutually supportive of one another. This point is substantiated by Tinto's (1993:2nd ed) Student Integration Model (SIM) which endorses that students who strongly identify with the institution's internal characteristics will succeed.
- Since the findings point to a number of predictive factors to failure to graduate, there is a need for retention-to-graduation models in the undergraduate nursing programmes to be developed.
- Unless collaborative efforts are made, it seems that retention in undergraduate nursing programmes will always be an issue of ongoing debates.
- The institutional support should inculcate the values which are pillars of nursing education for both the student and academic staff.
- There is a need for sufficient condition conducive to improve student retention-to-graduation.
- The caring and commitment to the learning process should also be enhanced.
- There is a need for a collaborative reciprocal communication between the stakeholders in order to enhance retention-to-graduation.
- Retention-to-graduation is the goal of all NEIs, the students, nurse managers / practitioners and faculty within a formalised educational, practice and management system of the organisation.
- The commitment of the NEIs in the process of enhancement of retention-to-graduation should be evidenced by support of the programmes which includes integrating retention

to the organizational strategy, goals and developing outcomes for retention-to-graduation of undergraduate nursing students.

- Quality care will be rendered to the patients.
- The need for peer group support, especially from people who will understand the nursing students and who have worked with them, such as peers in the department. Peer support will also assist them to regain their self-confidence, independence and self-esteem.
- Planning and implementing strategies and evaluation thereof is vital for enhancement of retention-to-graduation.
- Having support will impact positively on nursing students and the patients.
- They will be more productive and nursing students' failure to graduate will decrease.
- They will be emotionally stable with reduced stress and fear of failure.
- Performance and persistence will increase.
- Nursing students will become comfortable, better leaders and managers of the future.
- The nursing students indicated that having support in the workplace will boost morale.
- Good academic advising also provides the only opportunity for all students to develop a personal, consistent relationship with someone in the institution who cares about them.
- Retention-to-graduation is a team effort which is influenced by nurse educators, faculty administrators and clinical personnel with differing roles impacting on the student's experiences to the decision to stay or quit the programme.
- Understanding and appreciating the student background will have an impact on the supportive role that must be played by different stakeholders to enhance retention-to-graduation.
- Understanding the context within which the NEIs exist and operate within the country is crucial in enhancing retention-to-graduation of nursing students. The *macro, meso* and *micro* contexts within which NEIs operate in South Africa is directly controlled by the Constitution of the Republic of South Africa of 1996:7 which ensures equality and basic human rights for all the citizens including students, nurse educators and faculty at large. The applicable pieces of legislation that guide the healthcare is the National Health Act of 2003 (Act no. 61 of 2003); the National Human Resource Plan for Health and the Skills Development Act of 1988 (Act no. 97 of 1988); the Higher Education

Quality Committee (HEQC); the Nursing Act 2005 (Act no 33 of 2005) and the Higher Education Act of 1977 (Act no. 101 of 1977).

- The programmes that are run within the NEIs have an impact on retention-to-graduation of nursing students. Thus, they have to talk to the needs of the student and the needs of the community at large.

- The stakeholders have a direct and indirect interactive relationship which should be collaborative and reciprocal in order to enhance retention-to-graduation of nursing students.
- The NEIs within the Higher Education specify the required competencies (abilities, skills, attitudes and values).
- The need for strengthening capacity of key NEIs through policy is important if nursing education reforms are to be realized to enhance retention-to-graduation (Blaauw et al., 2014:6).
- Transformation of nursing education is an important strategy for improving health and nursing workforce supply (Blaauw *et al*., 2014:7) and that will enhance retention-to-graduation.
- Student success must be at the core of all institutional work and decision making. Therefore, academic advising is critical to the success of higher education (Drake *et al*., 2011:1).
- It is the role of nursing education programmes to ensure that nursing students graduate with skills, knowledge and attitude necessary to provide safe patient and or client care.
- Negative clinical learning environment experiences interfere with achievement of learning outcomes aggravating an international nursing shortage (Babenko, Mould & Laschinger, 2014:145; Moscariolo, 2009:17; Welding, 2011:38).
- Enrichment programmes and nursing student resource centre services offer additional opportunities for high quality peer interaction, positive and productive peer partnerships.
- Active encouragement of student participation in enrichment programmes and nursing student resource centre services should be ongoing, especially during major transitional points in the educational process.
- Retention-to-graduation is a relational process in which the institution, the student and nurse educators, clinical system of nursing education facilitators and preceptors / tutors / mentors are important role players within a formalized system of nursing education.

5.11 Chapter Summary

This chapter has focused on providing deeper understanding of the outcomes of Phase 1and 2 of this study, which included the outcomes of the quantitative data analysis on the factors associated with retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape. The SAS version 9.3 was used for data analysis and supported by responses from the participants and the literature control. Factor analysis was done in order to achieve concept analysis. Exploratory factor analysis was conducted as well to identify similar and different variables. The factors for retention-to-graduation, and the context and role of the NEIs in committing to retention-to-graduation were identified. The study established that there is a need for a retention-to-graduation model which is characterised by a supportive and a commitment framework from the stakeholders and the nursing students as well. The next chapter will focus on the model for retention-to-graduation of nursing students in the undergraduate programme.

CHAPTER 6: THE MODEL FOR RETENTION-TO-GRADUATION OF NURSING STUDENTS IN THE UNDERGRADUATE PROGRAMME

6.1 Introduction

This chapter focuses on the model for retention-to-graduation of nursing student in the undergraduate programme in the Eastern Cape Province, South Africa. The empirical findings regarding retention-to-graduation of nursing students in the undergraduate nursing programme form the basis for the development of a model for retention-to-graduation of nursing students as indicated in Chapter 3 as well as the conceptualization in Chapter 5. Ideas from different theories of retention of nursing students were borrowed and integrated with the literature to develop the model. The findings from this stage were controlled through the literature to give a scientific grounding. The necessary strategies of induction and deduction have added valuable support to the researcher in the development of the model.

The discussion of this chapter will commence with the overview of the model followed by assumptions, the context, the retention strategies, the process of retention, the outcome and the dynamic. The research findings regarding the factors for retention-to-graduation of nursing students were organized according to the adapted survey list of Dickoff, James and Wiedenbach in Murray (2017:46). The list consisting of the agent, recipient, terminus, framework, and procedures has been used to organize empirical findings for the development of an academic theory, since the model is an example thereof. The survey list has been used throughout the research process from the literature study. In this study, the context represented the framework, the role players (agents and recipients), the purpose (terminus), the process (procedures), and the dynamics (cognitive dissonance around retention-to-graduation).

The central concepts in the context of nursing education with respect to the factors associated with retention-to-graduation, stakeholders, dependent concepts (the purpose and process of retention-to-graduation) and their related constructs were discussed under each main concept. This would provide evidence of logical reasoning and consistency in the study. Lastly, the model would be evaluated according to Chinn *et al*., (2011: 197). The overview of the model was discussed below.

6.2 Overview of the Model

The analysis and clarification of the main concepts of retention in order to enhance graduation of the undergraduate nursing students in the multi-dimensional context of higher education gives the outcome, structure and the process of the model. The model is multi-dimensional and complex in nature. The environment within which nursing education exists and operates is influenced by complex factors impacting on one another. The context of higher education impacts on the institutional processes and procedures within which the nurse educators, faculty and undergraduate nursing students function in their relationship. The context of higher education further impacts on the process and its outcomes.

Various dimensions of the context are indicated among the macro (World Events, WHO, National Government, CHE, SAQA, SANC, Political Issues, Socio-economic, job certainty) meso (Provincial DoE, DoH, policies, guidelines, protocols, procedures) and the micro (N.E.Is, vision, mission, policies, curriculum, Department of nursing) levels. The three levels of context are linked together and have important influences on the performance of the undergraduate nursing students. The other characteristic of these contexts is that they have a collaborative leadership relationship which is also circular and reciprocal.

The model is presented as seen in figure 5.2 below.

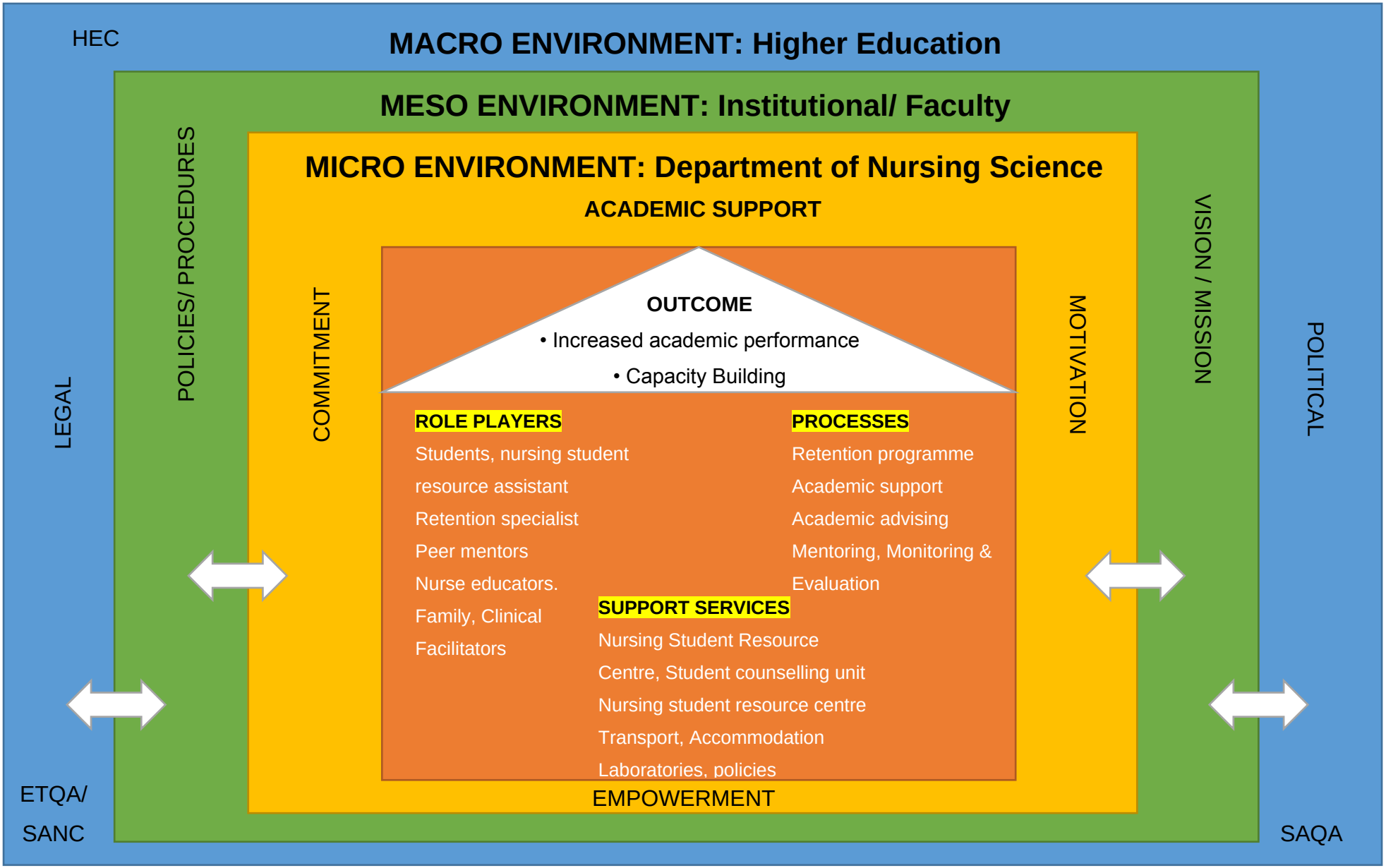

Figure 6.1: A model for retention-to-graduation of nursing students in the Eastern Cape Province

6.2.1 The Macro Context

The macro context consists of Higher Education and Health Departments. It has a political, legal and the professional environment which impacts indirectly, on the relationship of retention-to-graduation. The legal and political elements are Acts and governing structures in higher education impacting on retention and graduation through providing guidance for ensuring quality in teaching, learning and research. The Constitution of the Republic of South Africa (1996:7) emphasises the importance of ensuring that all people are treated equally and that each person is afforded basic human rights.

Nurses are expected at all times to protect and maintain the rights of the people they provide care to and to care for one another. Nursing education practice is affected by the provisions of legislation and policies that guide healthcare service delivery and the education of nurses and educators of nurses. These structures in turn impact on higher education policies and requirements which in turn impact on the institutions and the process of retention-to-graduation in nursing education institutions.

South Africa has the most diverse and differentiated higher education system in Africa – "despite some persistent attempts at academic drift and diverse normative isomorphism" (Cloete, 2016:2). The macro context has legal, political and professional framework facets characterised by various legislations that put demands on the institutions and retention-to-graduation of undergraduate nursing students. However, unlike the USA, the South African education system is plagued by a system of inequity in distribution of resources and which was perpetuated by the past policies prior to the 1994 attainment of democracy.

In the current dispensation, the problem is exacerbated by a low undergraduate completion rates, and the absence of a college sector that can serve as an 'absorber' of poor students, who are also academically and socially underprepared for graduate studies. According to Cloete (2016:5), South Africa endeavours to maintain a high level of quality, with very high rates of return for a completed undergraduate degree, but also expects higher education to be a tool for reducing inequality. Cloete (2016:5) argues that, "the South African undergraduate system is accused of being too expensive, mainly as a result of government underfunding and inefficiencies at the undergraduate level". Thus, it cannot produce large numbers of highly skilled graduates (to drive down the exorbitant rates of return); neither can it absorb large numbers of successful (academically and materially) poor students.

Under this kind of system, reducing inequality can hardly be achieved and this invariably affects retention-to- graduation.

As the statistics from the Council on Higher Education show, what the South African undergraduate system is actually doing is taking in large numbers of students who they think have about a 30% chance of completing in 5 years. South African higher education has undergone seismic changes. Hence, the universities have been able to maintain this unsustainable system through fee increases and a perverse incentive subsidy system. Thus, the macro context in this model is characterised by world events, the constitution of the republic of South Africa, National Departments of Health, Education, and quality assurance bodies like SAQA, SANC, CHE, economics and cultural aspects. These will be discussed later in this chapter.

In this context, the chief nursing officer is responsible for ensuring that the nursing services in the country are run smoothly and that the clinical facilities are well equipped to ensure practical application of theory to practice through clinical grants.

The quality assurance bodies cascade the policies, procedures and protocols from national level in the *macro context* to the *meso context*, and finally to the local level in the *micro context*. The CNO and the SANC together ensure that the training of nurses is of a high standard. The updates on government priorities are circulated down to the local level in order to keep nurse educators abreast of the latest developments.

6.2.2 The Meso Context

The *meso context* is at the level of the institution. According to Seekoe (2010:204) universities are controlled by higher education bodies and are allowed to draw up additional regulations that govern the education at institutional level in order to ensure quality and to function according to the requirements of Higher Education. In both systems of nursing education institutions, the policies and regulations have to incorporate the minimum requirements of the South African Nursing Council. The institution has a vision, a mission and strategic goals that have been set in order to meet the requirements of Higher Education as per the policies of the country. The institution has the role of driving strategy, ensuring governance, quality assurance and performance management.

Performance management ensures that the institution plans employee performance to achieve their full potential in line with its own objectives. The nursing students are within the institution and are expected to perform according to competency levels as stipulated by the institution within its performance management strategy, which it formulates according to its human resources department. The institutions support the training and development of the nursing students within the undergraduate programme by including the mentoring programmes as part of its institutional and performance management strategy; develop curricula, policies and procedures for retention-to-graduation of nursing students.

The nursing education institution delegates academic staff (Head of Department, programme co-ordinators, clinical facilitators and preceptors) to manage the undergraduate nursing programme and devotes finances to the programme and supports strategies to improve the productivity and quality of the institution's teaching and learning, research and community engagement (Jones, in Seekoe, 2010:203). Higher Education Institutions use strategies to develop research, teaching and learning skills to all nursing students through peer mentorship programmes (Erasmus & Kapp, in Seekoe, 2013:204).

The institution determines the model – formal or informal for retention-to-graduation. It ensures that there are outcomes determined specifically for the undergraduate nursing programme. It forms quality teams for ensuring that educational activities are conducted according to the required standards to ensure retention-to-graduation of nursing students. The criteria for the selection of the academic quality structure are based on the outcomes that must be achieved.

The performance of the nursing students is reviewed and success is measured at the end of each semester as determined by the examinations committee. The nursing students are expected to have knowledge, skills and values that commensurate with the requirements of the undergraduate nursing programme as stipulated by the SANC, including knowledge and skills of research in higher education. There is a need to utilize and enhance retention-to-graduation. The nursing students are required to display positive attitude in order to be able to perform and to graduate from the nursing programme in higher education. The institution should ensure that education and training occurs within the academic environment which facilitates the growth and development of the nursing students for personal and professional maturity within the academic environment.

The institution has to ensure that the nursing students achieve their learning outcomes in order to enhance retention-to-graduation. This can be done through development of learner or course-guides and facilitation guides for classroom interactions, clinical skills, reviewing of procedures and assessment tools for clinical accompaniment and creation of learning opportunities for all levels in the clinical facilities. Learning outcomes and associated assessment criteria for level descriptors for nursing students are clear and integrate what needs to be achieved in their curriculum. The institution clarifies admission policies, through the prospectus and the minimum requirements for qualification to enhance retention-to-graduation. The assessment policy is clear for the nursing students for each level and should be directed towards achieving of learning goals.

The academic staff and faculty should understand the educational policies of the institution so as to clarify to students to bolster retention-to-graduation. The institution integrates teaching and learning into the clinical or health facilities and delegates it further for implementation to the nursing department. There is a working relationship between the academic and clinical facilities to ensure application of theory to practice in order to enhance retention-to-graduation.

6.2.3 Micro Context

In this study, the *micro context* refers to the physical spatial location within which the nursing students and academic staff engage with one another in an interactive and participatory process of teaching and learning to achieve the outcome of retention-to-graduation. This is the practice area of the nursing students and academic staff in the department of nursing which is physical and psycho-social in nature. This context has a culture to which the nursing students need to adapt in order to succeed. The nursing students are expected to show insights and behave in a manner that commensurate with their scopes of practice by displaying quality in teaching and learning, clinical practice, research and community development. For the nursing students to adapt and succeed in this environment, teaching and learning strategies like peer mentorship is needed.

At this stage, the department of nursing takes responsibility for designing curriculum for the nursing undergraduate programme that is aligned to the SANC, taking into consideration the institutional policies for enhancing retention-to-graduation.

The academic staff within the department of nursing takes responsibility for the planning, implementation and evaluation of the nursing undergraduate programme. The department

develops criteria for selecting nursing students that are based on the institutional prospectus. For the successful implementation of the nursing programme, there has to be interactions between the student, the academic staff, administrators and the clinical facilitators and preceptors for accompaniment to the clinical setting. The academic and clinical staff acts as relationship builders for the student.

Thus, academic staff is expected to be knowledgeable in subjects that they teach, and should show the willingness to act and coach. They should further be available for teaching, learning and accompaniment to the clinical settings tasks. They should allow time for self- directed learning and teach students to be analytical, critical and be able to take informed decisions that will not harm the clients or patients. Therefore, students need the services of mentors and tutors who are conversant with the subject matter and who are role-models of the profession; and who can impart knowledge and skills, empower and motivate them to ensure retention-to-graduation. An experienced mentor should demonstrate knowledge about the competencies that nursing students must develop.

A knowledgeable academic staff, facilitators, tutors and mentor are resource people and role models to whom the nursing students can look up to and emulate. Motivation, support and encouragement is important in an academic environment for nursing students and building professional collaborative relationship actualizes and enhances the nursing students' self-esteem and self-confidence. When this is strategically undertaken, performance will improve, progression and retention-to-graduation will be achieved. Nursing students interact with their peers, and friends within the institution and family in a way that is supportive of each other. If support is obtained by all means, the students feel at ease and fears of failure to graduate are subdued. If peer mentoring is done through encouraging nursing students to interact with colleagues, such students gain an increase of networks and gain personal and professional maturity to make a positive influence or difference in their academic life.

The nursing students' life is full of discovery; and if the student classroom performance is driven by the expectations the academic staff have for them, student's success is directly influenced by their active participation and involvement (student engagement). During the critical first year of university life, the student is still malleable to institutional interventions. The way academic support is offered or shaped should be in a manner that improves or enhances assessment and feedback techniques both in the classroom and clinical platforms. However, commitment on the part of the nursing student to meet their academic goals will

enhance retention-to-graduation. During time of crisis that befall the nursing student, a supportive environment which facilitates recovery is necessary and academic staff, family, peers and mentors or tutors have a big role to play in assisting and supporting or referring the student to the student counselling unit.

The success of the nursing student is monitored through attendance in classroom and clinical settings, periodic tests, assignments and objective structured clinical evaluation (OSCE) at the end of each semester, for each level. Preferably, 85% attendance at both settings is expected from each student. A pass-mark of 50% is expected from all the formative assessments to be able to enter for end of semester examination. A student who obtains 40% enters for a supplementary examination and performance below is considered as fail. If the situation continues and is not averted, the student fails to graduate. This is a state of affairs that the nursing department cannot afford to have. Therefore all the energy within this environment is devoted to support the nursing student towards retention-to-graduation.

On the last year of the nursing undergraduate programme, this context must ensure job certainty for the graduating nurses. The support of the micro context is ensured through the distribution of material, human and financial resources. It is important that there is bottom-up and top-down communication between the *macro, the meso* and the *micro contexts*. This communication must be reciprocal and circular between the contexts. The micro context has most of the academic activities taking place. The context is made up of elements such as vision, mission and values accompanied by strategy and strategic goals that impact on the teaching and learning process within that specific institution. In addition, performance management strategies and mentoring strategies by which the academic performance of nursing students is measured are also outlined.

The institution has a unique culture to which the undergraduate nursing student has to adjust. The institution develops governance structures which ensure quality in its delivery of services. The nurse educators must then be involved in attaining up-to-date knowledge, competences and attitudes to handling and empowering the diverse student population, thus supporting them to graduate. The academic environment is made up of classrooms, tutorial rooms, seminar rooms and clinical laboratories. These are important for the purpose of complementing training of nurses.

The classroom is important to gather up, impart and share knowledge. However, this knowledge alone is not enough to make a quality practitioner, unless the student gets to the clinical environment to correlate what was learnt in the classroom to that of the clinical practice. This integration of theory and practice assists the student to develop clinical competences and attitudes necessary to render quality care to clients or patients.

However, these settings have to be accredited by the SANC for offering the undergraduate nursing programme as stipulated under the Nursing Act No 33 of 2005. The supportive staff in the clinical settings must have current knowledge, skills and attitude to act as role models for the nursing students. Some of the respondents in this study mentioned of an overwhelming clinical environment with gross shortage of nurses. The raise concerned cannot be overlooked, whilst forging a supportive environment to enhance retention-to- graduation. As much as the nurses' priority in the clinical settings is the patient care, they are also expected to act as coaches, mentors and supervisors for the student nurses in their units because of their educative role. The clinical environment must have the necessary human resources and tools at their disposal to support the nursing students when allocated there. Some of the students in this study reported on the attitudes of clinical personnel being arrogant and non-supportive. This scenario calls for more enquiry on attitudes of personnel in the clinical settings. Notably, to enhance retention-to-graduation there is need to close the gaps between the NEIs and the clinical settings personnel.

The department of human resources is tasked with the responsibility of ensuring that staff increases performance in order to achieve strategic goals. Student accompaniment, mentoring and empowerment are approaches that are utilised to assist nursing students to develop academically, personally and professionally in order to be competent in rendering quality nursing care, teaching, research, and community development. This environment is comprised of the supportive staff, faculty, the academic staff, the educational programmes, clinical settings, library, skills and computer laboratory facilities. Within this environment there are policies, protocols and procedures which are meant to be followed by all who are involved in teaching and learning, community engagement, research and leadership development.

This environment is expected to be supportive in as far as retention- to- graduation of nursing students is concerned.

The staff and faculty have to be knowledgeable and capable of delivering to their mandate. They must have the necessary expertise to undertake their responsibilities. The learning environment is also connected by lines of communication. These channels must ensure effective communication through bottom-up, across, and top-down to ensure that the goals are achieved timeously without confusion and ambiguity.

The institution should have supportive staff to assist from recruitment, selection, intake and throughout to graduation. Considering the profile characteristics and background of the students, the 'climate' inside must be enabling and conducive to retention-to-graduation. There has to be adequate staff for advising, mentoring, enough resources and accommodation for students. If all these requirements are met, retention-to-graduation of undergraduate nursing students is guaranteed. However, the study found that there are inadequate library and computer facilities. This calls for a review in the distribution of resources to be equitable. These are pertinent aspects, if retention-to-graduation is the aspiration of all. The educational programmes that are offered here should be guided by the needs of the community, taking cognisance of the needs of the nursing students as well. Management, leadership and communication within this environment should be supportive and geared towards retention-to-graduation.

In the context of nursing education, there are approximately 280,000 nurses in South Africa according to the South African Nursing Council statistics of 2015. The figures from the World Health Statistics in 2010 reported that the ratio of nurses to the population in South Africa was 4.08 (184459) per 100000 in 2010 (WHO, 2011:1). These figures do not state that all these nurses are in active employment of the government, and others may have decided to keep their names in the SANC registers and not practising or practising abroad. Thus, the NEIs are obliged to graduate more nurses in order to meet the goal of "a long and healthy lifestyle for all", while also implementing the transformation agenda of Nursing Education (NDP 2030:1).

As a way to ensure that the nursing students get the support in the clinical environment, enough resources such as human, material and financial should be committed to this context to meet the educational needs of the students. The general academic activities that occur within this context should be geared towards enhancing retention-to-graduation of nursing students.

Heavy workload and minimal time to master the content has been frequently mentioned by respondents in this study. Considering that the composition of the entire student body, 74% of all higher education students were black (DHET 2015:1), it is important to communicate among themselves regarding curricula that are offered. This is because the degree of difficulty that the student experiences vis-à-vis their strength and capacity to take in content can hinder retention-to-graduation.

Researchers have alluded to the overwhelming workload and clinical placement difficulties for some of the students (Cameron *et al*., 2011:1373; Dlungwane, 2017:114; Park *et al*., 2011:38; Wright & Maree, 2007:597). Thus, more attention needs to be put on assisting students in such circumstances. This context is characterised by a collaborative leadership relationship which ensures that, from the *macro context*, the *meso* and to the *micro contexts* there is flow of vertical and horizontal communication which ensures harmony and order between the contexts and lends a supportive role to enhance retention-to-graduation. In this model the contexts present a supportive framework for retention-to-graduation.

6.3 The Assumptions of the Model

This study was based on Jeffreys (2012) NURS retention model, Bandura's self- efficacy theory (1997), Tinto's social integration theory (1993), and Knowles' theories. The use of multiple theories was because the constructs of these theories could influence the desired specific outcomes of this study. The study considers the interaction of the student's background, internal psychological processes, and external environmental supports in bringing about student retention-to-graduation. The assumptions in relation to the context, stakeholders, mentoring, outcome and process was described. The outcome was derived from the empirical data.

6.3.1 Assumptions related to the context

Support for undergraduate nursing students occurs in a context that is multidimensional and highly interactive in nature. The multidimensional nature of the context within which support occurs contributes to its complexity. In the context of the Department of Health, the undergraduate nursing students are expected to perform according to the quality requirement structures to ensure quality patient care. There are legal requirements in which the students are expected to ensure quality in terms of the Department of Health, Council on Higher Education (CHE), the SANC rules and regulations (R425) and the Nursing Act (No.33 of 2005). The

health facilities in which the nursing students are exposed to during the clinical learning experiences, have expectations and should function according to the performance management policies under a collaborative leadership and supervision within the scope of practise.

Collaboration is a decisive relationship in which all parties strategically choose to cooperate in order to accomplish a shared outcome (Rubin, 2009:1). This means that all the stakeholders in the diverse contexts within which nursing education operates have a responsibility to work together for retention-to-graduation to be achieved. A collaborative leadership involves acceptance of responsibility for building or helping to ensure the success of a diverse team is accomplished. In the context of higher education, the undergraduate nursing student is expected to perform according to the quality requirement structures to ensure that the political needs of a country are met such as, increased numbers of graduates with knowledge and skills to benefit the economy.

There are also legal requirements, where the nurse educators are expected to ensure quality in teaching, learning and research according to the Higher Education Act (Act no. 101 of 1977) and the Nursing Act (Act no. 33 of 2005). The NEIs in which the nurse educators are employed have expectations of functioning, according to the performance management policies, in order to achieve its vision, mission, values and strategy. This context has physical and psychosocial dimensions, in relation to which the nursing students needs support. Thus, the nurse educators respond to the needs through the support process.

6.3.2 Assumptions related to the role players

According to Bandura's self-efficacy theory (1997), a nursing student is viewed as a human being with a belief in one's self, or one's belief of his or her capabilities to produce a certain level of performance or maintain certain goals. On the other hand, Knowles (1980) suggests that the nursing student is a human being with a self-concept. As a person mature his/her self-concept moves from one of being a dependent personality, towards one of being a self-directed person.

The role players, including the nursing students as the centre of focus are believed to be holistic beings and a team that function in a psychosocial and cultural environment within an external and internal environment (Abdolhamid (2016:2).

In this team, collaboration is a decisive relationship in which all parties strategically choose to cooperate in order to accomplish retention-to-graduation of nursing students from the undergraduate programme. This means that all the stakeholders in the diverse contexts within which nursing education operates have a responsibility to work together for retention-to-graduation to be achieved. Collaboration requires collaborative leadership. A collaborative leader accepts the responsibility for building or helping to ensure the success of a diverse team to accomplish a shared purpose (Abdolhamid, 2016:3).

The term collaborative leadership started to appear in the mid-1990s in response to the identical trends of the growth in planned agreements between private corporations and the formation of long term public / private organization agreements. These agreements aimed for a synergy to rebuild community infrastructure with a hope that the advantage of the alliance will be greater than those of individual efforts. Collaboration among several stakeholders is often necessary to address a complex issue like retention-to-graduation.

According to Abdolhamid (2016:3), a collaborative leadership means maintaining a process that includes everyone involved in an issue or organization. Having discussed collaboration in details, the roles of various stakeholders are highlighted below:

- **The family as a role-player**

  The family and nursing students have a social relationship and social support relationship, which is an important protective factor that family provides, namely the social capital of the family (Tomcikova *et al*., 2009:202).

- Nurse educators and nursing students have a collaborating leadership and a participatory relationship for social support to which they commit within the academic environment.
- The faculty and the nursing students have an interactive relationship for social support within the faculty and on campus. The supportive staff and the nursing students have a psychosocial interactive relationship within an external and an internal environment.
- The nursing students and the clinical practitioners (clinical facilitators, preceptors and mentors) have an interactive, participative and a mentoring relationship within the clinical setting to which they all commit.

The nursing students are expected to identify and make known their needs, concerns and fears and begin to exercise their coping mechanisms within the clinical learning environment.

Bandura (1980:1) states that the concepts 'self-concept and self-efficacy' define whether performance will be initiated, how much effort will be spent, and for how long it will be continued. This also includes an individuals' ability to exercise a measure of control over their thoughts, feelings, motivation, and actions called self-system. According to Knowles theory (1980:1), students are holistic beings who are practical, whose minds, bodies and spirit interact, and thus have an effect on and are affected by the physical, spiritual, psychological and clinical environments in which they work and live. They are also adult learners who like to be respected.

According to this theory, students are self-directed, critical, and analytical, and goal-directed (Knowles, 1980:1) with a partnership between the community members, the university and the clinical area for developing enquiring and reflective minds, and clinical competencies.
Nurse Managers have a role to play in student retention-to-graduation by virtue of their position to command policy, systems, procedures and the administrative environment (Parand *et al*., 2014:1). Nurse Managers as leaders have two broad and independent functions. One is production, or task oriented, and the other is employee oriented, with a focus on relationships, building teamwork and employee identification with the organization (Feather *et al.*, 2013:65). The nurse educators, nurse managers and clinical practitioners are expected to be sensitive to the needs of the nursing student and demonstrate an attitude of acceptance of the nursing student's strength and weaknesses. They should be motivators, capacity builders, nurturers and role models for the nursing students. They are also expected to be there, nurture, guide and advocate for the nursing student's needs and committing to develop the student personally, academically and professionally within the academic environment.

Tinto's integration theory (1993:2nd ed.) suggests the incorporation of students into an educational institution. However, the theory is limited to a sociological perspective of what happens within a system to affect the student. Integration requires that, once students are incorporated into a community they develop a sense of belonging and then fit into the community of which they belong.

Thus, the nursing student feels safe and comfortable interacting with the nurse educator and the clinicians in a dialogical manner that commands respect from all of them.

Social support in general and in particular from the family, the faculty, staff and clinical practitioners is considered to be significant safeguard against stressful life events. It is in this setting where important values, norms, attitudes and patterns of behaviour are formed; both parties interact through a collaborating relationship to which they commit. The student's background is affected by internal psychological processes within the student to determine whether the student who is admitted into a nursing programme goes on to graduate. Internal psychological processes also affect how the student perceives and uses external supports, such as support from family, peers, employers / funders, and the academic institution itself.

Without adequate support, the student is unlikely to persist in a programme until graduation. Internal psychological processes determine the kind and extent of support required for the individual to be effective (Bandura, 1997; Tinto, 1993). External supports such as peers, family and faculty / academic staff have been shown to be very effective in bringing about academic persistence of the students in the undergraduate programmes (Veal, Bull & Miller, 2012: 323). However, these researchers declare that there is little attention given to academic climate and social integration and their influence on the educational experiences of graduate students in nursing programmes.

6.3.3 Assumptions related to the process of support

Retention-to-graduation is a process with psychological, academic as well as social implications and with a series of economic causes. It also has implications in terms of the society and culture in which individuals operate. Nursing students function in a risk-laden and emotionally challenging environment that demands a complete state of both physical and psychosocial balance for them to be able to render effective, professional and well-rounded nursing care services. Therefore, the support for nursing students takes place in a physical and psychological context. It is a process of mental stability, productivity and empowerment. Through this process, the nurse educators and clinical facilitators must be fully equipped with new knowledge, skills and attitude. This is important to impart the nursing student with such skills so that it will assist, support and empower them to improve their performance.

In an interactional and participative relationship, nurse educators, clinical facilitators and preceptors assist a nursing student to develop skills and attain competencies to identify and interpret the requirements and expectations of higher education. A nurse educator uses reflective practice where constructivism is applied to assist the nursing student to learn through active examination. This style of learning is important to build new knowledge in her/his present context of social knowledge and interaction between the academic staff, and nursing students. Acquisition of skills is useful when the nursing student develops required skills through the process of interaction and support by the nurse educators, clinical practitioners, mentors and tutors. This is fully achieved when the student appropriate knowledge, skills and attitude are acquired or are under their control – a process called scaffolding.

The educators, facilitators, mentors and tutors serve as role models to the nursing students. A nurse educator creates an environment for reflection, where the nursing student is allowed to reflect on practice. The nursing student continues to develop in order to construct learning abilities in an environment for self-inquiry, self-discovery and acquisition of skills. A collaborative leadership, mentorship and student accompaniment serve to develop the required competencies of the nursing student. The nurse educators and faculty are aware of and possess the required competencies to guide, nurture and support the nursing student to perform according to the required academic standards to succeed in higher education. The supportive relationship is healthy and motivating. The academic staff develops the competencies of the nursing student through motivation strategies in order to achieve the desired behaviour. On the other hand, nursing students learn to develop a sense of duty and commit to active participation in the teaching and learning process in order to achieve the desired behaviour for retention-to-graduation.

6.3.4 Assumptions related to the outcome of retention-to-graduation

Retention-to-graduation of undergraduate nursing students in the NEI is a determined process. The purpose of retention-to-graduation is empowerment, work performance and mental stability. It entails the development of coping strategies, persistence and self-efficacy for the nursing students to function effectively in their environment. The outcome of retention-to-graduation will be achieved in the academic environment of the student. It is achieved through participatory interaction between nurse educators, clinicians, faculty and nursing students. The outcome occurs when students state their support needs and participate in a relationship with

the academic staff and faculty. Nurse educators and clinical practitioners ensure that a relationship is built between them through engaging with the nursing students. A nurse educator develops nursing students through reflective process of interaction and dialogue.

6.3.5 Assumptions related to the dynamic

The energy source for this model is the support, motivation and commitment that nursing students obtain from the academic staff, faculty, support staff and clinical practitioners, whose involvement is important for the success of retention-to-graduation. Support, commitment, empowerment, and capacity building are important for adaptation to a new environment. A collaborative leadership is necessary throughout the process of support of the nursing student.

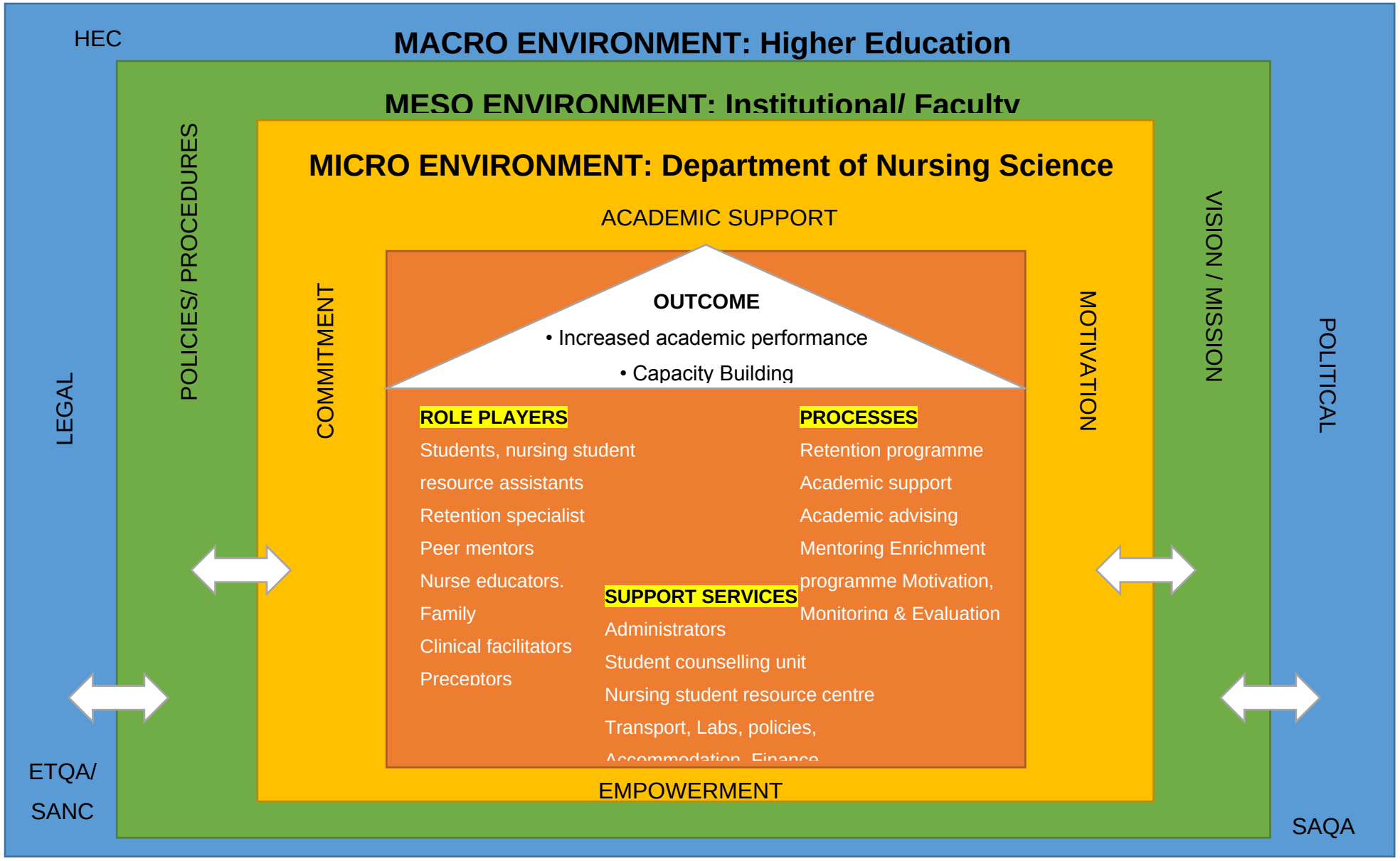

Figure 6.2: A model for retention-to-graduation of nursing students in the Eastern Cape Province

6.4 The Context

The context consists of the macro, meso and micro environment of nursing education practice.

6.4.1 The Macro-Context

According to the Higher Education Act (Act no. 101 of 1997), South Africa's higher education system has committed itself to policy initiatives to ensure that the higher education system will provide high-quality education in order to provide skills that will contribute to the improvement of the economy of the country. The Higher Education Quality Committee (HEQC) ensures quality in higher education programmes. The HEQC designated a system to provide quality assurance (Umalusi) in order to ensure continuous quality improvement and the achievement of the quality-related objectives of the institutions. This requires quality in academic governance, teaching and learning practices and structures of learning programmes (HEQC, 2005:1).

Nursing education institutions are expected to function according to the requirements of the HEQC. They are subjected to institutional audit reviews and they have the responsibility of ensuring quality, which can be achieved through retention-to-graduation. Programme accreditation, institutional audits, quality promotion, capacity development and support that need to be integrated in higher education institutions are evaluated. The purpose of evaluations is to ensure institutional capacity and preparedness to offer good-quality programmes as well as to ensure the advancement of student quality. This is done to ensure increased research output that meets the needs of society, quality teaching, learning and assessment.

The political context is composed of the National Plan for Higher Education, the National Health Plan and the National Health Human Resource Plan for Health (2006:15). These policies emphasise the importance of quality in teaching and learning in higher education, which are achieved through retention-to-graduation. The National Health Act (Act no. 61 of 2003) provides a framework of legislation for the health sector. It proposes the recruitment of appropriate personnel and retention strategies in nursing education institutions which necessitates retention-to-graduation in departments of nursing. (National Health Act no. 61 of 2003; National Health Resource Plan for Health, 2005:25).

South Africa is confronted by an international migration of healthcare professionals and the global challenge of disease, which complicates health workforce planning.

The human resource plan for health further emphasises the need for quality and retention strategies such as mentoring, thus making retention-to-graduation very important in nursing education. The National Health Act (Act no. 61 of 2003) requires quality in recruiting and training of nursing personnel to meet the human resource requirements of the country's health system. It proposes the recruitment and retention of appropriate nursing personnel to nursing education institutions. The South African Nursing Act (Act no. 33 of 2005) ensures that there is quality in the teaching practices of the nursing profession. The South African Nursing Council (SANC) acts as an education and training quality controller and therefore approves and accredits nursing education programmes. It gives guidelines on how each programme should ensure quality in teaching and learning. It further acts as a statutory education quality assurance body and works in cooperation with the Higher Education Quality Committee. Notably, it is the statutory body that controls the nursing profession.

The shortage of skills in South Africa as a country led to the introduction of the Skills Development Act (Act no. 97 of 1998). The Act seeks to revolutionize skills development by advancing a culture of excellence in skills development and lifelong learning in nursing education. The Human Resource Plan for Health comprises a skills analysis plan for the nursing profession. The nursing profession expects nurses to continue keeping themselves updated to sharpen their skills. Nursing is a knowledge-based profession and technological expertise; thus high degree of clinical acumen is qualities that healthcare consumers demand (Levett-Jones, 2009:229).

Nurse educators are expected to develop knowledge and skills through mentoring, postgraduate studies and training. The knowledge gained is utilized during training and in mentoring nursing students in the undergraduate programme. Nursing students also find the academic environment very stressful. Nonetheless, they are expected to have sufficient up-to-date knowledge, skills and attitude to enable them to progress to attainment of their qualifications. Therefore, they need the services of the caring and competent academic staff and faculty in order to achieve quality education. The support for retention-to-graduation leads to satisfaction, increased self-esteem and self-confidence of the undergraduate nursing students.

This context relates to the world, the national events, and the geo-political sphere. This context has an indirect role to play on the future of the nursing student in the undergraduate programme. For example, according to the World Health Organization in strengthening nursing and

midwifery, it is in the interest of each Member State to look after the well-being of its individuals or groups namely their social, economic, psychological, spiritual or medical state of which the nursing student is part. The quality of life of a group or individual is always measured in terms of how one is affected by the environment within which one exists and interacts. That develops one's cognitive well-being in relation to one's aspirations, needs, contentment and disappointment. According to Jeffreys (2012:1) NURS model of retention, the macro environment is characterised by outside surrounding factors which include the world, national and local events, politics and economics etc. These factors exist outside the institutions of higher learning – outside the academic setting and the student's personal environment. Therefore, in one way or another, they have an influence on the academic performance, the type of exit that the student experiences and an influence on retention-to-graduation.

The National events which are characterised by the geo-political arena have an influence on the future of the nursing students and retention-to-graduation. The strikes as a result of dissatisfaction witnessed from time-to-time; whether in government or by nurses themselves, the instability in government and the private sector are some of the macro factors that influence the nursing student retention-to-graduation.

6.4.1.1 The Constitution of the Republic of South Africa

The Constitution of the Republic of South Africa (1996) is the supreme (highest) law of the land. It is central to developing and implementing health law and policy, which it regulates in at least five important ways:

- It regulates the structure of government.
- It regulates the way in which various branches of government operate.
- It sets out the framework for raising taxes and allocating revenue.
- It guides the content of all laws and policies, primarily through its Bill of Rights.
- It regulates the role of government and non-state actors (such as private corporations) in realising the right of access to health-care services.

South Africa has its own legal system which is operated through various Acts, policies and procedures. The legal and professional elements are Acts and governing structures in the Departments of Education and Health. These Acts and procedures have an impact on training and development of nursing students through providing guidance for ensuring quality nursing education and quality patient and client care in a health facility environment.

In South Africa, the Freedom Charter of June 1955 endorsed many 'rights' that would be enjoyed by all irrespective of status .i.e. gender, colour or creed. Amongst those rights is a right to education. The Charter outlined that "The doors of learning and of culture shall be opened to all!" In ensuring this, the role of government was to "discover, develop, and encourage national talent for the enhancement of cultural life" (The O'Malley Archives). As stated in the Charter, the aim of education shall be to "teach the youth to love their people and their culture, to honour human brotherhood, liberty and peace; education shall be free, compulsory, universal and equal for all. Higher education and technical training shall be opened to all by means of state allowances and scholarships awarded on the basis of merit; Educators and teachers shall have all the rights of other citizens irrespective of colour, or care or social standing".

Thus politics and economics play a crucial role in retention-to-graduation of nursing students. These issues are very important considering that, in South Africa 20% premature departure rate for both undergraduate and postgraduate students cost the government R1.3 billion each year (National Department of Education, 2001) a figure predicted to have increased significantly. These costs are not only borne by government, institutions, society and professions, but students have also suffered financial, psychological and emotional consequences. Some get disappointed at themselves and even go to an extent of being hostile to their academic staff or get into drug abuse, absenteeism, poor performance and eventually fail to graduate from the programme.

Thus, all what is enshrined in the Freedom Charter of 1955 has influenced students in the education sector particularly in Higher Education Institutions (HEIs) to demand for free education through "Fees Must Fall" campaigns and this has an influence on the retention- to-graduation of nursing students in the undergraduate programmes in the country.

If the funding becomes a reason for failure to graduate that is not only loss to the student alone, but also it deprives the consumers of healthcare the services they would receive had the student completed to graduation.

The government must play a crucial role in supporting the nursing students in South Africa. The big question is how far do they deliver to their mandate for nursing student graduate in particular? Considering the fact that the study was conducted in the Eastern Cape Province which is among the Provinces hard hit by unemployment, poverty and past inequities, it is

important that nursing education in this country receive support from the government and non-governmental institutions to fund the nursing students particularly those whose family income is less than R1.800 per month. More importantly students who come from abject poverty backgrounds or are household heads need special funding support. The government has a legal framework and professional environment that indirectly affects the relationship of support for the nursing students in the undergraduate nursing programme.

6.4.1.2 Department of Health

In terms of relevant legislation, including the Constitution Act No. 108 of 1996, the National Health Act, 61 of 2003, the Nursing Act 33 of 2005 and the Government of South Africa has the responsibility to deliver healthcare to the entire population. The National Development Plan (NDP 2030) focuses on massive provision of human resources, a bulk of which is nursing workforce to produce quality health services to all. While South Africa's health care system is faced with a huge demand to deal with a huge nursing shortage, there is a need to also look into the environment within which nursing students operate. So much has happened in the transformation of nursing education in the country. Therefore, strides towards supporting the nursing students to graduation should be visible.

According to Jooste (2010:79), policies are plans that have been summarised as statements or instructions that direct units in their decision making. A policy is a statement of expectations that sets boundaries for taking action and making decisions. These comprehensive statements are derived from the health-care organization's philosophy, goals and objectives. One of the ultimate aims of government is to promote the general welfare of the population (Minnaar, 2010:16). Health initiatives in the community aimed at encouraging healthy lifestyles may also be directed by official policies and legislation, giving added value to health-care services.

For health policies to be successful, it is necessary to look for greater pace of change in the political, legal, commercial, educational and administrative systems on which successful health policy relies (Potter & Harries, 2006: 841). Policies and legislation created on a macro or meso level must be implemented at the micro-level.

Nursing education, management and professional practice are sometimes affected by the provisions of legislation and policies that direct health-care delivery. These structures, in turn, have an impact on the Department of Health policies and requirements, which also have an

impact on the health facilities and the process of supporting nursing students at these facilities. The core business of the Department of Health is to provide quality health care through a range of services, from the primary, secondary and tertiary levels, in facilities such as clinics, community health centres and hospitals. Through these services, the Department contribute towards wellness in the community and thus affects and addresses the burden of disease within the province.

Further, the business of DoH is to improve health status through the prevention of illnesses and the promotion of healthy lifestyles. The department also has to consistently improve the health-care delivery system by focusing on access, equity, efficiency, quality and sustainability. The National Health Act No. 61 of 2003 unites the national health system in a common goal to actively promote and improve health, within national guidelines, norms and standards. The Act takes into account the obligations imposed by the Constitution and other laws pertaining to health services, which include nursing care with regard to the rights of the health-care users and the duties of the heath-care personnel. According to the National Health Act (No. 61 of 2003), three distinct but interrelated spheres of government are established i.e. national, provincial and local government.

Conclusively, these outcomes are achieved through the efforts of the nursing workforce of which nursing education is the backbone. Thus, the Department of Health is an important role player which impacts on retention-to-graduation of nursing students. The government funding for Higher Education has a direct influence on retention and graduation of undergraduate nursing students in reference to the rights to equal education for all.

6.4.1.3 The South African Nursing Council (SANC)

The South African Nursing Council (SANC) is the statutory body responsible for regulating the nursing profession in South Africa, setting standards of practice and education for nurse practitioners in South Africa. SANC was established by section 2 of the Nursing Act, No. 33 of 2005 (Republic of South Africa, 2005) and continues to exist as a juristic organization. Some of its vital functions are: applying standards of nursing practice, public protection through the investigation of complaints and disciplinary actions against nurse practitioners found guilty of improper and disgraceful conduct, and the support and assistance of professional members.

The vision of SANC is stated as "excellence in professionalism and advocacy for the health care users", whereas the mission statement is "to serve and protect health care users by regulating the nursing profession". It is an autonomous, financially independent, statutory body, initially established by the Nursing Act, 1944 (Act No. 45 of 1944), and currently operating under the Nursing Act, No. 33 of 2005. The SANC, as a registering authority for nurse practitioners, informs nursing practice through legal frameworks and the code of conduct for nurse practitioners by getting its authority from the legislation. The overall role of SANC as the profession's regulatory body is "the oversight, monitoring and control of nurses on the basis of principles, guidelines and regulations deemed important by the profession" (The South African Nursing Council [SANC], 2006).

SANC also accredits training institutions and programmes which deal with training and development of various cadres of its profession from the lowest category (Enrolled Nursing Assistant) to the highest category of Professional Nurse and Midwife. SANC gives directives and guidelines pertaining to the implementation of those programmes in Colleges and Universities accredited to offer such programmes.

6.4.2 The Meso Context

In this model, the *meso context* is the institutional level. It also refers to the policies, procedures, protocols and guidelines based on the National Health priorities. The context is made up of elements such as vision, mission and values accompanied by strategy and strategic goals that impact on the teaching and learning process within that specific institution.

These strategies are in line with the national governmental Acts, policies, protocols and procedures. This context is also characterised by rules and regulations, policies and protocols which are based on government gazettes and various Acts. The policies are geared towards enhancing retention-to-graduation of the nursing student.

According to Mellish, Brink and Paton in Seekoe (2014:3), universities are under the control of Higher Education and are allowed to draw up additional regulations that govern the education of nurses in order to ensure quality and to function according to the requirements of higher education. In both systems of nursing education institutions, the policies and regulations have to incorporate the minimum requirements of the South African Nursing Council. Programmes set up to retain multicultural and multilingual nursing students are important

organizational priorities. Apparently, the higher education institutions and clinical practice centres need to build responsive and welcoming environments where all students feel engaged (Washington, 2010:1).

6.4.3 The Micro Context

The *micro context* is the Nursing Department within the institution. It is where all policies are implemented and it is where most of the academic activities take place. The department has a unique culture which the undergraduate nursing student has to adjust to fit in. The institution develops governance structures which ensure quality in its delivery of services. The institution has a vision, a mission and strategic goals that are in line with the National and Provincial pieces of legislations set in order to meet the requirements of higher education and policies of the country.

The institution has however, the role of driving strategy, ensuring governance, quality assurance as well as performance management strategies and mentoring strategies by which the academic performance of nursing students is measured. The Nursing Science Department has to align its vision, mission and goals to the institutional strategy in order to maintain quality within the department.

6.5 The Undergraduate Nursing Programme

This programme ensures that the institution plans nursing students' performance to achieve their full potential in line with its own objectives.

The nursing student is selected by the institution and is expected to perform according to scope of practice, and maintain a student status within the nursing department and the clinical facilities.

The institution submits a curriculum for approval to the SANC in preparation for the nursing undergraduate programme. The institution supports the implementation of the nursing programme by adopting teaching strategies like problem-based learning (PBL) community-based education and case-based methods to enhance teaching and learning; develops modules, facilitators and learner guides for each level according to level objectives and level descriptors and associated assessment criteria. It further clarifies policies and procedures pertaining to

nursing education. It delegates individuals who are experts in their fields or niche areas to co-ordinate programme implementation.

The institution devotes finances to some programmes like mentoring to support the nursing students within the undergraduate programme. Mentoring improves the performance of nursing students and quality of the institution (Seekoe, 2014: 7). The higher education institutions use mentoring to develop research, teaching and learning skills to new nurse educators who in turn impart the nursing students (Seekoe 2014:2). From time-to-time, the curriculum is reviewed and course guides evaluated to respond to the needs of the students and the community. The student as a social and an intellectual being comes to the learning environment with some expectations such as to obtain a degree at the end of the programme. Thus, there is a need to create an environment of inclusion for culturally diverse nursing workforce. Peer mentorship programme as a strategy to enhance retention-to-graduation is utilised and progress monitored closely. The institution determines the model – formal or informal for retention-to-graduation. It ensures that there are outcomes determined specifically for the undergraduate nursing programme.

6.5.1 The academic task team

The institution forms a task team that will spearhead the establishment of the academic programme to ensure that the programmes are followed, implemented and evaluated according to the SANC and CHE regulations. The nursing department likewise has committees that work together with the institutional task team in realization of the departmental goals. The criteria for the selection of nurse educators and clinical practitioners / preceptors are based on the outcomes that must be achieved.

The performance of the nursing students is reviewed and success is measured within the prescripts of the institution as determined by the examinations committee and quality assurance bodies within the institution.

The nursing student is expected to have knowledge, skills and values in the areas of reading and comprehension, assessment, performance, and research in higher education. There is need to utilize knowledge to improve practice. A nursing student is expected to display a required positive attitude in order to be able to perform and succeed in higher education. The institution ensures that teaching and learning occurs within the academic environment which facilitates

the personal, academic and professional growth and development of the nursing students for improved academic performance. The institution has to ensure that the nursing student achieves work-related goals in order to ensure retention-to-graduation. This is done through development of job descriptions for nurse educators, faculty and clinical practitioners / facilitators / mentors / preceptors.

The institution through the academic programme includes the policy and guidelines for teaching, learning and evaluation of the programme. The institutional performance review process takes the results of teaching and learning into account. The institution integrates a collaborative leadership relationship and empowerment into its nursing department and delegates it for implementation.

6.5.2 The curriculum

The prescripts of the SANC which stipulate the minimum requirements for each programme in terms of credits for both theory and practice integrated learning are taken into consideration. Using the approved curriculum for the period stipulated the institution measures its inputs, throughput and outputs to see whether the academic performances are geared towards retention-to-graduation of undergraduate nursing students. Curriculum development committees with their coordinators ensure that, the curricular reviews are conducted timeously to ensure that they are aligned to the national health priorities in order to enhance retention-to-graduation.

Initiatives to empower nurse educators are conducted through workshops, seminars, and research conferences. These initiatives must be cascaded to the level of the nursing student in order to meet the community needs as well as the students' needs.

Identification of at risk nursing students should be geared at reducing failure to graduate and enhancing nursing students'retention-to-graduation.

6.5.3 A supportive Framework

The role players in the *macro,* the *meso* and the *micro* contexts form a supportive framework for retention-to-graduation of nursing students in the undergraduate nursing programme. The various stakeholders with these contexts look into the various policies, enacted pieces of legislation, establish rules and regulations that govern how nursing education can fulfil their obligation of providing nursing practitioners for the country. Among these players, there should

be reciprocal collaborative leadership relationships for the sustainability of the nursing education institutions to enhance retention-to-graduation. Thus, retention-to-graduation will be achieved through involvement of all role-players within a collaborative leadership relationship and a supportive framework.

A positive support outcome for nursing students will depend on the relationship of trust that is developed between the role-players and the nurses in the workplace. It will also depend on the knowledge, skills and attitude that nurse educators have on supporting and counselling nursing students. As soon as the nursing students are able to cope with the demands of the undergraduate programme, they will immediately be empowered, improve in their academic performance and they will also develop self-concept or self-esteem that is much desired of them (O'Donnell, 2011:54). The nurse educators must reach out to the nursing students through motivation, counselling, encouragement, and role modelling; thus, ultimately becoming a source of psychological support.

6.5.4 Empowerment

Empowerment is about having control over one's life. More precisely, a person is empowered if he/she has control over the determinants of her quality of life. The more control he/she has, the more empowered she/he is (Tengland, 2007:5). When one is empowered they feel strong, start their life all over again, and they are able to face the future. As soon as the nursing student acknowledges the importance of commitment to their studies, they will be able to take control of their life. They will begin to be productive, academic performance will improve and they will be mentally stable. Therefore, the expected outcome of retention-to-graduation for the nursing students is empowerment.

Moreover, when they are counselled and supported by their educators and managers in the workplace, they will be able to take control of their lives and thereafter execute their duties as required by the South African Nursing Council. The nursing student is an important and vital resource in the society and their well-being must be assured as prospective employees in a nursing environment. Therefore, they should be afforded all form of support such as emotional support through the services of psychologists (Nel *et al*., 2013:201). Therefore, nurse educators must be able to recognise the signs of stress in individual student early enough. Identification and referral to a psychologist for counselling are vital where such cases are identified.

Significantly, training programmes should be available for nurse educators in order to capacitate them on how to handle and counsel ‘at risk’ nursing students.

6.6 The Commitment Framework

This model also emphasizes the need of commitment for the role-players, including nursing students to enhance retention-to-graduation. Student retention-to-graduation has been plagued by academic factors, personal factors, economic and family issues. Therefore, as O’Donnell (2011:54) puts it, there is a need for building self-esteem in students, because if students experience low self-esteem it results to personal failure, embarrassment, anger, frustration and resentment. These are recipes for failure to graduate from the undergraduate programme.

In line with O’ Donell (2011:54), this study also found that, with commitment, persistence, resilience and self-efficacy on the side of the student much can be achieved. Some researchers are of the opinion that, students with high academic resilience and self-efficacy are more likely than those without to commit and persist when confronted with academic difficult content and material (Taylor & Reyes, 2012:1). They also perceive negative performance feedback as stepping stones to overcome and as warnings indicating where more effort is needed rather than as intimidations to avoid (Culpepper, 2004:1; Taylor & Reyes, 2012:4; Wilks, 2008:106). The diverse student profile characteristics, socio-cultural and socio-economic backgrounds emerged as factors to be considered for the majority of students’ retention-to-graduation. The study also found that, the majority of students were less than 25 years of age.

This age group might be faced with many challenges of adjustment and transition as they enter tertiary level. In fact, some have also mentioned how they found the environment to be overwhelming to them in terms of 'workload vis-à-vis the time available' to finish and master it. The inability to manage time, understanding the learning demands, ineffective planning around their academic schedule, under-preparedness and stress related to feelings of incapacity pose a threat to immature students and have an influence in the decision of retention-to-graduation (Dlungwane, 2017:118). Therefore the commitment framework has to take into consideration the academic factors, the personal factors and the family background of each individual student.

From the literature reviewed, it was revealed that: education of nurses is a political issue which needs a political will of the government to support retention, success and increased graduation; nursing education institutions of higher learning have a major role to play to increase retention-to-graduation from the undergraduate programmes; nursing students themselves bear the ultimate responsibility to care for their studies as their success lies within the efforts they put on their future goals.

6.6.1 Community service

The model also describes the end product on the nursing student upon graduation. Community service is the gateway towards registration with the South African Nursing Council as a registered professional nurse. Social support of this nurse continues even during the period of community service. That is why the community service centres must be well equipped and well-resourced with caring primary health care practitioners. These experienced practitioners welcome the newly qualified nurse, induct and empower them to their new environment. This is necessary to close the gaps in knowledge and practice, which might not have been covered or adequately addressed during training.

6.7 Evaluation of the Model

The ultimate purpose of this chapter was to evaluate the model and describe the guidelines for operationalization of the model. The model was evaluated in accordance with the criteria for model evaluation, following the guidelines of Chinn *et al.*, (2011:197), which required the following questions to be answered:

- How clear is the model?
- How simple is the model?

- How general is the model?
- How accessible is the model?
- How important is the model?

6.7.1 How clear is the Model?

Chinn *et al*. (2011:198) indicated that the question, "how clear is this theory?" should be posed. This question is essentially asking how well the theory can be understood and how consistently the concepts are conceptualized. Upon critical reflection, it was decided that the model was clear. The concepts were defined using dictionaries and subject literature. They were defined broadly and were then given meaning specifically within the professional context in which the model is placed.

The basic assumptions upon which the model was based were consistent with one another and served a purpose, which was made clear when each assumption was posed. I described an undergraduate nursing student as a person with an internal and external environment. The view of the person and the external environment were compatible and fitted within the assumptions made. The overall structure of the model was diagrammatically represented and was clear to follow. The concepts fit within the theory and built a picture and a sequence that is clear to follow, both in the written description of the theory and in the diagram presented.

The identified major concepts and related concepts were used consistently throughout the study. A conceptual framework was derived from the concept analysis provided by the meaning of retention-to-graduation in the undergraduate nursing programme. An adapted questionnaire was constructed to collect the data from the nursing students in the undergraduate nursing programme. The statistical analysis system (SAS) version 9.3 method of data analysis was used to analyse the data. The results were conceptualized according to the six elements of practice theory of Dickoff *et al.*, (1968:434 in Seekoe, 2014:3) namely the context, agent, recipient; dynamic, procedure and purpose. The model was described on the basis of the same concepts to enhance semantic consistency. The major and related concepts formed the structure of the model of retention-to-graduation of nursing students in the undergraduate nursing programme.

6.7.2 How Simple is the Model?

Simplicity was accomplished by only using the core concepts in the model. No new concepts were introduced to obscure the description. The process for retention -to-graduation was described using the core and related concepts. The model is intended to be operationalized in a nursing education institution within the undergraduate nursing programme. Therefore, it should be reasonable to operationalize, but simple enough to be clear.

6.7.3 How General is the Model?

According to Chinn *et al*., (2011:202), the question "how general is this theory?" addresses the scope of experiences covered by theory. The model proposed in this study is anticipated to enhance retention-to-graduation of nursing students and also to be used to promote mental stability and empower them to increase academic performance. A general theory can be applied to a wide range of situations. The model developed in this study and the concepts used in the theory are simple but can be applied extensively.

The model presented in this study applies to undergraduate nursing students within the nursing education institutions in the Amathole District and OR Tambo District of the Eastern Cape Province in South Africa. It is appropriate for when undergraduate nursing students find themselves stressed and un-coping with the academic demands of the undergraduate nursing programme during the process of personal, academic and professional development to retention-to-graduation. The scope of submission of the model cannot be generalised, as it is qualitative, but the model can be utilised in similar nursing platforms for quality teaching and learning, research, community engagement and leadership and management to enhance retention-to-graduation of undergraduate nursing students.

6.7.4 How Accessible is the Model?

The model developed in this study needed to have a high level of accessibility. This was ensured by testing relationships between concepts, deliberately applying the theory and by clarifying conceptual meanings. The model is therefore accessible and can be implemented to improve academic performance, offer support and empowerment to undergraduate nursing students in their endeavours to attain their goal of retention-to-graduation.

6.7.5 How Important is the Model?

Chinn *et al*. (2011:204) suggest that an important theory is futuristic and forward looking, and is usable in practice, education and research. Undergraduate nursing students, if supported by knowledgeable and skilled academic staff, clinical facilitators and preceptors will be encouraged to perform better, develop emotional stability, self-confidence and attain their goal of retention-to-graduation. Class and clinical attendance will improve. Nursing students will tackle challenges they face in the academic environment and within the undergraduate nursing programme and failure to graduate will be seen no more. Retention to graduation will improve. More nurses will be allocated to the community services and finally more qualified professional nurses will be registered with the SANC thus increasing to the pool of professional nurse practitioners for the nursing services in the Eastern Cape Province. They will impact positively on their role as qualified nurse practitioners after qualifying and attaining their degree.

The model is practically relevant and important to the factors associated with retention-to-graduation of nursing students in the undergraduate nursing programme as supported by the literature. By implementing a multidisciplinary team which comprises all relevant role-players as described in Chapters 4 and 5, and by implementing enrichment programmes and academic advising over and above peer mentoring programme for support where nursing students are counselled and supported, academic performance will improve and more nurses will be retained to graduate at the end of the programme. The model is important for the future of the health care system because as they get registered with SANC as professional practitioners they will add to the human resource pool, earn salary, improve their socio-economic background, gain status in society and in the communities in the Eastern Cape Province will be emotionally stable and can be able to render quality care to patients. This model is valuable for creating a desired future for the students themselves, for teaching and learning in the NEIs, for the practice, for research and for community engagement.

6.8 Registration with SANC

As the ultimate objective of this study, the model ends with the registration as a qualified professional nurse with SANC, hence, adding to the much-desired nursing workforce.

6.9 Chapter Summary

This chapter described the contexts within which the nursing education exists and operates. Multidimensional factors provided various concepts which were clustered together to come up with this model for retention-to-graduation (See Figure 6.2).

In this model, there is a need to have relationships which are ongoing, circular, reciprocal, participative and empowering in order to ensure that communication from the institution to the Department of Health, the South African Nursing Council, HEQC, the South African Qualifications Authority flows freely and back without conflicting in the chain of events. Any confusion or ambiguities in this chain will exert an influence on the type of exit from a university that a student experiences. Therefore, based on the three contexts that have been identified, namely; the *macro, meso* and *micro* levels, the research concepts in Figure 6.2 form the basis for the development of model for retention-to-graduation of nursing students in universities. The chapter also described the evaluation of the retention-to-graduation model of nursing students in the undergraduate nursing programme. A successful retention-to-graduation model would contribute to registration with the South African Nursing Council as professional nurses and midwife for graduates.

CHAPTER 7: GUIDELINES FOR THE IMPLEMENTATION OF THE RETENTION-TO-GRADUATION MODEL

7.1. Introduction

The previous chapter described the retention-to-graduation model within the *macro*, *meso* and *micro* contexts of nursing education. This chapter describes the guidelines for the operationalisation of the retention-to-graduation model of nursing students in the undergraduate programme in the Eastern Cape Province in South Africa.

7.2. Guidelines to Operationalise the Model

According to Chinn and Kramer (2011:101), the final step in theory development is deliberate application of the theory. The theoretic relationships are systematically examined in the nursing education and clinical practice setting, and the results are recorded and assessed to determine how well the theory achieves the desired outcomes. This is achieved through a description of guidelines to ensure that they achieve the educational and practice goals. The bases for the guidelines emanating from the concluding statements were derived from the conceptualisation of the six elements of practice theory (Dickoff *et al*., 1968 in Seekoe, 2014:3). The guidelines will be described according to the elements of practice theory, as shown below. First the guidelines pertaining to the context, the role players, the process, the outcome and the dynamic, as described in Chapter 4, will be outlined.

7.2.1 Guidelines pertaining to the context

- Academic support for undergraduate nursing students in the institutions of higher learning should take into consideration the importance required of the NEIs and the Department of Health regarding retention-to-graduation of nursing students.

- The legal and professional framework facets characterised by various legislation should be considered in order to enhance retention-to-graduation of nursing students to attain their qualifications within a dynamic environment.

- Newly appointed academic staff, retention-specialist and academic advisers in the programme should be exposed to an induction programme, which is the first part of orientation in which policies, procedures as well as the philosophy, mission, goals, history, culture, structure, norms, standards and communication procedures are presented.

Mentorship programmes, academic advising and enrichment programmes should be included in these induction training programmes, not only at the classroom, but also at clinical practice levels. Therefore, new personnel should be knowledgeable so that they can know the direction to take in assisting and supporting the undergraduate nursing students during their training.

- The NEIs should develop a strategy for supporting nursing students.
- The NEIs needs to identify a task team to ensure that the support programme is established.
- An academic advisor or a retention specialist for the undergraduate nursing programme can be appointed to coordinate/facilitate the academic advising programme.
- The NEIs can select or develop enrichment programmes (foundation programme) for support of the undergraduate nursing students to assist with all the academic and clinical competence which also include communication or literacy skills, mathematical and computer skills for all new students.
- The programme can be sent for accreditation to the statutory body which is SANC and SAQA for approval. All academic staff and administrative staff in the institution should have the required knowledge and skills for providing support to the undergraduate nursing students.
- There should be capacity building workshops and academic writing, where all the students are trained especially in time management to be able to attend to their assignments and also be able to realise their goals of retention-to-graduation.
- The needs of the newly appointed personnel that form the multidisciplinary or task team must be assessed, in order to empower them with skills to mentor and support the undergraduate nursing students both in the classroom and clinical settings.
    - The task team terms of reference must be identified for their effective support of the nursing students in the undergraduate nursing programme.
- The NEIs must establish buy-in for the development of an academic advising programme, for the undergraduate nursing students by committing funding to appoint the retention specialist or the academic advising assistants.
- The meso-context is at the level of faculty or the institution. This includes the environment within which academic staff, administrative staff, students, clinical facilitators

and preceptors and mentors operate by providing academic support for undergraduate nursing students.

- The vision and mission, rules and regulations, and protocols and procedures should be known by all the role-players and be accessible and implemented by all for the smooth running of the institution.

All the strategies here should be aligned to that of the macro environment.

Lines of communication should be horizontal and vertical, and should be observed by all, taking into consideration the purpose and goals of the institution.

The micro context (the Department of Nursing) should develop a strategy of enhancing retention-to-graduation of undergraduate nursing students.

The micro context has an important protective dynamic, which is the network of social relationships and social support that academic staff, administrative staff and family provides; which is the social principle of the department. It is considered to be an important buffer against stressful life events and to play an important role in coping with demanding life situations of the nursing student.

- Academic advisors and advising assistants fulfil the academic advising functions, which are the advising, mentoring, empowering and developing outcomes for support of undergraduate nursing students towards enhancing retention-to-graduation.

- Students counselling unit must work hand in hand with the academic advisor and other role-players to enhance emotional stability in the undergraduate nursing student.

- It is important that the head of the department feels positive about the support programme for undergraduate nursing programme.

7.2.2 Guidelines for role players

- **The Head of Department (HOD)**

- The HOD should be willing to take part in the academic programme.

- She should have a qualification of Nursing Education and be conversant with the rules and regulations governing the running of the undergraduate programme.

- She should identify and support the needs of the academic staff, clinical facilitators and preceptors that are driving the programme. She must be approachable and understand the process of running the department of nursing science.
- The Dean of the Faculty is the most important role player and interacts from time to time with the HOD in the support of the undergraduate programme.
- She is the leader in the relationship.
- She can promote commitment, not only by empowering academic staff to receive support, but also by allowing them to give academic support to undergraduate nursing students.
- She/he should act as a peer in the relationship, not as a parent or a supervisor, just because of her/his experience.
- She/he must be able to recognise the signs of stress in individuals, and do early identification as referrals to a psychologist for counselling are vital.
- Training programmes should be developed for all academic staff to capacitate them with knowledge and skills on effective teaching and learning, research and community engagement. The required knowledge and skills should be known to all academic staff in the institution.
- She should share knowledge and skills with the staff and be able to communicate with the clinical learning platforms to ensure that all the nursing students are getting the required support to enhance retention-to-graduation.
- Managers in health care have a legal and moral obligation to ensure a high quality of patient care and safety and strive to improve care. She should therefore, revisit and forge relationships with the adjacent community and clinical facilities and health care centres to ensure smooth running of clinical training for nursing students.

❖ **The academic staff (nurse educators)**

- The nurse educators should commit to the supportive relationship with other team members and with the students as well.
- They should specify their support needs to the HOD.
- They should initiate meetings based on the ground rules laid down at the beginning of the relationship.
- They should be thoughtful and respect the needs of the undergraduate nursing students, such as giving their hours to consult with the students when need arises in advance.
- They should monitor attendance of nursing students at both classroom and clinical settings and be sure to engage students meaningfully to enhance their potential in retention-to-graduation.
- Designing of course guides, as well as learner guides that meet each student's academic needs for retention-to-graduation, is their primary responsibility.
- Developing assessment tools and administering clinical skills are some of the important activities in the academic environment.
- The nurse educators are role models for nursing students. Thus, they must always display professional behaviours which commensurate with the image of the profession to which they belong.
- It is important that they update themselves with the current issues in nursing education, in order to be effective in their role of teaching and learning, practice, research and community engagement.
- Curriculum designing and reviews to meet the needs of the students should be part of their academic activity. Thus, experts in the disciplines of nursing should be consulted to work together with them.

It is also important that they supervise students to ensure the attainment of learning outcomes is achieved.

Nurse educators must be scholars to be able to survive in the academic environment. They must write and publish papers, attend and present at conferences both nationally and internationally.

They should keep updating their continuous professional development (CPD) points.

❖ **The nursing student**

- The nursing student is an important role-player and a client in the programme.
- She needs to identify their needs for retention-to-graduation very early in the programme.
- They are human beings with a mind, body and spirit and as such, they need to be understood and be treated with respect during development to professional maturity.
- They must take an active part in their learning and develop self-directed learning, critical thinking and reflective skills for retention-to-graduation.
- Attending clinical settings for the development of competency and skills should be their priority.
- Attending and taking part in other curricular and co-curricular activities such as team building activities will assist them to socialise with other students.
- Their primary concern is to graduate from the programme; so it is important that they attend the mentor /mentee sessions to be able to realise their goals and to learn from the role models.
- Availing themselves for assessments is their primary goal in realizing their overall goal of graduating from the programme.
- Student organizations like South African Nursing Students Association (SANSA) are important structures to affiliate to, so that they can develop personally, academically and professionally.

❖ **Clinical Facilitators/ Preceptors**

- These practitioners have an important role of accompanying the students to the clinical learning environments.
- They create learning opportunities for students to assist them to realise their clinical competences.
- They demonstrate competency skills and allow nursing students to give feedback under their supervision.

- These practitioners visit the clinical learning environments to attend meetings and discuss issues of placement of undergraduate nursing students.
- They have a responsibility to keep abreast of the latest developments in the procedures, protocols and guidelines to share with the academic team for enhancing retention-to-graduation of nursing students.
- They must also conduct summative examinations to determine whether students' performances and success in clinical competences is achieved.

❖ **The Academic Advisor / Retention specialist**

Advisors inspire students to:

- Understand and participate in opportunities offered by the higher education networks,
- Make effective, meaningful and thoughtful choices about their futures,
- Acclimatize their life skills to the new academic world, and
- To foster the academic skills and knowledge needed to succeed.
- Advisors help students get linked and stay engaged in their learning experience and, thus, persevere to reach their academic goals, their career and personal objectives;
- Helps students become more self-aware of their distinctive interests, talents, values, and priorities;
- Enables students to see the 'connection' between their present academic experience and their future life plans; and
- Helps students discover their potential, purpose, and passion.
- This individual must have a qualification in Nursing Education and be conversant with the academic environment.
- She / he must work with the academic advisor assistants to identify all the levels of students and collects the list of all students in each level.
- She monitors retention from admission into the programme until the end of the first semester.
- She gets feedback from the academic staff of the performance of all the nursing students in the programme.
- She designs enrichment programmes for enhancing retention-to-graduation of all the nursing students.
- She identifies students at risk of failure to graduate from the feedback of the nurse educators

- She checks the attendance for both classroom and clinical sessions and is able to identify habitual absenteeism from the students.
- She is introduced to all the levels by the HOD and she invites the students who envisage problems along their academic engagement
- She should be able to advise, support and be a confidante for student with special needs.
- From time to time, she communicates with the academic staff either in departmental meetings or when need be.

❖ **Student academic advising assistants**

- These work hand in hand with the academic advisor.
- They assist the academic advisor in the design of the academic advising unit.
- They keep records of students who attend the sessions on a monthly basis.
- They report to the academic advisor any matters relating to students 'at risk'.

❖ **Family**

• The family is one of the most important role players in the success of support for the undergraduate nursing students.

• The importance of family communication in conveying support and care constitutes what can be regarded as a protective factor during crises situations.

• An important protective factor is the system of social relationships and social support that a family provides, known as the social investment of the family.

• Social support from the family is considered to be an important buffer against stressful life events and plays an important role in coping with demanding life situations.

• Pride in the family, trust in the family and loyalty towards each other within the family unit help in managing development changes and crisis successfully.

• Some families believe that they gain strength from being there for each other, by showing love, care, concern and interest in each other and by sharing activities that give them a sense of belonging.

• Some families get strength from consulting a psychologist or social worker to assist during crisis.

7.2.3 Guidelines regarding process

- **Development of an academic advising programme**

• The institution should establish an academic advising programme for undergraduate nursing students support for ‘at risk’ students and to enhance retention-to-graduation.

• The programme should be a comprehensive, multifaceted, flexible intervention that has broad goals and stresses the need for inclusion of all academic staff, nursing students, their mentors or preceptors, and clinical facilitators.

• The programme should be open to monitoring and evaluation to ensure that it is meeting the purpose for which it is designed.

• The institution needs to identify a task team to ensure that the enrichment programme is established to enhance retention-to-graduation.

• A retention specialist or practitioner at departmental level can coordinate/facilitate the programme.

• All role players and experts in the department should participate in the establishment of this programme.

• Meetings should be held on a bi-monthly basis to ensure that the programme is in place.

• The service can be situated within the faculty, so that it could be provided to all undergraduate students who will need the services.

• For support to succeed, the academic staff and students must take active roles in participating in the relationship through the initiation of meetings, showing interest and taking part in dialogue during meetings.

• They should both share ideas and interact freely.

- **First year experience**

• The transition to tertiary institution can be daunting for the first year student. Thus a need for integration to ease transition is necessary.

• Effective prevention efforts begin when all the first year nursing students are made aware of the programme and its demands at the onset.

- Marketing of the programme to high schools and its significance is of great importance.
- Requirements for the programme should be included in the marketing materials / brochures.
- A budget should be available for marketing for first year experience.

❖ **Student 'at risk' empowerment**

- Identification of 'at risk' students is the first step.
- A comprehensive and holistic service should be provided to them.
- Empowerment is an important part of this process because it offers emotional and practical support, 'a shoulder to cry on'.
- Establishment of enrichment programme would benefit all the nursing students who need support.
- Students who encounter a crisis should be referred to professional services in the university counselling support unit or where necessary.
- Nurse educators should be observant to identify nursing students 'at risk'.
- Academic advisors should be trained on how to identify 'at risk' students.
- A communication diary should be kept for reporting on every encounter with the 'at risk' students and their performance during sessions.
- 'At risk' students should be provided with an empowering environment, opportunities to use and build their own support networks, and to act on their own choices and sense of responsibility.

Accommodation and dedicated transport is necessary for all students including the 'at risk' students.

❖ **Intervention strategies**

The establishment of the Nursing Resource Centre needs to be properly capacitated, preferable with a retention specialist or director to monitor and evaluate the academic activities, if they meet the desired outcomes.

Appointment of a retention specialist to monitor, direct, and evaluate the sustainability of the retention-to-graduation model.

Academic research assistants need to be appointed to monitor and support nursing students, preferably for each level, but particularly the first and second year levels.

- Intervention strategies must help nursing students in developing an understanding of their own and others emotions; and the skills to manage and learn how to develop and use emotional skills to manage stress levels, as well as coping with emotional demands.

- The inclusion of effective psychological intervention programmes, focusing mainly on support and coping strategies to increase awareness on the available services or programmes, should be instituted. Such programmes and strategies should be marketed and delivered in ways that would assist nursing students to be supported so that they can cope with the demands of the academic programme.

- There is evidence that the outcome of the programme will have positive effects for the future to enhance retention-to-graduation.

7.2.4 Guidelines for the outcome

- **Increased academic performance, Capacity building**

- The outcome of retention-to-graduation of nursing students will depend on the relationship of trust that has developed between the academic staff, clinical facilitators, preceptors and mentors within the academic environment.

- It will also depend on the knowledge, skills and attitudes that nursing educators have acquired to be able to support nursing students so that they are able to acquire coping skills with the demands of the academic programme.

- The nurse educators must encourage, motivate and support nursing students.

- Increased academic performance and capacity building is about having control over one's life. More precisely, a person is empowered if he/she has control over the determinants of her quality of life. The more control she/he has, the more empowered she/he is.

- The expected outcome of retention-to-graduation of nursing students is increased academic performance, capacity building; which will result to emotional stability and nursing student empowerment. When they are supported by their nurse educators within the undergraduate nursing programme, they will be able to take control of their learning and be able to execute their academic activities as required by the NEI and South African Nursing Council.

❖ **Work performance**

- A well-implemented multicomponent enrichment and advising programme will not only improve the academic performance of nursing students, but also decrease absenteeism and improve work performance. However, the researcher's desired outcome would be retention-to-graduation, so that they can be registered with the SANC as professional nurses to provide quality patient care.

- As soon as the nursing students take control of themselves, they will be empowered and will take control of the determinants of their quality of life, and they will be more productive and their work performance will increase.

❖ **Emotional stability and mental health**

- As soon as the nursing student is coping with the challenges of the academic environment, she will immediately show improvement in her work performance, be empowered and will be emotionally stable.

7.2.5 Guidelines for dynamic

❖ **Task or multidisciplinary team**

- For the success of support for the undergraduate nursing students, a holistic, hands-on position towards delivering academic activities that embraces both health and social issues should be implemented.

- It focuses on understanding clients in their social contexts, so as to anticipate problems and devise solutions that work within those contexts. Thus, this will result in the success of the change to a new environment in the Department of Health to support undergraduate nurses.

- The energy source of this model is the importance of individual consultation and support that the nursing students should receive from the task team. This will consist of all support experts who will be important for the success of support. Mental stability, work performance and empowerment are important for retention-to-graduation and quality patient care.

❖ **Individualised consultation support**

- The support will be effective if provided at an adequate time and place, with the individual needs and expectations.

7.3 Conclusion

The purpose of this chapter was to describe the guidelines for operationalization of the model.

CHAPTER 8: LIMITATIONS, RECOMMENDATIONS AND CONCLUSION OF THE STUDY

8.1 Introduction

The previous chapter dealt with the development and describing of guidelines for operationalization of the retention-to-graduation model of nursing students in the undergraduate programme, the various role-players in the retention process, the context, the process of retention, the outcomes and the dynamics. In this chapter, the limitations, recommendations and conclusion are highlighted, suggested and drawn respectively.

8.2 Overview of the Research Process

This study focused on retention-to-graduation of nursing students in the undergraduate nursing programme in the Eastern Cape Province, South Africa. The research design was quantitative, descriptive contextual and theory generating in nature. The setting of the study was in the two universities in the Eastern Cape Province, South Africa; one university being rural based and the other being urban based. The population for the study was nursing students in the undergraduate programme from first year to fourth year level of study. The sample size comprised 352 respondents (186 from university 1 and 166 from university 2). The sampling method was a stratified random sampling. Data analysis was done using statistical analysis systems (SAS) version 9.3. Data collecting instrument was a questionnaire adapted from Jeffrey's 2012 NURS model which was pilot tested for reliability and validity.

The objectives of this study were :to determine factors associated with student nurse retention-to- graduation in the undergraduate nursing programmes in universities in the Eastern Cape, South Africa; identify existing intervention strategies for retention-to-graduation of nursing students in universities in the Eastern Cape Province, South Africa; based on the results of the study, develop a conceptual framework for retention-to-graduation of undergraduate nursing students in universities in the Eastern Cape Province, South Africa; develop a model for retention-to-graduation of nursing students in universities in the Eastern Cape Province in South Africa; formulate guidelines for the implementation of the model for retention-to-graduation of undergraduate nursing students in the undergraduate nursing programme in the Eastern Cape, South Africa.

The purpose of the study was to utilize the data collected to create a conceptual framework which would form the basis for the development of a retention-to-graduation model for undergraduate nursing students in the undergraduate nursing programme. The purpose and objectives of the study were achieved. The research answered the following research questions that guided the study:

1) What are the factors associated with retention-to-graduation of undergraduate nursing students in universities in the Eastern Cape Province, South Africa?
2) What conceptual framework can be used to develop the model for retention-to-graduation of undergraduate nursing students in the Eastern Cape Province, South Africa?
3) What model can be developed for retention-to-graduation of undergraduate nursing students in the undergraduate nursing programme in the Eastern Cape Province,South Africa?
4) What guidelines can be formulated for implementing the model for retention-to-graduation of nursing students in the undergraduate nursing programme in the Eastern Cape Province, South Africa?

8.2.1 Research design and methods

The study adopted a quantitative approach, and utilized descriptive and contextual research designs for theory generation. The study was conducted in four phases as summarized below.

Phase 1

The objective of this phase was to describe the factors and strategies associated with the retention-to-graduation of nursing students in the undergraduate nursing programmes in universities in the Eastern Cape Province, South Africa. To achieve this objective, Jeffreys NURS Model (2012) was adapted as a data collecting instrument in order to develop a questionnaire for the study. The study setting was at the two universities in the Eastern Cape Province accredited to offer undergraduate nursing programmes. A quantitative, descriptive and contextual research design for theory generation was used. The study target population was the nursing students from the selected universities in the Eastern Cape Province, South Africa.

A multistage, clustered stratified random sampling was conducted from the selected universities from first to fourth year level of study. The sample size was based on a 5%

significance level, margin of error of 5%, failure to graduate of 40% and the current enrolment figures for the individual institutions. To cater for sample attrition rate, 10% was added to each level of study.

The instrument was pilot tested for accuracy, face, content, construct and criterion validity. SAS version 9.3 and was used for quantitative data analysis and Atlas Ti for open-ended questions which were analysed, quantified and integrated into Atlas Ti the results. Respect for human dignity and the principle of justice formed the basis for ethical considerations for the study.

The data indicated that effective outcomes of a retention-to-graduation model for nursing students in the universities would be of great benefit to them. The study revealed that the importance of academic and social support at the work place was vital. Thus, early detection of psychosocial problems is important, because effective support and management could prevent mental illness, but enhance self-esteem, and increase throughput and pass–rates in undergraduate nursing programme.

The findings of this study were synthesized, quantified and described. The results revealed that the retention-to-graduation of nursing students in the undergraduate programme is associated with multidimensional factors. These factors were categorized as psychological, physical/physiological, academic, and socio-economical. These factors emerged as pivotal in retention-to-graduation of nursing students during their training and development into the profession. These findings also revealed the need for support and commitment of all the stakeholders in order to achieve the desired outcomes. The results also showed that, there is a definite need for support of undergraduate nursing students in the NEIs. Previous studies such as Roos *et al*., (2016:7) confirmed the need for support, especially for the ‘at risk’ students.

Phase 2

The objective of this phase was to develop a conceptual framework for retention-to-graduation of undergraduate nursing students in universities in the Eastern Cape Province, South Africa through inductive concept analysis. The researcher used reasoning strategies (inductive, deductive, derivation, synthesis and analysis) informed by data as well as the literature and results of Phase 1 to construct the conceptual framework. The literature in this phase was used as control.

The researcher developed a conceptual framework according to Dickoff *et al*., 1968 in Murray (2017:46) using six elements of practice, theory and literature. The evaluation of model was conducted by experts to determine its suitability. The data analysis was based on building block for conceptual framework.

Phase 3

This phase focused on developing a model for retention-to-graduation of undergraduate nursing students in the Eastern Cape Province, South Africa. The research design for this phase was theory-generation for model development. Experts in model development and literature sources were used as the basis for model development. Recipients of the model were the nursing education institutions and the undergraduate nursing students. The respondents described a need for a tailor-made programme for retention-to-graduation of nursing students, with an open door policy, but with enough privacy so that on-site counselling can be provided. The respondents further recommended for academic advisors and the forum for advising students, which would comprise of all relevant experts of nursing education and clinical settings.

Moreover, a retention specialist to assist in the coordination and implementation of appropriate services for the "at risk" students was recommended. The need for intervention strategies to be developed was recommended by the respondents especially the first year nursing students. Nursing Resource Empowerment Centre was recommended by the respondents for nursing students who are "at risk" of failure to graduate. Furthermore, the respondents expressed the importance of marketing the profession within the institutions; which could be arranged regarding preventative measures so that undergraduate nursing students can be informed about the profession and its expectations even before they commence with the programme.

Data analysis used reasoning strategies (analysis, inductive and deductive reasoning, synthesis and derivation). Increased academic performance, capacity building / empowerment and emotional stability were the outcomes of this model to enhance retention–to-graduation.

Phase 4

The objective for this phase was to formulate guidelines to implement the model for retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape universities. Evaluation and description of guidelines to operationalize the model was conducted. However, the model has not been tested.

8.3 Contribution made to the Body of Knowledge in Nursing Science

The objective of this study was to develop a model for retention-to-graduation of nursing students in the undergraduate programme in the Eastern Cape Province, South Africa as well as outline guidelines to operationalize it. The research is an original contribution to the body of knowledge in nursing education, practice and the management for the following reasons:

- Retention-to-graduation of nursing students is a general process used in nursing education practice, management and research. The restructuring of nursing education and implementation of mentorship programmes has been used to support all nursing students and inclusively especially those "at risk" with academic problems within the academic environment whether in the classroom or at the clinical settings.
- The model was designed in the context of nursing education in South Africa. The factors for retention- to-graduation of nursing students in the undergraduate nursing programme were identified for developing the model. The identified essential concepts used to design the model are within the specific context of nursing education institutions and health facilities.
- The model for retention-to-graduation of nursing students in the NEIs of the Eastern Cape Province, South Africa, is unique and contextual, and is the first one to be designed in the undergraduate nursing programmes. Nurse educators and clinical practitioners can apply the model in their specific situations.

8.4 Limitations of this Study

The following limitations were noted during the process of the study.

- The study was limited to undergraduate nursing students studying at the universities in the Eastern Cape Province. There was no input from the universities without nursing programme and those in the Colleges of nursing within the Province.

  Nursing students in private sector within the Province were not invited to participate in the study. The reason for this was that, the interest of the researcher was only in the public residential universities with schools or faculties of Health Sciences accredited by the SANC to offer the programme in the Eastern Cape Province.

- The study could not be generalized to the whole of South Africa, but it can be utilized in similar areas with geographical characteristics as the Eastern Cape Province.

- The guidelines for operationalizing the model have not yet been tested in the field of nursing education, clinical practice and management.

8.5 Recommendations

8.5.1 Recommendation for nursing education and management

- There is a need to test the ability of the model to enhance retention-to-graduation in the undergraduate nursing programme.
- The establishment of the Nursing Resource Centre needs to be properly capacitated, preferably with a retention specialist or director to monitor and evaluate the academic activities if they meet the desired outcomes.
- Appointment of a retention specialist to monitor, direct, and evaluate the sustainability of the retention-to-graduation model.
- Academic research assistants need to be appointed to monitor and support nursing students preferably for each level, but particularly the first and second year levels.
- Preceptors could be placed at the bed side in order to strengthen the clinical component during clinical placement.
- The guidelines for operationalizing the model need to be tested in the field of nursing education, clinical practice and management.
- A module on life skills needs to be developed for first year students.
- It is recommended that the model should be operationalized in other nursing education institutions.
- Academics and managers who wish to operationalize the model in their own departments should do so and may gradually encourage the participation of the department as a whole.

8.5.2 Recommendation for further research:

- A similar study may be conducted in other provinces to assess similarities and differences in the experiences of nursing students in other parts of South Africa.
- Calculate and monitor failure to graduate and retention rates at nursing education institutions by recording current intake, progression and retention-to-graduation rates.

This data can be used to plan for future intakes and to determine the success of current action plans.

- Identify ‘at-risk students’ for support and guidance that includes, but not limited to academic/clinical support, financial assistance and mentorship programmes.

8.6 Conclusion

This chapter has discussed the limitations and recommendations. Through this study, a model of retention-to-graduation of nursing students was developed. It is important that each institution should reassess the academic needs of “at risk” nursing students in order to contextualize a nursing student retention programme. The needs of nursing students in the academic environment whether at the classroom or the clinical settings may not be similar. The support programme needs to be formalized and be recognized by the institution for it to succeed. It is hoped that the model developed in this study can become an effective tool through which change can be initiated. Although some nursing students do find a solution when using the offered support, a large number of nursing students fail to graduate from the undergraduate nursing programme despite the efforts made. Therefore, more research into varied strategies to support this model for retention-to-graduation need to be conducted.

Student retention to graduation is influenced by myriads of factors which are: the global events taking place in government, the political environment, socio-economic, socio- cultural, environmental, individual / personal, family financial background, professional integration and academic factors. Because of the multifaceted nature of the factors, it is very important to understand what and how they contribute to the realization of the goals of this study. These factors have emerged as exerting a direct and indirect impact on the student’s retention-to-graduation from the nursing programme.

The literature around these issues clearly concurs with the notion that non-retention is a reality in universities and it will affect skill development and shortage of workforce. Retention-to-graduation of nursing students is complex and will be an unending debate in institutions of higher learning as long as there are no effective retention strategies. There is a need to evaluate strategies for retention that have been put in place to enhance retention-to-graduation.

The undergraduate nursing students from underprivileged communities in the Eastern Cape universities face daunting barriers to improve retention-to-graduation in the programme. The

findings of this study highlight the need to create and maintain nursing programmes capable of actively and aggressively supporting undergraduate nursing students' needs as well as facilitating a conducive, welcoming and caring environment in order for them to succeed and complete their studies.

With collaborative leadership and support from educators, universities can produce the next generation of educated leaders who plough back to their communities. A well-funded Nursing Student Resource Centre should be planned and a nursing student retention project director should be recruited to run the centre. This might be another step to aggressively deal with first year transition problems to fight with failure to graduate and enhancement of retention-to-graduation of undergraduate nursing students.

Societal wise, if the students are retained and graduate, they will add to the much needed pool of educated people, professionals and or nursing workforce who add value to the society and socio-economic development of the country. Therefore, the findings of this study are applicable in a broad spectrum of operations and sectors, but more importantly in academics, practice, research and policy.

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APPENDICES

Appendix A: Ethical Clearance Certificate

University of Fort Hare
Together in Excellence

ETHICAL CLEARANCE CERTIFICATE
REC-270710-028-RA Level 01

Certificate Reference Number:	SEE071SNKU01
Project title:	**A conceptual Framework for retention of undergraduate nursing students in the Eastern Cape Province, South Africa**
Nature of Project:	PhD
Principal Researcher:	Nonyaniso Nkutu
Supervisor:	Prof E Seekoe
Co-supervisor:	

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

Special conditions: Research that includes children as per the official regulations of the act must take the following into account:

Note: The UREC is aware of the provisions of s71 of the National Health Act 61 of 2003 and that matters pertaining to obtaining the Minister's consent are under discussion and remain unresolved. Nonetheless, as was decided at a meeting between the National Health Research Ethics Committee and stakeholders on 6 June 2013, university ethics committees may continue to grant ethical clearance for research involving children without the Minister's consent, provided that the prescripts of the previous rules have been met. This certificate is granted in terms of this agreement.

The UREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
  - Any unethical principal or practices are revealed or suspected
  - Relevant information has been withheld or misrepresented
  - Regulatory changes of whatsoever nature so require
  - The conditions contained in the Certificate have not been adhered to

- Request access to any information or data at any time during the course or after completion of the project.

- In addition to the need to comply with the highest level of ethical conduct principle investigators must report back annually as an evaluation and monitoring mechanism on the progress being made by the research. Such a report must be sent to the Dean of Research's office

The Ethics Committee wished you well in your research.

Yours sincerely

Professor Gideon de Wet
Dean of Research

03 June 2015

Appendix B: Letter of Permission from Eastern Cape Department of Health

Eastern Cape Department of Health

Enquiries:	Zonwabele Merile	Tel No:	040 608 0830
Date:	29th July 2015	Fax No:	043 642 1409
e-mail address:	zonwabele.merile@echealth.gov.za		

Dear Ms NT Nkutu

Re: A conceptual framework for retention of undergraduate nursing students in the Eastern Cape, South Africa (EC_2015RP21_643)

The Department of Health would like to inform you that your application for conducting a research on the abovementioned topic has been approved based on the following conditions:

1. During your study, you will follow the submitted 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 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 Epidemiological Research & Surveillance Management. You may 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

Appendix C: Letter of Permission to Conduct Research

No 3 Aloe Lane Extension 7
P.O. Box 922
Butterworth
4960
30/ 04/ 2015

The Dean of the faculty
Faculty of Science and Agriculture
University of Fort Hare
P.O. Box 1054
East London
5200

Dear Sir,

Ref: Permission to Conduct a Pilot Study and Research for PhD Study

I am a doctoral student at University of Fort Hare School of Nursing. I am conducting a study to develop a model for retention-to-graduation of nursing student in the undergraduate programme in the Eastern Cape, which would culminate to registration as a General nurse and Midwife with the South African Nursing Council.

I hereby request permission to conduct a pilot study to test the instruments and subsequently conduct research with B. Cur students at level 1-4, and research task team in this regard. Those who will participate in the pilot study will not form part of the actual study.

A copy of the permission from the Eastern Cape Department of Health (ECDOH) is available at your request.

Sincerely

N.T. Nkutu (PhD Student).

Appendix D: Letter of Permission to Walter Sisulu University

No. 3 Aloe Lane Extension 7
Butterworth
4960
30/ 04/ 2015

The Head of Department
Walter Sisulu University
Umtata
5100

Dear Madam,

Ref: Permission to Conduct Research (PhD).

I am N.T. Nkutu a doctoral student of University of Fort Hare School of Nursing The aim of my study is to develop a retention –to-graduation model for nursing students in the undergraduate programme in the Eastern Cape Province; which would culminate to registration as a General nurse and Midwife with the South African Nursing Council.

I hereby request permission to conduct a survey from B. Cur students at level 1-4 in this regard. A copy of the permission from the Eastern Cape Department of Health (ECDOH) is available at your request.

Sincerely

N.T. Nkutu

PhD Student.

Appendix E: Letter to the Respondents

No. 3 Aloe Lane Extension 7
P.O. Box 922
Butterworth
4960
30/ 04/ 2015

Dear Student,

I am N.T. Nkutu a doctoral student at University of Fort Hare School of Nursing. The aim of my study is to develop a model for retention-to-graduation of nursing students (to facilitate progression towards graduation of undergraduate nursing students in the Baccalaureus Curationis (B. Cur)) programme in the Eastern Cape universities which would culminate to registration as a General nurse and Midwife with the South African Nursing Council.

I hereby wish to request the following: (1) your permission to access your records; and (2) your contribution in filling in this questionnaire which should take you not more than 45 minutes. I assure you that you are not coerced to participate in this study. You can withdraw anytime from participating in this study if you feel uncomfortable and you shall not be penalised in any way for doing that. This study will not expose you in any kind of danger or harm. The information that will be accessed from your records and the one you give will be kept strictly confidential. Because you are not required to give your name, the information you give will not even be linked to you.

If you need to contact me for whatever reason, you can use this number: 0737420354

Sincerely

N.T. Nkutu (PhD Student)

If you are agree in participating kindly read and sign the attached agreement form.

(See appendix F)

Appendix F: Consent Form

Consent Form / Agreement

I, ……..hereby agree to participate in the study regarding "A conceptual framework for retention, success and graduation of undergraduate nursing students in universities in the Eastern Cape Province, South Africa". I also understand that:

I am under no obligation to participate in the aforementioned study;

I am free to withdraw at any point during the lifetime of this study;

I may refrain from answering any question should I feel it encroaches on my privacy;

I understand that there will be no reimbursement that will be offered to me as a result of participating in this study;

The information I give will be kept confidential as to protect my identity;

That the information I have given up to the point of my withdrawal from the study may still be used by the researcher;

That I will not be subjected to any form of harm or coercion whilst involved in this research.

That I will be given the original copy of this consent form; and

By signing this agreement, I undertake to give permission to the researcher to access my records if necessary and agree to give honest answers to reasonable questions and not mis-leading the researcher.

Signature of respondent:…….

Date:……

By co-signing this agreement, I, Nonyaniso Trustina Nkutu, undertake to:

Maintain confidentiality, anonymity and privacy regarding the respondent's identity and information given thereof;

Arrange in advance a suitable date, time and place for data collection and

Safeguard the duplicate of this agreement.

Signature of researcher:…….

Date:……..

Appendix G: Data Collection Instrument (Questionnaire).

Questionnaire:

This questionnaire will enable you to be selected as a respondent in the study that seeks to develop a conceptual framework for retention, success and graduation of undergraduate nursing students in the undergraduate nursing programme.

I acknowledge that the contents and purpose of this study and the purpose of this questionnaire was explained to me…….. (Respondent)

I, N. T. Nkutu, hereby undertake to uphold the principle of anonymity of the respondents in this study……. (Researcher)

STRUCTURED QUESTIONNAIRE ADAPTED FROM JEFFREYS NURS MODEL

Purpose: The purpose of this section is to gain more insight into the demographic characteristics of the respondents in this study, their knowledge base regarding their involvement in the learning discourse and their understanding of the context in which their learning takes place.

Objective: the objective is for the researcher to be able to collect data on which to base the analysis of this study.

Instructions to the respondent on how to complete the questionnaire:

This is a structured questionnaire and contains three sections as A, B, and C. Section C is divided into Items with closed, open ended and Likert Scale type of questions. Please do not write your name. Briefly answer the questions below and please tick in the spaces where appropriate.

Section A: Demographic Data

Question	Answer
1. Name of institution:	
2. What is your level of study?	
3. In which setting are your current nursing courses taught?	
Clinical setting	
Non Clinical setting	
Both settings	
4. What is your current average mark in the nursing courses this term?	
General Nursing Science	
Midwifery	

Community Nursing Science	
Psychiatric Nursing	
5. How many nursing courses have you already completed?	
6. What is your educational background prior commencing with the nursing Programme?	
7. Are you the first member in your family to attend the university?	
Yes	
No	
8. Gender:	
Female	
Male	
9. How old are you?	
18 - 24 years	
25 – 30 years	
31 - 34 years	
35 – 40 years	
41 – 44 years	
45 – 50 years	
10. Which racial group do you belong to?	
African	
Coloured	
White	
Asiatic	
11. What is your mother tongue?	
12. Apart from your mother tongue which other languages do you speak?	
English	
Isixhosa	
Afrikaans	
Isizulu	
Other: specify	
13. What is your marital status?	
Single	
Married	
Divorced	
Widowed	
other	
14. How many dependent children live with you?	
15. Where do you currently live?	
On Campus Students Residence	
Off Campus Students Residence	

Off Campus Private Accommodation	
Off Campus Family home	
16. How long does it take you to commute to campus?	

Section B. Item 1. Student Perception Appraisal 1

1. Have you ever repeated a class?	
Yes	
No	
2. If "yes" which level	
First Year	
Second Year	
Third Year	
Fourth Year	
3. Why did you have to repeat a class?	
Was it due to poor performance?	
Was it due to sickness?	
Was it due to lack of finance?	
Was it due to lack of accommodation?	
Other? Please specify	
4. Are you now at risk of failure to graduate?	
Yes	
No	

Section C:

Item 2 - Student perception appraisal 2

Going to school is one part of your life. Some factors may have restricted or supported your successful goal achievement. On a scale of 1(strongly disagree) 2 (disagree) 3 (Somewhat

agree) 4 (agree) 5 (strongly agree) rate how each of the factors below have threatened your ability to remain in the nursing school?

Factor	**Rating**
1. social	
2. economical	
3. psychological	
4. physical / physiological	
5. academic	

ITEM 3 - Student Perception Appraisal 3

Going to school is one part of your life. Certain factors may have restricted or supported your successful goal achievement. On a scale of 1 (lowest threat) to 5 (highest threat), rate how each of the following factors have threatened your ability to remain in nursing school?

Factor	**Rating**
1) Personal study skills	
2) Staff advisement and helpfulness	
3) Transportation arrangements	
4) Class schedule	
5) Personal study hours	
6) Library service	
7) Family emotional support	
8) Family crisis	
9) Tutoring service	
10) Counselling service	
11) Family responsibilities	
12) Financial aid and /or scholarship	
13) Poor academic performance	
14) Peer influence by friends outside of school	
15) Peer influence by friends within the school	
16) Inadequate computer laboratory service	
17) Child care arrangements	

ITEM 4 - Educational Requirements Subscale

Going to school is one part of your life. You may have many other roles and responsibilities that will compete with academic tasks. Using a scale of 1 (no at all confident) to 10 (totally confident), rate how confident of successfully carrying out the following learning activities you are.

Learning activity	Rating
1) Attend all lecture classes	
2) Attend all nursing skills laboratories	
3) Attend all clinical laboratories	
4) Complete all assigned readings on time	
5) Complete all computer programmes on time	
6) Review classwork after each class	
7) Complete assigned papers on time	
8) Study adequately before examinations	
9) Obtain a passing grade for clinical laboratory	
10) Obtain at least a passing grade for the theory	

ITEM 5 - Enrichment Programme Satisfaction Survey

Student feedback is essential for meeting future students' needs. Please indicate your level of satisfaction with the following statements and mark your response accordingly. On the scale, **(1)** is strong disagreement, **(2)** is disagreement, **(3)** is neutral, **(4)** is satisfaction and **(5)** is strong agreement.

General	1	2	3	4	5
1) Nursing is my career choice					
2) Pre-nursing courses prepared me adequately					
3) All nursing courses have been valuable to me					
4) There are learning opportunities at the university					
5) Overall, I am satisfied with learning experience					
6) Staff advisors are helpful					
7) Peer mentor-tutors are helpful					
8) Workshops offered are informative					

ITEM 6 - Nursing Student Resource Centre Satisfaction Survey

Student feedback is essential for meeting future students' needs. Please indicate your level of satisfaction with the following issues concerning the Nursing Student Resource Centre and mark your response accordingly. On the scale, **(1)** is strongly dissatisfied, **(2)** is dissatisfied, **(3)** is somewhat satisfied, (neutral), **(4)** is satisfied and **(5)** is strongly satisfied.

Student resource Centre or service	**1**	**2**	**3**	**4**	**5**
1) Location of the centre					
2) Operating times of the centre					
3) Computer assisted educational programmes					
4) Internet facilities					
5) Study groups					
6) Individual study facilities					
7) Nursing student resource assistants					
8) Bulletin board announcements					
9) Workshops and seminars					

ITEM 7 –Open- ended Questionnaire :

Student feedback is essential for meeting future students' needs. Please answer the following question as honestly as possible.

1. Why did you undertake to do a nursing degree programme?

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2. In your opinion, how could retention-to-graduation of nursing students be enhanced in the undergraduate nursing programme?

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3. What are the needs of undergraduate nursing students during their training to enhance retention-to-graduation?----------
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4. What do you feel should be done to enhance retention-to-graduation of nursing students during their training?

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5. In your opinion what do you think can be improved in this programme?

End of questions.

Thank you.

Appendix H: Articles reviewed regarding failure to graduate, retention, and graduation rates (n=34)

Setting	Authors	Study Design	Findings on failure to graduate
Australia	Andrew Salamonson, Weaver, Smith, O'Reilly & Taylor (2008)	Qualitative	• Students were unprepared for university. • Managing family, health and finances. • Personal: reaching crisis. Academic: Science. Students expectations were that content would be more of a hands on component and less classroom. Non-academic reasons for leaving, especially financial.
Saskatchewan Canada	Anonson, Desjarlais, Nixon, Whiteman, & Bird (2008)	Qualitative study	Not academically prepared; Language (English not first language) problem; Family responsibilities; child care. Study space; role models and mentoring; Financial.
University of Central Missouri	Baker (2010)	Quantitative study	Faculty accessibility and appropriate response on tests and clinical performances were used by all undergraduate programmes. Organized study groups and peer mentoring were the least used strategies. Faculty from both BSN and AD programmes reported using many of the strategies and rated their use as effective overall for minority nursing students' retention. The highest rated strategies were those that involved direct interaction of nurse faculty and students.
Yale Private Catholic University, USA	Beauvais Stewart, DeNisco, & Beauvalis (2014)	Descriptive correlational study	Academic success was correlated with the overall emotional intelligence; significant relationships were found between

			total emotional intelligence with academic success, resilience with academic success, and psychological empowerment with academic success.
USA	Bosch, Doshier, & Gess-Newsome, (2012)	Quantitative study	Incoming students with relatively high Grade Point Average (GPA) (M=3.2) were significantly more likely to persist through the entire nursing programme than those with lower GPAs (M=2.5).
NHS London	Crombie, Brindley, Harris, Marks-Maran & Morris (2013)	Ethnographic case study	Student identity, and the organization, fostering resilience, and clinical support. Higher Education Institute does not appear to be the most significant factor in a student's decision to continue on the programme. Practice placements, mentorship and clinical placements have the greatest impact on student retention. The clinical placement experiences emerged as the most important factor in whether a student chooses to stay or leave the course.
University of Memphis, Tennessee, USA	Dapremont (2011)	Descriptive qualitative study	Black students valued peer support, interaction with white students' study groups, family support and faculty encouragement and support as factors that enhanced success, namely, those supports students identified as essential to graduation.
USA	Fontaine (2014)	Correlational analyses	The program produced a statistically significant improvement in retention, but no specific intervention or mixture of interventions was significantly correlated with retention.
Nursing and midwifery school UK	Fowler & Norrie (2009)	Mixed method (QN/QL)	Fully committed to programme, programme flexibility

			admission interview helped student to understand expectations, previous studies helped students to be prepared, assistance with costs helped, Financial concerns: money hard effects volume of work too much, Increase in home life responsibilities. positive and genuine support from lecturers,
UK University	Hinsliff- Smith, Gates, & Leducq, (2012)	Focus group interviews	Mature students tended to have coping skills to deal with the demands of nursing school. Mature students usually have more responsibilities than younger students.
North Carolina	Hopkins (2008)	Quantitative correlational study.	Academic difficulties
Texas Medical Centre USA	Igbo, Stracker, Landson, Symes, & Hughes (2011)	Quantitative study	Collaboration among faculty and students at the three schools was key to the success of the programme.
USA	Jeffreys (2007a)	Quantitative study	Environmental, institutional interaction and integration, personal academic, college academic facilities, and friend support.
USA	Jeffreys, (2007b)	Retrospective evaluation study	Failure to graduate trajectories were voluntary (personal reasons), involuntary (academic), involuntary first semester academic dropout. 75% total retention rate. Females and males had 27% and 16% stop-out rate, respectively Graduates were slightly younger, higher pre-nursing grade point average (GPA), less transfer credits. Older students, women, minority students most at risk for dropout or stop-outs and took longer to complete education.

Queensland University of Technology Australia	Kift, Nelson, & Clarke (2010)	Case study of policy and practice for the higher education sector	Themes: The identification of curricular and co-curricular influences on the FYE increasing awareness of the importance of their relationship, one to the other, academic and social ―organizing device‖
Australian universities and 1 UK university	Levett- Jones, Lathlean, Higgins, & McMillan, (2009)	Qualitative study	Staff-student relationships (receptiveness, inclusion / exclusion, legitimization of the student role, recognition and appreciation, challenge and support, were the most important influence on students' sense of belonging and learning.
UK	McLaughlin, Moutray, & Muldoon (2008).	Quantitative study	Higher self-efficacy, higher marks, Higher psychoticism more likely to withdraw (aggressive and interpersonal hostility). Academic (27.9%) and personal (16.3) , could be many reasons.
Belfast UK	Montgomery, Tansey, & Rose (2009).	Quantitative study	62% respondents have dependents, family commitments (46%) and childcare issues (42%). Financial concerns (53%), Work commitments (25%)
UK	Mulholland, Anionwu, Atkins, Tappern & Franks (2008).	Retrospective, quantitative, longitudinal study	Males and younger students had lower chance of completing programme. 20.9% did not complete programme.
Carlifornia USA	Newton & Moore (2009).	Exploratory, descriptive study	Neither aptitude was predictive of attrition
UK	O'Donnell (2009).	Qualitative case study	Unrealistic expectations of nursing preparation programmes as a significant factor in later decisions to voluntarily withdraw
UK	O'Donnell (2011).	Qualitative study	Students that left experienced lowered self-esteem, Personal failure and embarrassment, anger, frustration, resentment

Farmingdale State College, USA	Petersen-Grazoise, Bryer & Nikolaidou, (2013).	A descriptive correlational design	Self-esteem was significantly associated with student attrition.
Midwestern State University, Texas - USA	Polvado (2012).	Quantitative study	The retention rate for the MSU SON in October 2012 was 78%, up from 42% in 2008. The implementation of computerized HESI testing throughout the curriculum, Increase in admission standards, Early identification/remediation of students at-risk for attrition. Nursing faculty report less time spent meeting with students about Personal or financial issues, Students report satisfaction with a non-nursing faculty retention specialist.
UK	Prymachuk, Easton, & Littlewood (2008).	Quantitative, retrospective study	Older students more likely to complete programme (over 25years) Involuntary removal more likely in male and black minority students Clinical placement experiences can be a reason why students leave, demotivating students and distracting them from academic work
South Africa	Roos, Fichardt, MacKenzie & Raubenheimer, (2016).	Quantitative descriptive design	Attrition of between 39.3% and 58% was found from intakes 2007, 2008 and 2009. Academic, financial, poor health and wellness were reasons for dropout with failure to cope with clinical placements.
Sydney, Australia	Salamonson, Andrew, Clauson, Cleary, Jackson, & Jacobs (2011).	Prospective, longitudinal	Gender and nursing experience not related to completion. Financial constraints a predictor to non- completion. Language was the most important predictor in course completion, and those who did not speak English at home were twice as

			likely not to complete programme.
University of North Carolina at Wilmington	Segovia, Parker, and Bennett (2015),	Quantitative	Career interest and having an associate's degree were statistically significant predictors of student's grade point average.
West Virginia University	Shelton (2012).	Quantitative study	Perceived faculty support was related to both persistence and academic performance, such that students with higher perceived faculty support were more likely to continue in a nursing programme until graduation and were more likely to be successful academically. Students with higher perceived faculty support also had higher outcome expectations of earning an associate degree in nursing.
Quebec Canada	Sinacore & Lerner (2013).	Qualitative, phenomenological study	Institutional, societal, educational and psychosocial obstacles affect immigrant undergraduates.
Florida USA	Stickney (2008).	Quantitative study	36.6% failure to graduate rate, and male and female rate not statistically different. Race: failure to graduate 30% white, 48% African American, 44.4% Hispanic, 50% Asian; Age: 48.1% ages 36-45, 40% 46+, 33-40% for all other ages
Texas USA	Sutherland, Hamilton & Goodman, (2012).	Quantitative study	Interventions positively affected graduation rates (measure of retention=98%); significantly affected grades in the Leadership Management capstone course and eliminated the effects of ethnicity on NCLEX –RN success.
Milwaukee, Wisconsin, USA	Veal, Bull & Miller (2012).	Qualitative, grounded theory approach	Process of learning to balance stressors with moderators was key to academic persistence and retention.
Blessing–Rieman College of Nursing,	Williams (2010).	Qualitative study	Four themes were: keeping up, not giving up, doing it, and connecting to the use of resources.

Quincy,
Illinois, USA