A RELATIONSHIP BETWEEN MATRICULATION ENGLISH RESULTS AND ACADEMIC PERFORMANCE IN NURSING STUDENTS AT THE KWAZULU-NATAL COLLEGE OF NURSING

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Declaration

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is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources).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

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Abstract

Background

The KwaZulu-Natal College of Nursing trains students to be professional nurses through the R425 programme. Teaching and evaluation are done in English, although the majority speak isiZulu as their home language. Due to inequalities in the South African schooling system, many English Additional Language (EAL) student nurses have poor English proficiency and struggle academically. There is a need to ensure that those selected for nurse-training are academically successful.

Aim of the study

The aim of this study was to determine if there was a relationship between English proficiency, determined by the matriculation English results, and first-year nursing academic results.

Methodology

A quantitative design was used, and comprised of two phases, namely a self-administered questionnaire and a correlation, retrospective record-review. The total population of first-year nurses was 271. The participating sample amounted to 133 consenting nurses, undertaking the R425 programme at KwaZulu-Natal College of Nursing campuses. Stratification sampling was used to ensure that approximately half the sample of nurses attended a rural campus and half attended an urban campus. Random sampling was then used to select the urban campuses and the rural campuses from where students were invited to participate. Descriptive and inferential statistical analysis as well as regression analysis was applied, using the SPSS version 20.0.

Results

Matriculation English appears to be positively related to many factors including the socio-economic situation when growing up, attending a rural primary school, library access at primary school and access to computers in primary and high school. English additional language nurses prefer to be taught nursing in English and consider it an advantage. The examination failure rate of first-year nurses was 24%. Nurses' with higher matriculation English results on entry to nurse-training obtained better academic results in first-year nursing examinations.

Recommendations

Language should not be a barrier to admission into higher education, however a certain threshold of proficiency in the language of instruction is recommended. Under-resourced schools need to be addressed, especially in rural areas, including the language of instruction at schools. The matriculation results of the home language should also be considered in admission criteria to higher education. Policy formulation on formal academic support and language training, especially during the first-year of nurse-training is required for those struggling academically.

Dedication

This study is dedicated to my precious son, Jonathan Harry Prince, who lives with Cystic Fibrosis and relies on the competence of caring nurses. Jono, you are an inspiration in my life: I love you around the world and back again.

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TABLE OF CONTENTS **PAGE**

List of tables

List of figures

Appendices

Glossary of terms

Academic failure

Refers to not obtaining entry to an examination, namely the DP (50%) has not been achieved; or refers to examination failure of less than 50%.

Academic performance

Refers to whether a student nurse has met the requirements for promotion or demotion in the nursing programme, based on the results of the first-year nursing examination results.

Academic success in nursing

Refers to nurses passing all evaluation requirements with a minimum of 50%, as per KZNCN policy, and thus being promoted to the next year of training.

Advantaged schools

Refers to schools in accessible areas, on a transport route, with adequate basic facilities (water, electricity) and adequate educational facilities (classrooms, desks, libraries, and teachers).

Bachelor degree

A matriculate who has met the minimum academic requirements may be granted admission to a bachelor's degree or admission to higher education.

Campus

The nursing educational institution, also known as a 'Nursing College', which trains student nurses in the R425 programme.

College block

Student nurses undergo theoretical and clinical portions during their training. The theoretical portion is taught and examined in the nursing campus, during a 'college block' consisting of between four and six weeks.

Demoted

Refers to a student who has not met the academic or theoretical minimum requirement of 50% in an examination. The student will be demoted by six months, except for the subjects of Social Science 1, Community Nursing Science 1, Anatomy and Physiology 2.

Disadvantaged schools

Schools, often in rural areas, often inaccessible by transport, with inadequate sanitation, overcrowding, little or no library, teacher-shortages, inadequate furniture and frequently more than one grade taught in one room.

Duly Performed (DP)

Indicates that the student has met all the clinical and theoretical requirements allowing entry to an examination (KZNCN Rule Book 2013: 12).

English Additional Language (EAL)

Refers to students studying nursing through the KwaZulu-Natal College of Nursing (KZNCN), where they are taught in English which, for the majority of the population, is not their home language. Often referred to as an English Second Language student (ESL), a student whose home language is not standard English and who may not be fluent in English (Guhde 2003: 113).

English proficiency

Ability to speak, read, write and understand spoken English (Boakye 2011: 122). For this study, proficiency is measured by the results on the matriculation certificate.

First-class pass

The academic results category when a student nurse obtains 75% and above for an examination (KZNCN Rule Book 2013: 14).

Government school

Most schools in South Africa are government schools, funded by the South African government, and fees are not compulsory. A government school is also referred to as a 'public school'.

High school

High school follows primary school and caters for Grades 8-12. High school is sometimes referred to as secondary school.

Higher education

Refers to post-school (post grade 12) studies at an educational institution, and includes tertiary/university education.

Home language

The language a person is most comfortable using and usually speaks the most. Home language is often referred to as 'mother-tongue' language.

Matriculation

The high school year usually referred to as ‘matric’. It is equivalent to Grade 12; the final year at high school.

Matriculation language level

Refers to the level at which a subject was written in the matriculation examination. For example, English can be written at the ‘home language’ level or the ‘first additional language’ level.

Matriculation point allocation

Refers to the number of points allocated to a matriculation subject result, as per the guide on the matriculation certificate.

National senior certificate (NSC)

This is the matriculation certificate issued by Umalusi, since the year 2008. On this certificate, the results are displayed as actual percentages.

Nursing education

The science aspect of teaching nursing programmes is based on a body of knowledge derived from the theories and research from natural and social science disciplines, such as anatomy, physiology, microbiology, anthropology, psychology and sociology.

Private school

Refers to independent schools, where fees paid by pupils are exorbitant and, as a result, private school education is unaffordable for the majority of South Africans. These schools also receive government funding.

Promotion

A student nurse will be promoted to the second year of training if the examinations have been passed with at least 50%. A student may carry up to two failed subjects into second year. These subjects will be re-examined in the second year.

Rural area

Refers to areas in the country which fall outside of built-up cities and towns. Rural areas lack resources and often do not have access to basic facilities such as water, electricity and sanitation.

Second-class pass

The academic results category when a student nurse obtains between 60-69% for an examination.

Senior Certificate (SC)

This is the matriculation certificate issued to matriculates who completed grade 12 before the year 2008. On this certificate, the subject results are displayed as a symbol, not a percentage.

South African Nursing Council

Refers to the South African Nursing Council, which is the legislative body governing nurse-training and the practice of nursing in South Africa.

Student Nurse

Refers to nurses who are undertaking the 4-year nursing diploma programme R425, leading to registration with the South African Nursing Council as a nurse (general, psychiatric and community) and midwifery.

Termination

Academic throughput category when a student nurse fails a re-write examination. Student will be excluded from training.

Third-class pass

The academic results category when a student nurse obtains between 50-59% for an examination.

Throughput

This refers to the academic outcome of student nurses and includes passed, failed, demoted or terminated. Successful academic throughput refers to those who have met the minimum academic and clinical requirements at the end of an academic year are promoted to the next year of training.

Township

This refers to a suburban allocated residential/industrial area. The resources may vary and may or may not have basic facilities such as water, electricity and sanitation (Parkinson 2011: 90). For the purpose of this study, township areas have been classified as rural due to their lack of resources.

Upper second-class pass

The academic results category when a student obtains between 70-74% for an examination.

Urban area

This is a built-up area, in a town or city, and usually has basic facilities such as piped water, electricity and sanitation.

List of acronyms

Acronym	Full word
A&P 1	Anatomy and Physiology paper 1
A&P 2	Anatomy and Physiology paper 2
AIDS	Acquired immunodeficiency syndrome
CHE	Council for Higher Education
CNS	Community Nursing Science
DP	Duly Performed
EAL	English Additional Language
FNS	Fundamental Nursing Science
HIV	Human immunodeficiency virus
IREC	Institutional Research Ethics Council
KZN	KwaZulu-Natal
KZNCN	KwaZulu-Natal College of Nursing
MCQ	Multiple Choice Question
MDG	Millennium Development Goals
NHI	National Health Insurance
NQF	National Qualifications Framework
NSC	National Senior Certificate
OSCE	Objective Simulated Clinical Evaluation
RPL	Recognition of Prior Learning
R425	Nursing course: Registration 425 with the SANC
SANC	South African Nursing Council
SAQA	South African Qualifications Authority
SC	Senior Certificate
Soc	Social Science
TB	Tuberculosis
UKZN	University of KwaZulu-Natal
UNISA	University of South Africa

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

Globally, there is recognition of a health workforce crisis which undermines health system effectiveness and the delivery of health care services (Department of Health 2012: 11). Although nurses continue to be the single largest group of health care providers in any country, high turnover rates amongst nurses occur globally (Barney 2002: 154). There has been an underproduction of nurses in KwaZulu-Natal (KZN), which is a concern since KZN has the most population per province (Breier, Wildschut and Mgqolozana 2009: 71). Due to the critical shortage of nurses, nurse educators are faced with the enormous challenge of training adequate numbers of competent nurses to meet the ever-increasing health care needs of 51 million South Africans (Jooste and Jasper 2012: 60).

KwaZulu-Natal College of Nursing (KZNCN) is involved with training of professional nurses for the public sector in the province of KZN. The college offers a four-year diploma nursing programme (R425) in ten out of fifteen campuses in KZN. In order for a nursing student at KZNCN to be deemed academically successful, a minimum score of 50% per nursing subject examined must be attained (KZNCN Rule Book 2013: 13). Attrition of student nurses is a major problem globally (Last and Fulbrook 2003: 449). The attrition rate of KZNCN nursing students between 2005 and 2011, based on the number of students who completed training, was 23%, mainly due to academic failure. There is a need to identify suitable candidates for nursing courses and to ensure that those selected are academically successful, because attrition is a waste of both human and material resources (Bolan and Grainger 2003; Ali 2008).

Because nurses are taught and examined in English, minimum matriculation English scores form part of the entry requirements (Appendix 10). The majority of KZNCN nurses speak isiZulu as their home language; therefore they are English-Additional-Language (EAL) students. Due to inequalities in the South African schooling system, the quality of English exposure is varied (Posel and Casale 2011: 450), and the English proficiency of many nurses is poor. This may affect their ability to learn and succeed academically in higher education, especially in their first year of nurse-training when the attrition rate is highest. Many personal and social factors may also influence the English proficiency of learners (Stephen, Welman and Jordaan 2004: 44).

While many previous studies on academic performance in higher education have been conducted in developed countries (Newton, Smith, Moore and Magnan 2007; Mills, Heyworth, Rosenwax, Carr and Rosenberg 2009; Igbo, Straker, Landson, Symes, Bernard, Hughes and Carroll 2011), and in South Africa (Dambisya and Modipa 2004; Stephen, Welman and Jordaan 2004; Rauchas, Rosman, Konidaris and Sanders 2006; Njobe 2007; Bradbury and Miller 2011; Sommer and Dumont 2011) there appears to be little research available on the relationship between South African nurses' English proficiency and academic performance. Researchers cannot agree on this complex relationship, and some have identified a positive relationship between home language and academic performance (Cummins 1980; Balfour 1999; Probyn 2006; Njobe 2007; Mashiya 2010; Yazici, Ilter and Glover 2010; Posel and Casale 2011). There is growing pressure on higher education institutions, where many of the students are EAL students, to introduce English language proficiency testing prior to acceptance to study (Spinks and Ho 1984; Parish 2005; Salamonson, Everett, Koch, Andrew and Davidson 2008; Donnelly, McKiel and Hwang 2009; Prideaux, Roberts, Eva, Centeno, McCrorie, McManus, Patterson, Powis, Tekian and Wilkinson 2010). This can be related to the impact of globalisation, of English in particular, and its

impact on the education sector (Kamwangamalu 2007: 272). At KZNCN, an English proficiency test is not undertaken by potential candidates to nursing, nor are struggling students offered additional-language support.

As a result of the lack of current South African information regarding first-year nurses' academic performance, several questions that had not been addressed arise:

- What are the socio-demographic characteristics of student nurses?
- Which factors may influence the student nurses' proficiency in English?
- What is the student nurses' self-opinion of his/her English proficiency?
- What factors influence the student nurses' academic performance in the first year of nurse-training?
- What is the relationship between the student nurses' matriculation language results and the academic performance and throughput in nurse-training?

According to the Council on Higher Education (CHE 2013: 52), the current higher education system is not producing sufficient graduates to meet national needs in respect of economic and social development. The CHE argues that this happens because much of the country's intellectual talent is not being developed.

1.2 PROBLEM STATEMENT

Student nurses in training at KZNCN campuses have met the language criteria for admission, and are taught in English; for the majority English is an additional language. Many students cannot read or write English adequately, which may affect their ability to achieve academic success (Breier, Wildschut and Mgqolozana 2009; Stephen, Welman and Jordaan 2004).

The attrition rate of first-year nurses at KZNCN is 23%, which is slightly lower than the national norm of 50% in South African higher education institutions (DoE 2005 cited in Sommer and Dumont 2011: 386). Students undertaking a four-year diploma course (R425 programme) in nurse-training at KZNCN must do so within a maximum time-frame of five years (KZNCN Rule Book 2013: 9). This places them under enormous pressure to succeed, since most nurses who exit training do so because of academic failure in first-year. The first year is a period of adjustment and challenges for new students, who come from diverse socio-economic backgrounds and schooling experiences. Transition from high school to higher education is not easy, and due to inequalities many students are under-prepared (Nnedu 2009: 93). The Council for Higher Education (CHE) argues that under-preparedness manifests itself in a range of ways, from struggling in the formal curriculum to difficulty with adjusting to independent study and a university environment (2013: 57). According to the CHE, under-preparedness means different things to different people. For some, it may be associated with weak students implying some level of cognitive deficit. For others, under-preparedness is equated with a fundamental lack of ability to grasp higher learning, and those are seen as not being university material. Furthermore, under-preparedness is commonly associated with African students, given the poor quality of schooling experienced in most African communities.

The nursing curriculum is unique compared to other academic professions and training includes not only an academic portion, but an equally important clinical portion (Alden 2008: 63). First year examinations include two anatomy and physiology papers, composed of 50% multiple choice questions (MCQs), as well as five other subjects. Learning and passing examinations is very challenging for inadequately prepared students. These first-year students feel overwhelmed by the terminology, academic workload, and the responsibility of human life in the

clinical field. These factors place enormous stress on the student and can impact on academic performance (Alden 2008: 63).

There appears to be a lack of previous research on nursing students and according to Newton et al. (2007: 144) the majority of previous studies on the success of nursing students have not focused on early academic success as a dependent variable. This obvious gap in nursing literature, and in particular in the South African context, is important because it is well-documented that the attrition rate is highest in first-year nurses, and could be reduced with early intervention (Guhde 2003; Jeffreys 2007).

Early identification of at risk students is important so that remedial action can take place as soon as possible, to promote success (Jeffreys 2007: 407). Many nurses struggle academically throughout training and never reach their full potential. This affects the number and the quality of student nurses who qualify as professional nurses, and impacts on the standard of care rendered to the people in KZN and the rest of the country.

1.3 AIM OF THE STUDY

The aim of this study was to determine if there was a relationship between matriculation English proficiency, determined by the matriculation English results, and first-year nursing academic results.

1.4 RESEARCH OBJECTIVES

The objectives of the study were to:

- Determine the demographic characteristics of student nurses.
- Determine the factors influencing student nurses' proficiency in English.
- Determine student nurses' self-opinion of their English proficiency.
- Determine the factors influencing student nurses' academic performance, in their first year of nurse-training.
- Determine the relationship between the student nurses' matriculation language results and the academic performance and throughput at the end of the first year of nurse-training.

1.5 SIGNIFICANCE OF THE STUDY

This is a significant study as it establishes the relationship between matriculation English and academic performance in nursing students. Currently, the matriculation results are the most important entry requirement to higher education in South Africa (Dambisya and Modipa 2004: 75). This study also addresses the language admission criteria to nurse-training at the KZNCN campuses. This study is also significant because it explores demographic factors, South African schools, including the language policy in schools, English language development, and social and personal factors which influence the proficiency of English. In addition, it investigates the experiences of EAL nursing students based on the responses to the questionnaire.

Although there appears to be a lack of nursing research on the topic of this study, the majority of previous nursing studies found on academic performance have been descriptive and correlational in design. There is a need for a more

predictive regression analysis to identify factors that are predictors of early academic success, with particular focus on the language of learning and evaluation, which, in the case of most nursing students in South Africa, is not the home language.

The findings of this study can be applied to higher education institutions in South Africa, including nursing programmes. Previous researchers in this field have often used convenience sampling, confined to one institution. This study is significant, however, in that it investigates six of the ten KZNCN campuses, making the results generalisable for use by other higher education institutions. The results of this study can provide nurse educators with useful information as they redefine admission criteria to reflect the changes in the profile of nursing applicants. This study may also influence the language of instruction at other higher education institutions, especially in KZN, where the majority of learners speak isiZulu. Alternatively, nurse educators can be trained to teach and identify EAL students who are struggling academically, and to take early action to improve their academic success.

1.6 STRUCTURE OF THE DISSERTATION

- Chapter 1: Introduction and background
- Chapter 2: Literature review
- Chapter 3: Research methodology
- Chapter 4: Presentation of results
- Chapter 5: Discussion of results, conclusion, limitations of the study and recommendations.

1.7 CONCLUSION

This chapter introduced the reader to the background of the study, and explained how the objectives were formulated. The chapter highlighted the concerns about academic performance of first-year nurses and the English proficiency of those being trained in English as an additional language. The findings of this study must be brought to the attention of nurse educators, managers and selection committees at higher education institutions. Chapter two will focus on relevant literature that was reviewed in order to gain more insight and understanding, and to support the relevance of this study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The literature review takes a critical look at the existing work that is significant to the study being undertaken. The purpose of a literature review is to obtain scientific information about the objectives of the study, to put the study into perspective and to convey what is currently known about a specific topic. Previous research indicates the amount and quality of existing knowledge, to allow the researcher to determine whether additional research is required (Brink, van der Walt and van Rensburg 2012: 70).

Previous studies have been done on minority/foreign groups (Graham 1987: 508), admission criteria to higher education (Cantwell, Archer and Bourke 2001: 223), factors predicting/affecting nursing academic success (Bolan and Grainger 2003; Wharrad, Chapple and Price 2003), and EAL students (Salamonson et al. 2008; Doley 2010). While the majority of these studies have been conducted in developed countries, there appears to be little research on South African nurses' English proficiency or factors that may influence it, and how this relates to academic performance.

This chapter sets about scrutinising the relevant literature related to the topic of whether English proficiency affects the academic performance of first-year nursing students, at campuses where the majority of nurses are EAL students. The first portion of this chapter will deal with the theoretical base on which the study is built, namely the nursing situation in South Africa. The second portion, presented in Figure 2.1, will investigate the specific factors affecting English

proficiency and ultimately the academic performance of first-year nursing students, which is the main focus of this study (Hofstee 2011: 44).

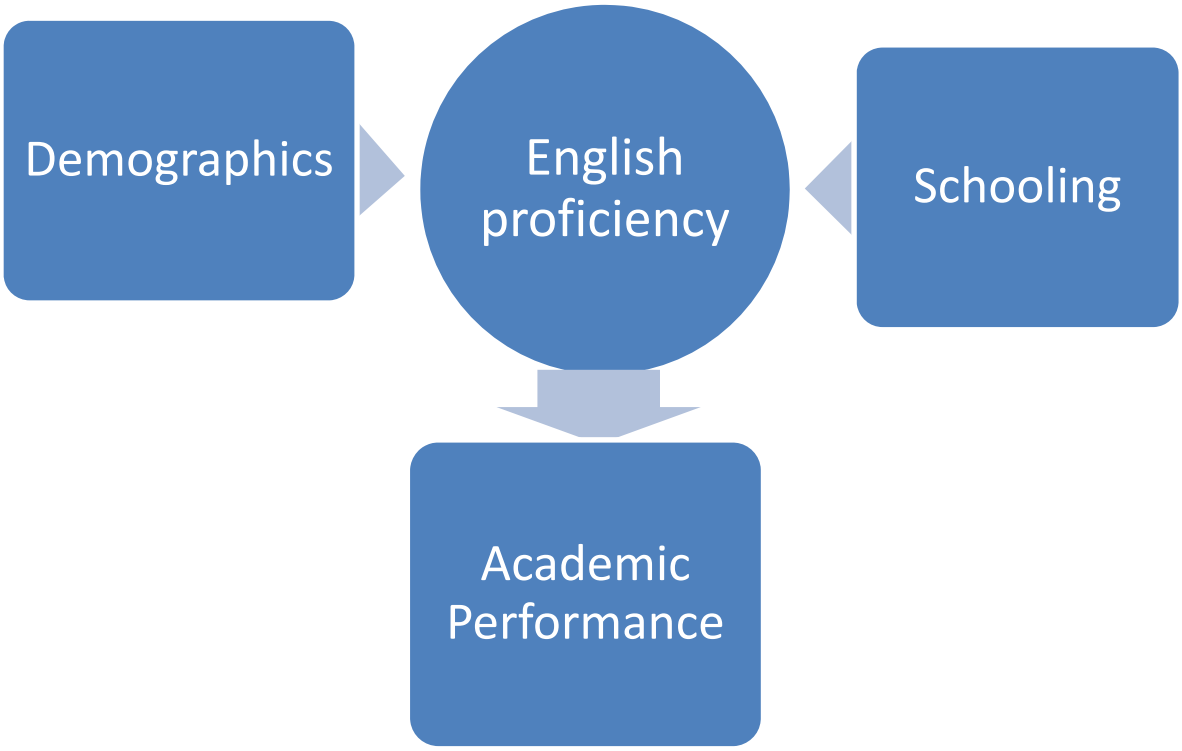

Figure 2.1: Framework for literature review

2.2 THEORY BASE: NURSING

Post-apartheid South Africa has a legacy of inequalities of access to healthcare and quality education. Although there has been transformation since 1994 service gaps still exist within the eight provinces, with rural areas remaining

under-served. In 2010, the government's Millennium Development Goals (MDGs) for achieving health for all required the collective action by various stakeholders in the development of nursing, including nurse educators (Jooste and Jasper 2012: 57). This transformation must occur within the context of a poor economy, and within a nation with eleven official languages.

Plans to meet the MDGs include decreasing the critical shortage of competent professional nurses, since there is still an imbalance between supply and demand. The supply is slowly growing, but there remains a high turn-over as nurses seek other employment through migration to the private sector, urban institutions, or other countries. Those who remain behind are left with an increased workload. In addition, South Africa has an aging workforce with many experienced nurses retiring in the next decade, which will be a great loss to the profession (Jooste and Jasper 2012: 59).

According to Breier, Wildschut and Mgqolozana (2009: 29) there is a shortage of nurses in South Africa. This study suggests that the total intake of students should increase in order to address the health care needs of the 51 million people in South Africa, 21% of which reside in KZN. This presents a challenge for nurse educators who need to influence policy decisions regarding nursing service programmes and training, including recruiting nurses with sufficient educational requirements to enter training programmes. Nursing shortages are well-documented in South Africa and the situation will intensify with the increasing health care demands, and no doubt, because of the new National Health Insurance (NHI) (Jooste and Jasper 2012: 58).

The current National Minister of Health, Dr Aaron Motsoaledi, held a Nursing Summit meeting in April 2011 on reconstructing and revitalising the nursing profession for a long and healthy life for all South Africans (Department of Health: 2011: 112). At this meeting, the National Department of Health was asked to develop and implement a comprehensive national policy on nursing education and training, which looks at the new Nursing Qualifications' Framework (NQF). Government was urged to declare nursing education a national competency and to declare nursing colleges as higher education institutions. The South African Nursing Council (SANC) was urged to fast-track the processing and implementation of the new NQF. Nursing education institutions were instructed to implement Recognition of Prior Learning (RPL) for access and entry into nurse-training, in line with national policy and the SANC guidelines. In addition, the national government was urged to increase investment in nursing education, to develop and implement adequate resources for a national nursing educator. All persons undergoing nurse-training must be registered as a learner nurse with the SANC. The SANC objectives include serving and protecting the general public of South Africa, in consultation with the Minister of Health and the National Health Policy, to establish, improve, control conditions, standards and quality of nursing education and training (SANC 2013: 10).

Nursing is not seen by all as an attractive option for contemporary school-leavers (DoH 2008: 11). Due to the enormous unemployment/poverty crisis in the country, many will apply for any and every job they see advertised in the hope of a better future. This has resulted in many people commencing nursing who do not have the passion, dedication, or the necessary attributes to make caring nurses (Breier, Wildschut and Mgqolozana 2009: 83). In addition, educators are often unprepared for the unique learning needs of the disadvantaged nursing student. It should be a priority in nursing to increase the number of suitable people to train as nurses and to diversify the professional workforce.

Representation in nursing should comprise a demographic mix that reflects society (Rhodes-Martin and Munro 2010: 321). This must include those from disadvantaged backgrounds who represent many of the people in the communities; more especially in KZN where 80% of the rural schools are still considered disadvantaged (Zuzelo 2005: 27).

KZNCN is head office to ten main provincial nursing campuses in rural and urban KZN. The vision of KZNCN is to "lead nursing education and to achieve excellence in nursing through education and training of nurses registerable with the SANC and South African Qualifications Authority (SAQA) at basic and post-registration levels" (KZNCN 2013: 1). The mission of the KZNCN is to "produce caring and competent nurses and clinical nurse specialists who will be responsive to the current and future health care needs of the people of KZN, by empowering them with nursing knowledge" (KZNCN 2013: 1).

Academic success is necessary for nursing school approval, attracting nurses for training and upholding the reputation of the programme. Nursing schools are responsible for producing competent, skilled nurses who can provide safe nursing care (Seldomridge and DiBartolo 2004; Ali, Gavino and Memon 2007). Nursing programmes are under pressure to graduate large numbers of nurses to meet the demands of the public. Early academic achievement and retention are problematic, and reliable predictors of early academic achievement have yet to be identified (Newton et al. 2007: 144). The majority of nursing students in South Africa are not training in their home language, and KZNCN campuses offer tuition in English only (KZNCN Rule Book 2013: 9). This is in line with most higher education institutions that offer tuition mainly in English (Koch and Dornbrack 2008: 334).

2.3 THE INFLUENCE OF DEMOGRAPHICS ON ENGLISH PROFICIENCY

2.3.1 Socio-economic situation

The unemployment situation in South Africa is one of the highest in the world (Özler 2007: 487). The unemployment rate in South Africa is currently 24.9% (Statistics South Africa 2012: 1). South Africa has many rural areas, which differ from urban areas in that they are usually small-knit communities with high unemployment rates, with fewer basic resources such as water, electricity and good roads, as well as less access to technology (Chisholm, Daniel, Southall and Lutchman 2004; Ross 2010). In South Africa millions of people live in poverty, many of them uneducated (Sailors, Hoffman and Mathee 2007: 364). In the province of KZN alone 27-43% disadvantaged people reportedly live in absolute poverty, many of them uneducated (Klasen 2005; Özler 2007). Two to three million South Africans are estimated to be orphaned and made vulnerable by the AIDS pandemic (Kidman, Petrow and Heymann 2007: 326).

Disadvantaged people attend disadvantaged schools (Fiske and Ladd 2003: 9). Poor schools are entrenched in a cycle of reproducing patterns of poverty and illiteracy that pre-date 1994. There is an urgent need to link increased service delivery with education (Chisholm et al. 2004: 207). Education is considered a guarantee of social mobility, and successfully completing a higher education programme is uplifting for people from one societal level to the next, which provides an optimistic future for those from disadvantaged homes and where unemployment is rife (Zuzelo 2005: 28).

The findings of a South African study by Ross (2010: 459) showed the lifestyle experiences of school children in the poverty trap. Responses by participants included going to school hungry, sometimes only having had water to drink,

sometimes not having a meal all day. Some had unemployed or deceased parents. When there was no money for school fees they had to stay at home. Due to a lack of finances for transport, it would be necessary to walk far distances to school, even in the rain. They could not afford to go on school excursions; some only had one uniform which had to be washed every day. One girl sold sweets at school, some had to quit school to work and earn an income as parents had died or were unemployed (Ross 2010: 459). A KZN scholar who participated in a different South African study (Chisholm et al. 2004: 219-220) mentions living far away from the nearest high school and having to wake up at 4 a.m. to sell wood before school, in order to buy a bus coupon and a candle with which to study at home. His mother also had to sell wood to buy food. This scholar got home exhausted at 4 p.m. and had no time to study. A grade six girl reported performing chores, including childcare and agricultural duties, before and after school. At school, she then had to join her class-mates in cleaning toilets and classrooms, fetching water, cleaning the yard and running errands for teachers. Teachers who participated in this study described the situation of scholars who were often hungry and lack-lustre in the classroom, suffered from the cold weather, and lived with family relying on government grants. Some of their parents were migrant workers or were deceased.

The socio-demographic profile of students plays a major role in academic performance both at school and in higher education. Some researchers argue that socio-economic factors are the most reliable indicators of higher education achievement (Zuzelo 2005; Abedi and Gandara 2006; Alegre and Ferrer 2010; Ross 2010). Family backgrounds and resources in the home also have an effect on academic performance (Branson, Leibbrandt and Zuze 2009: 3-4). These factors include lack of parental support, uneducated parents or first-generation college students, and lack of supervised study or other learning sessions beyond classroom work (Childs, Jones, Nugent and Cook 2004; Gabela 2005). Parents'

involvement in their children's education, those who motivated their children, those with high aspirations/goals for their children, and those who saved for college, produced children who were more academically successful (Zimmerman, Bandura and Martinez-Pons 1992; Childs et al. 2004; Zuzelo 2005).

A study in the United States of America found that nursing students from disadvantaged backgrounds were at schools with no career-guidance counsellors, they did not have ready access to advice on the complicated admission procedures, and parents often could not assist them (Nnedu 2009: 93). In South Africa, although universities have succeeded in increasing access for students from disadvantaged backgrounds to address the equity goal, the number of students able to complete a degree within the four-year timeframe has not increased proportionately. The socio-economic situation and urbanisation affects the social integration at higher education institutions. Urban, high socio-economic groups out-perform low income groups of students (Stephen, Welman and Jordaan 2004: 44).

It appears that a number of socio-economic factors play an influential role in education, including poverty, family support, responsibilities in the home, illness and death in the family.

2.3.2 Gender

Most nurses worldwide are female; and this trend applies to South Africa as well. According to the SANC statistics (SANC 2013: 13), of the 20 900 student nurses in training in KZN in 2012, 77% were female. In recent years, nursing has attracted more males (Mooney, Glacken and O' Brien 2008: 1845), but it has been found that male student nurses have a higher attrition rate than their fellow female student nurses (Meadus and Twomey 2011: 269).

2.3.3 Ethnicity

In line with equity goals, the population of students in higher education should reflect society. In South Africa, the majority of people are African, and the equity of the KZNCN student body is representative of the population and thus the communities they serve in health care (Rhodes-Martin and Munro 2010: 321).

2.3.4 Home language

Home language can be defined as the language one learns first and uses in the home; the language one is most comfortable using (Mashiya 2010: 94-95). The majority of people in KZN speak isiZulu as a home language, compared with English which is spoken as a home language by only 13% of the KZN population. In fact, isiZulu is the most common language spoken throughout South Africa. English is only the third most common language in the country (8.2%), yet the language of instruction and evaluation at most schools and higher education institutions is English (South Africa Language Statistics 2011). EAL scholars in South Africa are more likely to be taught by teachers without the appropriate qualifications or English proficiency, and they live in homes where English is not the home language (Ross 2010: 469), so they have had very little exposure to English by the time they enter higher education.

2.3.5 Students in higher education

The transition from high school to higher education is never easy for disadvantaged, EAL students (Branson, Leibbrandt and Zuze 2009: 54). The language of learning, teaching and evaluation at most higher education institutes in South Africa is English, adding to the difficulties experienced by students. In addition, the lecturers have not been trained on the special requirements of these students, who often struggle academically and socially due to their varied backgrounds and diverse experiences in schools. In nursing courses, besides the academic portion of training, there is the physically demanding clinical portion which adds to the stress experienced by students (Fürst 2011: 15).

2.4 THE INFLUENCE OF SCHOOLING ON ENGLISH PROFICIENCY

2.4.1 South Africa's education and language policy

South Africa is a multilingual country; in 1996 the government identified eleven official languages in an attempt to create a democratic African society. The official languages include nine African languages (spoken by the majority as a home language), as well as English and Afrikaans. Despite the fact that seventeen years have passed since the language policy was introduced, and the fact that so few South Africans speak English as a home language, English has almost become the *lingua franca* in South Africa (Gilmartin 2004: 415). A positive attitude to English stems from the apartheid days when Afrikaans was rejected as a language of oppression, and this led to the growth of English in the post-apartheid era. English remains the dominant language of business and public life, both locally and abroad, and English language proficiency is more highly regarded than home language proficiency in South Africa (Kwamangamalu 2007: 272). It is estimated that 600 million people worldwide speak English as a home language or additional language (Short et al. 2003 cited in Gilmartin 2004: 415).

The South African language policy encourages mother-tongue instruction at school as well as the introduction of an additional language, thereby promoting bilingualism (Posel and Casale 2011: 450). This policy also recommends that schools teach in their home language until the end of grade three, thereafter to switch to English as the language of instruction and assessment until the end of their schooling. This policy appears to be in line with similar views in Europe and the Americas, implying that there may be good reason for the use of home language instruction for monolingual South African schools (Balfour 1999: 111). Teachers and parents of scholars have the choice of language of instruction and learning in schools, but despite this more than 80% of South African schools choose English, sometimes as early as grade one (Kamwangamalu 2007, Sailors, Hofmann and Mathee 2007; Probyn 2009; Nel and Müller 2010; Parkinson and Crouch 2011). Teachers are caught between community aspirations and the reality in the classroom, making the classroom situation difficult (Probyn 2009; Soorkajh and Joshua 2009).

Very little South African research has been found to suggest that English instruction at schools assists scholar's learning (Balfour 1999; Brock-Utne 2007; Probyn 2009). Some researchers advocate teaching in the home language throughout the six years at primary school. Shifting from the home language to an additional language too early causes language confusion, as scholars have not yet fully mastered reading in their home language, let alone in English (Pretorius 2002a; Stofberg 2011).

In addition to the arguments above on language policy and implementation, there are practical barriers for administering an education system with multiple official languages. There are many words which do not have isiZulu equivalents, and there is disagreement between African language concepts. The intended

meaning is often lost in the translation process, making it impossible to standardise terms (Probyn 2009; Engelbrecht and Wildsmith 2010). There are also some isiZulu words labelled as taboo, which are considered disrespectful if mentioned publically, for example body parts (Mashiya 2010: 102). In addition, there are inadequate textbooks available in all African languages, which would make teaching in an African language difficult. Indigenous languages do not have the complexity to enable them to be used in technical and scientific contexts (Balfour 1999; Mesthrie 2008).

2.4.2 School resources

Basic education is a right for all citizens (Republic of South Africa 1996:14). During the apartheid years, although excellent education existed it was not available to all South Africans. Post-apartheid, the government established a single education system and opened schools to all races, making nine years of education compulsory for all South Africans. The government increased funding for basic education and encouraged schools with governing bodies to supplement public funding with revenue from school fees and other sources, referred to as mixed funding. Schools serving low-income scholars are largely uni-racial and find it difficult to collect fees. These schools continue to suffer from inadequate resources, perpetuating the education inequalities (Chisholm et al. 2004; Fiske and Ladd 2003).

The result of this strategy is that middle and upper class South Africans continue to enjoy an advantaged or better quality of education, and the formerly disadvantaged schools remain disadvantaged (Van Rooyen 2008: 516). Despite compulsory and free education for all South Africans, and despite increased government funding for education, there has been little impact on learner performance so the majority of primary schools remain poor (Chisholm 2004: 19).

The majority of schools in South Africa are now in townships, farms and informal settlements, and remain poor. The choice of school type and location for financially challenged scholars appears to be divided (Chisholm 2004: 5). While many remain in disadvantaged schools, where the quality of English differs greatly from ex-Model C schools, many parents of African children from disadvantaged township schools prefer to enrol their children in formerly Model C schools where instruction is usually in English. This is in the hope of ensuring social mobility through English proficiency (Kamwangamalu 2007; Probyn 2009; Naidoo 2012). This is because in urban schools, teachers' English proficiency is generally better than in rural schools. White, Indian and Coloured scholars remain at an advantage since they are taught in either English or Afrikaans, usually their home language, from grade one to twelve. In addition, they have a greater number of advantaged schools to choose from, and these scholars often have the financial means to attend an accessible school of their choice (Howie, Venter and van Staden 2008: 7).

In disadvantaged schools resources are badly lacking, which places an enormous gap in the quality of the education obtained (Njobe 2007: 29). The lack of facilities in disadvantaged schools in rural and township areas is reflected below:

- Many schools remain without basic sanitation, necessitating the use of dongas, rivers, forests and dams as toilets.
- Many rural schools are remotely situated, there is a lack of transport and far distances for scholars to travel; scholars have to walk many kilometres to school every day, in all weather conditions.
- Poor infrastructure, inadequate buildings and buildings that have broken windows and leaking roofs are typical of disadvantaged schools.
- No electricity, no access to internet, no telephone lines.
- No water.

- Lack of basic stationery, for example exercise books and writing materials.
- Lack of libraries and laboratories, or under-utilised libraries/laboratories.
- Lack of textbooks and reading material - sometimes five scholars share one book.
- No computers, or ones that do not work, as well as no technical training even of teachers.
- No desks or shared desks and chairs.
- Overcrowded classrooms.
- Lack of cultural and sporting facilities.
- No access to money for school use (Pretorius 2002a; Herselman 2003; Chisholm et al. 2004; Gabela 2005; Kamwangamalu 2007; Ross 2010; Parkinson and Crouch 2011; Posel and Casale 2011).

In the book chapter on the state of our schools in South Africa, Chisholm et al. (2004: 204-207) discuss the government's plan to re-distribute teachers from urban and ex-Model C schools to rural schools, which was not realised. Instead, many of these experienced teachers took the severance packages offered, and poorer schools employed more unqualified and under-qualified teachers with little experience. It is common for teachers in KZN's previously disadvantaged schools to be black African, with isiZulu as their home language (Njobe 2007: 28). The more advantaged schools were able to employ more teachers through their Governing Bodies, causing further inequalities. In addition, many scholars who attend rural schools drop out before completing high school (Chisholm et al. 2004: 211). The following are findings of a number of studies relating to teachers in disadvantaged schools:

- Shortage of teachers: ratio of teachers to scholars per class can be as high as 1 teacher: 70-99 EAL children.
- Under-qualified teachers, especially in junior schools where some have not even matriculated.

- Temporary teachers.
- Teachers with poor teaching skills.
- Teachers with little experience.
- Teachers with poor English proficiency (Herselman 2003; Gabela 2005; Abedi and Gandara 2006; Kamwangamalu 2007; Nel and Müller 2010; Ross 2010; Parkinson and Crouch 2011).

Although progress has been made with government's plans to improve school infrastructure, the gap between rural and urban schools, and between social classes, is still vast. Disadvantaged schools are embedded in these contexts and reflect and reproduce patterns of poverty and illiteracy that pre-date 1994.

2.4.3 Exposure to English inside and outside the classroom

The majority of teachers and learners in South African township schools share a common home language, which is not English (Probyn 2009; Nel and Müller 2010). Since most children in South Africa live in rural areas, African learners in township and rural schools have little exposure to English outside the classroom. Home language is spoken in their homes and communities, and demographics suggest they have little direct contact with English home language speakers, who comprise less than 10% of the total South African population (Statistics South Africa 2011a: 11). The lack of exposure to English is supported by the results of a South African study that showed it is common for a group of people of the same race to speak their home language at social gatherings and meetings (Njobe 2007: 28). Any exposure to English is thus confined to the classroom, and often the teacher is not proficient in English, so the home language is used instead (Probyn 2006: 395). English plays a secondary role in day-to-day communication (Chimbganda 2006: 5), apart from television and popular music (Probyn 2006: 392). Participants in a study expressed the difficulty of studying in

a language that is not spoken in their social life or home. Many homes do not have English reading material such as newspapers, television, radio, magazines. In addition, children get minimal opportunity to hear or speak English, and when they do in the classroom it is usually from teachers with limited English proficiency (Pretorius 2002b; Abedi and Gandara 2006; Nel and Müller 2010; Ross 2010).

Reading books increases exposure to language, and poverty and unemployment are positively related to literacy levels. In disadvantaged homes there is little support for literacy development since many care-givers are pensioned grandparents living on a government grant, with poor literacy themselves (Probyn 2009: 127). In addition, African learners have limited access to reading material, as was noted in a study where only 10% of parents bought newspapers and magazines, 50% had less than ten books in their homes, and 83% did not have access to a library (Njobe 2007; Probyn 2009; Ross 2010). These children do not read, participate in discussions, have supervised study or any other learning sessions beyond classroom work, which further limits their exposure to English (Gabela 2005: 11-12). Many disadvantaged students have little or no access to technology, including a lack of computers in their homes (Njobe 2007; Doley 2010; Ross 2010).

The above characteristics of disadvantaged schools are reflected in the research that follows. It has been found that the exposure to quality English at disadvantaged schools is minimal, and “In some rural areas English is almost a foreign language” (Stephen, Welman and Jordaan 2004: 45). This has been partly attributed to the poor English proficiency of school teachers (Howie, Venter and van Staden 2008; Probyn 2009; Bradbury and Miller 2011; Posel and Casale 2011). Most children in South Africa live in a rural area, which limits their regular

use of English to the classroom, where some teachers have low proficiency and where English is not their home language Gabela (2005: 1). In addition, teachers have no training in how to teach scholars in English (Probyn 2006: 406). When the English proficiency of teachers is poor, they often code-switch, which means they revert to their home language, further reducing the exposure to English in class (Ross 2010: 468-469). It is common for teachers to end their explanation of a concept with an indigenous language, or code-switch between the home language and English (Gabela 2005; Njobe 2007). In a study by Nel and Müller (2010: 644) on school children learning in English as an additional language, it was found that 21% of participants who were scholars did not understand what they were being taught, 21% felt they had limited vocabulary, 19% were unfamiliar with the phonics used when reading, and 23% had difficulty spelling words.

A lack of exposure to English results in scholars with inadequate English proficiency struggling to read and learn in English. Students in higher education reported having little experience of English at school. Questionnaire responses showed that for fewer than 40% of participants' English was the language usually used by their teachers at high school. Other questionnaire responses indicate that use of English at school was largely written (Parkinson and Crouch 2011: 83). According to Nel and Müller (2010: 635) poor reading skills stem from poor schooling, and in an international study on reading ability conducted in 2006, grade four and five scholars in South Africa achieved the lowest mean scores out of 40 countries (PIRLS 2006 cited in Nel and Müller 2010: 636). According to Pretorius (2002a): 170) the reading situation in South Africa constitutes a national education crisis.

The schools with poor resources appear to have teachers with poor language skills, producing scholars with poor English proficiency and poor reading skills, resulting in poor matriculation examination results (Howie, Venter and van Staden 2008; Van Rooyen 2008; Ross 2010).

2.4.4 Matriculation results

Successfully passing the Grade 12 Senior Certificate examinations is popularly known as 'passing matric', which is held in high esteem by members of the public largely because it is seen to represent a signpost of achievement (Lubisi and Murphy 2002: 255). A variety of subjects are written and at least six must be passed in order to obtain matric. These passed subjects must include at least two of the official languages, one of which must be the language of teaching and learning. In order to be granted a National Senior Certificate (NSC), a scholar must achieve 30% in three subjects, and 40% in a further three subjects, one of which must be the home language (Fast Facts 2013: 24).

It is compulsory for matriculates to be proficient in the language of instruction at the higher education institution where the learner has applied. Minimum language requirements must be met in order to be accepted because most South African matriculates speak an African language as a home language, not English (Koch and Dornbrack 2008: 333).

Application and acceptance to study at higher education institutions is based almost exclusively on the matriculation results of prospective learners, with much emphasis on matriculation English (Posel and Casale 2011: 455-456). To achieve a NSC, this indicates that matriculates have automatically met the criteria to study a bachelor degree and are exempt from writing university entrance exams. The minimum requirement is a NSC with a minimum of 30% in

the language of learning and teaching, and 50% or more in four or more subjects (Fast Facts 2013: 24). Not all academics agree with this practice, and a debate has been sparked about whether the matric results are in fact credible. The findings of the South African research studies reveal that matriculation cannot be taken as a true reflection of academic potential (Stephen, Welman and Jordaan 2004; Jansen 2005). The new matric certificate could cause students to have an unrealistic perception of their own academic ability. It is, therefore, important to find other ways to determine access to higher education (Nel and Kistner 2009: 953).

When a language at high school has been taken as a home language subject, the high school curriculum includes literature and poetry, with a more analytical approach. Additional language subjects focus more on grammar, vocabulary and the language itself. It is possible to study more than one language as a home language in high school (Rauchas et al. 2006: 399).

It has been found that scholars who are taught in an additional language are not functioning at an adequate level in their home language or in English, seriously impacting on their matriculation results (Howie, Venter and van Staden 2008: 7). Many scholars drop out of school before writing matriculation examinations, mostly in rural areas. With little or no command of English, they face an uncertain future (Herselman 2003: 946). In 2012 the pass-rate for the matriculation examinations across South Africa was 62% (Fast Facts 2013: 1). Despite the schooling inequalities, it is surprising how well a number of students had performed in their matriculation examinations, and another researcher added that academic performance at school does not necessarily reflect the potential to succeed in higher education (Van Rooyen 2008: 516).

2.5 THE INFLUENCE OF ENGLISH PROFICIENCY ON ACADEMIC PERFORMANCE

2.5.1 Admission to higher education

The selection process into higher education is becoming increasingly important (Ali 2008: 129). The cultural and linguistic diversity of South Africa is mirrored in the student profile in higher education institutions, and selection in South Africa is largely based on academic performance in high school (Stephen, Welman and Jordaan 2004: 42). As with the majority of schools, English is the language of instruction and assessment at most institutions of higher education in South Africa (Balfour 1999: 107), including all KZNCN nursing campuses (Appendix 10).

The minimum selection criteria for candidates to higher education include proficiency in the language of teaching and instruction at that institution (Balfour 1999: 110). It is evident that institutions of higher education have followed suit with schools, resulting in African school-leavers migrating to urban universities where tuition is usually offered in English only. Minimum language requirements are applied, with some institutions adopting multilingual admission criteria. At the University of South Africa (UNISA) tuition is offered in each of the eleven official languages (UNISA 2006: 2). Interestingly, despite the option of studying in any official language at UNISA the majority of students still choose to study in English, their additional language, instead of an African home language (Kamwangamalu 2007: 272). The University of KwaZulu-Natal (UKZN) has recently implemented a twenty-year plan whereby all related languages are recognised, with the main focus on isiZulu since it is spoken by the vast majority of people in KZN (Ndimande-Hlongwa and Wildsmith-Cromarty 2010: 1). Some universities, such as the University of Stellenbosch, offer tuition in Afrikaans only.

The new NSC, which was implemented in 2008, has necessitated re-structuring the admission criteria to higher education. The point system is used, whereby the percentage obtained for each subject on the matriculation certificate is allocated points and the sum of these points is used for admission selection. Each higher education institute sets minimum points for entry into each course offered.

In line with the fact that the majority of higher education institutions offer tuition in English only (Koch and Dornbrack 2008: 333), KZNCN is no different (KZNCN Rule Book 2013: 9). In addition to minimum language requirements, nurse applicants at KZNCN campuses who matriculated before 2008 must have an overall matriculation score of twenty points, and must have passed English with a minimum score of 40% (Higher Grade) or 50% (Standard Grade). Applicants who matriculated from 2008 must have an overall matriculation score of 25 points, and an English minimum score of 50% (Appendix 10). It is also worth noting that the district selection policy dictates that the selection process must ensure demographic representation and equity (Appendix 11). Since KZN is home to mostly isiZulu speakers, it is no surprise that the majority of nurses at KZNCN are EAL students.

An English literacy test is not compulsory for admission to all higher education institutions in South Africa, including nurses who apply to KZNCN campuses. Most developed countries use the equivalent of matriculation results as well as compulsory literacy testing (Spinks and Ho 1984; Parish 2005; Donnelly, McKiel and Hwang 2009, Prideaux et al. 2010). Although the minimum score is a matter of argument (Graham 1987; O'Neill, Tannenbaum and Tiffen 2005), there appears to be consensus that the minimum language proficiency threshold should be established by each institution, as it is essential to guarantee

academic success in higher education (Nash 2006: 22). Many of these countries find literacy tests to be valid, reliable and important in student selection (Salamonson et al. 2008: 86), however not all are in agreement. In a study in the United States of America (Ren, Bryan, Min and Wei 2007: 22), the literacy test was found to be an unreliable indicator of future academic performance and should not be solely depended on for admission.

In South Africa, the language problem in higher education is perceived to impact greatly on the academic performance of students (Stephen, Welman and Jordaan 2004; Salamonson 2008). English and communication skills are regarded as critical for success (Gabela 2005: 1). The English proficiency of newly recruited higher education EAL students is often weak, they have no linguistic competence (Balfour 1999: 107), no cognitive skills and no ability to read critically (Stephen, Welman and Jordaan 2004; Pretorius 2000). This affects their academic performance and reading-to-learn ability in higher education (Pretorius 2005: 536). First-year students entering higher education with English as an additional language are generally inadequately prepared for higher education (Nnedu 2009: 93). Although many students may pass the course, they may not necessarily reach their full potential (Wharrard 2003: 138). Many researchers agree that those with higher matriculation English results are more likely to achieve academically (Guhde 2003; Nash 2006; Salamonson et al. 2008; Fakeye and Yemi 2009; Mills et al. 2009; Nnedu 2009). This even applies to mathematical-type courses such as Computer Science and Statistics, which are not language-free (Nolan 2002; Nash 2006; Rauchas et al. 2006). According to Elder (1993: 87) it is at low levels of proficiency that language makes a difference.

Not all researchers agree that English proficiency should outweigh other factors responsible for academic success. Some feel that English should not be considered the sole criteria for decisions regarding admission to higher education, or the only factor affecting learning, because its proficiency does not necessarily guarantee academic success (Graham 1987: 505). Supporting this view is a South African study by Koch and Dornbrack (2008: 346), which questions the fairness of the language admission criteria in higher education, especially for EAL students. They suggest the use of more than one language to determine language proficiency levels (Koch and Dornbrack 2008: 346-347), since the student's performance in a single language is not necessarily an indication of academic proficiency in the language of teaching and learning. This indicates that the home language matriculation score may be more relevant when selecting suitable candidates for higher education. In addition, there appears to be a debate as to whether matriculation and higher education results would be better if students were taught in their home language (Balfour 1999; Koch and Dornbrack 2008; Posel and Casale 2011).

Higher education institutions have an obligation to pay attention to retention of students, and not focus only on recruitment strategies (Zuzelo 2005: 31). "Good schools produce good university students, as the students are better prepared for the jump to higher education" (Johnes and Taylor 1989 cited in Stephen, Welman and Jordaan 2004: 44). Being ill-prepared for higher education is not seen as merely student failure, but possibly that it is a result of a failing education system that should ensure that these students enter higher education adequately prepared (Bradbury and Miller 2011: 119). Since there is much indecision about whether students' proficiency in English affects academic performance in higher education, it is necessary to examine the development of language.

2.5.2 English language development

English proficiency is defined as the ability to use English language, which includes four categories: speaking, listening, reading and writing, at an adequate level to ensure academic success (Doley 2010; Boakye 2011). Verdugo and Flores (2007: 185) found that the English proficiency required for academic study is difficult, and that it is highly correlated to academic performance. Language acts as the basic communication pathway for the transfer of knowledge (Nel and Müller 2010: 646). To succeed in the health care environment, a nurse must be proficient in all four categories of language development (Guhde 2003; Doley 2010).

"Language skill pervades every area" (Oller and Perkins 1980 cited in Cummins 1984: 132). The impact of English proficiency cannot be over-emphasised, and it is necessary to understand the complex nature of language before looking at the impact it has on academic performance, as language development is critical to the learning process (Doley 2010: 1807). The development of language skills takes time and effort. It takes between five and seven years to master English sufficiently to take full advantage of instruction in English, whereas to be fairly fluent in conversational English only takes about two years (Stephen, Welman and Jordaan 2004; Abedi and Gandara 2006).

Home language is universally acknowledged as the most effective way to function cognitively and socially (Gabela 2005: 1). The majority of previous studies on school and higher education are in agreement that proficiency in the home language transfers itself to a second language, leading to proficiency in the additional language and better academic performance (Cummins 1980; Balfour 1999; Njobe 2007; Mashiya 2010; Yazici, Ilter and Glover 2010; Posel and Casale 2011). This indicates that matric results in the language of instruction

may not be the best indicators of academic success, but rather, well-developed academic skills in the home language (Posel and Casale 2011: 455-456).

There are researchers who support instruction and assessment be done in the home language. Brock-Utke (2007: 512) mentions the difficulties faced by EAL students having to learn a new language and simultaneously learn new material in and through that new language. The findings of this study were that students learn better when they use a language they are familiar with (Brock-Utke 2007: 525-526). It has been said that depriving children of the use of their home language results in culture-alienation, a lack of self-confidence and under-achievement (Brock-Utne 2007; Kotzé and Hibbert 2010).

The recent interest in higher education language has shown that learning in your home language can assist with the critical thinking required for academic success. In a study on nurses, it was found that in a typical nurse-training classroom the students and lecturers represent the multicultural society and that within cultures, there are also variations of the same language (Engelbrecht and Wildsmith 2010: 128). Reading is a developmental process over a lifetime (Zulu 2007: 329) and has a significant influence on academic performance (Pretorius 2000: 33). The process of reading is not merely the understanding of words and sentences, but a complex integration of a reader's previous knowledge, cognitive ability and language proficiency (Pretorius 2005: 521).

Although many students who enter higher education are fluent speakers of English, their comprehension level is poor and they are unable to understand academic literature, compared with students whose home language is English or those who studied English as a home language at high school. Many students

come from homes with poor reading environments, resulting in huge challenges in academic reading in higher education, where a higher cognitive level of reading is required (Boakye 2011: 113). EAL students in this country often enter university with inadequate preparation for the academic reading demands of tertiary education level, resulting in the inability to analyse and think critically when reading text (Zulu 2007: 317). In addition, previous researchers have found that EAL students obtain lower academic results and experience more learning problems than students who are taught in their home language (Nash 2006; Pretorius 2008).

In a South African study (Pretorius 2002b: 92), school children performed poorly in reading and writing compared to other countries. Poor written English is also related to poor reading and spoken English (Stephen, Welman and Jordaan 2004: 46). When bilingual people read text, a rough mental translation occurs in the home language in an attempt to assist comprehension. This strategy leads to considerable potential for misinterpretation. Similarly, when using English as an additional language the individual constructs the idea in their home language, then think of the rough English translation, followed by a struggle to connect the words before putting them into a sentence (Njobe 2007; Yau 2011).

2.5.3 Experiences and academic performance in higher education

There is a disproportionately high failure rate in higher education of students who attended disadvantaged schooling, compared to advantaged schooling (Bradbury and Miller 2011: 112). In addition, EAL nursing students have a high attrition rate (Guhde 2003: 113). Academic success at KZNCN is defined by obtaining a minimum score of 50% in each first-year nursing examination. At KZNCN campuses, after the first six months of training, first year nurses write an Anatomy and Physiology examination consisting of 50% written answers and

50% MCQs. At the end of the first year, five additional examinations are undertaken, namely a second Anatomy and Physiology examination, Community Health, Social Science, Fundamental Nursing Science and a Clinical Nursing Science examination.

Each examination written needs a Duly Performed (DP) mark of at least 50% as examination entry. If a student does not obtain 50%, this will be considered a first attempt or failure at writing that examination. If the student either does not get a DP the second time around, or fails the actual examination the next time, he/she will be terminated (KZNCN R425 Rule Book 2013: 14). A minimum of 50% is required to pass any examination at KZNCN campuses.

Many research studies have been done on academic performance of first-year students in higher education (Seldomridge and DiBartolo 2004; Stephen, Welman and Jordaan 2004). Dambisya and Modipa (2004: 75) agree with researchers who claim that overall matriculation scores affect higher education academic performance, adding that this is most evident in first-year students. Research suggests that first-year examination results are useful in predicting whether students will successfully complete the course (Seldomridge and DiBartolo 2004; Stephen, Welman and Jordaan 2004; Brinkworth, McCann, Matthews and Nordström 2009; Mills et al. 2009; Wangenge-Ouma 2013). In the first semester of nursing programmes, students often underestimate the rigorous demands of the nursing programme, which leads to poor academic performance and attrition (Jeffreys 2007: 416). The average mark achieved during the first year was found to be significantly related to the student's home language and ethnicity (Van Rooyen 2008: 516). Contradicting this opinion, Mills et al. (2009: 214) found that the language spoken at home was not associated with first-year academic performance or course completion. Rather, the importance of previous

academic success, including high matriculation scores, has been found to be the most influential factor in successful academic performance of first-year health science students (Mills et al. 2009: 205).

In a study on dietetic students, it was found that EAL students struggled academically and took longer to complete the programme (Doley 2010: 1808). The findings of the study conducted by Nash (2006: 22) revealed that EAL students are more likely to experience additional academic problems in the first two years of study. Maharaj and Gokal (2006: 2) confirm that language must not be allowed to act as a barrier to success in higher education. Previous studies have found that the first year in higher education is critical in predicting course completion. Researchers agree that the first year of higher education lays the foundation for future academic performance and therefore the first year is a critical period in education (Brinkworth et al. 2009; Mills et al. 2009).

The drop-out rate amongst EAL students is high and is mainly due to examination failure (Shakya and Horsfall 2000; Donnelly, McKiel and Hwang 2009). A South African study on higher education mentions data showing that attrition is highest in the first year, and that 30% of students drop out in the first year (DoE 2005 cited in Sommer and Dumont 2011: 386) with graduation rates of only 15%, indicating very poor throughput rates. For the period 2005 to 2008 (Appendices 11 and 12), the attrition in the first year at KZNCN campuses was 23%, slightly lower that the norm in South Africa's higher education institutions. Students from disadvantaged backgrounds have the highest dropout rates and the reasons cited are finances, academic performance and the stress of adjusting to higher education (Alden 2008: 65).

Poor study skills and poor academic preparation affects nursing course completion (Zuzelo 2005: 29). Ross (2010: 460-461) found many higher education students drop out after a year or two due to poor academic performance. When learners switch to English at an early age and receive poor teaching, this results in alarmingly low throughput rates in higher education. Low academic performance may not only be due to lack of knowledge, but due to misunderstandings of academic questions. Therefore, students do not need more content but new modes of questioning (Bradbury and Miller 2011: 117-118). This makes it very difficult for EAL students to meet the academic challenges during their first year of academic studies (Salamonson et al. 2008: 91). Doley (2010: 1808-1809) found that EAL students have difficulty passing exams. Time constraints were also identified as possible reasons for poor academic performance, as many read the question, then translate it into the home language, and then choose the correct answer (Doley 2010: 1809).

Multiple factors influence academic performance, including proficiency in the language of learning and reading ability (Chimbganda 2006: 3). Many students struggle with reading and comprehension of nursing text books and assignments, with emphasis on Anatomy and Physiology and medical terminology (Igbo et al. 2011: 377). Many researchers agree that it must be ensured that those selected are academically successful, because attrition is a waste of both human and material resources (Bolan and Grainger 2003; Jeffreys 2007; Ali 2008).

2.5.4 Non-language factors influencing academic performance

Traditionally, academic criteria have been considered good predictors of student success and have been used to select candidates for various academic courses, including nursing (Ali, Gavino and Memon 2007: 202). When examining academic performance in higher education, two factors arise: admission criteria

and course completion. Proficiency in the language of instruction is an important influence over both of these factors, and language acquisition itself may be influenced by many personal and social factors (Stephen, Welman and Jordaan 2004; Igbo et al. 2011).

One non-language factor that has been found to influence academic performance is financial constraints, which place a burden on many students who are concerned about how to pay for tuition (Shakya and Horsfall 2000; Dass-Brailsford 2005; Zuzelo 2005; Donnelly, McKiel and Hwang 2009). Finances also determine the choice of higher education institution (Branson, Leibbrandt and Zuze 2009: 54).

Another factor which may influence academic performance is the maturity of the nursing student. Students who commence higher education as older students are not afraid to ask for help (Kevern, Ricketts and Webb 1999; Wharrad, Chapple and Price 2003; Ofori and Charlton 2002). Non-traditional modes of entry into an Australian tertiary institution found that older students out-performed younger students in academics, despite often having lower admission scores (Cantwell, Archer and Bourke 2001: 232).

Other factors affecting academic performance in higher education include students who have family problems and responsibilities, such as being parents of dependent children (Shakya and Horsfall 2000; Jeffreys 2007; Donnelly, McKiel and Hwang 2009; Johnson, Johnson, Kim and McKee 2009). In addition to these problems, the impact of HIV on learners and teachers cannot be ignored (Chisholm et al. 2004: 211).

2.6 CONCLUSION

In this chapter an overview of the current literature was given, with a focus on English proficiency. The current status of previous academic literature appears to be that there are arguments for and against the impact that English proficiency has on academic performance of EAL students in higher education. There are also indications that despite an adequate English matriculation result, there are no guarantees that the candidate can read, speak or write English at an acceptable level for higher education. In addition, the learning experience for EAL students can be difficult and the teaching experience can be frustrating for the educators. These factors may result in unsuitable nurses being accepted into nurse-training programmes, as well as nurses who under-achieve, do not reach their full potential, or who may be terminated from training due to academic failure. Based on the previous literature, there is a need for further research in this field, in particular for nursing programmes in KZN where the language of most people is isiZulu. The following chapter will discuss the methodology for this study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter focused on the literature review, reflecting on work by other researchers in this area of study. This chapter sets out to determine the methodology used to give an understanding of how the study was undertaken. The following sections will be covered: review of literature on the research methodology that was used; the survey design; the population and sample selection; survey methods and materials; variables included in the study; the pilot study; analysis of the data; as well as the consent and ethical considerations employed in this study.

3.2 RESEARCH DESIGN

Polit and Beck (2012: 58) describe the research design as the architectural backbone of the study. It is the overall planning of how to conduct research. The design dictates specific strategies required to ensure evidence that is accurate and interpretable. Particularly in quantitative research, the study design assists the researcher to make important methodological decisions (Polit and Beck 2012: 180). This quantitative study includes descriptive, correlation, survey and retrospective elements. The independent variables are the matriculation English results, and social and personal factors experienced by the participants. The dependent variable is the KZNCN academic performance.

3.2.1 Quantitative research

This study is quantitative in design. Brink, van der Walt and van Rensburg (2012: 11) state that this design often starts with a scientific or pre-conceived idea, has a narrow, concise focus, incorporates logical, deductive reasoning, and is grounded in reality. It makes use of precise measurement in a controlled design, utilising formal data collection tools under controlled conditions, and uses statistical procedures to collect and objectively analyse numerical information.

3.2.2 Descriptive research

Descriptive studies are designed to obtain more information about characteristics of a phenomenon (Polit and Beck 2012: 17), in order to provide an overall picture of the situation. In this study the demographic characteristics, schooling factors, experiences when growing up, as well as experiences in higher education, were included in the description of English proficiency acquisition. This information was obtained by means of a questionnaire.

3.2.3 Correlation research

This type of research is also known as *ex post facto* design (Brink, van der Walt and van Rensburg 2012: 115). The aim of descriptive correlation statistics is to compare a number of variables to establish whether a relationship (positive or negative) exists between them (Polit and Beck 2012: 226). According to Polit and Beck (2012: 229), correlation research is strong in realism and presents a challenge to collect accurate, reliable data from samples truly representative of the study population (Hofstee 2011: 123). In this study, matriculation language results were correlated with first-year academic results in nursing students.

3.2.4 Retrospective research

A retrospective design begins with an effect and works backwards to establish what influenced this effect in the past (Brink, van der Walt and van Rensburg 2012: 115). In this study, a retrospective review of student admission and academic records was conducted.

3.3 SETTING

KZNCN is the Head Office to 25 provincial nurse-training colleges, situated throughout KZN. It is affiliated by contractual agreement with the KZN Department of Health and the Universities of KwaZulu-Natal and Zululand. Of the 25 campuses, there are ten main campuses offering the R425 nursing programme, where six are situated in urban areas and four in rural areas. There are fifteen sub-campuses, offering programmes other than the R425. The questionnaires were completed at the selected campuses, while the retrospective record-review took place at the Human Resource Department at KZNCN Head Office in Pietermaritzburg where all student records are stored.

3.4 SAMPLE PROCESS

A sample is a sub-set of the population that is selected for the study (Polit and Beck 2012: 742). Sampling is a process of selecting subjects which are representative of the population being studied (Burns and Grove 2007: 29). The population or target population is the total group of people who meet the criteria that the researcher is interested in studying (Brink, van der Walt and van Rensburg 2012: 131). For the purpose of this study the target population was the undergraduate first-year nursing students from one intake, who are studying for the basic four-year nursing diploma at the KZNCN nursing campuses.

Of the 25 KZNCN campuses, ten main campuses offer the R425 nursing programme. Six of these campuses are situated in urban areas and four in rural areas. Based on a population of 271 student nurses in the target intake across all ten campuses, the statistician calculated the required sample of n=131. This calculation was done using an on-line sample size calculator specific to multiple regression analysis (Soper 2014: n.p.). Parameters used in the calculation included an alpha level of 0.05; power of 0.8; medium effect size (0.15) and 13 independent variables.

To represent the population of n=131, it was desired that approximately half of the sample should be student nurses training at a rural campus and approximately half at an urban campus. Because the researcher lectures at one of the urban campuses, this campus was excluded from the study sample, but the students were included in the total population calculation. Two different sampling methods were used to select the campuses where the participants were training. The first selection stage used the method of stratification, whereby the nine campuses were divided into two sub-groups or strata, being rural and urban. The process of stratification is defined as the division of a population into sub-groups, according to variables that are relevant to the study (Polit and Beck 2012: 744). The second stage of selection used the method of random sampling on order to select three rural and three urban campuses.

At the selected rural campuses, the population was (n= 89) and at the selected urban campuses the population was (n=80), which made a total of (n=169). At each campus the entire student nurse group was invited to participate in the study. The number of nurses who consented to participate amounted to n=133, of which 69 (out of n=89) were from the three selected rural campuses and 64 (out of n=80) were from the three selected urban campuses. This sample size (n=133) was adequate for the calculated study sample size (n=131).

3.4.1 Inclusion criteria

- All first-year nurses from the target intake, at nine out of the ten main KZNCN campuses, due to exclusion of the campus where the researcher lectures. All students were invited to participate; irrespective of whether or not English is their home language.

3.4.2 Exclusion criteria

- Nurses from all sub-campuses at KZNCN.
- Students who were not in the target intake at commencement of the training programme such as those demoted from the previous intake.
- Students from the campus where the researcher is employed.

3.5 DATA COLLECTION

There were two research instruments employed in the study: a questionnaire (Appendix 6) and a data collection record-review document (Appendix 7).

3.5.1 Phase 1: The questionnaire

An instrument is selected to examine a specific variable in the study (Brink, van der Walt and van Rensburg 2012: 166). The quantitative approach proposes the use of a predetermined instrument such as a questionnaire, which is a printed, self-reporting form, designed to obtain information through the written responses of a participant (Brink, van der Walt and van Rensburg 2012: 153). The instrument in this study was a self-developed questionnaire, based on the findings of the literature review as well as on the researchers experience as a nurse educator.

This questionnaire, administered during the first phase of the study, consisted of ten sections and collected data on social and personal factors about the participants' life, with a focus on English proficiency, to achieve objectives one to four:

- Sections 1 and 2 comprised data about the respondent's primary/high schooling, including physical location, type of school, language of instruction, teachers' language fluency/presence in classroom, as well as access to resources.
- Section 3 comprised data about the participant's life growing up, including physical location of home and socio-economic situation.
- Section 4 comprised the participant's life now as a student, including home obligations, travelling distances and living conditions.
- Sections 5 and 6 comprised the participant's English exposure and self-assessment of proficiency, including home language.
- Sections 7 to 10 comprised the participant's experiences in higher education, including experiences in the classroom during lectures, examination experiences, opinion on being an EAL student, study habits, time spent studying, and external support.

3.5.2 Phase 2: The record-review document

This second phase of the study collected information on the admission and academic records of the participants, to achieve objective five: determining a relationship between matriculation language results and nursing examination results.

3.6 DATA COLLECTION PROCESS

The data collection took place in two phases. The first phase identified the participants by their consent to participate in the study. The second phase followed with a retrospective record-review of the participants' admission and academic records.

3.6.1 Phase 1: The questionnaire

Once permission was granted, the researcher visited each campus and collected data over a period of three weeks. The questionnaires were completed at their campuses by the student nurses in the target intake. The campus lecturer accompanied the researcher into the classroom and introduced the researcher, explaining the purpose of the visit. The researcher explained the research study and then handed out the letter of information, allowing time for reading. Students were offered the opportunity to ask questions or receive clarity on any aspect of the letter. The students were told that participation was voluntary and by consent only, and that participation involved the completing of a questionnaire, followed by a correlation of their matriculation language and nursing results at head office. The students were then handed the consent forms and it was explained that they were not obliged to sign this unless willing to do so. The signatures were witnessed by the fellow student nurse sitting adjacent to the participant. To ensure anonymity, the consent forms were then returned to the researcher before the questionnaires were handed out, so that they could not be linked to the participants' questionnaire in any way. The students were told that their names would not appear on the questionnaire, to ensure confidentiality; instead a student number was used. To avoid intimidating the participants, the researcher waited outside the classroom while the participants completed the questionnaires. The participants were allowed to call the researcher should they require assistance. The time taken for explanation and completing of the

questionnaire was 20 to 30 minutes, which is ideal according to Brink, van der Walt and van Rensburg (2012: 157).

3.6.2 Phase 2: The record-review

Once the sample size had been met, as determined by the number of participants who completed the questionnaire, the second phase of data-collection followed. This was the retrospective review of the above participants' admission and academic records, which are stored in cabinets at KZNCN head office. A prepared Excel spreadsheet was used to electronically capture the data required, ensuring that the same details were collected from each student's personal record.

Table 3.1 represents a summary of the data collection methods used in order to accomplish the objectives of the study. The table clearly shows the variables identified, as well as the tools used to collect the data.

Table 3.1: A summary of data collection methods

Objective	Data-collection variables	Tool
To determine the demographic characteristics of the student nurses.	-Gender. -Home location: rural/urban. -Life growing up. -Home language. -Campus situation: rural/urban.	Questionnaire (Appendix 6)
To determine the factors influencing the student nurses' proficiency in English.	-Schooling: • School location: rural/urban. • School type: government. rural/township/urban or private. • Travel to school: distance, transport type. • Experiences at school. -Exposure to English: at school/socially.	Questionnaire (Appendix 6).
To determine the student nurses' self-opinion of their English proficiency.	-Self-opinion of English.	Questionnaire (Appendix 6).
To determine the factors influencing the student nurses' academic performance, in the first year of nurse-training.	-Life now as a student. -Coping in higher education. -Study habits. -Time spent studying. -External support.	Questionnaire (Appendix 6).
To determine the relationship between the student nurses' matriculation language results and the academic performance and throughput, at the end of the first year of nurse-training.	-Type of matriculation certificate. -Matriculation language level and results : • English • isiZulu • Afrikaans -Comparing matriculation language and first year nursing academic performance: • Anatomy and Physiology I (+ repeat) • Community Nursing Science I • Social Science I • Fundamental Nursing Science • Anatomy and Physiology 2 • Clinical Nursing Science I -Academic throughput: • Promoted to second year (passed all subjects/carry 1 or 2 subjects). • Demoted by six months. • Terminated from nurse training programme.	Data collection record-review document (Appendix 7): • Admission records. • Academic results.

3.7 PILOT STUDY

The questionnaire was designed by the researcher, and had therefore not been previously used to check for validity or reliability. A pilot study should be applied to a small sample before applying it to the main study (Brink, van der Walt and van Rensburg 2012: 56). It takes more time and effort, but it will determine the feasibility and will ensure more reliable and valid measures. A pilot study highlights possible errors and potentially problematic questions that may need to be addressed (Brink, van der Walt and van Rensburg 2012: 57).

The pilot study was administered to six first-year students (4.5%) from the study population, but who were not included in the main study sample. The students who participated in the pilot study were given the letter of information and all reported that the study was clearly explained in this letter. Feedback from the pilot study participants was that they understood all the questions. According to the pilot study, the instrument was found to be accurate and without any ambiguity, therefore no changes were made to the questionnaire.

3.8 DATA ANALYSIS

Data analysis reduces, organises and gives meaning to the data. Furthermore, the analysis of quantitative data involves the use of descriptive and exploratory procedures to describe the study variables, statistical tests to identify relationships, and to make predictions (Polit and Beck 2012: 572). Polit and Beck (2012: 556) state that statistical procedures enable researchers to organise, interpret and communicate numerical information. All statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) version 20.0. A statistician was consulted throughout the study (Appendix 9).

Although there were a few fact-finding questions in the questionnaire (Appendix 6), the majority of questions were opinion-seeking questions and required a Likert-type response. These were all on a 5-point scale with the middle score of 3 representing neutrality. Participants were presented with a scale of 1-5 possible options in response to various statements offered, for example, 1=never and 5=always.

Two types of statistical analyses were applied to the data: descriptive statistics and inferential statistics. Descriptive statistics were used to describe the sample; this included relevant tables and graphs showing frequencies and percentages and where applicable means (measure of central tendency) and standard deviations (measure of spread) were also calculated. In order to identify predictors of performance in nursing, and to explore other relationships in the data, regression analysis was applied. Throughout the analysis, p-values of <0.05 were used to measure statistical significance. Inferential statistics included, where appropriate, the application of the following tests:

- The one-sample t-test: used to test whether an average score is significantly different from a neutral score of 3 (chosen as the mid-point of the response options). This test is appropriate for a nominal response variable such as Likert scale questions.
- Independent samples t-test and ANOVA: used to test whether significant differences exist in mean scores for different categories of a categorical variable for example, different age categories.
- Paired samples t-test: used to compare the means of two variables for a single group.
- Dependent samples t-test: used to ascertain whether there is a significant difference between two numerical variables.
- Chi-square goodness-of-fit test: used to test whether any response options are selected significantly more often than expected, given that all options

are expected to be selected equally. This test is appropriate for a categorical response variable.

- Chi-square test of independence: used on cross-tabulations to see whether a significant relationship exists between the two variables represented in the cross-tabulation.
- Regression analysis: used to identify significant predictor variables of an outcome variable.
- Cronbach's alpha: used to test internal consistency.

Where necessary, when the conditions for the test were violated/not met, an equivalent non-parametric test was applied. In the case of the one-sample t-test, a Sign test was applied; instead of the paired t-test a Wilcoxon Signed Rank test was used; instead of a Chi-square test of independence, Fisher's exact test was used; Mann-Whitney U test and Kruskal-Wallis were used in place of an Independent samples t-test and ANOVA; while Spearman's correlation co-efficient was substituted for Pearson's correlation co-efficient.

3.9 RELIABILITY AND VALIDITY

Validity of an instrument is a method of ascertaining how well the instrument reflects the abstract concept that is being studied (Burns and Grove 2007: 365). It verifies that the instrument gives the impression of actually measuring the desired contents for the study (Polit and Beck 2012: 336). Reliability of a research instrument refers to how strongly one can depend on it yielding consistent results, if used repeatedly. The correlation measure for reliability varies between 0 and 1, and the nearer the measure is to 1, the higher the correlation (Brink, van der Walt and van Rensburg 2012: 169). For the purpose of this study, the questionnaire was circulated to experts in the field of nursing

education to peer review the validity prior to utilising it in the study. Furthermore, a statistician was consulted throughout the study to ensure reliability and validity.

3.10 ETHICAL CONSIDERATIONS

Once full ethical clearance was obtained from the Institutional Research Ethics Committee (IREC) of the Durban University of Technology, data collection authorisation was required from various stakeholders (Appendix 1). Permission was sought from the Department of Health and written permission was received (Appendices 2a and 2b). Written permission was then obtained from the KZNCN Principal at Head Office and written permission was received (Appendices 3a and 3b). The researcher then sought written arrangements with each campus Principal to collect data (Appendices 4a and 4b). This was followed up telephonically, to secure a suitable time and date to personally visit each campus. This visit had to correspond with college blocks, to ensure that the target groups were in the campus on the day of the visit.

Student numbers, not names, were used on the questionnaires to protect student identity and to correlate the questionnaire with the corresponding admission and academic record stored at KZNCN. The names of the campuses are not disclosed in the study, so as to further protect the identity of the participants. The prospective participants were furnished with a letter of information about the research study, their participation, the fact that their admission and academic records would be reviewed, the conditions of participation and their rights with regard to their participation (Appendix 5). Participants were also informed that they would not receive any remuneration for participating in the study and that the results of the study would in no way affect their training. It was emphasised by the researcher that participation was voluntary, that a consent form (Appendix 5) was to be signed by those willing to participate and that they had the right to

withdraw at any time, without repercussion or penalty. Their signatures were witnessed and the consent forms were handed in separately from the questionnaires so that they could not be linked to the questionnaires.

Once the required number of questionnaires was reached the researcher undertook the second phase of data collection, which took place at KZNCN head office. The clerk who assisted the researcher by retrieving the selected files at head office signed a non-disclosure agreement, further protecting the identity of the participants (Appendix 8). The data collected was entered directly onto the researcher's computer, which is accessed by a password known only to the researcher. At no time were any records removed from the premises, nor were copies ever made. Student names do not appear on any documentation.

The hard copies of data (consents and completed questionnaires) are being stored in a secured locked metal cupboard and will be kept for a period of seven years. Only the researcher has access to this data. Data collected electronically will be stored on a password protected file for fifteen years. Thereafter, all hard copies will be shredded and electronic files will be deleted.

3.11 CONCLUSION

In this chapter the methodology of the study was described. The various steps in the research process, objectives and ethical considerations were described. Table 3.1 clearly displayed the manner in which the researcher collected the data, in line with the objectives stated in Chapter 1. The type of analyses used was also identified. The next chapter will cover the presentation of the results of the study.

CHAPTER 4

PRESENTATION OF RESULTS

4.1 INTRODUCTION

Chapter three described in detail how the questionnaire was structured, as well as the manner in which the data was collected from the participants. The data will be presented using the research objectives as the backbone. Objectives one to four were determined by the first phase of the research, namely the questionnaire. Objective five was determined by the second phase of the research, namely the record-review. Regressions were done by referring to the variables on the questionnaire. The findings of the data collected from the self-administered questionnaire and record-review will now be presented.

4.2 PRESENTATION OF RESULTS

4.2.1 Demographic characteristics of student nurses

Table 4.1: Demographic information (n=133)

Demographic information	**Option**	**N (%)**
Campus	Rural	69 (51.9)
	Urban	64 (48.1)
Gender	Male	32 (24.1)
	Female	101 (75.9)
Home location	Only rural	59 (44.4)
	Only urban	42 (31.6)
	Both rural and urban	32 (24.1)
Home language	English	25 (18.8)
	Not English	108 (81.2)

The sample was made up of 69 (51.9%) participants who were studying nurse-training at rural KZNCN campuses, and 64 (48.1%) participants who were studying at urban campuses. The sample (n=133) comprised 32 (24.6%) male student nurses, and 101 (75.9%) female students. The sample was made up of 59 (44.4%) participants who grew up exclusively in a rural area, which, according to the results of a Chi-square goodness-of-fit test, is significantly more than expected (χ^2 (1,N= 133) = 8.406, p= 0.015). Only 42 (31.6%) grew up exclusively in an urban area. When the Chi-square goodness-of-fit test was applied, the study revealed that significantly more of the participants 108 (81.2%) did not speak English as their home language (χ^2 (1,N = 133) = 51.797, p< 0.0005).

4.2.2 Socio-economic characteristics of student nurses

Table 4.2: Responses to questions on socio-economic situation and chores at home (n=133)

Standard deviation	Mean score
Socio-economic status (1= under-privileged; 5 = privileged)	2.76 (1.304)
Chores took time from homework (1 = strongly disagree; 5 = strongly agree)	2.11 (1.281)

Participants were asked to enter a score, where a score of 1 indicated that the issue never occurred and a score of 5 indicated that the issue always occurred. The results of a non-parametric Sign test showed a significant proportion of participants perceived their life growing up to be more under-privileged than privileged (Z= -2.025, p< 0.0005). Of the 133 participants, a significant number 63 (47.3%) strongly disagreed that chores at home interfered with time spent studying (Z= -6.187, p< 0.0005).

4.2.3 Life growing up

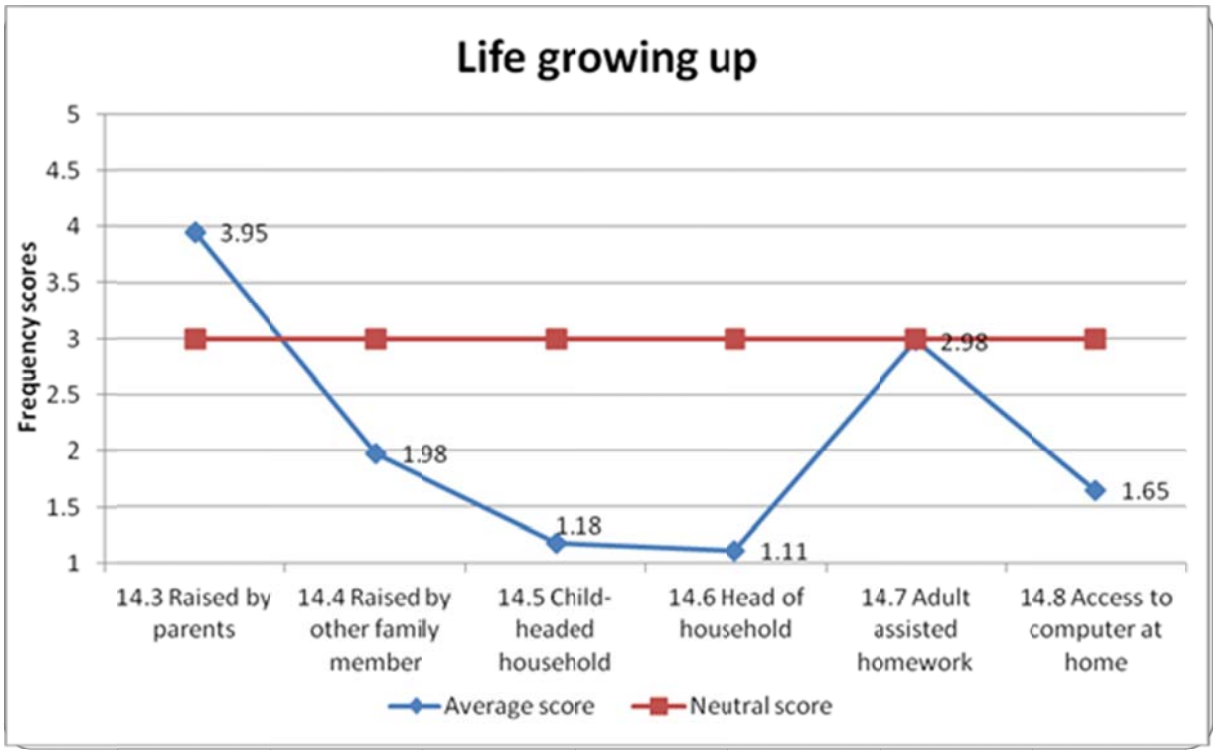

Figure 4.1: Responses to statements regarding life growing up (n=133)

For various issues relating to growing up the participants were asked to enter a score, where a score of 1 meant the issue never happened and a score of 5 indicated that the issue happened all the time/always. With reference to being raised by their own parents, the mean score for the participants was 3.95. According to a non-parametric Sign test, this is significantly higher than a neutral score of three ($Z = -5.704$, $p < 0.0005$), thus indicating that participants were raised significantly more frequently by their parents. Being raised by another family member happened significantly less frequently ($Z = -5.745$, $p < 0.0005$). Participants less frequently belonged to a child-headed household ($Z = -10.484$, $p < 0.0005$), and were significantly more frequently the head of their household ($Z = -10.880$, $p < 0.0005$). Participants more frequently did not have access to a computer at home when growing up ($Z = -7.986$, $p < 0.0005$).

4.2.4 Primary school factors influencing the student nurses' proficiency in English

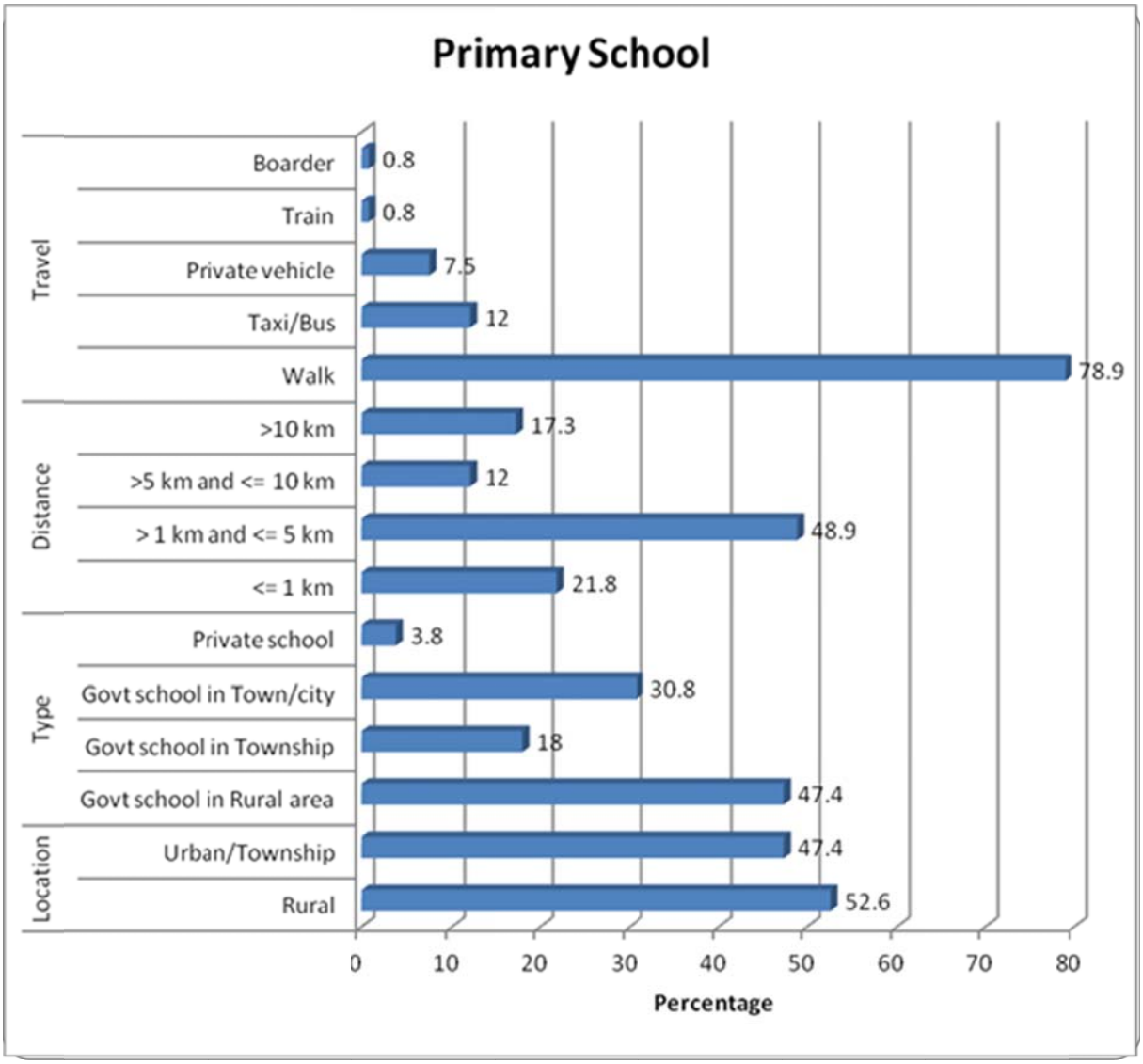

Figure 4.2: Responses to statements regarding primary school (n=133)

According to results of a Chi-square goodness-of-fit test the frequency of attendance at rural primary schools was not significantly different from the frequency of attendance at urban/township primary schools in the sample (χ^2 (1,N = 133) = 0.368, p= 0.544). Approximately half of the participants 70 (52.6%) went to a primary school located in a rural area, as opposed to 63 (47.4%) who

attended primary school in an urban/township area. The type of primary school was not selected evenly in that significantly more than expected, 63 (47.4%), went to a government school in a rural area (χ^2 (1,N = 133) = 55, p< 0.0005). A further 24 (18.0%) attended a primary school located in a township. This indicates that the majority of participants 87 (65.4%) attended non-urban primary schools. A third attended an urban or private primary school 46 (34.6%). According to the results of a Chi-square goodness-of-fit test, significantly more participants 105 (78.9%) walked to primary school (χ^2 (1,N = 133) = 294.932, p< 0.0005). With regards to the travelling distance to the primary school, a significant number 65 (48.9%) reported that their primary school was between 1km and 5km from their home (χ^2 (1,N = 133) =42.970, p< 0.0005). A smaller number of participants 23 (17.3%) lived more than 10km from their school. The average distance from home to primary school was 6.5km.

4.2.5 High school factors influencing the student nurses' proficiency in English

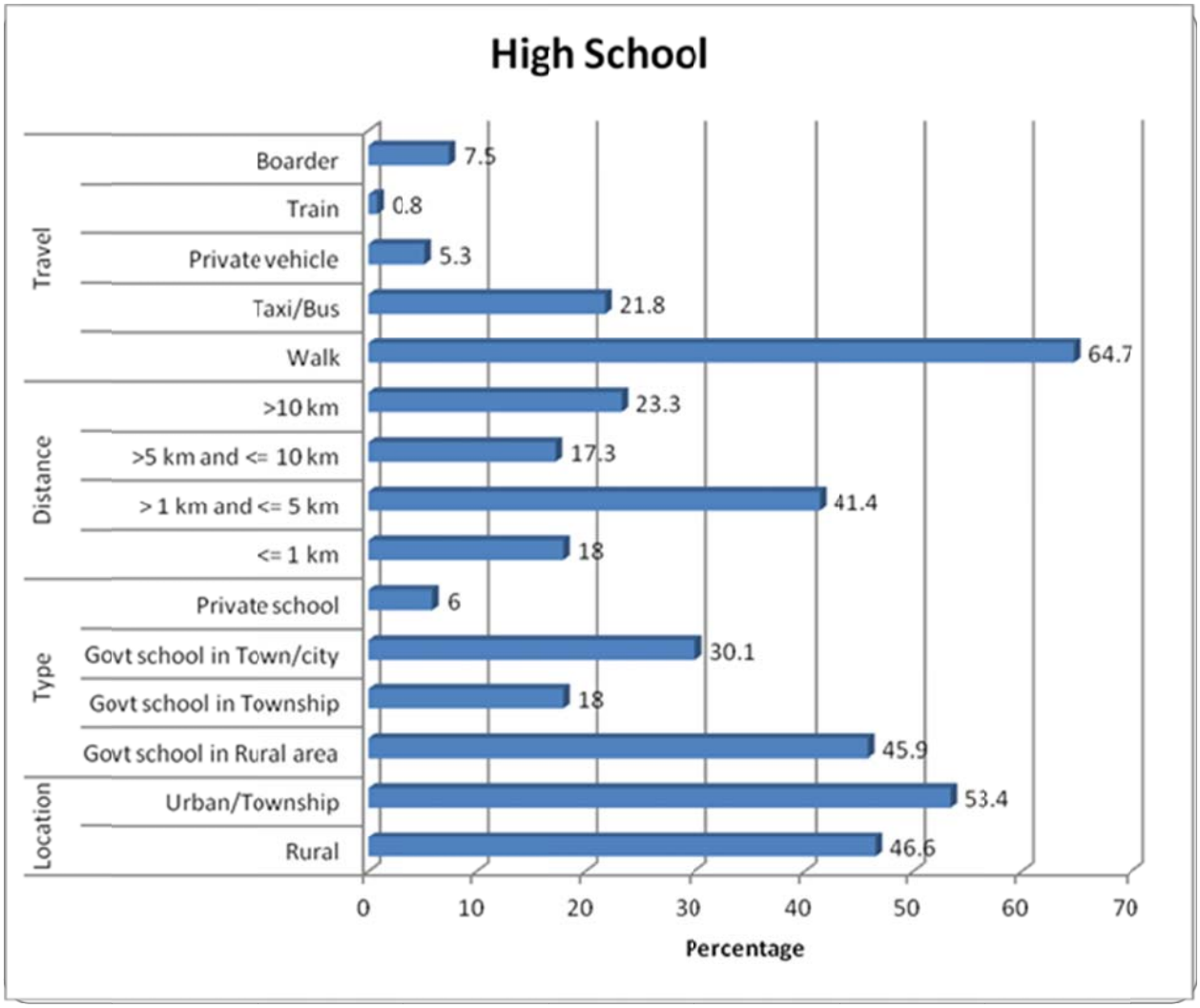

Figure 4.3: Responses to statements regarding high school (n=133)

The study revealed that 62 (46.6%) of the participants attended high schools located in rural areas and 71 (53.4%) attended high schools located in urban areas. The results of a Chi-square goodness-of-fit test revealed that the type of high school attended was not selected evenly, with significantly more participants than expected, 61 (45.9%), who attended government schools in rural areas (χ^2 (1,N = 133) =46.278, p< 0.0005). A further 24 (18.0%) attended a high school located in a township. This indicates that the majority of participants 85 (63.9%)

attended a non-urban high school. About a third attended urban or private high schools 48 (36.1%). The majority of participants 86 (64.7%) indicated that they walked from home to their high school, which is also a significant result (χ^2 (1,N = 133) =182.301, p< 0.0005). With regard to the distance to travel to the high school, a significant number 55 (41.4%) stated that their high school was between 1km and 5 km from their home (χ^2 (1,N = 133) = 20.113, p< 0.0005). Only 7.5% of the participants were boarders. The remaining participants 31 (23.3%) lived more than 10km from high school, and the average distance was 9.6 km.

4.2.6 Exposure to English in primary school

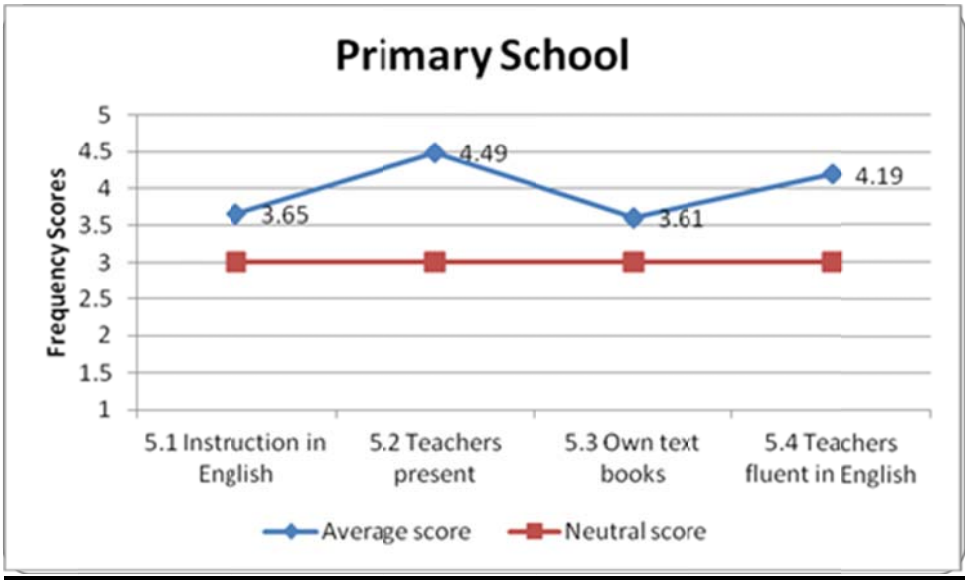

Figure 4.4: Responses to statements regarding English exposure at primary school (n=133)

In primary school, results from analysis applying the non-parametric Sign test show that English was used significantly more often as the medium of instruction in primary school (Z = -4.435, p< 0.0005). Teachers were present in the classroom significantly more often than not (Z = -10.423. p< 0.0005); participants had their own textbooks significantly more than not (Z =-3.590, p< 0.0005); and teachers were significantly more often fluent in English (Z = -7.973, p< 0.0005).

4.2.7 Exposure to English in high school

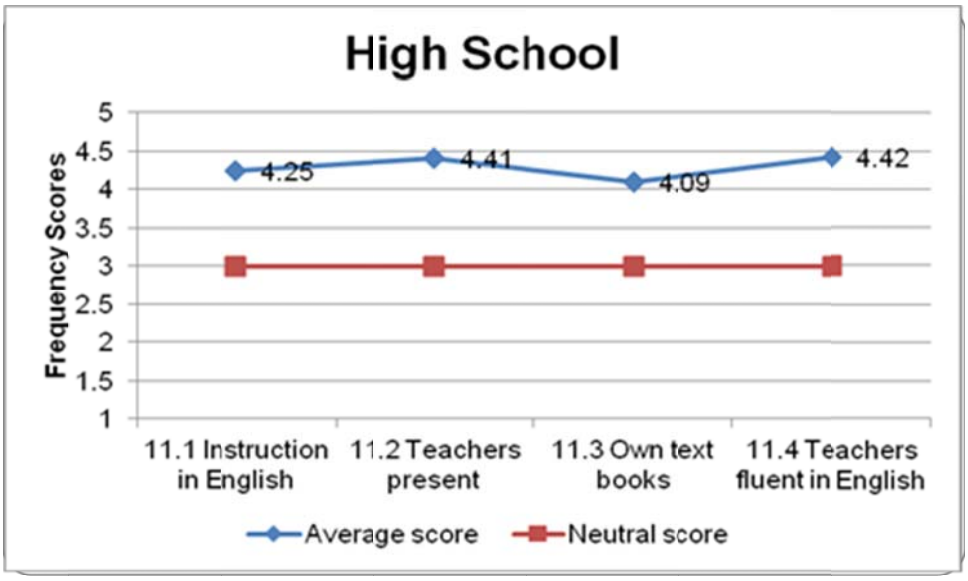

Figure 4.5: Responses to statements regarding English exposure at high school (n=133)

In high school, results from analysis applying the non-parametric Sign test show that English was used significantly more often as the medium of instruction ($Z = -8.788$, $p < 0.0005$); teachers were present in the classroom significantly more often than not ($Z = -9.687$. $p < 0.0005$); participants had their own textbooks significantly more often than not ($Z = -7.212$, $p < 0.0005$); and teachers were significantly more often fluent in English ($Z = -9.403$, $p < 0.0005$).

4.2.8 Resources at schools

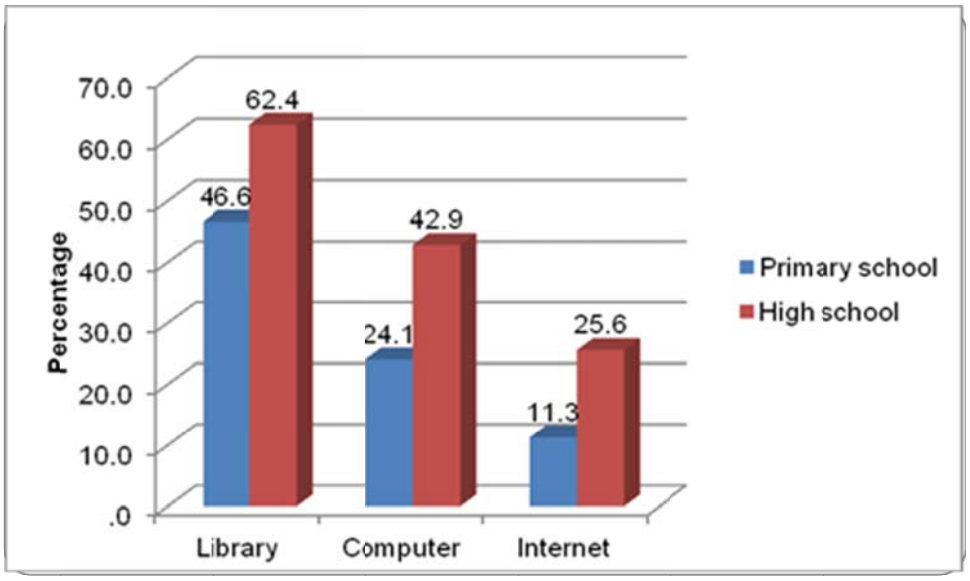

Figure 4.6: Responses to statements regarding resources at school (n=133)

The results from a Chi-square goodness-of-fit test showed that significantly more participants did not have access to a computer (75.9%) (χ^2 (1,N = 133) = 35.797, p< 0.0005) or the internet (88.7%) (χ^2 (1,N = 133) = 79.767, p< 0.0005) at primary school. There was no significant difference between participants who selected yes/no answers to the question of access to a library in primary school (p= 0.435).

In high school, there was no significant difference in the numbers who did and did not have access to computers (p= 0.099). Significantly more participants did not have access to the Internet (χ^2 (1,N = 133) = 31.767, p< 0.0005) and significantly more of the participants did have access to a library (χ^2 (1,N = 133) = 8.188, p= 0.004).

4.2.9 Exposure to English socially

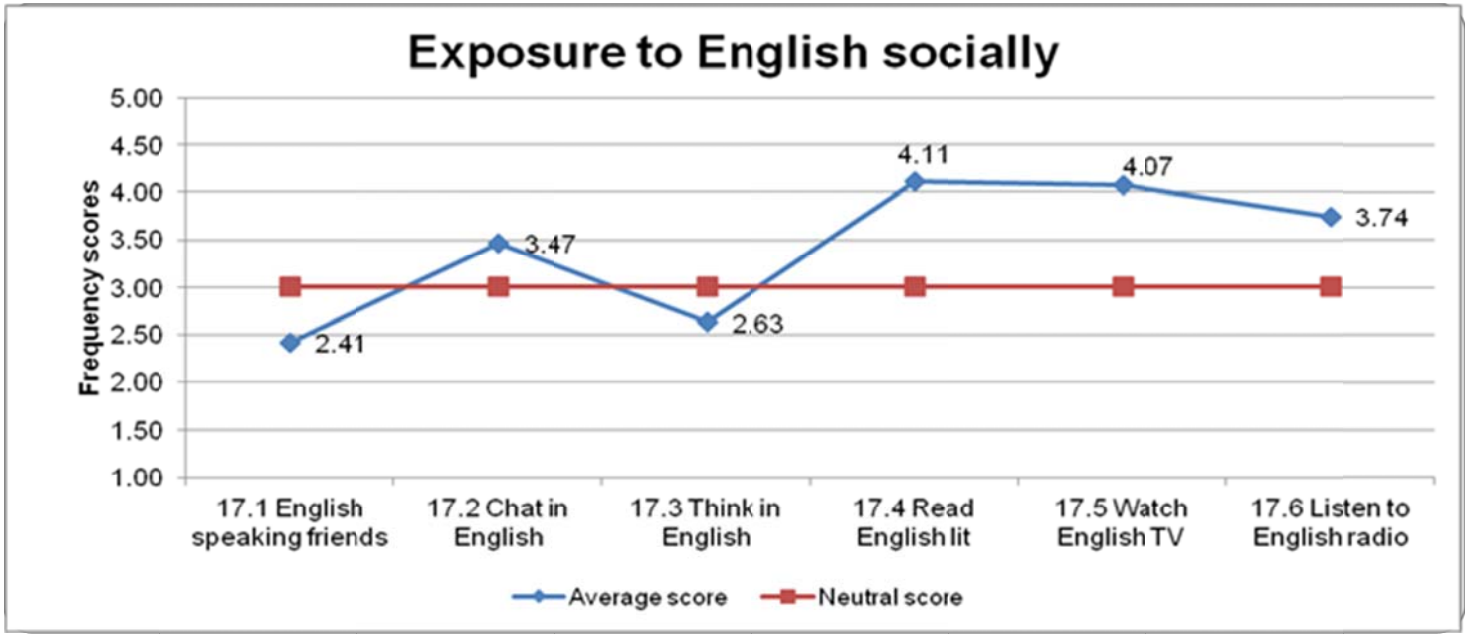

Figure 4.7: Responses to statements regarding exposure to English socially (n=133)

Participants were asked to enter a score, where a score of 1 indicated that they either strongly disagreed or that the issue never happened, and a score of 5 indicated that they strongly agreed or that the issue always occurred. A non-parametric Sign test was applied to analyse these responses. With regard to the students' perception of their exposure to English, there was significant disagreement that they had many English-speaking friends ($Z = -4.291$, $p < 0.0005$), although they indicated a high frequency of chatting to friends in English ($Z = -3.700$, $p < 0.0005$). There was significant disagreement to Thinking in English ($Z = -2.574$, $p < 0.0005$), although English TV programmes were watched significantly more frequently ($Z = -8.588$, $p < 0.0005$), as was the reading of English literature ($Z = -7.854$, $p < 0.0005$) and the listening to English radio stations ($Z = -5.807$, $p < 0.0005$).

There are many factors affecting matriculation English results, some more important than others. Stepwise multiple regression analysis was applied with matriculation English as the dependent variable at all times, to identify which variables from a group of selected variables were significantly important predictors of matriculation English results. These regressions follow:

4.2.10 Schooling regression

Regression analysis with primary school factors (location (q1), language of instruction (q5.1), teachers present/fluent (q5.2 and 5.4), having own textbooks (q5.3), library, computer, and internet (q6) as predictor variables showed that rural primary school was the only significant predictor of matriculation English. It accounted for 10.2% of the variance of matriculation English ($R^2 = 0.102$, $F(1,131) = 14.887$, $p < 0.0005$). Students from rural primary schools attained significantly lower marks for matriculation English than those at urban primary schools ($\beta = -0.548$, $p < 0.0005$).

In a similar regression analysis for high school factors, 7.2% of the variance of matriculation English was explained by the variable Computer in High School (R^2 = 0.072, F(1,131) = 10.202, p = 0.002). This was the only significant predictor of matriculation English from this set of predictors. Students who had computers in high school scored significantly higher marks in English than those without (β = 0 .465, p = 0.002).

When the independent variables were only Language of Instruction at primary and high school, the results of the stepwise regression indicated that Instruction in English in primary school explained 7.7% of the variance (R^2 = 0.077, F(1,131) = 10.853, p= 0.001). It was found that learning in English in primary school significantly predicted English results, with participants who learnt in English in primary school doing significantly better in matriculation English than those not taught in English in primary school (β =0.171, p= 0.001).

Results from a regression analysis with only the Library, Computer and Internet in Primary School as independent variables, indicated that 6.5% of the variance was explained by Computers in Primary School (R^2 = 0.065, F(1,131) = 9.118, p = 0.003). The variable Having Computers in Primary School led to significantly better English results than not having computers in primary school (β = 0.511, p = 0.003).

From a regression analysis with only the Library, Computer and Internet in High School as independent variables, 7.2% of the variance was explained by Computers in High School (R^2 = 0.072, F(1,131) =10.202, p = 0.002). Having Computers in High School led to significantly better English results than not

having computers in high school (β = 0.465, p= 0.002). With only Internet in Primary and High School as independent variables, it was found that having access to the internet in high school predicted better matriculation English results than no internet in high school. It accounted for 4.7% of the variance (R^2 = 0.047, F(1,131) = 6.443,p = 0.012). It was found that students who had access to internet in high school obtained significantly better matriculation English results (β= 0.425, p = 0.012). Internet in primary school did not make a significant difference to matriculation English results (p> 0.5).

Including library resources in primary and high school as independent variables, a regression analysis showed that Library in Primary School was the only significant predictor of matriculation English. It accounted for 5.6% of the variance (R^2 = 0.056, F(1,131) =7.832, p = 0.006). Having access to a library in primary school led to significantly higher matriculation English results (β = 0.408, p = 0.006). Access to a library in high school was not significant when it came to matriculation English results.

From a regression analysis with computers in primary and high school as independent variables, it was found that having a computer in high school significantly predicted matriculation English results. It accounted for 7.2% of the variance of matriculation English (R^2 = 0.072, F(1,131) =10.202, p= 0.002). Students with access to a computer in high school obtained better matriculation English results (β = 0.465, p= 0.002) than those without.

4.2.11 Life growing up regression

When all relevant independent variables (area growing up, primary and high school factors, socio-economic situation, home language English, exposure to English combined score) were applied, the results from a stepwise regression

showed that rural primary schools were significant predictors of matriculation English (β= -0.548, p< 0.0005). It accounted for 10.2% of the variance of matriculation English. Those who went to a rural primary school attained lower English marks in the matriculation examinations than those who went to an urban primary school (R^2 = 0.102, F(1,131) = 14.887, p< 0.0005). When considering the location of the home when growing up (q13), results from a stepwise regression analysis showed that Growing up in a Rural Area Only, was a significant predictor of matriculation English, which accounted for 6.6% of the variance (R^2 = 0.066, F(1,131) = 9.242, p = 0.003). Students who grew up in rural areas scored significantly lower marks for English that those who grew up in urban areas only (β = -0.442, p= 0.003).

4.2.12 Demographic and socio-economic regression

When the stepwise regression analysis included the demographic and socio-economic factors while growing up (q14.1–q14.8) as independent variables, it was found that 9.5% of the variance was explained by the variables Child-headed Household and Socio-economic Status (R^2 = 0.095, F(2,126) = 6.597, p= 0.002). Students who grew up in a more privileged background got significantly higher marks for matriculation English (β = 0.165, p= 0.005). Students who spent more time in a child-headed household also attained better matriculation English results (β = 0.291, p= 0.005).

4.2.13 Exposure to English regression

Results from a regression analysis including the variables pertaining to English exposure (q16 and q17) as independent variables, showed that Thinking in English was a significant predictor of matriculation English and accounted for 9.3% of its variance (R^2 = 0.093, F(1,130) =13.399, p< 0.0005). Students who

thought in English attained better matriculation English results (β = 0.163, p< 0.0005).

4.2.14 English as a home language regression

Applying a regression analysis with English as a home language as the only independent variable (q16), it was found that English as a home language was a significant predictor of matriculation English and accounted for 17.4% of the variance (R^2 = 0.174, F(1,131) = 4.079, p= 0.045). Those who had English as a home language obtained better matriculation English results than those who did not (β = 0.381, p= 0.045).

4.2.15 Student nurses' self-opinion of their English proficiency

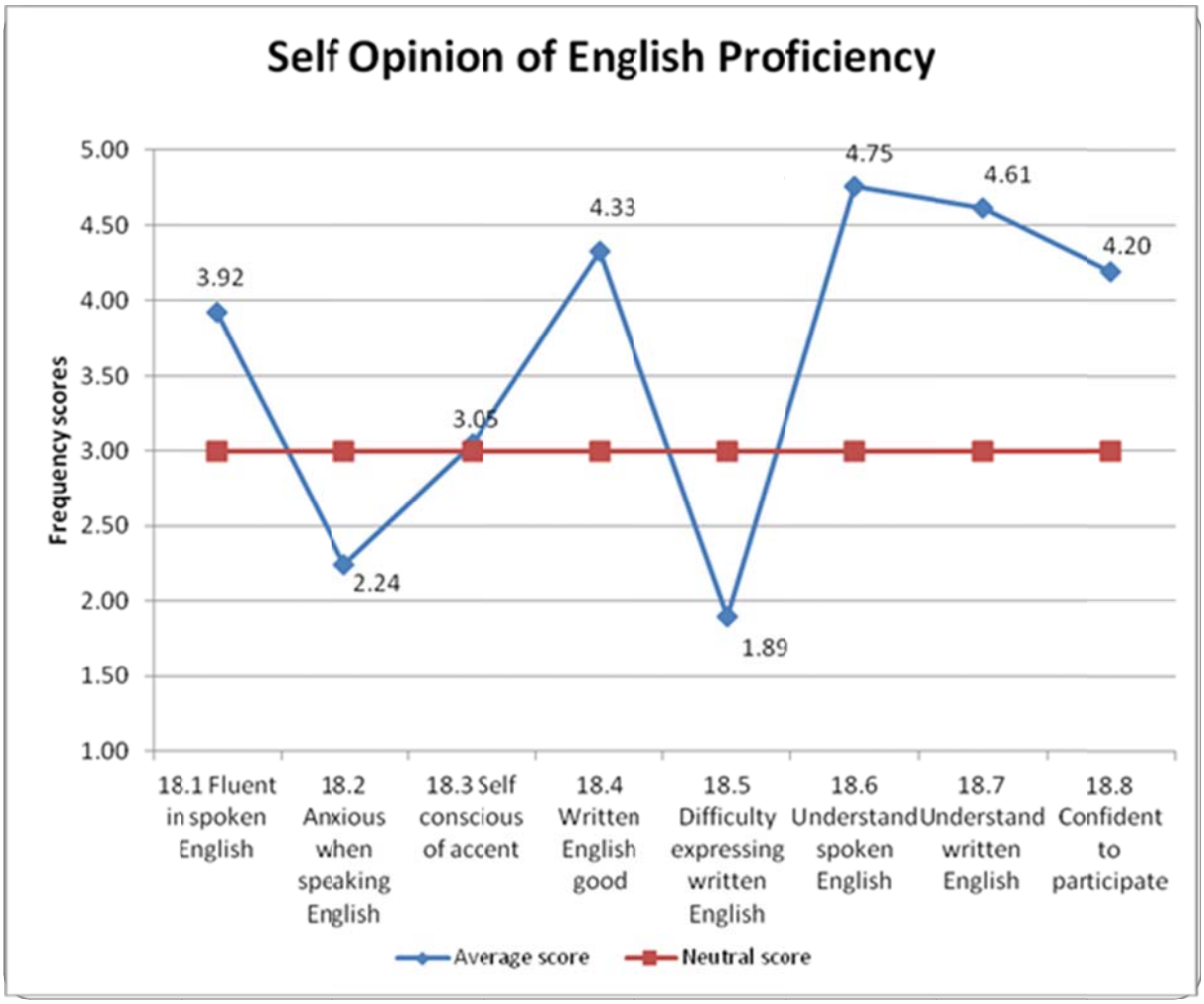

Figure 4.8: Responses to statements regarding self-opinion of English proficiency (n=133)

Participants were asked to rate their agreement with a number of statements regarding their English proficiency. The higher their agreement, the higher the score they gave. Generally, the participants were confident that they were proficient in most aspects of English. When a non-parametric Sign test was applied, they showed significant agreement to fluency in spoken English ($Z = -7.839$, $p < 0.0005$), and in their confidence to participate in classroom discussions in English ($Z = -8.429$, $p < 0.0005$). There was significant disagreement shown for anxiety experienced when speaking in English ($Z = -5.268$, $p < 0.0005$), as well as for difficulty expressing themselves in written English ($Z = -7.091$, $p < 0.0005$). Participants showed significant agreement that their written English was good ($Z = -9.698$, $p < 0.0005$), with most experiencing no difficulty with both understanding when spoken to in English ($Z = -11.094$, $p < 0.0005$), and understanding written English ($Z = -10.780$, $p < 0.0005$).

4.2.16 Self-opinion of English proficiency regression

From a stepwise regression with self-opinion of English proficiency factors (q18) as independent variables, it was found that Those Who Agree that their Written English is Good and Confidence in Participating in Class were significant predictors of matriculation English and accounted for 15.6% of the variance of matriculation English ($R^2 = 0.156$, $F(2,130) = 12.032$, $p < 0.0005$). Those who agreed that their written English was good did significantly better in English than those who did not think their written English was good ($\beta = 0.251$, $p = 0.005$). This indicates that the better their written English, as they perceived it, the better their matriculation English mark. The more confident they were to participate in class, the better their matriculation English mark was ($\beta = 0.180$, $p = 0.011$).

4.2.17 Factors influencing the student nurses' academic performance in the first year of nurse-training

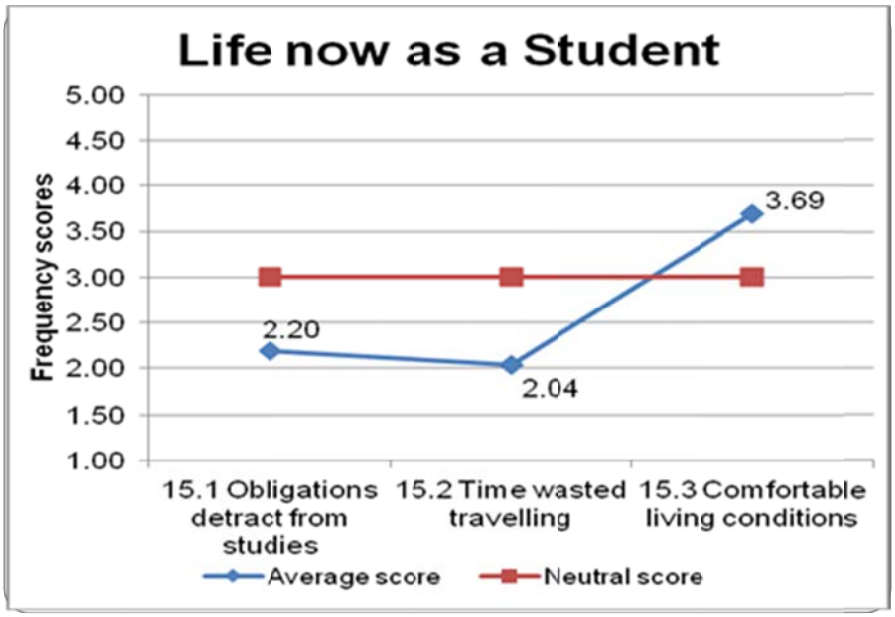

Figure 4.9: Responses to statements regarding life now as a student (n=133)

When a non-parametric Sign test was used, there was significant disagreement shown that their current obligations at home ($Z = -5.292$, $p < 0.0005$) and time wasted travelling between home and nursing campus ($Z = -5.684$, $p < 0.0005$) detracted from their studies. Significant agreement was found regarding the comfort of their current living conditions given that they have all the necessities, for example electricity ($Z = -5.021$, $p < 0.0005$).

4.2.18 Coping in higher education (1)

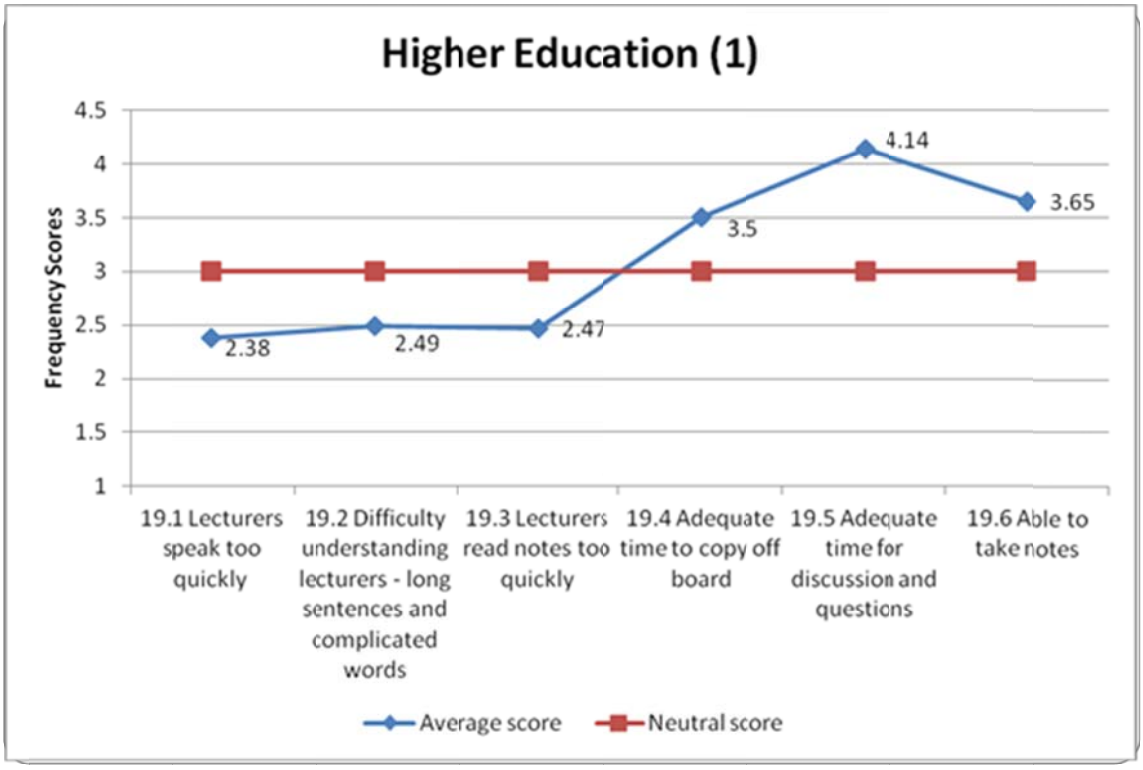

Figure 4.10: Responses to statements regarding coping in higher education (1) (n=133)

4.2.19 Coping in higher education (2)

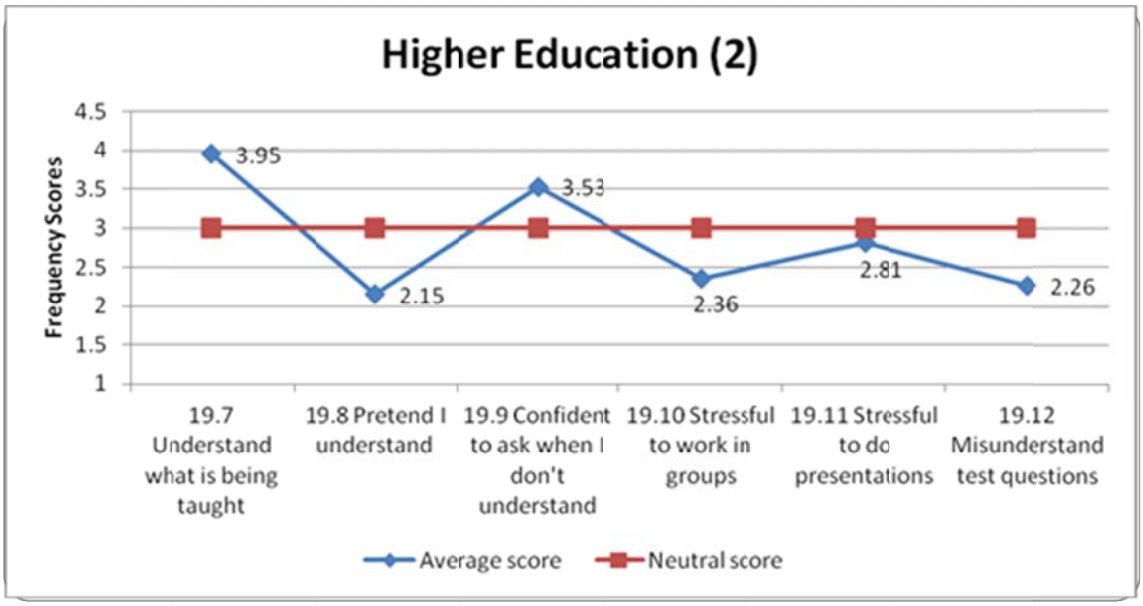

Figure 4.11: Responses to statements regarding coping in higher education (2) (n=133)

4.2.20 Coping in higher education (3)

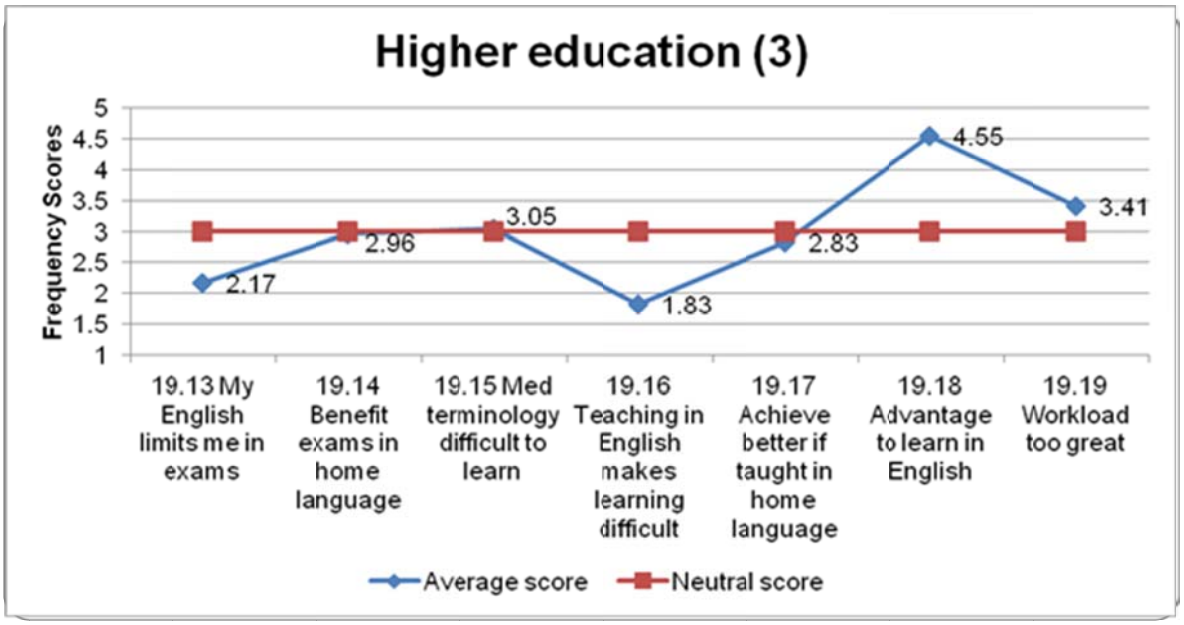

Figure 4.12: Responses to statements regarding coping in higher education (3) (n=133)

When a non-parametric Sign test was used, there was significant disagreement shown that lecturers speak too quickly (Z = -4.500, p< 0.0005), read notes too quickly (Z = -3.465, p< 0.0005), and that participants have difficulty understanding lecturers who use long sentences and complicated words (Z = -3.227, p< 0.0005). They showed agreement that adequate time was allocated to copying off the blackboard (Z = -3.547, p< 0.0005), discussing issues and asking questions (Z = -7.783, p< 0.0005). With regard to understanding in class, participants showed significant agreement that they understand what was being taught (Z = -8.088, p< 0.0005) and there was significant disagreement that they pretended to understand what was being taught (Z = -5.595, p< 0.0005). There was also significant agreement that participants felt confident to ask when they did not understand (Z = -3.685, p< 0.0005). With regard to examinations, there was significant disagreement shown that participants misunderstood questions (Z = -5.197, p< 0.0005), and that English limited

them in examinations (Z = -5.644, p< 0.0005). Participants significantly agreed that they were able to take notes in class (Z = -4.609, p< 0.0005) and that the nursing academic workload was too great (Z = -3.249, p< 0.0005). There was significant disagreement shown that it was stressful to work in groups (Z = -4.063, p< 0.0005), that being taught in English makes learning difficult (Z = -7.396, p< 0.0005) and they showed significant agreement that it was an advantage to learn in English (Z = -9.768, p< 0.0005). No significant agreement or disagreement was shown that participants found it stressful to do presentations in class (p = 0.448), that medical terminology made learning more difficult (p = 0.845), and whether they felt they would achieve better if taught in their home language (p= 0.355).

4.2.21 Study habits

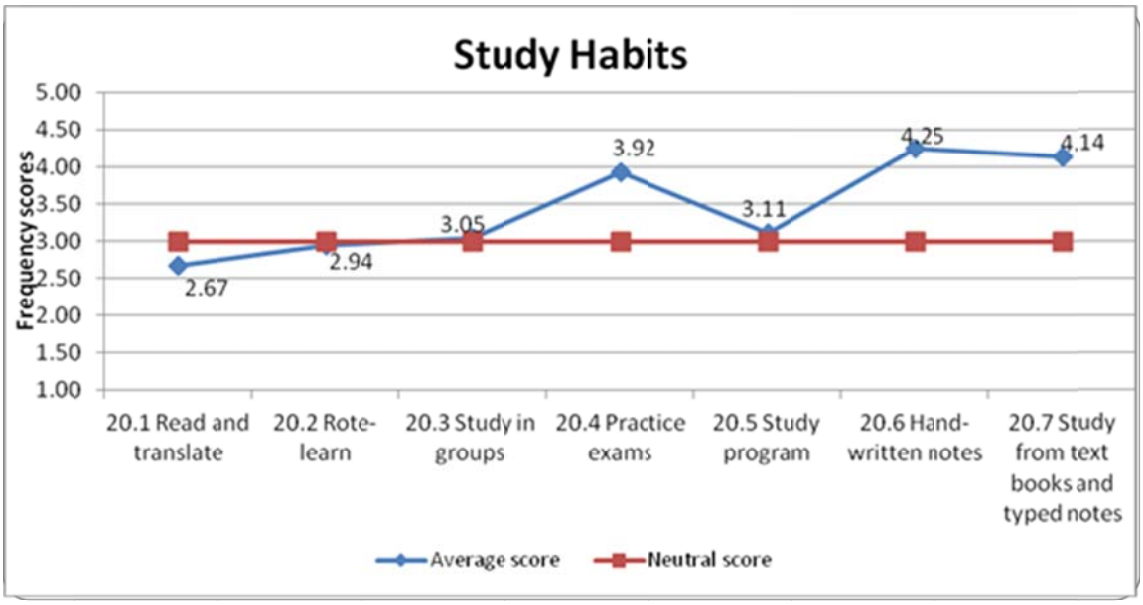

Figure 4.13: Responses to statements regarding study habits in higher education (n=133)

According to a non-parametric Sign test participants read the passage, translated it into their home language, and then translated back into

English with significantly low frequency (Z = -2.052, p< 0.0005). Participants practiced writing answers to possible test/examination questions when studying (Z = -6.961, p< 0.0005); made hand-written notes when they studied (Z = -8.655, p< 0.0005), and studied from text books/typed notes (Z = -7.833, p< 0.0005) significantly more frequently.

4.2.22 Time spent studying

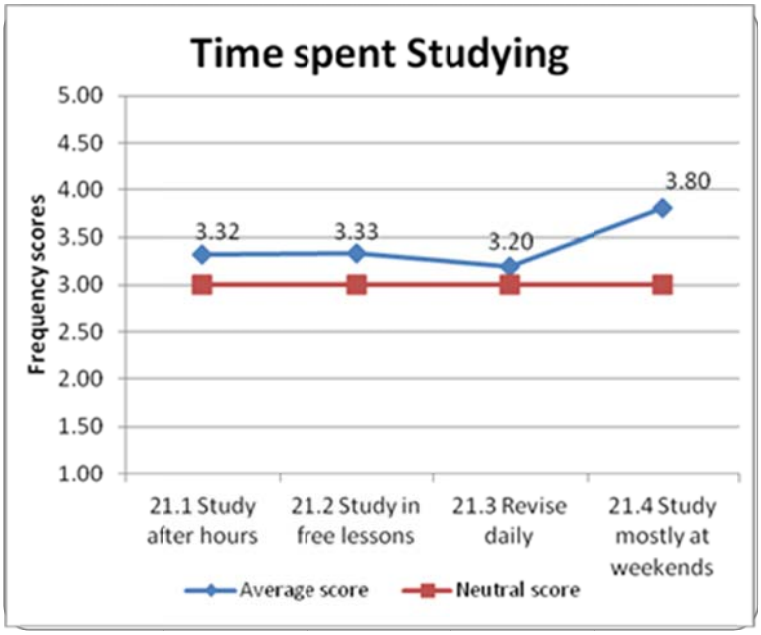

Figure 4.14: Responses to statements regarding time spent studying in higher education (n=133)

When a non-parametric Sign test was used the mean average of hours spent studying was 17.8 hours per week, with the highest being 85 hours per week. A significant number of participants agreed that they studied after hours (Z = -2.603, p< 0.0005), most often over weekends (Z = -5.575, p< 0.0005), as well as utilised the free study lessons during a college block (Z = -2.786, p< 0.0005).

4.2.23 External support

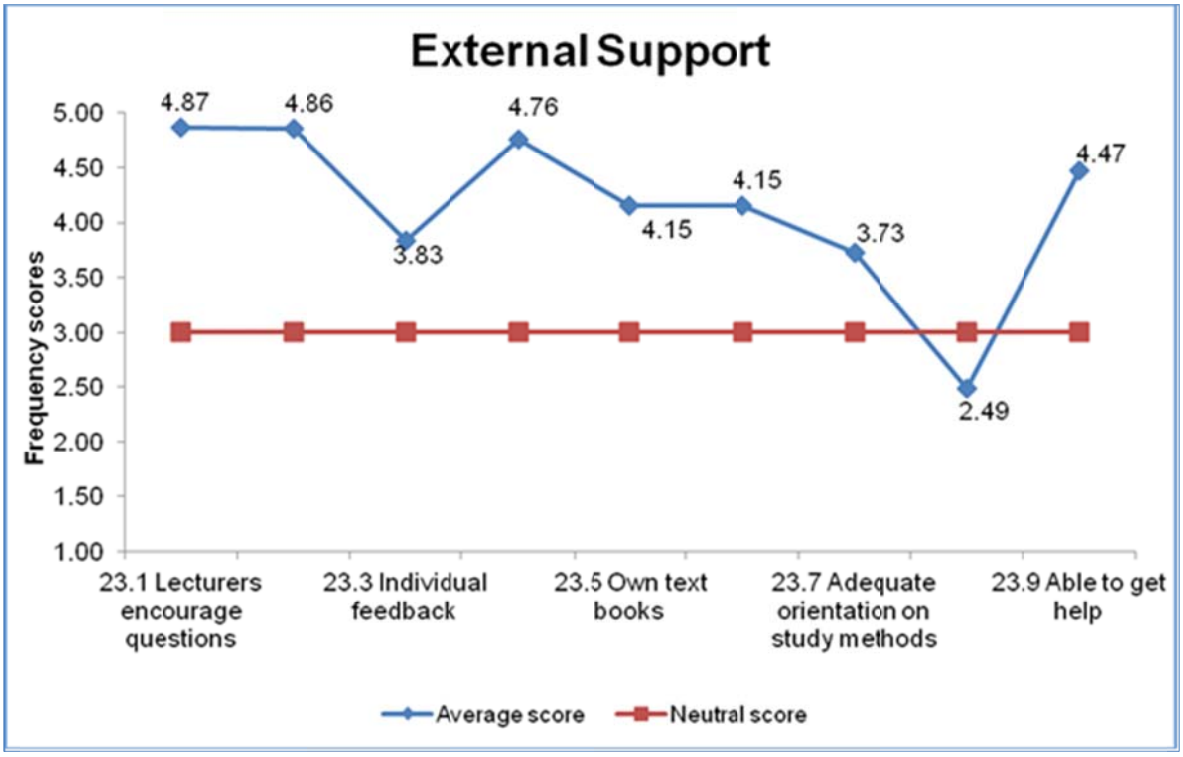

Figure 4.15: Responses to statements regarding external support in higher education (n=133)

A non-parametric Sign test was used for this analysis. Participants indicated significant agreement that lecturers encourage questions (Z = -11.183, p< 0.0005), were willing to help (Z = -11.183, p< 0.0005), and gave individual feedback (Z = -5.435, p< 0.0005). There was also significant agreement that the orientation was adequate with regard to the nursing course (Z = -8.020, p< 0.0005) as well as to study methods (Z = -5.758, p< 0.0005). Participants showed significant agreement that they benefited from diagrams, models, etc when being taught difficult subjects such as anatomy (Z = -10.872, p< 0.0005). Significant agreement was also indicated that participants had their own personal copy of the prescribed text books in all nursing subjects (Z = -7.273, p< 0.0005). There was significant disagreement that there was a resident student counsellor at their institution for referral when they had personal problems (Z = -3.357, p< 0.0005). Participants showed significant agreement that they were able

to get help from someone when they did not understand their class work (Z = -10.315, p< 0.0005).

4.2.24 Regression analysis predicting academic performance

There are many factors affecting academic performance in nursing, some more important than others. Stepwise multiple regression analysis was applied, with each nursing subject as the dependent variable, to identify which variables from a group of selected variables were significantly important predictors of academic performance. The variables used as independent variables for the regression analyses included: primary school location (q1); language of instruction in primary school (q5.1); high school location (q7); language of instruction in high school (q11.1); location of growing up (q13), SES (q14.1); home obligations as a student (q15.1); exposure to English (composite score from all of q17); English proficiency (composite score from q18.1, 1, 4, 6, 7, 8); higher education lectures (composite q19.1, 2, 3, 4, 5, 6, 7, 8, 9); higher education language (composite q19.12, 13, 14, 16, 17); time spent studying (composite q21.1, 2, 3); external support - lecturers (composite q23.1, 2, 4); external support - orientation (q23.6, 7). For all the variables for which a composite score was used, Cronbach's alpha was calculated to ensure that the group of questions making up the particular variable was internally consistent.

A&P 1: None of the variables was a significant predictor of A&P 1 nursing results.

CNS 1: From a stepwise regression it was found that language at higher education level and time spent studying accounted for 7.1% of variance of the academic performance of CNS (R^2 =0,071, F (2.128)=4.890, p= 0.009). Those who agreed that they did not have problems with language in higher education, did significantly better in the CNS 1 examination (β = -2.000, p= 0.010). The more time spent studying, the better the CNS 1 result was.

A&P 2: Support – orientation i.e. orientation to both nursing courses (q23.6) and study methods (q23.7), accounted for 3.7% of the variance of

the academic performance of A&P 2 (R^2 =0,037, F (1.118) = 4.500, p = 0.036). Those who agreed that they had adequate orientation did significantly better in A&P 2 examinations (β =2.188, p= 0.036).

Soc 1: Being taught in English in high school was the only significant predictor of Soc 1 and it accounted for 6.8% of the variance of Soc 1 (R^2 = 0,068, F (1.127) = 9.330, p = 0.003). Those taught in English in high school obtained significantly higher Soc 1 marks than those not taught in English in high school (β = 2.540, p = 0.003).

FNS: Language of Instruction in high School and higher education language were the only significant predictors of FNS results and accounted for 18.5% of the variance of FNS (R^2 =0,185, F (2.129)=14.647, p= 0.005). Being taught in English in high school was a significant predictor of higher marks in FNS (β = 2.178, p= 0.005), while higher education language difficulties were significantly associated with lower FNS results (β = -2.101, p = 0.003).

Clinical Nursing Science 1: Rural Primary School (q1), Obligations at Home (q15.1) and Orientation in Nursing and Study Methods (q23.6, 23.7) were the only significant predictors of Clinical Nursing Science 1 results and accounted for 19.2% of its variance (R^2 = 0,192, F (3.128) = 10.119, p< 0.0005). Those from a rural primary school did better in Clinical Nursing Science 1 than those from an urban primary school (β = 5.957, p< 0.0005). Those with obligations at home did worse in Clinical Nursing Science 1 (β = -1.610, p = 0.006); and those who had good orientation in nursing subjects and study methods, did worse (β = -1.861, p = 0.017).

4.2.25 Cross-tabulation analysis

Cross-tabulations were used to identify a relationship between various factors and those participants who passed/failed/did not obtain a DP in the A&P 1 examination. When applying a Chi-square test of independence, a number of significant relationships were found to exist, as follows:

When growing up, significantly more than expected who said they always had help with homework from an adult did not pass ($\chi 2$ (4, N = 133) = 13.618, p= 0.009). Significantly more than expected of those who strongly disagreed that they were confident to ask when they did not understand, did not pass ($\chi 2$ (4, N = 133) = 13.618, p = 0 .009). Significantly more participants than expected of those who never practice exams did not pass ($\chi 2$ (4, N = 132) = 11.999, p = 0.017).

When a Chi-square test could not be used, a Fisher's exact test was applied, and the results follow. Significantly more than expected of those who strongly agreed that obligations at home detract from study time in nurse-training, did not pass (Fisher's (N = 133) = 11.945, p = 0.014). With regard to the participants self-opinion of their English Proficiency, significantly more than expected of those who said they disagreed that their written English was good, did not pass (Fisher's (N = 133) = 11.357, p= 0.007). Significantly more than expected of those who disagreed or strongly disagreed that they understood what was being taught in nurse-training, did not pass (Fisher's (N = 133) = 10.569, p= 0.032). More than expected of those who responded '3' or '5' to misunderstanding test questions, did not pass (Fisher's (N = 133) = 13.119, p= 0.015).

4.2.26 Relationship between the student nurses' matriculation language results and the academic performance and throughput at the end of the first year of nurse-training

Table 4.3: Participants' matriculation language level frequency (n=133)

Level	Language	N	%
Home language	English	41	30.8
	isiZulu	90	67.6
	Sesotho	1	0.75
	Afrikaans	1	0.75
First additional language	English	92	69.1
	isiZulu	14	10.5
	Afrikaans	60	45.1
Second additional language	isiZulu	1	0.75
	Afrikaans	1	0.75

The study revealed that the majority of participants 90 (67.6%) took isiZulu at home language level, in comparison to 41 (30.8%) who took English as a home language in the matriculation year. All participants (n=133) took matriculation English as either a home language or first additional language. The majority of the participants 92 (69.1%) took matriculation English as a first additional language. Since only one respondent wrote Sesotho, this language was included with isiZulu marks in the analysis.

4.2.27 Matriculation language results

Table 4.4: Matriculation language points

	Matriculation English points	Matriculation isiZulu points	Matriculation Afrikaans points
N	133	107	62
Missing	0	26	71
Mean	5.33	6.52	4.56
Median	5.00	6.00	5.00
Mode	5	6	4
Std. Deviation	0.859	0.935	1.478
Variance	0.738	0.874	2.184
Minimum	4	4	1
Maximum	8	8	8

The mean points, out of a maximum of 8 points, for matriculation English and isiZulu were compared When a related samples Wilcoxon Signed Rank test was applied to the two points, averages for English (5.33) and isiZulu (6.52), a significant difference between the two matriculation language results was noted ($Z= -7.514$, $p< 0.0005$). Clearly isiZulu results were, on average, significantly higher than English results.

4.2.28 Matriculation marks in various groupings

Table 4.5: Percentages of the sample with matriculation marks in various groupings (n=133)

Percentage	English	isiZulu	Afrikaans
0-29%	0	0	6.5
30-39%	0	0	1.6
40-49%	0	0	6.5
50-59%	16.5	0.9	33.9
60-69%	42.1	11.2	27.4
70-79%	33.8	39.2	16.1
80-89%	6.8	31.8	6.5
90-100%	0.8	16.8	1.6
Total	**100.0**	**80.5**	**46.6**

A Chi-square goodness-of-fit analysis showed that the spread of marks was not evenly distributed. A significant majority (75.9%) of the sample obtained English language matriculation marks between 60% and 79% (χ^2 (7, N=133) = 211.481, p< 0.0005, while significantly more than expected (71.0%) scored between 70 and 89% for isiZulu (χ^2 (7, N=107) = 146.383, p< 0.0005) and the majority (61.3%) obtained between 50% and 59% for Afrikaans (χ^2 (7, N=62) = 51.548, p< 0.0005).

4.2.29 First-year nursing examination results

Table 4.6: Frequency (%) of students obtaining results in each category for first-year nursing examination subjects (n=133)

Result Category	A&P 1 N (%)	A&P 1 repeat N (%)	CNS 1 N (%)	Soc 1 N (%)	FNS N (%)	A&P 2 N (%)	Clinical NS 1 N (%)
First-class pass (75-100%)	29(28)	1(3)	50(38)	50(38)	41(31)	28(23)	72(54)
Upper second-class pass (70-74%)	6(5)	3(8)	11(8)	16(12)	14(11)	9(8)	20(15)
Second-class pass (60-69%)	25(20)	11(30)	45(34)	46(35)	53(40)	30(25)	28(21)
Third-class pass (50-59%)	36(28)	17(46)	24(18)	15(12)	24(18)	35(29)	11(8)
Fail (<50%)	31(24)	5(14)	2(2)	3(2)	1(1)	18(15)	2(2)

Key:

A&P=Anatomy and Physiology 1= Examination paper 1

A&P=Anatomy and Physiology 2= Examination paper 2

Soc=Social Science

CNS=Community Nursing Science

FNS=Fundamental Nursing Science

Clinical NS= Clinical Nursing Science

4.2.30 First-year nursing results by category

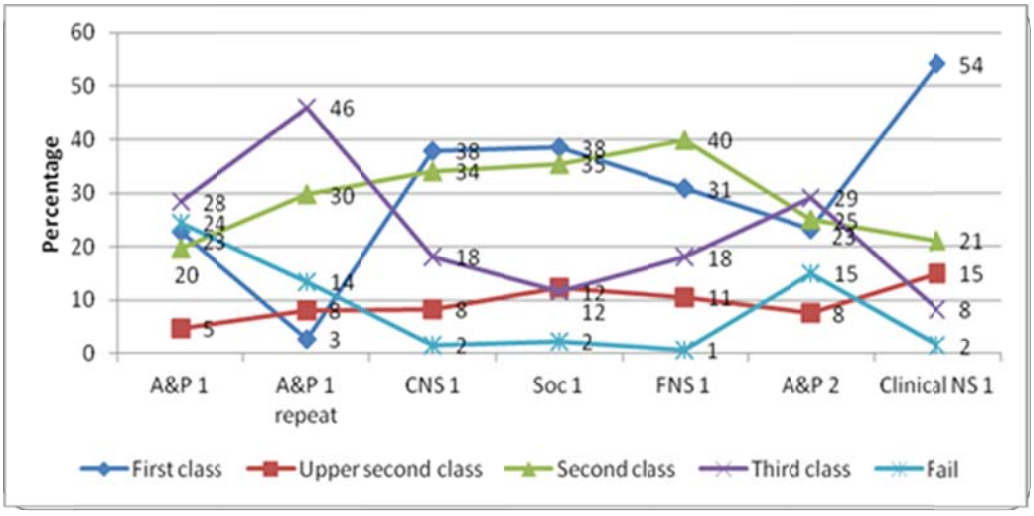

Figure 4.16: Frequency (%) of students obtaining results in each category for first-year nursing subjects (n=133)

Results of Pearson's correlation revealed that for all subjects, except Clinical Nursing Science 1, there was a high correlation between matriculation English results and first-year nursing subject results. Matriculation English results were found to be significantly positively correlated with A&P 1 ($r = 0.327$, $p<0.0005$), CNS 1 ($r=0.378$, $p<0.0005$), Soc 1 ($r=0.396$, $p<0.0005$), FNS ($r=0.377$, $p<0.0005$) and A&P 2 ($r=0.315$, $p<0.0005$).

The data was tested to establish if a significant difference existed in matriculation English marks for students who pass/fail/No DP for each of the nursing subjects. The Kruskal-Wallis non-parametric test was applied and the results showed that those who passed A&P 1 had significantly higher matriculation English marks than those who failed or did not get a DP (χ^2 (2, N=133) = 21.407, $p< 0.0005$). Those who passed A&P 2 had significantly higher matriculation English marks than those who failed or did not get their DPs (χ^2 (2, N=133) = 10.193, $p= 0.006$). For all other first-year subjects, no significant differences were found to exist ($p> 0.05$).

A Pearson's correlation revealed that matriculation isiZulu and FNS were significantly correlated (r=0.244, p= 0.011). Those who obtained higher matriculation isiZulu marks obtained higher FNS results. There was no significant correlation between matriculation Afrikaans and academic performance in nursing subjects (p> 0.05).

When a Pearson's Correlation analysis was applied to the results of the 37 participants who repeated the A&P 1 examination, a significantly positive correlation was found between their examination results and their matriculation English results (r=0.365, p= 0.026).

It was of interest to see whether significant differences existed in the nursing marks for students who did English as a home language, first additional or second additional language. Results from a Mann-Whitney U test showed that marks were significantly higher for those who took English as a home language, in the subjects Soc 1 (Z= -2.560, p= 0.010), FNS (Z= -4.932, p< 0.0005) and A&P 2 (Z= -2.100, p= 0.036).

4.2.31 First-year nursing academic performance throughput

Table 4.7: First-year nursing academic throughput (n=133)

Academic outcome	**Frequency (%)**
Promoted	101(76)
Terminated	5(4)
Demoted	2(2)
Promoted-carry 1 subject	22(17)
Promoted-carry 2 subjects	3(2)
Total	**133**

The study revealed that 24% of the participants did not pass all of the first-year nursing subjects with a minimum of 50%. Of those who failed some subjects (19%) were promoted to second year but carried one or two subjects that will need to be re-written six months later.

Table 4.8: Average matriculation English score for first-year nursing academic performance throughput (n=133)

Academic outcome	Mean	Std. Deviation
Promoted	5.4455	0.86574
Terminated	4.6000	0.54772
Demoted	5.5000	0.70711
Promoted-carry 1	5.0455	0.72225
Promoted-carry 2	4.6667	1.15470
Total	**5.3308**	**0.85919**

A Kruskal-Wallis test was applied to test whether matriculation English marks were significantly different in the five possible categories: promoted passed all subjects; terminated; demoted by six months; promoted/carry one subject; and promoted/carry two subjects. The results showed that matriculation English marks were significantly different for the different academic outcomes (χ^2 (N = 133, df=4) = 10.445, p = 0.034). When a pairwise Wilcoxon Signed Rank test was applied to academic performance and matriculation English, those who were promoted to the second-year scored significantly higher matriculation English marks than those who were terminated from nurse-training (Z(N=106) = -2.210, p= 0.027). Those participants who were promoted (passed all subjects) also scored significantly higher English marks than those who were promoted and carried one subject (Z(N=123) = -2.176, p = 0.030).

4.3 CONCLUSION

This chapter presented the results of the study and interpreted the data collected from the two tools. The data was presented to meet the needs of the objectives, and included demographic information, the background of the participants, schooling, experiences in higher education as well as the matriculation language and first-year nursing results. Statistical analysis included descriptive and both parametric and non-parametric inferential analysis. These analyses were used to summarise the questionnaire variables and identify correlations between factors influencing matriculation language results and first-year nursing results. Associations between factors were shown using regression analysis and cross-tabulations. Frequency tables, graphs and figures were used to show distribution of categorical variables.

The results will now be discussed in Chapter five, along with limitations and recommendations for practice and further research, supported by previous studies on these findings.

CHAPTER 5

DISCUSSION OF RESULTS

5.1 INTRODUCTION

Chapter four presented the results of the quantitative data analysis. In this chapter, based on the scientific evidence obtained in the research, these results will now be discussed, with reference to the outcomes of similar studies. The discussion is based on the following study objectives:

- Determine the demographic characteristics of the student nurses.
- Determine the factors influencing the student nurses' proficiency in English.
- Determine the student nurses' self-opinion of their English proficiency.
- Determine the factors influencing the student nurses' academic performance, in their first year of nurse-training.
- Determine the relationship between the student nurses' matriculation language results and the academic performance and throughput, at the end of the first year of nurse-training.

Conclusions will be drawn and limitations to the study, as well as recommendations will be presented.

5.2 DEMOGRAPHIC CHARACTERISTICS OF STUDENT NURSES

5.2.1 Campus location

Of the sample (n=133) 52% were studying nurse-training at rural KZNCN campuses, and 48% were studying at urban campuses. Four of the KZNCN campuses were situated in rural/township areas, and six were situated in urban areas. Thus it was ensured that the population sample

equally represented those from rural and urban campuses. The SANC register shows that the bulk of South African nurses are produced by nursing colleges, such as the KZNCN campuses (SANC 2013: 13). National government describes the need for nurses to be attracted to the nursing profession, and in its 2008 strategy it emphasised the need for nurses to be deployed to underserved areas as there is an imbalance of distribution of nurses between rural and urban areas. It is hoped that after undergoing training, nurses will provide care for the communities they originated from (Department of Health 2008: 11).

5.2.2 Gender

The sample comprised 24% male students, and 76% female student nurses. This is representative of the gender ratio in the nursing profession worldwide. Female dominance in nursing is well known (Mooney, Glacken and O' Brien 2008; Dyck, Oliffe, Phinney and Garrett 2009), and although males' numbers have increased over the years, Meadus and Twomey (2011: 270) state that males are deterred from entering the nursing field because it is assumed that they are gay and their masculinity is often questioned. Keogh and O'Lynn (2007: 256) mention that nursing education may have failed to encourage male applicants and to ensure their retention in the profession. This is supported by the fact that the attrition rates of males out-number their female counterparts (Dyck et al. 2009: 649). In South Africa, at the end of 2012, the SANC register showed that of the 3009 student nurses in training throughout KZN, only 24% were male (SANC 2013: 13). These figures are representative of the national statistics for the same year.

5.2.3 Home location

Of the participants, 44% grew up exclusively in a rural area, which is significantly more than expected. Only 32% grew up exclusively in an

urban area and the remainder lived in both rural and urban areas while growing up. The results showed that students who grew up in rural areas scored significantly lower marks for matriculation English that those who grew up in urban areas only. In addition, those who grew up in a more privileged background got significantly higher marks for matriculation English.

South Africa has many rural areas which are characterised by small-knit communities, high unemployment rates, fewer basic resources such as water, electricity and good roads, as well as less access to technology. This results in scholars experiencing hardships while schooling, such as living in poverty due to unemployment and not being able to get to school on time due to lack of transport or having to spend much of the day walking to and from school. In addition, not having electricity means that the light source may be by candle or paraffin lamp, neither of which is adequate to study by. (Moved from end of section): Because only 25% of the people in KZN have piped water in their homes, living in rural areas often requires family members to collect water from rivers and streams, often situated far distances from their homes. This is time-consuming and and this time could be spent on homework. In addition, it increases the chances of crime and violence when walking in isolated areas to collect water (KZN Department of Community Safety and Liaison 2010: 8). National government has devised a ten year plan that provides water and sanitation to millions of households, with the focus on small towns and rural areas (Chisholm 2004: 219).

In rural areas, there is limited access to health care, education and safety (KZN Department of Community Safety and Liaison 2010: 8). Urban areas have access to better schools, health facilities and employment opportunities (Klasen 2005; Chisholm 2004; Sailors, Hoffman and Mathee 2007; Özler 2007; Ross 2010). These results indicate that many of the

student nurses training at KZNCN campuses (44%) have a disadvantaged educational background, and are thus more likely to be under-prepared for higher education. Although historically black and previously disadvantaged schools make up 80% of the country's secondary schools, these schools produce only 20% of students who qualify for university (Wangenge-Ouma 2013: 9).

Although KZN is the third smallest province in South Africa (7.7% of the total land), it is one of the most densely populated and has the second largest population of 10.3 million, amounting to 19.8% of the total South African population (South Africa info (n.d). Large areas of KZN are rurally located. The majority of the KZN people are African; many are from lower socio-economic situations and many live in rural areas. A large portion of the KZN population are uneducated, two-fifths are unemployed, and a third are living in poverty, compared to the national averages (Klasen 2005; Özler 2007; Thurlow, Gow and George 2009).

Disadvantaged people attend disadvantaged schools which are entrenched in a cycle of reproducing patterns of poverty and illiteracy that pre-date 1994 (Chisholm et al. 2004: 207). Disadvantaged schools are plagued by poor resources, including inadequate numbers of teachers, under-qualified teachers, as well as teachers who do not have adequate language proficiency to teach scholars in English as an additional language (Herselman 2003; Gabela 2005; Abedi and Gandara 2006; Kamwangamalu 2007; Nel and Müller 2010; Ross 2010; Parkinson and Crouch 2011).

5.2.4 Life growing up

A significant proportion of respondents perceived their life growing up to be more under-privileged than privileged. These results are in agreement with the findings of a study that many children in South Africa live in families that rely totally on government grants (Chisholm et al. 2004: 219-220). Some researchers found that socio-economic factors are the most reliable indicators of higher education achievement (Zuzelo 2005; Abedi and Gandara 2006; Alegre and Ferrer 2010; Ross 2010). According to the General Household Survey, 17.2% of households in KZN experienced either inadequate or severely inadequate access to food (Statistics South Africa 2011b: 40).

A significant number of participants (63%) disagreed that during their schooling, chores at home interfered with time spent on school work. This is a significant result and is contrary to previous research on primary school children in a South African survey, which described chores children had to do at home before and after school. In addition there were chores to be done at school, such as basic cleaning of the premises during school time when learning should have been taking place (Chisholm et al. 2004: 219).

With reference to being raised by their own parents, the results indicated that participants were raised significantly more frequently by their own parents. Being raised by another family member happened significantly less frequently. Only three of the 133 participants in the study belonged to a child-headed household, and were the head of their household. These results are encouraging, since a previous study done found that the HIV/AIDS pandemic, violence, family desertion, migrant labourers and poverty, had a negative effect on the family systems and resulted in a large number of child-headed households. Although the findings of this report state that there is no reliable data in South Africa on the subject, it is

estimated that in KZN alone there are 24 000 child-headed households. A child-headed household is defined as one consisting only of children, with none older than eighteen years. Most live in dilapidated informal dwellings, away from urban areas; a third have no electricity and most have pit toilets; and access to water is at best by a communal tap. These children understandably do not have adult support at home (KZN Human Settlements 2010: 5).

KZN is the epicentre of the HIV pandemic. HIV is concentrated on the working age group, highest among women between the ages of 20-34, which has grave implications on the South African workforce and their children (Thurlow, Gow and George 2009: 18). As a result of AIDS deaths, many children become orphaned. Many orphans are absorbed by extended families, for example grandparents, who are unable to meet their physical and emotional needs. Many orphans also end up in child-headed homes and face poverty (Kidman, Petrow and Heymann 2007: 326).

The results of the study revealed that students who spent more time in a child-headed household also attained better matriculation English results. This finding may appear alarming, but previous South African studies have found that an entrenched poor socio-economic life can actually lead to resilience; the ability to cope despite difficult and stressful circumstances. Disadvantaged learners are found to be survivors, accustomed to progress without support. They may even be better-skilled at overcoming adversity, since they have experienced surviving in situations that advantaged students have never been faced with (Dass-Brailsford 2005; Zuzelo 2005; Sailors, Hofmann and Mathee 2007). Considering that all participants in the study had adequate matriculation English results to enter nurse-training, this could perhaps explain that most were raised by their own parents and as a result perhaps attended better schools in rural areas, where the quality of exposure to English was higher.

Participants more frequently did not have access to a computer at home when growing up. Socio-economic factors play a major role in academic performance and lower socio-economic people have poorly resourced homes (Branson, Leibbrandt and Zuze 2009: 3), resulting in a lack of technology including computers in the home (Njobe 2007; Doley 2010; Ross 2010). Considering that significantly more of the participants grew up exclusively in a rural area, it is not surprising that they did not have access to computers when growing up. This is supported by a study which states that many disadvantaged learners do not have a computer in their home (Njobe 2007: 138). In the consensus survey of 2011, less than 10% of South Africans were found to have access to the internet at home. Thirty-three percent of households, however, had at least one member with access to the internet either in the home, at work, at their place of study, or in internet cafes (Statistics South Africa 2011b: 26).

5.2.5 Home language

The study revealed that 81% of the participants did not speak English as their home language. Only 19% reportedly spoke English as their home language. In this study English as a home language is a significant predictor of matriculation English; those who have English as a home language obtained better matriculation English results than those who did not speak English at home. Home language is also known as mother-tongue, and is defined as the language one learns first and uses the most (Mashiya 2010: 94). In KZN the majority of the people (77.8%) speak isiZulu as their home language, compare to only 13.2% who speak English as their home language (South Africa info (n.d.)). The nurses at KZNCN represent the diverse population of the province, and therefore it is no surprise that the majority of nurses are EAL students (Zuzelo 2005: 28). Only half of South Africa's population have a speaking knowledge of English, and the English they use has a unique dialect with strong influences of Afrikaans and African languages.

In a previous South African study it was found that of those who did matriculation isiZulu as a home language only 37% passed the subject of information systems and technology, and of those who did English as a home language, 70% passed the first attempt (Maharaj and Gokal 2006: 8). This would indicate that passing English as opposed to isiZulu as a matriculation home language level subject is positively correlated with better academic success in higher education. This view was not supported by the results of the study. The nursing participants in the study who obtained higher matriculation isiZulu marks in fact achieved well academically in some nursing subjects. Thus one can deduce that proficiency in an African home language has a positive relationship with academic performance in higher education.

5.3 FACTORS INFLUENCING THE STUDENT NURSES' PROFICIENCY IN ENGLISH

The study revealed that the following factors influenced the student nurses' proficiency in English:

5.3.1 Location and type of school

Approximately half of the participants in this study went to a primary and high school located in a rural area as opposed to an urban area. Significantly more participants than expected went to a government school in a rural area. A further 18% attended a primary and high school located in a township. The majority of participants attended non-urban primary and high schools. The results revealed that attending a rural primary school was the only significant predictor of matriculation English. According to Letseka, Bantwini and King-McKenzie (2012: 1203) "education in South Africa is a national disaster". Of the disadvantaged schools, 80% are located in township and rural areas. South Africa's education system is lagging far behind other developing, poorer African countries which spend less on education and yet have better success.

There are about 17 000 government primary schools in South Africa (Sailors, Hofmann and Mathee 2007: 369). For disadvantaged families, often in rural areas, the choice of school is limited. Travelling costs are usually unaffordable, and better-resourced schools, usually located in urban areas, insist on school fees which are unaffordable for the majority of families. A third of the participants in this study attended an urban or private primary/high school, where previous research indicates that resources are better and teaching is usually done in English by language-proficient teachers. People who live in rural areas are generally poor and uneducated, and their children attend under-resourced rural schools (Njobe 2007; Howie, Venter and van Staden 2008; Wangenge-Ouma 2013).

Scholars at historically disadvantaged schools are known to under-perform. This is supported by Veriava (2010: 10) who argues that African education is characterised by high pupil - teacher ratios, unqualified and under-qualified teachers, and a lack of text books, libraries and laboratories. Not all researchers agree however, that disadvantaged schools are unsuccessful in education. The current Minister of Education, Angie Motshekga, cited poor teaching and poor schools with ineffective school management as reasons for poor performance (Department of Basic Education 2012: 9). This view is supported by the findings of a South African study on successful disadvantaged schools in the Eastern Cape; that leadership, teachers' work ethic, cleanliness of the schools, and community involvement is the recipe for rural school success (Sailors, Hofmann and Mathee 2007: 386).

Previous research also indicates that there is a high drop-out rate in disadvantaged schools, due to poverty and poor academic performance. The drop-out rate is proved by the statistical throughput results showing that only 50% of scholars in grade 10 actually completed grade 12, and of those who wrote, only 73% passed (Fast Facts 2013: 16). Despite this, the

grade 12 (matriculation) pass-rate improved from 2011 and was 73.9% in 2012, with 26.6% of school-leavers qualifying for Bachelor's studies (Fast Facts 2013: 11). This may imply that the efforts by national government to ensure a basic education for all South Africans are bearing the fruits of its labour.

Not all researchers are in agreement, however, with the above views. In his 'Opinion Analysis' report, Professor Jonathan Jansen (2012: 1), rector of the University of the Orange Free State, mentions the large percentage of scholars who have passed grade 12 yet struggle to pass in the first years in higher education. He also refers to how educational institutions scramble to improve their pass-rates and throughput rates, in order to ensure government subsidies. Matriculation marks "should not be taken too seriously", since the pass-rate level is set so low. He fears that universities will become like the South African schools; "good on paper but weak in reality".

National government has allocated six billion towards a 30-year school improvement plan that includes increasing school infrastructure and the number of fee-free schools, as a means of ensuring that the right to a basic education is realised by all South Africans (Department of Basic Education 2012: 9). This budget will also be used for the training of additional teachers to allocate to under-resourced schools. Upgrades of the most deprived schools will begin, to ensure that all schools have basic services (water, electricity and sanitation). Schools will be equipped with multi-media centres, including computer laboratories and libraries.

In order to improve education in South Africa, literacy and numeracy assessments will be compulsory for scholars in grades 3, 6 and 9, to identify those requiring remedial work (Department of Basic Education

2012: 9). It is hoped that these goals will be met as a matter of urgency, in order to improve the education of millions of South Africans. The findings of this study revealed that students from rural primary schools attained significantly lower marks for English than those at urban primary schools. This is a most significant finding, as it suggests that the resources in primary school have a large impact on the quality of education received by young children in their foundation years of schooling.

Previous research suggests that the African people of South Africa are intent on their school children being taught in English, and if this is to continue, national government should be focusing on improving the facilities at primary schools, and ensuring that the teachers allocated to these schools are proficient in the language of learning and teaching and in the skills required to teach children in an additional language. Furthermore, it would appear that despite poor resources the management of the school is also important, and that enforcing discipline of staff and scholars may improve the standard of the education received. This will ensure that an equitable standard of the 'constitutional right to education' is received anywhere in the country, from the outset of the schooling years. This could indicate that it is not only the location of the school, and the resources in the school, but the management of the school itself that makes a difference to the quality of education provided by that school (Sailors, Hofmann and Mathee 2007: 367).

5.3.2 Distance and travel to school

With regard to the travelling distance to school, a significant number of participants reported that their primary/high school was between 1km and 5km from their home. A smaller number of participants (17%) lived more than 10km from their primary school, and the average distance from home to primary school was 6.5km. In high school, 23% lived more than 10km

from high school and the average distance was 9.6km. The majority of participants walked from home to both their primary and high school.

The fact that most participants walked to their schools is possibly because some rural schools are not on transport routes, most rural families do not own a car, and because the communities living and schooling in these rural areas cannot afford public transport costs. The findings of this study are in keeping with previous research which reported that many South African scholars travel long distances to school, often on foot, and in any weather conditions, often arriving late for school (Herselman 2003; Chisholm 2004; Lemon 2004; Letseka, Bantwini and King-McKenzie 2012). Only 7.5% of the high school participants were boarders, possibly because their school was a long way away, or possibly so that they could attend a better school which was far from home. It is not clear whether these participants were in a formal boarding establishment at the school, or whether they boarded in non-school accommodation near their school. The findings of this study are supported by Statistics South Africa (2011b: 36) that 73% of scholars walk to school, the remainder travel by taxi, private vehicle, train, bus or bicycle.

5.3.3 Resources at school

With regards to primary school only 24% of the participants had access to a computer whereas 43% had access to a computer at their high school. The study found that having computers in both primary and high school led to significantly better English proficiency. In this study, in addition to the significant number of participants who did not have access to a computer in primary school, even less had access to the internet at primary school (11%). Having access to the internet in their primary school did not make a significant difference to the English proficiency of the participants. Significantly more participants (25%) did not have access to the internet in

their high school. The study revealed that those participants who had access to a computer and the internet in their high schools obtained significantly better matriculation English results. The results of the study revealed that half the participants had access to a library in primary school, which was found to be the only significant predictor of matriculation English results. Significantly more of the participants (62%) had access to a library in their high school, which was found not to have a great impact on the matriculation English results.

According to the Census 2011 survey, only 16.7% of KZN schools have computer centres, and of these, only 5.4% were stocked (Fast Facts 2013: 11). Since the majority of schools in KZN are rurally situated and under-resourced, the results of this study are in line with the statistics indicating that rural schools are lacking in computers. Since the findings of this study were that students who attended rural primary schools attained lower matriculation English results, computers in primary school appear to be important in the development of English proficiency in the foundation years of schooling. Computers in schools are in short supply, teachers are not trained to use computers and there is often no electricity (Herselman 2003; Lemon 2004; Ross 2010). In addition, it would appear that the majority of participants in the study did not have access to a computer at home or at school, which is in line with the findings of a previous study (Ross 2010: 469).

Considering that having internet access in primary school did not significantly improve the English proficiency of the participants in this study, and yet having access to a computer did, perhaps the experience of typing and being creative on computers increases the exposure to English and thereby improves proficiency. The fact that computers in high school, and not necessarily in primary school affected matriculation English results could be that primary schooling is more teacher-focused, and thus young

scholars may benefit more from receiving information via books. High school is a time in education where scholar-oriented study or independent study is encouraged, in preparation for higher education. In a previous study reference is made to the benefits of integrating technology when learning, to enhance the ability of higher-order thinking and problem-solving (Honey et al. cited in Gutteridge 2009: 24).

It is interesting to note that internet access in high school, as opposed to library access, had a positive relationship with English matriculation results. Communication technology is becoming an essential resource in day-to-day life (Gutteridge 2009: 23). Czerniewicz (2010 cited in Hart 2012: 5) emphasises the potential of cellular phone networks in education, and found that 87% of South Africans in the age group 16-24 years "cannot live without their cell phones". Most high school scholars, regardless of their socio-economic status, have cellular phones. This is supported by the results of the Household survey of June 2011, which found that although more than 90% of South Africans had access to a landline or cellular phone, as many as 75.5% of the country preferred to use only cellular phones (Statistics South Africa 2011b: 34). The results of this study could be attributed to the fact that the youth of today are technology-users and that they prefer using technology for learning and interaction. These findings strongly indicate that cellular phones/networks should be considered an integral part of any education programme, since they are acceptable and used by the majority of South Africans. Dr Motsoaledi, in his Nursing Summit report, encourages a learner- centred environment in student nurse training, as well as support for nurses. He refers to greater use of technology and resources in learning (Department of Health 2011: 31).

According to Fast Facts (2013: 11), in the Census 2011 survey only 20% of KZN schools have libraries and of these, only 6% are stocked. Previous

researchers who are in agreement with this statement found that less than 10% of schools have functioning libraries, which are mainly in affluent schools (Herselman 2003; Lemon 2004; Pretorius and Mampuru 2007; Ross 2010; Hart 2012). This supports the statement that disadvantaged people attend disadvantaged schools with poor resources, perpetuating the situation. To make matters worse, because many South Africans do not have books in their homes, the exposure to English reading material is limited to the classroom where textbooks are shared as they are in short supply (Ross 2010: 469).

Besides the poor library facilities in schools, millions of South Africans do not have access to a public library. In fact, only 10% of South Africans belong to a public library. This is due to a number of factors, including inadequate transport and infrastructure. In addition, libraries are not evenly distributed and even where there are libraries the facilities are under-used. Of those who make use of public libraries 70% are scholars, indicating that very few people who have completed their schooling do not use the available public libraries. Although internet access in public libraries is growing, at present only 26% of public libraries have internet access (Hart 2012: 1).

Although it is evident that many schools in KZN are under-resourced, it would appear that even poorly resourced schools can be successful if they have good school leadership and hands-on Principals who enforce good role models (Bush, Joubert, Kiggundu and van Rooyen 2010: 167). In South Africa, which is renowned for having inferior schooling, the drop-out rate at school is alarmingly high. In a survey of the scholars who commenced grade one, only 40% completed grade 12 (Ahmed, Flisher, Mathews, Mukoma and Jansen 2009: 48). This implies that perhaps many scholars who would have made good nurses cannot apply to training as

they do not meet the admission criteria, since they did not complete grade 12.

5.3.4 Exposure to English at school

In both primary and high school, results of the study show that English was used significantly more often as the medium of instruction. This is in keeping with previous research that found that parents and teachers at schools chose English instruction over the use of an African home language as the language of instruction (Sailors, Hofmann and Mathee 2007; Probyn 2009; Posel and Casale 2011).

The findings of this study revealed that the language of instruction at both primary and high school significantly predicted matriculation English results. In particular, those who were taught in English at primary school did significantly better in matriculation English than those not taught in English in primary school. Pretorius and Mampuru (2007: 56) found that competence in the home language must also be encouraged, as it is a strong foundation to support the language of instruction. Scholars lack reading material in both the home language and additional language, which limits their exposure to both languages. These results justify the value of this study and suggest that proficiency in both languages will improve matriculation English results.

According to this study, it was the participants' view that their school teachers were significantly more often fluent in English when teaching them. Previous research has found the opposite to be true. Most children in South Africa live in a rural area, which limits their regular use of English to the classroom. It is well documented that the English taught in rural schools is often of a poor quality, due to some teachers having low

proficiency in the language (Howie, Venter and van Staden 2008; Probyn 2009; Bradbury and Miller 2011; Posel and Casale 2011). When the English proficiency of teachers is poor, they often 'code-switch' between English and the African home language, further reducing the exposure to English in class (Gabela 2005; Njobe 2007; Ross 2010). Even teachers have found this to be true as documented by Nel and Müller (2010: 634) in her study on practising teachers. It was revealed that teachers felt their own language proficiency influenced the learners' English language acquisition and academic progress, when teaching learners in English as an additional language.

This previous research raises the debatable subject of when to introduce an additional language at school. It would appear that the flexible language policy in South Africa allows schools to choose the language of instruction, and to decide at what stage English is introduced as the language of instruction (Kamwangamalu 2007; Sailors, Hofmann and Mathee 2007; Probyn 2009; Nel and Müller 2010; Parkinson and Crouch 2011). Parents, it would appear, are supporters of their children learning in English; they see English proficiency as socially uplifting (Sailors, Hofmann and Mathee 2007; Probyn 2009; Sookrajh and Joshua 2009). These studies support the view that early exposure to English at school will assist in language acquisition.

The results of this study revealed that teachers were present in the classroom significantly more often than not. This result is very encouraging, since previous studies found that many scholars attending rurally located schools do not have adequate numbers of teachers and thus scholars are often left without the presence of a teacher in the classroom (Ahmed et al. 2009: 50; Fleisch 2008 cited in Bush et al. 2010: 167).

Participants in this study had their own textbooks at school significantly more often than not. This too is encouraging since, according to previous researchers (Herselman 2003; Ross 2010), many scholars attending rural/township located schools often do not own textbooks, necessitating up to five scholars sharing one textbook. This is due to the ongoing problem with delivery and distribution of textbooks by government (Pretorius and Mampuru 2007: 56). In addition, since the majority of schools do not have libraries, the exposure to English reading material is almost non-existent. In order for scholars to learn a language, they need to be constantly exposed to a large variety of reading material in that language.

Pretorius and Mampuru (2007: 56) in a study on the reading ability of South African scholars are of the opinion that in developing countries, large numbers of scholars are expected to acquire English proficiency without the vital access to books. They compare this to playing soccer without a ball! In order to improve the reading ability of scholars, special planning and budgeting, in particular, needs to go into resolving the problem of availability of books in all languages, English as well as African languages (Pretorius and Mampuru 2007: 56). President Jacob Zuma encouraged the Education Department to focus on the 'three T's': textbooks, teachers and time (Fleisch 2008 cited in Letseka, Bantwini and King-McKenzie 2012: 1201).

5.3.5 Exposure to English socially

With regard to the students' perception of their exposure to English, significantly more participants did not have many English-speaking friends, although many indicated a high frequency of chatting to friends in English. Significantly more respondents did not think in English although English television programmes were watched significantly more frequently, as was

the reading of English literature and the listening to English radio stations. The results showed that thinking in English is a significant predictor of matriculation, and that those students who think in English attained better matriculation English results.

In South Africa, English plays a secondary role in day-to-day communication, apart from television and popular music. Students have found difficulty studying in a language that is not spoken in their social life or home (Chimbganda 2006; Probyn 2006). Many homes do not have English reading material such as newspaper, television, radio and magazines.

Bush et al. (2010: 167) found that scholars who do not speak English as a home language were not exposed to English outside the classroom. This lack of exposure to social English is supported by the results of a South African study that showed it is common for a group of people of the same race to speak their home language at social gatherings and meetings (Njobe 2007: 28). Any exposure to English is thus confined to the classroom, and in South African schools because the teacher is often not proficient in English the home language is used instead, further compounding the problem (Probyn 2006: 395). Children get minimal opportunity to hear or speak English, and when they do in the classroom it is usually from teachers with limited English proficiency (Pretorius 2002b; Abedi and Gandara 2006; Nel and Müller 2010; Ross 2010).

In a study on academically successful disadvantaged schools, children were only permitted to speak English on the premises, including the playground. This was supported by the parents, many of whom were illiterate and uneducated, who saw the benefits of exposure to English improving their children's school results. At the same time, the community

were culturally proud and the school ensured that their culture was supported simultaneously with being taught in English (Sailors, Hofmann and Mathee 2007: 386). This reinforces the fact that regularly exposing people to a language will improve the proficiency of that language. These results reiterate the need for schools to focus on the quality of education. This will assist schools in producing young men and women who can cope academically in the language of instruction, as well as in higher education institutions after leaving high school.

5.4 STUDENT NURSES' SELF-OPINION OF THEIR ENGLISH PROFICIENCY

The results of the study showed that the participants were confident that they are proficient in most aspects of the English language, including fluency when speaking and in their confidence to participate in classroom discussions in English. There was significant disagreement shown for anxiety experienced when speaking in English, as well as for difficulty expressing themselves in written English. Participants showed significant agreement that their written English was good, with most experiencing no difficulty with both understanding when spoken to in English, and understanding when reading in English. It was found that those who perceived that their written English was good, and those who stated they were confident to participate in class, obtained better matriculation English results.

The findings of this study are opposed by a previous study on dietetic students which found that EAL students were conscious of their accents when speaking English in class (Doley 2010: 1806). The findings support previous literature on learning in an additional language; that fluency of spoken English is often mistaken for English proficiency, yet a good command of spoken English alone is inadequate for academic studying in

higher education (Stephen, Welman and Jordaan 2004; Pretorius 2000; Yeld 2006 cited in Koch and Dornbrack 2008: 334). Despite the fact that the participants reported that they understood spoken English, EAL school children in a previous study did not understand what the teacher was saying in English (Brock-Utne 2007: 512). This can be applied to the post-school classroom as well.

Although many of the participants in this study refute the fact that they feel anxiety when speaking English in class, a previous study found that many students feel anxiety in the classroom due to a lack of proficiency in the language of teaching and learning (Mashiya 2010: 97). This view is supported by other studies, that students experienced difficulties participating in classroom discussions and completing assignments (Shakya and Horsfall 2000; Donnelly, McKiel and Hwang 2009).

Many EAL students do not realise that they have language problems when training to be nurses. In addition the study found that the listening skills of EAL students were difficult to master in an additional language, which is contrary to the findings of this study (Starr 2008: 484). In a South African study it was found that EAL nursing students find listening to English speakers on the telephone challenging, especially with regard to the medical terminology and when listening to laboratory test results (Müller 2011: A-16).

Previous studies also oppose the findings of this study with regard to EAL students' ability to write proficiently in English. A study on South African EAL nurses revealed that generally the academic writing of nursing students is poor, regardless of their home language (Engelbrecht and Wildsmith 2010: 126-127). This view is supported by a study which

revealed it is common to find nursing students with poor reading and language ability (Newton and Moore 2010: 225).

In a study on university students in Botswana (Chimbganda 2006: 253) it was found that although the participants perceived their ability to summarise information, in practice their summaries were inaccurate and included unnecessary detail. They were unable to select the gist of the information and their comprehension was poor. The summaries they produced were not in their own words; large sections of the text were merely re-produced. The lower the language proficiency was, the worse the results of the summary exercise.

It would also appear that despite matriculation results meeting minimum language requirements for admission, the reading ability to cope with the demand for learning and writing at the cognitive level required in higher education is inadequate. Reading skills matter more, the higher up the education ladder one goes (Pretorius 2002b: 91). This results in unprepared students entering higher education and struggling to learn in an additional language (Pretorius 2005: 536).

5.5 FACTORS INFLUENCING THE STUDENT NURSES' ACADEMIC PERFORMANCE IN THEIR FIRST YEAR OF NURSE-TRAINING

The following factors were found to influence the student nurses' academic performance in their first year of training:

5.5.1 Life now as a student

There was significant disagreement that the participants' current obligations at home and time wasted travelling between home and nursing campus detracted from their studies. Significant agreement was found regarding

the comfort of their current living conditions, given that they have all the necessities, for example electricity.

Those students who live in residence at the hospital where the campus is located have comfortable living conditions and all basic needs are met. They do not rely on transport to and from the campus. Possibly those who indicated they did not have suitable living conditions were not living in the residence, perhaps for personal reasons or due to the fact that there was no space for them as the residence was full. It is possible that the participants who reported unsatisfactory living condition while studying were living in disadvantaged homes, since one third of the people in KZN are disadvantaged (Klasen 2005: 56).

With regard to obligations at home, it is surprising that the majority did not find this interfered with their studies. It is well-documented that many students in higher education have financial problems and children to support at home (Brinkworth et al. 2009: 170) as well as transport costs and transport difficulties (Dass-Brailsford 2005: 579). Perhaps the results of this study can be attributed to the fact that other family members and friends are taking care of their families while they are away studying. In addition to the above problems many nurses themselves, and/or their families, are plagued by chronic illnesses such as TB and HIV. To make matters worse, with their meagre monthly salary they are expected to purchase uniforms and textbooks as well as pay for accommodation and food. Hopefully, in the near future the conditions for student nurses will improve. The National Department of Health was called upon to standardise and implement funding for student nurses, to assist them with appropriate accommodation, transport, learning material, and to issue them with white uniforms (Department of Health 2011: 112).

5.5.2 Coping in higher education

There was significant disagreement shown that lecturers speak too quickly, read notes too quickly, and that participants have difficulty understanding lecturers who use long sentences and complicated words. They showed agreement that adequate time was allocated to both copying off the blackboard, discussions, and asking questions. Participants significantly agreed that they were able to take notes in class. With regard to understanding in class, participants showed significant agreement that they understand what is being taught and there was significant disagreement that they pretend to understand what is being taught. There was also significant agreement that participants felt confident to ask questions in class when they do not understand. In this study, no significant agreement or disagreement was shown that participants found it stressful to do presentations in class.

These findings are largely contrary to a previous study which found that disadvantaged learners are not psychologically or academically prepared for higher education. Students may be reluctant to ask for help if they are accustomed to poor academic support. Asking questions in class is seen as weak (Zuzelo 2005: 29) and many students feel anxiety in the classroom due to a lack of proficiency in the language of teaching and learning (Mashiya 2010: 97). In an Australian as well as a Canadian study, nursing students with poor English proficiency reported a lack of confidence and assertiveness when speaking in the clinical field and in the classroom. They also experienced difficulties taking notes, participating in classroom discussions, and completing assignments (Shakya and Horsfall 2000; Donnelly, McKiel and Hwang 2009). Cobbing (2011: 10), in her study on learning science in English as a second language, found that learning new phrases and the use of long sentences by lecturers required extra time to learn. This study advised lecturers to use short simple sentences, less double negatives and appropriate vocabulary for the language level of the

students in the classroom. Participants in a South African study also referred to the problem of lecturers whose word pronunciation was unclear, or lecturers who spoke in a boring monotone, as these practices did little to reduce the language barriers for EAL students (Fürst 2011: 88). According to Müller (2011: A-14) many EAL students do not know the meaning of some difficult words and find it beneficial if people speak slower when conversing with them.

As a means of enhancing learning in a difficult environment at school, Probyn (2009: 127) refers to the use of code-switching, and the necessity for teachers to repeat key terms and concepts, to speak more slowly, use gestures, voice tones, a chalkboard, and the relating of ideas to their own experiences. This too could be applied in higher education. The use of tactile teaching strategies may also enhance the learning opportunities of EAL students, especially when teaching new concepts (Doley 2010: 1807). Fürst (2011: 97) recommends changing the way of teaching to stimulate the students' curiosity and incorporating more real-life objects or subjects into the lecture.

There was significant disagreement that being taught in English makes learning difficult, and they showed significant agreement that it was an advantage to learn in English. There was no significant agreement or disagreement as to whether they felt they would achieve better if taught in their home language. A previous study on nurses in South Africa found that nursing students want to be taught in English (Engelbrecht and Wildsmith 2010: 126). This is supported by Nel and Müller (2011: 635) that those whose home language was not English want to be taught in English, especially in university, even if it takes longer to learn. Not all EAL students fully agree with this view. The results of a study on EAL students revealed that students performed better in Information Technology training when first taught in isiZulu, followed by being taught in English. The

majority of the participants in this study felt dual-learning would result in better academic performance (Njobe 2007: v). This opinion is supported by the nursing participants in a South African study who suggested that non-isiZulu speaking lecturers and fellow nurses should learn isiZulu, so that dual discussions can take place in the classroom (Engelbrecht and Wildsmith 2010: 125).

Every classroom has students with mixed ability. The individual needs of all students must be taken into consideration by lecturers, to ensure that all nursing students have an equal opportunity for success (Engelbrecht and Wildsmith 2010; Roberge, Gagnon and Oddson 2011). Participants in a nursing study suggested that more academically-able students be taught separately from slower students, so that more attention can be given to those struggling academically. This study suggests that weaker students be given remedial work in the language they are most comfortable with (Fürst 2011: 92).

The focus of teaching needs to transform from what has been historically a teacher-centered environment into one which is learner-centered, so that critical thinking can be developed in students (Newton and Moore 2010: 221). Nursing students with language incompetence due to learning in English as an additional language are not critical thinkers (Mangena and Chalebi 2005: 292). This is supported by a previous study which discusses how nursing students felt they are unable to argue and apply high order thinking in English as an additional language. They felt they would be better able to do this in their home language (Engelbrecht and Wildsmith 2010: 114). Poor choice of teaching methods and lecturers who have negative attitudes and who resist change, are also seen as reasons for nurses not developing critical thinking in the classroom. It is suggested that by including assignment-writing critical thinking will develop in EAL nursing

students, and this will simultaneously improve their communication skills (Newton and Moore 2010: 221).

The results of this study revealed that there was no significant agreement or disagreement that medical terminology made learning more difficult. This result is surprising since previous studies have found that disadvantaged students have many barriers to overcome in order to succeed academically, namely poor English language proficiency and difficult medical terminology (Doley 2010; Igbo et al. 2011). Guhde (2003: 114) agrees, and refers to learning medical terminology as almost a separate language on its own. In another study it was found that medical terminology consumed a lot of time in assignment writing (Shakya and Horsfall 2000: 165). Bosher and Bowles (2008: 165), however, found that EAL nursing students experienced difficulty with language issues and not the new content or medical terminology.

There was significant disagreement that participants found it stressful to work in groups in the classroom. This is supported by other researchers who found that culturally and linguistically diverse nursing students feel comfortable and more confident with their fellow peers in a non-threatening environment, and they preferred group work where they felt more information was gained at their level and at times, in their own language (Doley 2010; Engelbrecht and Wildsmith 2010; Fürst 2011).

With regard to tests and examinations, the study revealed that there was significant disagreement shown that participants misunderstand questions. There was also significant disagreement shown that English limits them in examinations. This is refuted by a previous study that found that EAL students are severely disadvantaged as they are incapable of expressing themselves adequately in written answers. This would affect their

academic performance (Feltham and Downs 2002: 175). This view is supported by other researchers who found that students often experience difficulty writing examinations and often misunderstand examination questions (Shakya and Horsfall 2000; Donnelly, McKiel and Hwang 2009). The findings of another South African study on student nurses (Engelbrecht and Wildsmith 2010: 125) revealed that nurses would prefer to do oral examinations in their home language as they felt they could express themselves better in a language they are comfortable using.

If this is the case, Fürst (2011: 97) suggests changing the types of questions that are asked. Bosher and Bowles (2008: 165) agree and suggest changing the complexity of the examination questions, but ensuring that the standard is not compromised. The use of common words, shorter, simple sentences and the highlighting of important words in examination questions will assist EAL students to better understand the questions.

5.5.3 Study habits

The study revealed that when studying students read the passage, translate into their home language, and then translate back into English with significantly low frequency. Very little South African literature is written in African languages. The little there is has been translated from English (Pretorius and Mampuru 2007: 56). A previous study found that readers often need to mentally translate the jargon as they read in order to acquire the information learned which is especially difficult for EAL learners and has serious implications. Extra time is needed for studying since the translation of jargon-rich language is much easier for mother-tongue speakers of English, who have heard the phrases before (Cobbing 2011: 10).

Previous studies found that people feel comfortable using their home language, but when using an additional language they need to construct the idea in their home language, they then think of the rough English translation followed by a struggle to connect the words before putting them into a sentence. Although many students who enter higher education are fluent speakers of English, their comprehension level is poor and they are unable to understand academic literature, compared with students whose home language is English or those who studied English as a home language at high school. When bilingual people read text, a rough mental translation occurs in the home language, in an attempt to assist comprehension (Mavundla and Motimele 2002 cited in Stephen, Welman and Jordaan 2004; Bruhns and Hoffman 2005 cited in Njobe 2007; Yau 2011). This strategy leads to considerable potential for misinterpretation.

The results of the study found that participants selected 'never rote-learn' and 'always rote-learn' evenly. This is an interesting result since previous studies have found that rote-learning is still typical of much SA schooling and higher education, and although it is fairly successful at high school, it does not work in higher education (Chimbganda 2006; Doley 2010; Boakye 2011). Encouraging memorizing or rote-learning is a mindless exercise, and does not create deep understanding of the content. Rote learning is a result of the inability to think critically and makes application of this new knowledge almost impossible (Chimbganda 2006; Nnedu 2009; Boakye: 2011).

Previous research revealed that EAL students do not have the initiative to develop a learning programme independently (Zuzelo 2005: 29). Doley (2010: 1809) suggests that when EAL dietetic students study in small groups, it should be emphasised that these groups do not consist exclusively of EAL students as the language problems may reduce the learning that takes place.

5.5.4 External support in higher education

Participants indicated significant agreement that lecturers encourage questions, were willing to help, and gave individual feedback. Jackson 1993 (cited in Doley 2010: 1807) found that concrete and direct feedback is a crucial tool, including positive feedback, to improve academic performance. Brinkworth et al. (2009: 170) suggests the need for feedback and teacher availability to assist poorly prepared students in higher education. Those accustomed to poor academic support in school may be very sensitive to negative criticism and may feel vulnerable and resign (Brinkworth et al. 2009; Doley 2010).

There was also significant agreement that the orientation was adequate, with regard to the nursing course, as well as to study methods. A previous study mentions the need for adequate and early orientation so that students are fully aware of the nursing course expectations in higher education from the outset (Brinkworth et al. 2009: 170). The study also revealed that the participants found the nursing academic workload too great. This is supported by a previous study where student nurses perceived the academic workload to be greater than expected (Breier, Wildschut and Mgqolozana 2009: 71).

Participants showed significant agreement that they benefit from diagrams, models etc when being taught difficult subjects such as anatomy or when new concepts are taught. Fürst (2011:97) suggests lecturers use innovative teaching methods to stimulate the students' curiosity and by incorporating creative visual aids, pictures and the use of examples in the lecture, learning will be enhanced. These teaching strategies are particularly appropriate when teaching anatomy and when new concepts are introduced (Doley 2010: 1807). This opinion is supported by Salamonson et al. (2008: 92) where reference is made to using visual aids

and examples and changing teaching strategies as a means of immersing EAL nursing students in the language of English, to improve academic performance.

Previous research has found that many disadvantaged students have little home and community support, thus the student-teacher relationship is very important in higher education (Dass-Brailsford 2005: 580). Many higher education institutions use email and other digital means of communicating with students to offer academic support. Although the 21st century is technology driven, caution must be applied when considering the introduction of technological communication in higher education, since the findings of this study are that many students did not have access to a computer in their homes or schools, and their digital literacy skills will be varied. This could act as a hindrance to those without the necessary technical skills or equipment (Njobe 2007; Gutteride 2009).

5.6 RELATIONSHIP BETWEEN THE STUDENT NURSES' MATRICULATION LANGUAGE RESULTS AND THE ACADEMIC PERFORMANCE AND THROUGHPUT AT THE END OF THE FIRST YEAR OF NURSE-TRAINING

The following factors were found to influence the relationship between the matriculation language results and the nursing academic results:

5.6.1 Matriculation language results

All participants in the study took matriculation English as either a home language or first additional language, as per the minimum admission criteria to nurse-training at KZNCN (Annexure 10). The study revealed that 68% of the participants took matriculation isiZulu at home language level, compared to 31% who took English as a home language. English was

taken as an additional language by 69% of the participants. These findings were expected, since isiZulu is the home language of the majority of the population in KZN and of nurses in training at KZNCN campuses.

The results of this study indicate that the majority of matriculates prefer to take their mother-tongue language as a home language level subject at school. This could be to 'bulk up' their overall matriculation point score, thereby increasing their chance of entry into higher education institutions. Most South Africans take matriculation English as an additional subject. This could be because they feel they have a better chance of passing it than if they take English as a home language subject.

Considering that only 18% of the participants recorded that they spoke English as a home language, the results indicate that 12% of non-English home language speakers wrote English, and not their mother-tongue, at home language level. This may have been because these participants were confident that their English proficiency was good and/or they felt it would increase their chances of entry and success in further studies and the workforce. This figure was possibly not higher because the majority of non-English speaking participants did not feel confident enough with their English proficiency to take the subject at home language level.

Although most matriculates have been taught in English at school, the quality of the exposure to English is varied (Pretorius 2002b; Abedi and Gandara 2006; Nel and Müller 2010; Ross 2010). Writing matriculation subjects in English is seen as a "major contributing factor to poor academic performance in matric for those not able to write examinations in their mother-tongue" (Amalusi 2004 cited in Foxcroft and Stumpf 2004: 15). Because of this, a decision was made in 1998 that a compensatory upward adjustment of matriculation results was necessary. All scholars with an

African mother-tongue had an additional 5% added to their examination results. Despite this being a temporary measure, until the school language curriculum had been revised, it is still being applied today (Foxcroft and Stumpf 2004: 15). However not all researchers agree that the problem lies in language. Dambisya and Modipa (2004: 75) found that overall matriculation performance was a better indicator of academic success in first-year students in higher education than matriculation English results alone.

According to the 2005 Amalusi report (Foxcroft and Stumpf 2004: 14), having a matriculation certificate is seen to be important if you want to study further or be employed. The matriculation examination is the accumulation of twelve years of study in general education, ending with an assessment which represents the exit point of schooling. A high premium is placed on the matriculation examinations when young adults apply to study in higher education institutions. The matriculation certificate determines access to higher education and is used as the most important selection tool, seen to predict academic success (Foxcroft and Stumpf 2004: 11). This report mentions the critical competencies required for higher education, namely communication skills, critical thinking skills, ability to take notes and retain information (Foxcroft and Stumpf 2004: 12). During apartheid, researchers suggested that while matriculation results were fairly accurate predictors of academic success for white South Africans, this was not the case for blacks. Statistics prove that between 2000 and 2003 the matriculation results were less predictive for African scholars than for other race groups (Foxcroft and Stumpf 2004: 14).

Many disadvantaged learners do not get into university due to poor schooling (Nnedu 2009: 93). Matriculation throughput rates are poor with only 50% of scholars who completed grade 10 in 2010 completed grade 12 in 2012. Of those who wrote, only 73% passed (Fast Facts 2013: 16). The South African school system and matriculation examinations are currently not delivering adequate numbers of appropriately prepared students for

higher education. Only 19% of school-leavers study further (Foxcroft and Stumpf 2004: 18).

According to Foxcroft and Stumpf (2004: 15) it was felt that poor English proficiency resulted in poor matriculation results, which in turn results in poor academic performance in higher education. It was also reported that the reading skills of many South African scholars are dismal, with many only able to read a very simple short passage and answer simplistic questions, even in Grade 12 (Foxcroft and Stumpf 2004: 18). In addition, the majority of scholars fell into the 'medium risk' category with an academic success rate of only 50-65%, indicating that this category of students requires some academic development and support. More alarming is that roughly a third of the scholars fell into the 'high risk' category, with a predictive academic success rate of less than 50%. This high risk category of students requires intensive academic support (Foxcroft and Stumpf 2004: 18) as they enter higher education institutions poorly prepared. To avoid this dismal situation, it was suggested that in future matriculation papers be presented in more of the eleven official languages (Foxcroft and Stumpf 2004: 15).

5.6.2 Matriculation language results and nursing subject results

The study revealed that for all subjects, except Clinical Nursing Science 1, there is a high correlation between matriculation English results and first-year nursing subject results. Those who obtained better matriculation English results also obtained higher nursing examination results for A&P 1 and 2, CNS 1, Soc 1 and FNS. This is supported by previous research that found that as the English proficiency increased so did academic performance (Fakeye and Yemi 2009: 494).

In order to obtain a DP for each subject examination, the following are the minimum requirements:

- The student must have attained an average of 50% in specified procedure evaluations in the subject which comprises the examination.
- The student must have complied with a minimum of 80% clinical attendance in the specified discipline for example medical clinical field.
- The student must have attended a minimum of 80% of lectures in each written subject (KZNCN Rule Book 2013: 13).
- The student must complete two FNS assignments.
- The student must pass the practical Clinical Nursing Science 1 examination.

A&P 1 and A&P 2 are examinations comprising 50% MCQ and 50% written answers. These subjects include the anatomy and physiology of the human body as well as applied physics and biochemistry. CNS 1, Soc 1 and FNS are examination papers requiring short and long essay-type answers, with a 25% MCQ portion each. The Clinical Nursing Science 1 examination is a simulated practical examination, often referred to as an OSCE (Objective Structured Clinical Examination). This examination assesses the psychomotor and interpersonal skills within the concurrent knowledge in terms of scientific nursing skills (KZNCN 2013: 17).

Learning for and passing first-year examinations, which include two anatomy and physiology papers, as well as four other subjects, is very challenging for inadequately prepared first-year students. These students feel overwhelmed by the terminology, academic workload and the responsibility of human life in the clinical field. These pressures place enormous stress on the student and can impact on academic performance (Alden 2008: 63).

This study is justified in that it supports those researchers who concluded that English proficiency and academic performance have a positive relationship; and more especially that proficiency in the language of learning and evaluation is strongly correlated with written evaluation (Foxcroft and Stumpf 2004; Bosher and Bowles 2008; Doley 2010; Igbo et al. 2011). EAL students are severely disadvantaged as they are incapable of expressing themselves adequately in written answers, which affects their academic performance (Feltham and Downs 2002: 175). This view is supported by other researchers who found that students often experience difficulty writing examinations and often misunderstand examination questions (Shakya and Horsfall 2000; Donnelly, McKiel and Hwang 2009). This would explain why there was a positive relationship between matriculation English results and the examination results of FNS, Soc 1 and CNS 1 examinations and not of the Clinical Nursing Science 1 examination, which is a practical-type examination. Engelbrecht and Wildsmith (2010: 125-126) would argue that EAL students also struggle with oral examinations, since the results of their study revealed that nurses would prefer to do oral examinations in their home language as they felt they could express themselves better in a language they are comfortable using.

When the data was tested to establish if a significant difference exists in matriculation English results for students who pass/fail/No DP for each of the nursing subjects, the results showed that those who passed A&P 1 and A&P 2 had significantly higher matriculation English marks than those who failed or did not get a DP for the subject. For all other first-year subjects, no significant differences were found to exist.

When a nursing student writes an examination, there are three possible results. The first possibility is that the student does not get a DP and is therefore not eligible to write the examination at this time. This is considered a ‘first attempt’. The second possibility is that the student

passes with a minimum of 50%. The third possibility is the student fails with less than 50%.

The results of this study indicate that those participants with better matriculation English scores did better in A&P 1 and A&P 2 specifically. This could be attributed to the fact that A&P 1 is written in the first six months of nurse-training (first semester), and for students with inadequate language proficiency as well as inadequate preparation in general for higher education studies, the first examination may be the most challenging. This is supported by Guhde (2003: 113) who found that the attrition rate in nursing students was highest in the first semester of the programme. Possibly this could be because of students adjusting to higher education; as their exposure to English improves and thus their proficiency in English improves, they may find that studying and examinations are less challenging. This may explain the fact that the academic achievement in the other five first-year subjects was better than in A&P 1 and A&P 2.

An additional reason why the A&P 1 and A&P 2 examinations appear to be the most challenging to first-year EAL students could be the well documented finding that EAL students struggle with MCQ-type examination questions. Previous studies have found that MCQ questions are often challenging for EAL students (Bosher and Bowles 2008; Igbo et al. 2011). An American study on linguistic modification on EAL students found that taking Multiple Choice Question (MCQ) tests has been rated as one of the most difficult language-related tasks for EAL students, and that language has a lot to do with it. This was the opinion of both lecturers and students (Bosher and Bowles 2008: 165). Many students at KZNCN are terminated from the nursing programme due to failure of the A&P 1 and 2 examinations.

EAL students often find they need to read the MCQ question, translate it into their home language, then choose the correct answer, which is time-consuming in examinations (Doley 2010: 1808). It is therefore suggested that when EAL students perform badly in MCQ's they need to practice MCQ's in order to learn how to break them down into understandable portions, which will help to increase the speed of answering these types of questions (Lujan 2008: 329). Not all researchers agree with these views on MCQ's. One such study by Feltham and Downs (2002: 175) found that MCQ's in fact yielded higher marks than essay-type questions for both English first and second language learners, due to the poor language ability of EAL students whose written English is poor.

The study revealed that there was no significant correlation between matriculation Afrikaans and academic performance in nursing subjects. Matriculation isiZulu and FNS were, however, significantly correlated. FNS is an extremely important subject in nursing since it is the science and art of nursing practice, the very yardstick against which the public measure the competency of nursing care rendered to them (Breier, Wildschut and Mgqolozana 2009: 121). The fact that the Zulu speaking participants in this study achieved better in FNS, supports previous studies that identified a positive relationship between home language and academic performance (Cummins 1980; Balfour 1999; Njobe 2007; Mashiya 2010; Yazici, Ilter and Glover 2010; Posel and Casale 2011). This finding justifies the study in that it indicates that the home language matriculation score may in fact be more relevant when selecting suitable candidates for higher education.

A significantly positive correlation was found between the 37 participants who repeated the A&P 1 examination and their matriculation English results. Those who failed A&P 1 the first time and passed the re-write examination six months later obtained better matriculation English results than those who failed the re-write and were terminated from nurse-training.

This finding is supported by researchers who agree that proficiency in English has a positive correlation with academic performance (Foxcroft and Stumpf 2004; Bosher and Bowles 2008; Doley 2010; Igbo et al. 2011).

It was of interest to see whether significant differences existed in the nursing marks for students who did English as a home language, first additional or second additional language. Results show that marks were significantly higher for those who took English as a home language, in subjects Soc 1, FNS and A&P 2. Again, the probable reason is the positive relationship between English proficiency and written ability when answering examination papers such as Soc 1 and FNS, which require students to write essay-type answers (Foxcroft and Stumpf 2004; Bosher and Bowles 2008; Doley 2010; Igbo et al. 2011). This, however, may not easily explain the relationship with the A&P 2 examination which contains 50% MCQ's. One possible reason could be that the A&P 2 examination is written with four other examinations, and perhaps those with better English proficiency were able to cope with the reading workload required when studying.

Low academic performance may not only be due to lack of knowledge, but due to misunderstandings of academic questions. Therefore, students do not need more content but new modes of questioning (Bradbury and Miller 2011: 117). It is very difficult for EAL students to meet the academic challenges during their first year of academic studies (Salamonson et al. 2008: 91). In a study by Doley (2010: 1808), it was found that EAL students have difficulty passing examinations with time constraints also identified as a possible reason for poor academic performance.

Multiple factors influence academic performance, including proficiency in the language of learning, and reading ability (Chimbganda 2006: 3). Many students struggle with reading and comprehension of nursing text books

and assignments, with emphasis on anatomy and physiology and the challenge of medical terminology (Igbo et al. 2011: 377). In an Australian nursing study (Weaver and Jackson 2011: 138) it was reported that EAL students have difficulty understanding the course content in English as well as expressing their understanding of what they have read in English. This would impact greatly on their academic performance.

5.6.3 Other factors influencing academic performance

The factors influencing academic performance were determined by the variables responded to on the questionnaire. Each variable was correlated with academic performance in each nursing subject examination result, to determine if there were any relationships.

None of the variables were found to be significantly predictive of A&P 1. For the A&P 1 repeat examination, however, a number of variables were identified as having a positive relationship with examination failure: participants who were not confident to ask questions in class when they did not understand; those who admitted never practicing examination questions when studying; those who had obligations at home which interfered with studying; those who perceived their written English to be poor; those who misunderstood examination / test questions and those who did not understand what was being taught to them, failed the examination.

Those participants who perceived their orientation to be adequate obtained better A&P 2 results. In CNS 1, it was found that those participants who agreed that they did not have difficulty with the language of instruction in nurse-training did significantly better in the CNS 1 examination, and the more time they spent studying the better the CNS 1 result.

For Soc 1 and FNS it was found that being taught in English in high school is a significant predictor of higher marks in these subjects, while those who struggled with the language of instruction in nurse-training obtained lower FNS marks. Those from a rural primary school did better in Clinical Nursing Science 1 than those from an urban primary school, and those with obligations at home did worse in the Clinical Nursing Science 1 examination.

The language of learning, teaching and evaluation at most higher education institutes is English, adding to the difficulties experienced by disadvantaged EAL students transitioning from high school to higher education (Branson, Leibbrandt and Zuze 2009: 54).

5.6.4 Academic throughput at the end of first-year

The results to test whether matriculation English marks are significantly different in the five possible academic outcome categories: 'promoted/passed all subjects', 'terminated', 'demoted by six months', 'promoted/carry one subject' and 'promoted/carry two subjects', showed that matriculation English marks are significantly different for the different academic outcomes. Those who were promoted to the second year scored significantly higher matriculation English marks than those who were terminated from nurse-training. Those participants who were promoted/passed all subjects also scored significantly higher English marks than those who were promoted and carried one subject into second year.

Throughput refers to first-year students meeting minimum requirements in order to be promoted to the second year. At the end of the first six months of training, if a DP for A&P 1 is obtained then students may write the examination. If they do not obtain a DP or if they fail the examination, they

may carry this subject to the end of the first year and re-write it while also writing the other five first-year examinations.

At the end of first-year, there are a number of throughput options:

- A student may have passed all first-year examinations with a minimum of 50%, and will thus be promoted to second year.
- A student may be promoted to second year despite having failed up to two subjects. However, it is compulsory to pass A&P 1, FNS and the Clinical Nursing Science 1 for promotion to second year. If these subjects are failed, the student will be demoted by six months and will repeat the lectures and examinations. A maximum of two of the following failed subjects may be carried to second year: A&P 2, CNS 1 and Soc 1 (KZNCN Rule Book: 21).

There is a disproportionately high failure rate of higher education students who attended disadvantaged schooling, compared to advantaged schooling (Bradbury and Miller 2011: 112). The findings of this study were that the majority of participants attended schools in disadvantaged areas, which indicates that their schools may have been under-resourced (Chisholm 2004; Njobe 2007) with teachers who have low levels of English proficiency, thus their exposure to English was limited (Herselman 2003; Gabela 2005; Abedi and Gandara 2006; Kamwangamalu 2007; Nel and Müller 2010; Ross 2010; Parkinson and Crouch 2011).

Scholars at these schools often under-achieve at school, and are under-prepared for the academic demands of higher education. Add to this the fact that many students in higher education are learning in an additional language, with no language support offered by the institutions. A

combination of these factors could explain the high drop-out rate amongst first-year nursing students at KZNCN campuses.

Many research studies have been done on academic performance of first-year students in higher education (Seldomridge and DiBartolo 2004; Stephen, Welman and Jordaan 2004). Research suggests that first-year examination results are useful in predicting whether students will successfully complete the course (Seldomridge and DiBartolo 2004; Stephen, Welman and Jordaan 2004; Brinkworth et al. 2009; Mills et al. 2009). In the first semester of nursing programmes, students often underestimate the rigorous demands of the nursing programme, which leads to poor academic performance and attrition (Jeffreys 2007: 416). The average mark achieved during the first year was found to be significantly related to the student's home language and ethnicity (Van Rooyen 2008: 516). Contradicting this opinion, Mills et al. (2009: 214) found that the language spoken at home was not associated with first-year academic performance or course completion. Rather, the importance of previous academic success, including high overall matriculation scores, has been found to be the most influential factor in successful academic performance of first-year health science students (Mills et al. 2009: 205). Dambisya and Modipa (2004: 75) agree with researchers who say that overall matriculation scores affect academic performance in higher education, adding that this is most evident in first-year students.

The study revealed that 24% of the participants did not pass all of the first-year nursing subjects with a minimum of 50%. Of those who failed some subjects (19%) were promoted to second year but carried one or two subjects that will need to be re-written six months later. Previous studies have found that the first year in higher education is critical in predicting course completion. The first year of higher education lays the foundation

for future academic performance and therefore the first year is a crucial period (Guhde 2003; Brinkworth et al. 2009; Mills et al. 2009).

A South African study on higher education mentions data showing that attrition is highest in the first year, and that 30% of students drop out in the first year (DoE 2005 cited in Sommer and Dumont 2011: 386), with graduation rates of only 15% indicating very poor throughput rates, higher up on the spectrum compared to developed countries. For the period 2005 to 2008 (Appendices 12 and 13), the attrition in the first year at KZNCN campuses was 23%. Although this is slightly lower that the norm in South Africa's higher education institutions, in the face of the critical nurse shortages in the country the attrition rate is of great concern. This study found an attrition rate of 24% in first-year nursing examinations.

Peyrovi, Parvizy and Haghani (2009: 1899-1900) mentions that nursing students who experience academic failure should be identified immediately so that appropriate intervention can occur, since failure includes negative emotional consequences for students together with wasted resources. The consequences of academic failure do not only involve the student, peers and educators, but the economy as well. The findings of this study are in agreement with previous research which found that the drop-out rate amongst EAL students is high and is mainly due to examination failure (Shakya and Horsfall 2000; Donnelly, McKiel and Hwang 2009). Doley (2010:1808) refers to EAL students taking longer to complete dietetic courses in higher education, and that they experience more difficulty passing examinations.

It is very difficult for EAL students to meet the academic challenges during their first year of academic studies (Salamonson et al. 2008: 91). Poor study skills and poor academic preparation affects nursing course

completion (Zuzelo 2005: 29). Ross (2010: 460) found many higher education students drop out after a year or two due to poor academic performance. When learners switch to English at an early age and receive poor teaching, this results in alarmingly low throughput rates in higher education. Low academic performance may not only be due to lack of knowledge, but also due to language challenges, necessitating new modes of questioning (Bradbury and Miller 2011: 117).

Multiple factors influence academic throughput for EAL students including proficiency in the language of learning, reading ability and comprehension, as well as having to learn new terminology (Igbo et al. 2011; Doley 2010). Many researchers agree that it must be ensured that those selected are academically successful and graduate, because attrition is a waste of both human and material resources (Bolan and Grainger 2003; Jeffreys 2007; Ali 2008).

5.7 CONCLUSION

This study was justified because it addressed a gap in the literature by investigating the relationship between English language proficiency and the academic performance of first-year student nurses. A unique feature of this study was the correlation of matriculation English results and academic performance, to differentiate between students with high and low scores. Multiple regressions were also applied and since there is very little previous research that has been conducted in higher education and in nursing in particular using this method of analysis, this study is unique. Since there is little previous literature disclosing the utilization of this strategy, this study has served to increase the current knowledge base of the complex relationship of language and the academic performance of nursing students.

The results of this study revealed that matriculation English scores are influenced by a number of factors namely the quality of schooling and the socio-economic status of the student. This study highlighted the inequality in access to basic education, with the majority having attended poorly resourced schools as well as the fact that the majority grew up in an underprivileged home prior to nursing. This has a negative effect on their matriculation English results as it results in nurses who are under-prepared for the increased demand of higher education. In addition these students are learning a new career in an additional language, when many may not be proficient in their home language.

The attrition rate of nurses is a matter of concern and contributes towards the shortage of qualified nurses in South Africa and globally. When examining the first-year academic results it was found that the nursing students with higher matriculation English scores out-performed those with lower scores. It would appear that in addition to proficiency in the language of teaching and evaluation a positive relationship also exists between proficiency in an African language as the home language and nursing academic performance in first-year nursing students. This study has concluded that English language proficiency is indeed an important factor in predicting academic performance and in improving throughput rates of nursing students. This study is pertinent to nursing professionals, students, higher education institutions and administrators of nursing schools. The generalisability of the findings can be applied to similar institutions with a similar student profile.

5.8 LIMITATIONS OF THIS STUDY

The study would have been enriched if the target group included the lecturers as well, to compare their views with that of the students. If the scope of this study had allowed, it would have been interesting and

beneficial if the progress of these students was monitored throughout the four years of training, to observe their academic performance and to determine their graduation rate. In addition, only matriculation English scores were examined and not the overall matriculation point allocation of each student. There are a large number of uncontrollable variables which need to be taken into consideration when assessing academic performance in higher education, but due to the confines of this study only some of these variables were included.

5.9 RECOMMENDATIONS

As a result of this study, the following recommendations were made with special reference to nursing education and policy development and implementation. Recommendations for further research are based on the findings of the study.

5.9.1 Nursing education

Recruitment

Nursing should be promoted as a career of choice to encourage suitable young people to enter the profession, since nursing is the backbone of the health care service in any country. This study revealed that nursing remains predominantly a female profession (refer to pg 55). Females are still seen as inferior to males in the work place and this could be one of the reasons why salaries and conditions remain poor for nurses. Perhaps the National Department of Health should be encouraging more males to enter nursing, by increasing salaries and improving working conditions. This may serve to increase the social standing of the nursing profession, and thereby promote it as a career of choice for school-leavers or those wanting a career-change.

Most higher education institutions offer tuition in English only, which in the case of this study is not the home language for the majority of nursing students at KZNCN (refer to pg 55). Matriculation English results are an indication of the language proficiency of students applying to study at higher education institutions. Language admission criteria should not be used as a barrier to admission to the nursing profession. However, a certain threshold of language proficiency should be included in the application criteria in order for students to cope in the language of instruction at the nursing campus; since this study found that higher matriculation English results yielded higher first-year nursing academic results (refer to pg 85) and better throughput rates into second year (refer to pg 87). In addition to proficiency in the language of instruction, the home language matriculation results should also be considered in admission criteria, since it would appear from this study that those participants with higher isiZulu results achieved better academic results in some examinations in the first year (refer to pg 86). The findings of this study are not confined to the nursing profession and can be applied to any higher education institution establishing a minimum threshold for English proficiency. If the matriculation English admission criteria was increased from a minimum of 50%, this would result in even more school-leavers being excluded from entry to nurse training at higher education institutions. Therefore it may make more sense to offer language support for EAL students so as to prevent the loss of promising nurses from entering the nursing profession.

With regard to the language of learning and teaching at schools, this study revealed that most of the participants were taught in English at both primary and high school (refer to pg 60, 61), and this resulted in higher matriculation English results (refer to pg 65). Thus finding supports those parents and teachers who recommend teaching South African school children in English when it is not their home language. The study suggests

that those who are taught in English at school may perform better academically in nursing.

Retention

Although large numbers of nurses are still attracted to apply to nurse training, there remains little growth in the SANC register of qualified nurses. This can be attributed partly to the high attrition rates during nurse training, especially in the first year (refer to pg 87). It would appear from the results of this study that EAL students require a great amount of academic support throughout their training, in particular in their first year, which supports previous literature that South African school-leavers are under-prepared for higher education. If the nursing profession is to retain the nurses who are already in training, then it needs to ensure that the academic experience of the students occurs in a caring and professional environment. This will encourage suitable candidates to select nursing as a profession and will offer them the best opportunity to succeed academically and graduate as professional nurses.

This study found that those who perceived their English proficiency to be good had better matriculation English results on entry to nursing (refer to pg 70). This study also revealed that the majority of first-year nurses perceive it to be an advantage to be taught in English and preferred to be taught in English (refer to pg 75); considering the 24% failure rate of first-year nurses (refer to pg 87) it appears that some EAL nursing students may be struggling with the language of instruction. It is thus recommended that the language of instruction should remain in English. However, early identification of 'at risk' students, with the focus on academic assistance through formal programmes at the nursing campuses, may reduce the attrition rate of potentially promising nurses. 'At risk' nurses includes those entering nursing with matriculation English marks in the lower range (50-59%), those with poor English proficiency and those who are not passing academic evaluation tests. The ongoing dilemma of the choice of

language of instruction and evaluation in education is not unique to nursing institutions and thus the findings of this study are beneficial to all higher education institutions.

The socio-economic circumstances of students in higher education also affects their academic performance since those who grew up in an underprivileged home, attained lower matriculation English results (refer to pg 67) and participants with low English marks obtained lower academic results in first year nursing examinations (refer to pg 87). These nurses and those who have attended non-urban schools should also be identified and monitored, since it was found in this study that those who were taught at rural primary schools obtained lower matriculation English marks, and as a result may struggle when studying in English (refer to pg 64). Academic support must focus largely on development in the language of instruction and assessment, with the aim of improving academic performance and thus increasing the retention rate. If the language difficulties can be reduced, the increased knowledge acquired by these nurses may improve the quality of professional nurse produced by the nursing programme. In addition a high failure rate will adversely affect the reputation of a nursing institution thus the nurse educator must make every effort to facilitate learning and determine if a student is competent and ready for graduation.

Education and training

Nurse-training encompasses both education and clinical work, thus students need to be developed and prepared for higher education and the work sector. Although this study found that first-year nurses perceived their orientation to the nursing programme and study methods to be adequate (refer to pg 77), the majority perceived the academic workload to be greater than expected (refer to pg 74). Work experience in the field of nursing must be encouraged through open days where prospective nurses can spend time being exposure to the expectations of the nursing programmes. In addition, school visiting programmes must be organised to promote

nursing as a career of choice for school leavers. Orientation programmes must be structured into the initiation of the nursing programme, to ensure that new recruits are fully aware of the workload and objectives for each subject taught and examined. In addition to learning new information, with complicated terminology, students are learning it through an unfamiliar language. Although this study revealed that the majority of nurses did not experience difficulty with the language of instruction (refer to pg 74), lecturers need to be sympathetic to the language difficulties experienced by some EAL nursing students who require additional academic support and encouragement. It is recommended that nurse educators meet the individual needs of the EAL student which will require a whole paradigm shift from teacher-centred teaching methods to learner-centred teaching methods as each nurse has unique learning needs and personal issues which may affect academic performance. This will develop critical thinking skills in nursing students and assist them to achieve academically.

The 21st century is technology driven. This study found that more first-year nurses frequently did not have access to computers or internet in their homes or at school while growing up (refer to pgs 56, 62). The results revealed that those who had computers obtained better matriculation English results (refer pg 65). The youngsters of today would benefit from on-line study skills and academic support from their lecturers, as can be found at many universities in South Africa. Caution must be taken, however, to ensure that all students benefit from the technological communication system. It would therefore be recommended that computer training be included in the nursing curriculum since many students in higher education have not had exposure to computer equipment and may not have the skills required to make full use of this benefit. Media laboratories should be implemented into each campus with pre-recorded lessons in a number of languages, to facilitate multilingual learning. In addition, computer laboratories should be installed so that students can do research and use a wider range of references which will enhance the learning

experience. Since many of the students in this study were from disadvantaged backgrounds (refer to pg 55) and may not have a computer while training, an allocated study area should be available for nurses, either in the library or in the campuses. Access should preferably include sessions after hours when students come off duty.

5.9.2 Policy development and implementation

The nursing profession relies heavily on the development and implementation of policies to meet the health care needs of South Africans. It would appear from this study that the problems with admission to higher education and the academic performance in higher education institutions begins long before the students enter post-school studies. Many factors affect matriculation English. Despite the fact that the South African government allocates the lion's portion of the budget to basic education, school leavers enter higher education under-prepared in many ways because of poor schooling and socio-economic circumstances. The findings of this study indicate that the Education Department policies should be focusing on ensuring poorer schools are adequately resourced since the study revealed that those who did not attend urban schools obtained lower matriculation English results (refer to pg 64-66) so that equitable education is accessible to all South Africans, especially for those in lower socio-economic situations and living in rural areas. This does not only apply to high schools, but according to this study, more so to the foundation years of formal schooling as well.

Teachers and teaching policies at schools should be reviewed and fully implemented, in particular with regard to the language issue. The school language curriculum needs to be revised. Although this study revealed that the majority of nurses were taught predominately in English at both primary and high school (refer to pg 60, 61) and that they perceived their school teachers to be fluent in English (refer to pg 60, 61), the study found that

those who were taught in English in primary school obtained better matriculation results (refer to pg 65). It is recommended that the Education Department tests the proficiency of teachers who instruct in English. This will ensure that the scholars' exposure to English is of a high standard. Because this study also showed that those nurses who achieved better academic results in first-year presented better matriculation English results (refer to pg 85), this further supports the need for proficiency of English based on matriculation entry criteria.

The teaching of African languages at school must also be undertaken by teachers who are proficient in the language, since this study found that nurses with higher isiZulu marks obtained better results in some of the nursing examinations (refer to pg 86). Although this study found that the majority of nurses reported that their school teachers were present in class when they should be (refer to pg 60, 61), disciplinary measures must be applied to those schools not complying with basic work ethic such as punctuality and presence in the classroom when teaching should be taking place. This study revealed that the majority of nurses had textbooks more often than not when at school (refer to pg 61), however the Education Department must ensure that textbooks are delivered to every school timeously, so that teaching can begin on the first day of the school term. This will ensure that even the disadvantaged schools will be better able to produce scholars who are eligible and successful in higher education, thereby increasing their employment potential.

In addition to schooling inequalities, the lack of government transport in South Africa is of great concern. Most of the nurses in this study walked long distances to primary and high schools (refer to pgs 58, 60). This is possibly because there is a lack of transport in rural areas or possibly because, if there was transport available, they may not have been able to

afford it as most of the nurses in this study had an underprivileged up-bringing.

Proactive strategies must promote equity and access to higher education for the diverse population of South Africa. Higher education institutions in the country also need to take some responsibility for the development of their students and not put all the blame on the South African school sector. This will require action from the higher education sector, schools and the communities. Nursing programmes must be restructured and aligned with the NQF. The new nursing programme must meet the approval of the Senate of the higher education institute as well as be accredited by the SANC, SAQA and the Higher Education Quality Committee. This will help to improve the throughput rate (refer to pg 87) and thereby increase the number of nurses who qualify as professional nurses.

The over-emphasis of matriculation results determining entry to higher education is of great concern. The nursing curriculum design and admission requirements policy need to be revised since it would be sad to see nurses with suitable nursing attributes and clinical ability suffering academic failure due to the lack of a structured support programme. Language should not be a barrier to entering or succeeding in higher education. Policy guidelines must be established so that disadvantaged students with the potential to succeed are not refused the opportunity to gain entry to any higher education institution of their choice. A variety of tools should be designed and alternate routes for entry into higher education need to be explored, so that potentially promising nurses are not excluded from training.

Planning for academic success begins when students are recruited. Policies must be developed and implemented to offer formal academic support for EAL students who struggle with the language of learning and teaching in higher education institutions. All students should be assessed

on admission to nurse-training to ascertain their backgrounds. Since the majority of nurses in this study came from disadvantaged backgrounds (refer to pg 55), their socio-economic situation must therefore be considered when reviewing education and training policies. In this way valuable information will be identified so that students can be assisted in reaching their academic goals. In addition many student nurses have social and personal factors which may cause them to fail academically. These students must be offered counselling and social assistance to keep them in training so that they can reach their full potential. A resident student counsellor should be available to offer support, counselling and health education to student nurses (refer to pg 77). This counsellor should be employed specifically to attend to staff and not the general public, since students need to be seen as soon as possible so as not to miss clinical experience or theoretical lectures.

Support of policy development and implementation requires the support of nurse educators, nursing service managers as well as the chief executive officers managing health care facilities. Without their input and co-operation in policy formulation and implementation, student nurses will not be afforded the holistic support and respect that is required to make them professional nurses of good standing.

5.9.3 Further research

Research in nursing is valuable and must be encouraged and developed in order to build the profession. Research on predictors of student academic performance and retention are useful and the results will strengthen the admission policy to higher education. Academic performance and retention in higher education is currently a hot topic and the results of this study provide valuable information for further research in this arena. Further research is also required in the field of basic education in schools to

determine the reasons why school-leavers are so under-prepared for higher education.

Based on the findings of this study, further research could include examining strategies used by nursing education institutions to identify at risk students and those who struggle academically. There is a need for further research into the development of a language support programme for EAL student nurses, which could include reading and writing skills and the development of critical thinking skills. This will ensure that language does not act as a barrier to academic success for nurses. Once developed, this programme must be piloted and the progress of those enrolled in language support must be monitored to assess its effectiveness.

In the field of nursing there is a need for the further research on the many non-academic variables such as personal factors which predict academic performance. This would be beneficial to the nurse-training institutions as well as the students themselves. Research of this nature would be beneficial to all higher education institutions and could be implemented in schools as well.

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Appendix 1: DUT Ethics clearance

12 November 2012

IREC Reference Number: **REC 54/12**

Mrs T A Manson
P O Box 13628
Cascades
3202

Dear Mrs Manson

A relationship between matriculation English results and academic performance in nursing students at the KwaZulu-Natal College of Nursing

I am pleased to inform you that Full Approval has been granted to your proposal REC 54/12.

The Proposal has been allocated the following Ethical Clearance number **IREC 043/12**. Please use this number in all communication with this office.

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

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC SOP's. In addition, you will be responsible to ensure gatekeeper permission.

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

Yours Sincerely

Dr D F Naude
Chairperson: IREC

Appendix 2a: Letter requesting permission from Department of Health

PO Box 13628
Cascades
3202

26 October 2012

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

Dear Sir

Re: REQUEST FOR PERMISSION TO CONDUCT STUDY AT THE KWAZULU-NATAL COLLEGE OF NURSING

I am presently registered as a Masters student at the Durban University of Technology in the Department of Nursing. The proposed title of my research project is: '*A relationship between matriculation English results and academic performance in nursing students at the KwaZulu-Natal College of Nursing'*. The aim of this study is to determine if there is a relationship between matriculation English proficiency and first year academic results.

Questionnaires and retrospective record reviews will be conducted to collect data. Participation is voluntary, and a letter of information will be given to each participant. Participants will be required to sign consent to complete the questionnaire as well as to give the researcher permission to view their personal files to obtain matriculation and academic results. Confidentiality will be maintained at all times.

Please find a copy of my proposal and instruments designed for the study.

Your urgent response would be greatly appreciated.

Yours faithfully,

.....

Mrs TA Manson (Masters Student)

Contact number: 082 505 2514

Email address: terry.manson6@gmail.com

……

Dr MN Sibiya (Supervisor)

Tel: 031-373 2606

Email: nokuthulas@dut.ac.za

Appendix 2b: Approval letter from Department of Health

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

Health Research & Knowledge Management sub-component
10 – 103 Natalia Building, 330 Langalibalele Street
Private Bag x9051
Pietermaritzburg, 3200
Tel.: 033 – 3953189
Fax.: 033 – 394 3782
Email.: hrkm@kznhealth.gov.za
www.kznhealth.gov.za

Reference : HRKM 175/12
Enquiries : Mr X Xaba
Tel : 033 – 395 2805

Dear Mrs T. Manson

Subject: Approval of a Research Proposal

1. The research proposal titled **'A relationship between matriculation English results and academic performance in nursing students at the KwaZulu Natal College of Nursing (KZNCN)'** was reviewed by the KwaZulu-Natal Department of Health.

   The proposal is hereby **approved** for research to be undertaken at KZN College of Nursing Campuses.

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

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

For any additional information please contact Mr X. Xaba on 033-395 2805.

Yours Sincerely

[redacted]

Dr E Lutge
Chairperson, Health Research Committee
Date: 21/11/2012

Appendix 3a: Letter requesting permission from KZNCN

P0 Box 13628
Cascades
3202
11th November 2012

The Principal
Dr L.L. Nkonzo-Mtembu
KwaZulu-Natal College of Nursing
Private Bag X9089
Pietermaritzburg
3200

Dear Dr Nkonzo-Mtembu,

RE: PERMISSION TO COLLECT DATA FOR MASTERS RESEARCH

I am presently registered as a Masters student (No.21242581) at the Durban University of Technology, in the Department of Nursing. The proposed title of my study is "A relationship between matriculation English results and academic performance in nursing students at the KZN College of Nursing".

The nursing students in my study will be from Group 1/2012. The following campuses were selected, to meet my target sample of 130 participants: Addington, Edendale, RK Kahn, Ngwelazana and Benedictine. I will obtain written permission from each campus Principal. All students in Group 1/2012 will be invited to participate. A letter of information will be given to them and they will be required to sign consent to participate. Participants will be consenting to complete the questionnaire as well as consenting to the researcher viewing their matriculation and academic records. Their anonymity will be assured, and no names will appear in the data collection.

Questionnaires will be used to collect data from the participants, and thereafter I will personally review the records of these participants, to correlate the matriculation and academic results. The questionnaires will be completed at the respective campuses and the record reviews will be done at KZNCN. The information I will require from the records is as follows:

- Matriculation language results
- Gender
- First year examination results in all subjects.

I hereby request your written permission to undertake this study at the selected campuses and at the KZNCN Head Office. Your support and permission will be greatly appreciated.

Yours sincerely,

_____	_____	_____
Mrs TA Manson	Dr NM Sibiya	Ms G Cruickshank
M Tech Student	Supervisor/ Head of Dept	Co-Supervisor
Tel: 082 505 2514	Tel: 031-373 2606	Tel: 031-373 2706
terry.manson6@gmail.com	nokuthulas@dut.ac.za	gillianc@dut.ac.za

Appendix 3b: Approval letter from KZNCN

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

KWAZULU- NATAL COLLEGE OF NURSING
P/Bag X9089, Pietermaritzburg, 3200
Tel.: (033) 264 7800, Fax: (033) 394 7238
e-mail: lulama.mthembu@kznhealth.gov.za
www.kznhealth.gov.za

Enquiries: Mrs. S. Maharaj
Telephone: 033 – 264 7806
Date: 20 November 2012

Principal Investigator:
Mrs. TA Manson(21242581)
School of Nursing
Durban University of Technology

Dear Madam

RE: REQUEST TO UNDERTAKE RESEARCH AT THE KWA-ZULU NATAL COLLEGE OF NURSING- Addington, Edendale, RK Khan,Ngwelezane and Benedictine Campuses

I have pleasure in informing you that permission has been granted to you by the Principal of the KwaZulu-Natal College of Nursing to conduct research on

Title: "**: A relationship between matriculation English results and academic performance in nursing students at the KZN College of Nursing"**

Please note the following:

1) Please ensure that you adhere to all policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
2) This Research will only commence once this office has received confirmation from the Provincial Health Research Committee in the KZN Department of Health.
3) Please ensure this office is informed before you commence your research.
4) The Campus will not provide any resources for this research.
5) You will be expected to provide feedback on your findings to the Principal of the KwaZulu-Natal College of Nursing.

Thanking You.

Sincerely

[redacted]

Ms. JT Makhathini
Acting Principal:KwaZulu-Natal College of Nursing

Appendix 4a: Example of letter requesting permission to collect data from a campus

PO Box 13628
Cascades
3202
11th November 2012

The Principal
Mrs N.C. Majola
Edendale Campus
P/Bag X9099
Pietermaritzburg
3200

Dear Mrs Majola,

RE: REQUEST FOR PERMISSION TO CONDUCT A STUDY

I am presently registered as a Masters student at the Durban University of Technology, in the Nursing Department. The proposed title of my research is: 'A relationship between matriculation English results and academic performance in nursing students at the KwaZulu-Natal College of Nursing'.

The participants of my study will be from Group 1/2012. In order to meet my target population of 130 participants, I will invite all nurses in Group 1/2012 at your campus as well as other selected campuses. They will be given an information letter and will be required to sign consent, should they agree to participate. I will collect data from them using a self-administered questionnaire. I request a lecturer from your campus, with whom I can liaise. I will request this person to hand the questionnaires to the consenting participants, so as not to be intimidated by the researcher. I will also be conducting a record review of these nurses' matriculation and academic records at KZNCN. Their anonymity will be assured, and no names will appear in the data collection.

I have attached a summary of my Proposal, for your perusal. I have also attached a letter of permission from the Director of Nursing at KZNCN. I would be most appreciative if you would allow me to conduct my study at your campus. Please send the letter of permission to the following e-mail address: terry.manson6@gmail.com.

Yours sincerely,

Mrs TA Manson
M Tech Student
Tel: 082 505 2514
terry.manson6@gmail.com

Dr MN Sibiya
Supervisor/ Head of Dept
Tel: 031-373 2606
nokuthulas@dut.ac.za

Ms G Cruickshank
Co-Supervisor
Tel: 031-373 2706
gillianc@dut.ac.za

Appendix 4b: Example of approval letter from a campus

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

KWAZULU NATAL COLLEGE OF NURSING
EDENDALE NURSING CAMPUS S 2013
Private Bag X 9099 Pietermaritzburg.3200
29 Havelock Road. Pietermaritzburg.3201
el.:, 033-3456810/3927566 Fax.:0333459477/0865743522
Email.:ntombizakhona.majola@kznhealth.gov.za
www.kznhealth.gov.za

26 November 2012

Mrs. T.A Manson (21242581)
P.O. Box 13628
Cascades

Dear Mrs T.A. Manson

REQUEST TO CONDUCT RESEARCH AT EDENDALE NURSING CAMPUS

Protocol: "A relationship between matriculation English results and academic performance in nursing students at KZN College of Nursing."

Your letter dated 11.11.12 refers.

We are pleased to inform you that the permission is granted provided:

- Confidentiality is maintained at all times
- Your research does not interfere with smooth running of the Campus
- Proper consent is obtained from the participants

Thank you
Yours sincerely

Dr N.V. Mkhize
(Chairperson Research committee)

Mrs N.C. Majola
(Campus principal)

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

Appendix 5: Letter of information and consent

INSTITUTIONAL RESEARCH ETHICS COMMITTEE (IREC)
LETTER OF INFORMATION TO RESEARCH PARTICIPANTS

Title of the Research Study: A relationship between matriculation English results and academic performance in nursing students at the KwaZulu-Natal College of Nursing

Principal Investigator/s/researcher: Mrs TA Manson

Co-Investigator/s/supervisor/s: Dr MN Sibiya (Supervisor) and Ms G Cruickshank (Co-supervisor)

Brief Introduction and Purpose of the Study: Student nurses in training at KwaZulu-Natal College of Nursing Campuses have met the literacy criteria for admission, and are taught in English as their second language, yet many cannot read or write English adequately to achieve academic success. Therefore, the aim of this research study is to determine if there is a relationship between matriculation language proficiency and first year academic results.

Outline of the Procedures: While you are still in first year, you will be invited to participate in this study. If you choose to participate, you will be asked to sign a consent form. You will need to complete a questionnaire, at your campus, about factors that may affect your academic performance. The researcher will also collect from KZNCN Head Office in Pietermaritzburg, your matriculation language results as well as your first year nursing results, to see if there is a relationship between matriculation English proficiency and first year academic results.

Risks or Discomforts to the Participant: Your anonymity will be maintained at all times as your name will not appear in any documents. The results of this study will not affect your training in any way.

Benefits: Recommendations, based on the findings of this study may be used to improve nurses' academic performance in training.

Reason/s why the Participant May Be Withdrawn from the Study: Participation is voluntary and by consent only. You may withdraw at any time and will not be penalized should you choose to withdraw.

Remuneration: None

Costs of the Study: None

Confidentiality: The questionnaires will be returned to the researcher, who, together with a statistician, will analyse the results. The records at KZNCN Head Office will be read by the researcher only, and codes will be used on the documents, so that your name cannot be linked to the study. The records will not be removed from the premises during data collection, nor will copies be made.

Research-related Injury: Not applicable.

Persons to Contact in the Event of Any Problems or Queries:

Researcher:	Mrs TA Manson	Grey's Campus	Tel: 033-897 3504
Supervisor:	Dr MN Sibiya	Durban University of Technology	Tel: 031-373 2606
Co-supervisor:	Ms G Cruickshank	Durban University of Technology	Tel: 031-373 2706

Institutional Research Ethics administrator on 031 373 2900.
Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031 373 2382 or dvctip@dut.ac.za.

Appendix 5: Letter of information and consent

INSTITUTIONAL RESEARCH ETHICS COMMITTEE (IREC)
CONSENT

Statement of Agreement to Participate in the Research Study:

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

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

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____	_____	_____
Full Name of Researcher	Date	Signature

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

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

Appendix 6: Questionnaire

STUDENT NURSE QUESTIONNAIRE

STUDENT NUMBER:				

Thank you for participating in this study

SECTION: A PRIMARY SCHOOLING

1. Where was your primary school situated? Rural area Urban area
2. What type of primary school did you attend? (Select the **ONE** option that best applies to you)

Government school in rural area	
Government school in Township	
Government school in town/city	
Private school	

3. About how many kilometers was your primary school from your home? _____km
4. How did you travel to school? Walk Taxi/Bus Private vehicle Other:_____
5. Rate the following on a scale from 1 to 5 (where **1 = Never** and **5 = Always**; OR **1 = Strongly disagree** and **5 = Strongly agree**, depending on the question) by putting a cross in the appropriate box.

DURING MY PRIMARY SCHOOLING…		**1**	**2**	**3**	**4**	**5**	
5.1 English was used as the language of instruction	Never						Always
5.2 My teachers were present in the classroom	Never						Always
5.3 I had my own text books	Never						Always
5.4 My teachers were fluent in English	Strongly disagree						Strongly agree

6.

At my primary school I had access to…	**YES**	**NO**
6.1 a library		
6.2 a computer		
6.3 the Internet		

SECTION: B HIGH SCHOOLING

7. Where was your high school situated? Rural area Urban area
8. What type of high school did you attend (Select the **ONE** option that best applies to you)

Government school in Rural area	
Government school in Township	
Government school in Town/City	
Private school	

9. About how many kilometers was your high school from your home? _____km
10. How did you travel to school? Walk Taxi/Bus Private vehicle Other:_____
11. Rate the following on a scale from 1 to 5 (The scales are self-explanatory and apply specifically to the question asked) by putting a cross in the appropriate box.

DURING MY HIGH SCHOOLING…		**1**	**2**	**3**	**4**	**5**	
11.1 English was used as the language of instruction	Never						Always
11.2 My teachers were present in the classroom	Never						Always
11.3 I had my own text books	Never						Always
11.4 My teachers were fluent in English	Strongly disagree						Strongly agree

12.

At my high school I had access to…	**YES**	**NO**
12.1 a library		
12.2 a computer		
12.3 the Internet		

SECTION: C LIFE GROWING UP

13. When you were growing up, where was your home situated? (Select the **ONE** option that best applies to you)

Only rural area	
Only urban area	
Both rural and urban areas	

14. Rate the following on a scale from 1 to 5 by putting a cross in the appropriate box.

GROWING UP …		1	2	3	4	5	
14.1 Our socio-economic status could be described as…	Under-privileged						Privileged
14.2 The chores I had to do at home meant I didn't have enough time for my school work	Strongly disagree						Strongly agree
14.3 I was raised by my own parents.	Never						All the time
14.4 I was raised by a family member other than my parents.	Never						All the time
14.5 I belonged to a child-headed household .	Never						All the time
14.6 I was the head of my household .	Never						All the time
14.7 I got assistance with my homework from an adult.	Never						Always
14.8 I had access to a computer at home.	Never						Always

SECTION: D LIFE NOW AS A STUDENT

15. Rate the following on a scale from 1 to 5 by putting a cross in the appropriate box.

		1	2	3	4	5	
15.1 Obligations at home detract from the time I need to spend on my studies	Strongly disagree						Strongly agree
15.2 Much of my time is wasted travelling between home and college	Strongly disagree						Strongly agree
15.3 Living conditions in the place I stay now, as a student, are comfortable because we have all the necessities e.g. electricity	Strongly disagree						Strongly agree

SECTION: E EXPOSURE TO ENGLISH

16. Is English your home-language? Yes No

17. Rate the following on a scale from 1 to 5 by putting a cross in the appropriate box.

		1	2	3	4	5	
17.1 A lot of my friends are English speaking	Strongly disagree						Strongly agree
17.2 I chat to my friends in English	Never						Always
17.3 When I think, I think in English	Never						Always
17.4 When I read, I read English novels/magazines	Never						Always
17.5 I watch English TV programs	Never						Always
17.6 I listen to English radio stations	Never						Always

SECTION: F SELF OPINION OF ENGLISH PROFICIENCY

18. Rate your agreement with the following statements on a scale from 1 to 5 where **1 = Strongly disagree** and **5 = Strongly agree**.

		1	2	3	4	5	
18.1 I consider myself to be fluent in spoken English	Strongly disagree						Strongly agree
18.2 I get anxious when I speak English	Strongly disagree						Strongly agree
18.3 I am self-conscious of my accent when speaking English	Strongly disagree						Strongly agree
18.4 My written English is good	Strongly disagree						Strongly agree
18.5 I have difficulty expressing myself when writing in English	Strongly disagree						Strongly agree
18.6 When people speak to me in English, I understand them	Strongly disagree						Strongly agree
18.7 I understand what I read in English	Strongly disagree						Strongly agree
18.8 I am confident enough to actively participate in classroom discussions in English	Strongly disagree						Strongly agree

SECTION: G COPING IN TERTIARY EDUCATION

19. Rate your agreement with the following statements on a scale from 1 to 5 where **1 = Strongly disagree** and **5 = Strongly agree**.

		1	2	3	4	5	
19.1 In class the lecturers speak too quickly	Strongly disagree						Strongly agree
19.2 I have difficulty understanding my lecturers when they use long sentences with complicated words	Strongly disagree						Strongly agree
19.3 I find lecturers read through notes too quickly during class, and I get left behind	Strongly disagree						Strongly agree
19.4 I feel I have adequate time to copy off the board and complete assignments	Strongly disagree						Strongly agree
19.5 Adequate time is given during class, for questions and discussions	Strongly disagree						Strongly agree
19.6 I am able to take notes in class while the lecturer is teaching	Strongly disagree						Strongly agree
19.7 I generally understand what is being taught in class	Strongly disagree						Strongly agree
19.8 I often pretend I understand in class, when in fact I do not	Strongly disagree						Strongly agree
19.9 I am confident to ask questions in class when I don't understand	Strongly disagree						Strongly agree

		1	2	3	4	5	
19.10 I find it stressful to work in groups	Strongly disagree						Strongly agree
19.11 I find it stressful to do presentations to the class	Strongly disagree						Strongly agree
19.12 I often misunderstand test and exam questions	Strongly disagree						Strongly agree
19.13 I feel my command of English limits me when I answer test and exam questions	Strongly disagree						Strongly agree
19.14 I believe I would benefit if the exam questions were written in my home-language as well as in English	Strongly disagree						Strongly agree
19.15 I find the medical terminology makes learning more difficult	Strongly disagree						Strongly agree
19.16 I think being taught in English makes learning more difficult	Strongly disagree						Strongly agree
19.17 I think I would achieve better academically if I were taught in my home-language	Strongly disagree						Strongly agree
19.18 I see being taught nursing in the language of English as an advantage in my life	Strongly disagree						Strongly agree
19.19 I find the nursing academic workload too great	Strongly disagree						Strongly agree

SECTION: H STUDY HABITS

20. Rate the following on a scale from 1 to 5 by putting a cross in the appropriate box.

		1	2	3	4	5	
20.1 When studying I read the passage, translate it into my home-language, and then translate it back into English	Never						Always
20.2 When I study, I 'rote-learn', ie learn my work 'word-for-word'	Never						Always
20.3 I study in a group with fellow nurses	Never						Always
20.4 I practice writing answers to possible test/exam questions	Never						Always
20.5 I make a written study program to assist me when learning	Never						Always
20.6 I make hand-written notes, when I study	Never						Always
20.7 When I study, I study from textbooks/ typed notes	Never						Always

Appendix 6: Questionnaire

SECTION : I TIME SPENT STUDYING

21. Rate your agreement with the following statements on a scale from 1 to 5 where **1 = Strongly disagree** and 5 = **Strongly agree.**

		1	2	3	4	5	
21.1 I study after-hours both when in a college block and when working on the wards/clinics	Strongly disagree						Strongly agree
21.2 When there is a free lesson or 'study period', I spend this time studying	Strongly disagree						Strongly agree
21.3 After a day in College, I revise the new lecture content that same day	Strongly disagree						Strongly agree
21.4 I do most of my studying over the weekends	Strongly disagree						Strongly agree

22. On average, how much time do you spend studying per week? _____hours per week?

SECTION: J EXTERNAL SUPPORT

23. Rate your agreement with the following statements on a scale from 1 to 5 where **1 = Strongly disagree** and **5 = Strongly agree**.

		1	2	3	4	5	
23.1 The lecturers encourage us to ask questions during class	Strongly disagree						Strongly agree
23.2 The lecturers are willing to assist if we ask for help	Strongly disagree						Strongly agree
23.3 I am given individual, one-on-one feedback by my lecturers if I have performed poorly in a test	Strongly disagree						Strongly agree
23.4 I benefit when lecturers use diagrams, models etc when teaching difficult subjects such as anatomy	Strongly disagree						Strongly agree
23.5 I have my own personal copy of all the prescribed text books in all my nursing subjects	Strongly disagree						Strongly agree
23.6 I received adequate academic orientation to the nursing course	Strongly disagree						Strongly agree
23.7 I received adequate orientation on methods to plan studies and how to study	Strongly disagree						Strongly agree
23.8 At my institution, there is a resident student counselor for referral when I have personal problems	Strongly disagree						Strongly agree
23.9 If I do not understand my class work, I am able to get help from someone	Strongly disagree						Strongly agree

Appendix 7: Data collection record-review document

STUDENT RECORD DATA COLLECTION

Code	Campus	Gender	Matriculation %			NURSING RESULTS %						
			English	2^{nd} Lang	3^{rd} Lang	A&P1	Repeat	A&P2	FNS	Soc1	CNS1	NS1

Appendix 8: Non-disclosure letter

PO Box 13628
Cascades
3200

10th February 2013

Human Resource Department
KZN College of Nursing

Dear Mr Cooke,

RE: NON-DISCLOSURE AGREEMENT

I am registered for a Masters Degree at Durban University of Technology (DUT). I will be collecting data from the records in the Human Resources Department at KZN College of Nursing, on the 12th February 2013. I will require you to retrieve the records of the participants in my study. As per my Proposal to DUT, you are required to sign this letter as assurance that you will not divulge the identification of the participants to any person/s.

Regards,

Theresa Manson

Signed as agreement to non-disclosure of identification of files retrieved at KZNCN.

_____	_____	_____
Name	Signature	Date

Appendix 9: Letter from a statistician

Gill Hendry B.Sc. (Hons), M.Sc. (Wits)
Mathematical and Statistical Services

Cell: 083 300 9896
email : hendryfam@telkomsa.net

29 October 2012

To whom it may concern

Please be advised that Theresa Manson (student number 21242581) who is presently studying for a Master of Technology: Nursing has consulted me regarding the sampling strategy she will use for her study. I have also advised her on the development of the questionnaire.

Yours sincerely

Gill Hendry (Mrs)

HEALTH
KwaZulu-Natal

KWAZULU-NATAL COLLEGE OF NURSING
Private Bag x9089, Pietermaritzburg,3201
211 Pietermaritz Street, Pietermaritzburg, 3201
Tel.:033 264 7817, Fax.:033 394 7238
soobamah.naicker2@kznhealth.gov.za

Enquiries: Mrs. S.D. Naicker
Reference: HRM 5/3/3 and 20/4/R

To: Head Office Managers, Principals Campus/Sub-Campuses, CEO's, Deputy Nurse Managers, HR Managers, Hospitals, CHC's, Clinics, Head Office, Institutions.

HUMAN RESOURCE MANAGEMENT CIRCULAR NO. 126 OF 2010.

CIRCULAR MINUTE HRM 27/2010, WHICH DETAILED THE SELECTION CRITERIA FOR ADMISSION TO THE 4-YEAR ENROLLED NURSE TRAINING PROGRAMMES, IS HEREBY RESCINDED AND REPLACED WITH THIS CIRCULAR MINUTE

SELECTION CRITERIA FOR ADMISSION TO THE 4-YEAR AND ENROLLED NURSE TRAINING PROGRAMMES

PURPOSE

- **To standardize admission requirements into nurse training programmes.**
- **To be able to uniformly apply an admission policy to the candidates who completed matric pre-2008, and those who completed matric from the year 2008.**

1. FOUR YEAR COMPREHENSIVE NURSE TRAINING PROGRAMME MINIMUM REQUIREMENTS TO BE CONSIDERED FOR SELECTION PRE-2008.

1.1 All candidates must be in possession of an authentic Grade 12 certificate with a minimum of **25** points calculated as follows:

Symbol	Higher Grade	Standard Grade
A	8	5
B	7	4
C	6	3
D	5	2
E	4	1
F	1	0

1.2 Only subjects on higher grade and/or standard grade are to be considered.
1.3 English: minimum symbol "E" on higher grade or symbol "D" on standard grade.
1.4 **Biology or any other natural science subject "E" higher grade and "D" standard grade (Physics, Mathematics, Physiology, Chemistry).**

Appendix 10: Selection criteria for admission policy KZNCN

1.5 Score a maximum of 6 relevant highest score subjects on Grade 12 certificate.

2. MINIMUM REQUIREMENTS TO BE CONSIDERED FOR SELECTION INTO THE 4-YEAR DIPLOMA PROGRAMME FROM 2008

2.1 All candidates must be in possession of a National Senior Certificate verified by Umalusi.
2.2 All candidates must possess the requirements to enter a Degree/ Diploma Programme.
2.3 The minimum points that are required is 25.
2.4 English and Life Orientation (LO) at a minimum of a level 4.
2.5 Maths – level 3
2.6 Maths literacy – level 4
2.7 Additional Language
2.8 Physical / life sciences – level 3.
2.9 Any other 2 subjects from the designated list. (Accounting, Agricultural Sciences, Business Studies, Dramatic Arts, Economics, Engineering Graphics & Design, Geography, History, Consumer Studies, Information Technology, Languages, Music, Religion Studies, Visual Arts).
2.10 Minimum number of subjects to be scored is 6.
2.11 Certificates with more than 7 subjects, only the first six highest relevant subjects will be scored.
2.12 Subjects from non designated list will not be scored.
2.13 **Life Orientation (LO) not scored.**

The points will be calculated as follows:

NSC RATING (LEVEL OF PERFORMANCE)	NSC PERCENTAGE	POINTS VALUE FOR CALCULATION OF KZNCN APS	ADJUSTED PERCENTAGE FOR KZNCN APS CALCULATION
		8	90% to 100%
7	80%-100%	7	80% to 89%
6	70%-79%	6	70% to 79%
5	60%-69%	5	60% to 69%
4	50%-59%	4	50% to 59%
3	40%-49%	3	40% to 49%
2	30%-39%	2	30% to 39%
1	0%-29%	1	0% to 29%

3. ENROLLED NURSE PROGRAMMES PRE-2008

3.1 Minimum points -**15**
3.2 English minimum symbol 'E' on Higher Grade. 'D' on Standard Grade.
3.3 Score all subjects on the Senior Certificate pre 2008.
3.4 All candidates must be in possession of a National Senior Certificate.

Appendix 10: Selection criteria for admission policy KZNCN

4. ENROLLED NURSE PROGRAMMES POST-2008

4.1 Minimum points - **15**
4.2 English and Life Orientation (LO) at a minimum of a level 4.
4.3 Additional Language.
4.4 The remaining subjects from the designated list. (Accounting, Agricultural Sciences, Business Studies, Dramatic Arts, Economics, Engineering Graphics & Design, Geography, History, Consumer Studies, Information Technology, Languages, Music, Religion Studies, Visual Arts).
4.5 Minimum number of subjects to be scored is 6.
4.6 Subjects from non designated list will not be scored.
4.7 **Life Orientation (LO) not scored.**

5. POINTS TO NOTE IN RESPECT OF 4 YEAR DIPLOMA AND ENROLLED NURSE PROGRAMMES

5.1 Only KwaZulu-Natal residents will be considered, addresses verified through voters roll and or declaration confirming Physical address.
5.2 The authenticity of certificates shall be verified with the relevant education authority (Umalusi) as a prerequisite for admission of candidates.
5.3 Successful candidates will be notified of acceptance to training and requested to respond in writing within 21 days. Such acceptance is subject to signing of an applicable service obligation contract as determined by the Department.
5.4 In-service Employees must meet the above minimum selection requirements.
5.5 Selection will be from Highest to Lowest scores.
5.6 All prospective candidates will be interviewed.
5.7 Medium of instruction will be English.
5.8 The advertisement will be placed in the local newspapers: Ilanga, Mercury, Natal Witness, Zululand Observer in January or July of each year.

[redacted]

for **DR. L.L. NKONZO MTEMBU**
PRINCIPAL KWAZULU-NATAL COLLEGE OF NURSING

3.12.2010
DATE

Appendix 11: District selection policy at KZNCN

DEPARTMENT OF HEALTH

PROVINCE OF KWAZULU-NATAL

HUMAN RESOURCE DEVELOPMENT

Natalia, 330 Longmarket Street, Pietermaritzburg, 3201
Private Bag X9051, Pietermaritzburg, 3200
Tel.: 033 395 2724/2859, Fax.: 033 394 5868
E-Mail: makhatij@dohho.kzntl.gov.za

Enquiries: Ms J T Makhathini
Reference: 20/4/P

TO: HEADS OF INSTITUTIONS AND CHC'S/HOSPITAL MANAGERS/DISTRICT MANAGERS/NURSING CAMPUS AND SUB-CAMPUS PRINCIPALS

HUMAN RESOURCE MANAGEMENT CIRCULAR NO 8 OF 2005

THIS CIRCULAR REPLACES HUMAN RESOURCE MANAGEMENT CIRCULAR NO 12 OF 2002

DISTRICT SELECTION FOR ADMISSION TO ALL BASIC NURSE TRAINING PROGRAMMES AND ALLOCATION OF POSTS

1. Purpose

1.1 To standardize the selection and admission for nurse training in the province.
1.2 To ensure access to all Regional Nurse Training institutions.
1.3 To ensure demographic representation and equity.

2. District/Inter-District Selection Committees

Six (6) District/Inter-District selection committees have been identified as follows:

2.1 Ugu (DC21), Ilembe (DC29) and Ethekwini
2.2 Umgungundlovu (DC22) and Sisonke (DC43)
2.3 Zululand (DC26)
2.4 Umkhanyakude (DC27)
2.5 Umzinyathi (DC24), Uthukela (DC23) and Amajuba (DC25)
2.6 Uthungulu (DC28)

A Nursing College/Campus/Sub-campus Principal within the relevant district(s) co-ordinates the activities of the student selection committee.

3. Selection process

3.1 Constitution of the selection committee

Constitute the selection committee ensuring objectivity, appropriate stakeholder representation and transparency

The selection committee shall be constituted as follows:

- One Nursing Manager from each of the institutions in the district.
- The principals of the nursing education institutions in the district(s).
- One District Deputy Director.
- One administrative support staff for performing the secretariat functions.
- The College registrar(s).

NB:

- ***To ensure recruitment is timeous, broad in scope and covers the needs of the region***
- ***The selected candidates to be made aware of the requirement to sign a fixed term agreement at commencement of training***

3.2 Functions of the selection committee

3.2.1 To constitute a team of administrative support, who should be from different district institutions, to receive and schedule applications at a neutral venue not linked to the training institutions.

3.2.2 To nominate a manager to monitor the above stated process and report to the selection committee.

3.2.3 To check the matric scores of candidates on the selection schedule.

3.2.4 To select the most suitable candidates for training considering the demographic representativity of the district/inter-district.

3.2.5 To keep records of the selected candidates so as to check the progress reports of the district selected groups in order to monitor the quality of the selection process.

3.2.6 To ensure that the selection process caters for the need to career path health workers e.g. enrolled nurse categories.

3.3 Administration of the selection process

3.3.1 Identification of administrative support and manager to supervise the process.

3.3.2 Identification of vacant training posts.

3.3.3 Identification of physical resources.

- Neutral venue for administering the selection process.
- Office equipment.
- Acquire a central post box not attached to any service or education institution.

3.3.4 Advertisement to be sent out once or twice a year in January and/or July.

3.3.5 Selection of qualifying applicants from each sub-district/municipality in accordance with available training posts and needs of the district(s).

3.3.6 Authentication of matriculation certificates by the KwaZulu-Natal Department of Health administration with Department of Education. This process must be finalized before admission of candidates.

3.3.7 Distribution of applicants to regional training institutions to ensure equitable access and demographic representation.

3.3.8 The decisions of the selection committee should be endorsed by the members of the selection committee.

3.3.9 The selection process must start six months before the date of commencement of the training programme.

4. ALLOCATION OF NURSE TRAINING POSTS

4.1 Geographical

- Divide the district into sub-districts/municipalities/units.
- Obtain the population statistics of each sub-district/municipality/unit.
- Compute a percentage of each sub-district/municipality/unit on the basis of the population figure for each unit. The percentage will determine the quota for each unit.
- Allocate training posts accordingly ensuring 25% of training posts for local applicants. This applies to Sub-campuses only.

4.2 Academic

- Score all matriculation certificates on the basis of the prescribed scoring guide.
- Disregard applicants falling below the minimum matriculation score for the specific training programme.
- Qualifying applicants from each sub-district/municipality/unit will be ordered from the highest matriculation score in descending order.
- Select 75% of applicants from the highest matriculation score.
- Select 25% of candidates from the bottom of the qualifying pile of applications.

4.2 In-Service vs Non-In-service Applicants

In accordance with Human Resource Management Circular No 9 of 2005:

- The quota for in-service candidates in a basic nurse-training programme shall be 20% of the student intake.
- Eighty percent (80%) of training spaces shall be allocated to non-in-service personnel.

[redacted]

SUPERINTENDENT-GENERAL
Head : Department of Health

KZN COLLEGE OF NURSING- STUDENT INTAKES FOR TRAINING (R425)

CAMPUS	G7/11	G1/11	G7/10	G1/10	G7/09	G1/09	G7/08	G1/08	G7/07	G1/07	G7/06	G1/06	G7/05	G1/05
ADD	39	36	42	34	44	43	45	39	41	44	38	42	36	38
BEN	24	19	19	21	25	23	NIL	25	NIL	25	26	NIL	22	0
C.J.M	25	NIL	33	28	35	32	35	35	35	35	24	34	36	0
EDEN	22	29	34	42	49	47	49	41	43	49	47	38	27	38
GS	33	29	45	45	47	47	46	48	47	52	48	49	49	53
MAD	25	24	25	25	25	26	26	26	26	26	24	25	25	0
NGW	19	22	40	24	40	42	63	49	42	36	42	43	33	0
PS	25	24	25	25	24	NIL	NIL	23	24	25	25	26	NIL	0
PMC	0	19	21	20	26	NIL	25	25	24	25	25	28	20	0
RKK	25	25	25	23	25	25	25	25	25	22	27	25	24	26
TOTAL	237	227	309	287	340	285	314	336	307	339	326	310	272	155

KZN COLLEGE OF NURSING- COMPLETION OF TRAINING R425

TOTAL NO. OF STUDENTS COMPLETED PER GROUP PER CAMPUS

NAME OF CAMPUS	31.12.11	30.06.11	31.12.10	30.06.10	31.12.09	30.06.09	31/12/08	30.06.08	31/12/07	30.06.07
	G 1/2008	G 7/2007	G2007	G 7/2006	G1/2006	G 7/2005	G 1/2005	G 7/2004	G 1/2004	G 7/2003
ADD	33	43	25	38	28	23	41	45	21	27
BEN	15	8	16	10	5	8				
C.J.M	17	30	30	19	21	18				
EDEN	30	27	39	37	35	32	19	39	10	NIL
GS	25	35	46	34	44	28	41	32	43	28
MAD	29	18	25	28	21	14	NIL	NIL	NIL	NIL
NGW	37	26	32	37	15	17	16			
PS	20	25	20	16	13	NIL	NIL	NIL	NIL	NIL
PMC	38	5	18	26	22	12	NIL	NIL	NIL	NIL
RKK	26	20	16	23	17	16	26	19	18	18
TOTAL	270	237	267	268	221	168	143	135	92	73

Appendix 13: Completion of training at KZNCN