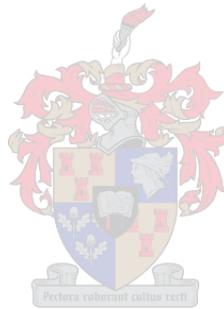


ACADEMIC FACTORS AFFECTING LEARNING AT A NURSING COLLEGE IN THE WESTERN CAPE

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Master of Health Science in the Faculty of Health Sciences at the Stellenbosch
University

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MARCH 2011

DECLARATION

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ABSTRACT

Nursing education, including the individual nurse educator, has a responsibility to society and to students for providing quality education, for maintaining the highest academic standards, for the proficient use of teaching strategies and for ensuring adequate support to learners. These standards were threatened at a particular college in the Western Cape which instigated this study.

This study aimed at investigating the academic factors that influenced learning at a particular nursing college in the Western Cape. The objectives included the following possible factors that may have contributed towards the unsatisfactory, academic performances of students:

- Nursing as a career choice;
- Selection criteria;
- Approaches to learning;
- Motivation and learning;
- Language barrier to learning; and
- Factors affecting the learning environment.

A non-experimental, descriptive research design was applied with a quantitative approach. The target population (N = 963) consisted of nursing students following the course leading to registration as a professional nurse, according to the South African Nursing Council's regulation 425, as promulgated by the Nursing Act 50 of 1978, as amended (Nursing Act 33 of 2005). Probability, stratified sampling was used to select the sample of participants (n = 174).

A structured questionnaire, consisting of predominantly closed questions, was used for the collection of data.

Ethical approval was obtained from Stellenbosch University to conduct this study. Permission to conduct the research was also obtained beforehand from the management of the nursing college being studied, whilst prior informed consent was obtained from each participant.

Reliability and validity of the study were assured by means of a pilot study and through the use of experts in nursing research, methodology and statistics. Data was collected and captured by the researcher personally.

The data was analysed with the support of a statistician and was expressed as frequencies and in tables and histograms. Descriptive statistics and post-hoc analyses, including tests for statistical associations, were performed.

The outcomes from this study showed that third year students (n = 49/23%) spent the most time studying, whilst first years (n = 74/43%) and second years (n = 40/23%) only spent 2.3 hours studying per day. Academic support classes, when offered, were always attended by (n = 64/37%) and most times by (n = 72/42%). The majority of the participants were able to cope with the workload most of the time (n = 107/61%), whilst (n = 51/30%) and (n = 6/3%) of the participants indicated coping seldom and never, respectively. A significant relationship between the ages of participants and being able to cope with the workload (Spearman p-value = 0.02) existed. Results indicated that (n = 83/48%) of the participants received support with language problems, whilst (n = 75/43%) indicated that they did not receive support with language problems. The Afrikaans speaking participants coped the best with the workload (mean score = 1.72), followed by the English speaking students (mean score = 1.68), and lastly the Isi-Xhosa speaking learners (mean score = 1.65).

Recommendations made by participants included the following:

- Strict adherence to the selection criteria, which should help decrease the attrition rate.
- English as a subject / module during the first year was proposed.
- The promotion of the proficiency in English, through interaction between English speaking learners and students with English as second language, should be encouraged.
- Regular updates of the contents of the curriculum.
- The importance of identifying 'at risk' students and pro-actively introducing a mentorship programme.
- Information technology needed to be improved in many aspects, such as accessibility of Web based communication.

Results from the open ended questions showed that participants regarded the teaching strategies as boring. Large classrooms were also mentioned as a problem. Smaller classes were requested to enable more interaction in the class.

In conclusion, this study showed that specific academic factors were influencing learning at the nursing college being investigated in the Western Cape. Therefore, recommendations were made in this study, which, if implemented, should result in an improvement in the overall academic performances of students.

OPSOMMING

Verpleegkundige onderrig, insluitende die individuele verpleegkundige opvoeder, het 'n verantwoordelikheid teenoor die samelewing en teenoor studente om kwaliteit onderrig te verskaf, om die hoogste akademiese standaarde te handhaaf, om die effektiewe gebruik van onderrigstrategieë te bied en om die begeleiding van leerders te verseker. Hierdie standaarde was gedreig by 'n seker verpleeg kollege in die Wes Kaap en dus was die studie geïnisieër.

Hierdie studie het ten doel gehad om die akademiese faktore, wat moontlik leer by 'n bepaalde verpleegkollege in die Wes-Kaap beïnvloed, te ondersoek. Die doelwitte het faktore, wat moontlik die akademiese prestasie van studente kon beïnvloed het, ingesluit:

- Verpleging as 'n loopbaankeuse;
- Keuringskriteria;
- Benaderings tot leer;
- Motivering en leer;
- Taalhindernis; en
- Faktore wat die leeromgewing affekteer.

'n Nie-eksperimentele, beskrywende navorsingsontwerp is toegepas, deur van 'n kwantitatiewe benadering gebruik te maak. Die teikenbevolking (N = 963) het uit verpleegkundige studente bestaan wat die kursus gevolg het wat tot registrasie as 'n professionele verpleegkundige lei, in ooreenstemming met die Suid-Afrikaanse Raad op Verpleging se regulasie 425, soos gepromalgeer deur die aangepaste Wet op Verpleging 50 van 1978 (Wet op Verpleging 33 van 2005). Daar is van waarskynlikheid-gestratifiseerde steekproefneming gebruik gemaak om die deelnemers te kies (n = 174).

'n Gestruktureerde vraelys, bestaande uit hoofsaaklik geslote vrae, is vir die invordering van data gebruik.

Etiese goedkeuring is vooraf van die Universiteit van Stellenbosch verkry om hierdie studie uit te voer. Toestemming om die navorsing te doen is ook vooraf vanaf die

bestuur van die verpleegkollege wat ondersoek is verkry, terwyl elke deelnemer sy/haar ingeligte toestemming verleen het.

Betroubaarheid en geldigheid is deur middel van 'n loodsstudie verseker, tesame met die gebruik van kundiges in verpleegnavorsing, metodologie en statistiek. Data is deur die navorser persoonlik versamel en vasgelê.

Die data is met die hulp van 'n statistikus ontleed en is as frekwensies en in tabelle en histogramme illustreer. Beskrywende statistiek en post-hoc analyses, insluitende toetse vir statistiese assosiasies, is uitgevoer.

Die bevindings uit hierdie studie het daarop gedui dat derdejaarstudente ($n = 49/23\%$) die meeste tyd aan hul studies bestee het, terwyl die eerste- ($n = 74/43\%$) en tweedejaarstudente ($n = 40/23\%$) daagliks slegs 2.3 ure aan hul studies spandeer het. Waar akademiese ondersteuningsklasse aanbieding is, is dit altyd deur ($n = 64/37\%$) bygewoon en die meeste kere deur ($n = 72/42\%$). Die meerderheid van deelnemers was meestal in staat om die werkslading te hanteer ($n = 107/61\%$), terwyl ($n = 51/30\%$) en ($n = 6/3\%$) van die deelnemers, onderskeidelik, aangedui het dat hulle selde of ooit die lading kon baasraak. 'n Beduidende verwantskap tussen die ouderdomme van die deelnemers en hul vermoë om met die werkslading te kon volhou (Spearman p-waarde = 0,02), het bestaan. Resultate het daarop gedui dat ($n = 83/48\%$) van die deelnemers steun met taalprobleme ontvang het, terwyl ($n = 75/43\%$) aangedui het dat hulle nie steun ontvang het nie. Die Afrikaanssprekende deelnemers het die werkslading die beste hanteer (gemiddelde telling = 1.72), gevolg deur die Engelssprekendes (gemiddelde telling = 1.68) en laastens die Isi-Xhosasprekende deelnemers (gemiddelde telling = 1.65).

Aanbevelings deur deelnemers het die volgende ingesluit:

- Die streng nakoming van die keuringskriteria behoort die afname in die uitvloeiempo te help bevorder.
- Engels as 'n vak / module gedurende die eerste jaar is voorgestel.
- Die bevordering van Engels as spreektaal, deur die interaksie tussen studente met Engels as Moedertaal en Engels as tweede taal, behoort aangemoedig te word.
- Gereelde opdatering van die die kurrikuluminhoud.

- Die belangrikheid om "hoë risiko" studente te identifiseer en 'n pro-aktiewe mentorskapsprogram daar te stel.
- Inligtingstegnologie behoort in baie aspekte verbeter te word, soos bv toeganklikheid tot Web-gebaseerde kommunikasie.

Die resultate tov die oop vrae het getoon dat deelnemers die onderrigstrategieë as vervelig beskou het. Groot klaskamers is ook as 'n probleem geïdentifiseer. Daar was versoeke vir kleiner klasse, ten einde beter interaksie tussen leerders en dosente te bevorder.

Ter afsluiting het die studie getoon dat spesifieke akademiese faktore leer by die Wes-Kaapse verpleegkollege, wat ondersoek is, beïnvloed het. Dus is aanbevelings in hierdie studie gemaak, wat, indien geïmplementeer, 'n verbetering in die algehele akademiese prestasie van studente behoort te help bewerkstellig.

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CHAPTER 1.

SCIENTIFIC FOUNDATION OF THE STUDY

1.1 INTRODUCTION

A major challenge faces higher educational institutions around the world on how to achieve quality outcomes for students in an increasingly globalised and competitive environment (Harvey & Kamvounias, 2008:31). Education is a reciprocal process, during which the learners acquire knowledge, ability, and self awareness in gaining diversity to thought (University of Wisconsin, 2001:2). Nursing education is designed to educate and train nursing students to become competent and qualified professional nurses (Mellish, Brink & Paton, 2009:6). In order to provide skilled nursing care, professional nurses must be educated and trained to master certain skills and be knowledgeable about the science of nursing (Mellish *et al.*, 2009:6-7). According to Leufer (2007:322), nursing students need the appropriate knowledge and skills to enable them to deliver safe and competent care to their patients.

According to Mellish *et al.* (2009:63), professional nurses enter the nursing programme with different expectations of what is to be learnt, different intellectual skills, types and levels of motivation, and different interests. Furthermore, professional nurses also come from different cultures and backgrounds. Consequently, professional nurse educators, who are responsible for educating and training these students, have a challenging task.

1.2 RATIONALE

Prior to 1994, nursing education in the Western Cape had been provided by four separate colleges in the public sector. These four colleges amalgamated during the post "*apartheid*" era to form one college. This nursing college has been especially challenged by poor academic progress of its students over the past decade. The students' academic performances have shown a decline over the last few years, to such an extent that it has become a major concern to all the parties involved (Table 1). The problem has been further compounded by the expectation of Government to increase the number of students being trained, in order to counteract the critical shortage of professional nurses in the country. In South Africa the enrolment of nursing

students for their first year has increased, whereas the number of students completing their fourth year has decreased, due to poor academic progress over the four years. Consequently, there is an imbalance between the input and output of students (Table 1). Since more students are failing, there is a backlog of students completing their programmes successfully., Stickney (2008:422), substantiates this problem by describing that the number of new enrollees into nursing programmes in the United States (US), is too low to provide an adequate nursing workforce to meet increasing health needs. Furthermore, the nursing shortage problem is exacerbated by the attrition of students over the course of their programmes.

Statistics obtained over a period of six years show a decline in the academic progression of students over this period. In 2002, 159 students commenced training at the college being studied, of which 104 (65%) students completed in 2005. In contrast, in 2003, 173 students registered for training, of which only 75 (14%) completed in 2007. No students were enrolled in 2004 since the college was in the process of preparing for the introduction of the bursary system. The 206 students who commenced training in 2005, had a high failure rate of 67 (33%) in their first semester, general nursing science examination in 2006. The college senate then approved the setting of a third opportunity examination for those students who had failed or had not written the second opportunity examination. 67 students wrote the third opportunity examination, of which only 7 (seven) passed. 60 students failed the examination, with 73% of these students obtaining an average of less than 40%. In 2007, only 76 (36%) of the 206 students remained in training, by entering their third year. Further in 2006, 192 students commenced their studies, of which 142 (73.9%) progressed into their second year of study, leaving 26.1% of unsuccessful students or drop outs at such early stages of their training (PGWC Nursing College Statistics, 2008).

Table 1 shows the decline in nursing student performance over the past six years at the college being studied. Ultimately the college is not producing sufficient, qualified, trained professional nurses in order to address the shortage of professional nurses in the country. According to the strategic plan of the Department of Health of the Western Cape, the projected number of students to be trained for the period 2009/2010 was 542. The current objective is to increase the availability of health science students in order to address scarce skills (Strategic Plan 2010-2014, 108). Consequently, the Department of Health of the Western Cape has offered the college being investigated, 350 bursaries for the 2011 academic year (Department of Health, 2010:1).

Table 1.1: Input and output of professional nurse students

Year of Study	2002	2003	2004	2005	2006	2007	Total
Registered 1 st year	159	168	Nil	206	192	265	990
Completion 4 th year	98	125		113	135	19	490
No. of Students Repeating			87				

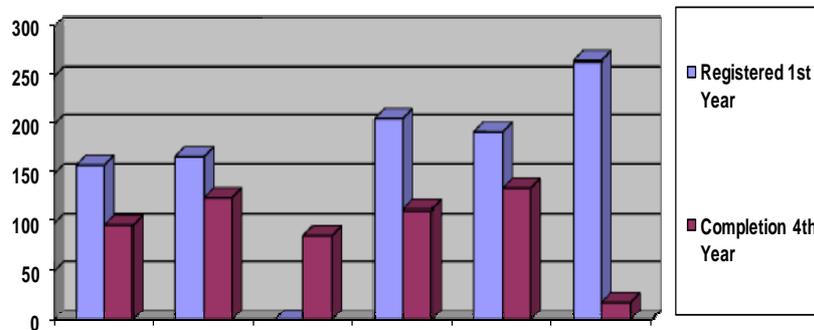


Figure 1.1: Input and output of professional nurse students.

Figure 1 illustrates the imbalance between the number of students being registered in a particular year and the relatively small number of students completing their professional nurse training in that same year.

Upon completion of the four year nursing programme, the qualified graduate becomes registered as a professional nurse and thus as a member of the nursing profession. The professional nurse is then expected to deliver health care at an expected standard that is acceptable to the nursing profession. Once a member of the nursing profession, it would be expected of the professional nurse to have the necessary insight and knowledge to execute daily tasks, according to her/his scope of practice, as described in the Nursing Act 2005. Mr. Mabuda, the Director of Nursing, states that nursing as a profession is still faced with a number of challenges, which ranges from education and training, coaching and mentoring, the image of the profession, limited facilities for clinical placement of students and the nursing shortage (Professional nurses Update,

September 2008). These challenges inevitably influence the academic performances of students and ultimately threaten the nursing profession.

This study investigated whether selection criteria had been complied with and what measures had been taken when the intake target had not been met. This investigation further determined whether the selection criteria had been defied in order to comply with Government's request to train more students. The findings of a study by Prymachuk, Easton and Littlewood (2008:149) indicated that those students who only had the minimum educational qualifications on entry were less likely to complete, than those with higher level qualifications.

The typical learning environment comprises of the number of students in the classroom, the academic environment, teaching strategies and the perceptions of the impact of group size on the learning experience (Leufer, 2007:322). The learning environment plays an important role in captivating the student's interest and in maintaining it. It is therefore important to consider how nursing students experience learning in a large class environment (Leufer, 2007:322). This would provide information such as:

- Are students distracted by such large numbers?
- Do students feel assertive enough to interact, or ask questions?

Large group learning suggests that there is a relationship between class size and participation levels, which then affects the learning experiences of students (Leufer, 2007:322).

Furthermore, the recruitment of more students has been implemented without providing adequate infrastructure. Many logistical problems have been encountered, for example, inadequate sound systems, control of attendance, ventilation, increasing noise levels. These logistic problems create further problems such as difficulty in managing the group which results in lectures being commenced late. According to Leufer (2007:322) participation levels are lower in large class settings. The large student numbers thus impact on the academic environment and the quality of teaching provided. Herington and Weaver (2008:111) state that university courses with large enrolments hold challenges for course convenors, particularly in managing and maintaining course consistency and in accommodating different student learning approaches. The student-

teacher relationship is also compromised and becomes impersonal and distant. Students thus find it more difficult to approach lecturers for support and assistance.

The college being investigated had a shortage of professional nurse lecturers for a relative period and the process of filling these positions has been slow. This has inevitably affected the academic climate in the learning environment, as it has led to a larger number of students in a classroom, increased levels of stress on the lecturer and on the learning environment.

In their study, Grainger and Bolan (2006:38) question how the perceptions of nursing influence potential applicants and whether nursing is viewed as a desirable career. In a study conducted by Ojeda, Creutzberg, Feoli, Melo and Corbellini (2009:400) among nursing students being registered for a nursing programme, 70% had chosen that program, because they were unable to qualify for another. According to Meadus and Twomey (2007:13), the most common reasons why men enter the nursing profession, are career opportunities, job security and salary.

Motivation plays a fundamental role in learning (Glynn, Aultman & Owens, 2005:150). Increased inspiration gives rise to an increase in enthusiasm and motivation, which may result in better academic performance. Similarly, the lack of inspiration would result in a lack in motivation, resulting in poor performance. Lack of motivation often becomes visible when students have difficulty in mastering the study material, which ultimately influences academic performance adversely. Motivation is considered a highly significant psychological concept in education and contributes extensively to learning and performances outcomes (Leufer, 2007:323).

Pedagogical literatures of higher education describe different ways of understanding learning, which are seen as underpinning two basic approaches to learning, i.e. the 'surface' approach and 'deep' approach (Haggis, 2003:90). Lizzio, Wilson and Simons (2002:27) further state that there is a fair degree of empirical evidence supporting the fact that students adopts two basic approaches, i.e. a deep approach to learning, which is striving for improved understanding, and conversely a surface learning, which involves reproductive strategies with little attempt to integrate information.

Students' perceptions of the academic support and mentoring that they have been receiving were investigated, as well as the students' own contributions to their academic progress. The role of the mentor in practice placements is important in

supporting student learning and the assessment process. Mentors should assist students in bridging the gap between theory and practice. The type of relationship that exists is crucial to the student's learning experience (Wilkes, 2006:42). The college being investigated have provided mentors in the clinical facilities, but whether they have met the expectations of the students require investigation. According to Baykal, Sokmen, Korkmaz and Akgun (2005:255-256), educational institutions should adopt the concept of total quality management, which would then necessitate them to regularly determine the satisfaction and expectations of their customers.

English as a second language (ESL) students are described as those students, whose primary language at home is not English and therefore may not be fluent in standard English (Guhde 2003:113). The amalgamation of the four colleges also resulted in a combination of diverse cultures and languages. As a dual medium of instruction was introduced at the college, lecturers were expected to accommodate both English and Afrikaans in one lecture. This was time consuming and necessitated extra manpower. A decision was then taken to implement English as the only language of instruction. This has resulted in language becoming a barrier to learning for many students, possibly contributing to their poor academic performances. Furthermore, students may be placed in hospitals where they are confronted with their second or third language, or even an unfamiliar language. Consequently, these students are being disadvantaged both in the classroom and in the clinical environment. Jacobs, Chen, Karliner, Agger-Gupta and Mutha (2006:111) state that many US residents, who speak little English, may face language barriers when seeking health care. South Africa also encounters the same challenges, because not only do citizens face barriers when seeking health care, but students who speak limited English are unable to communicate effectively with their patients. Language barriers can thus affect their clinical learning skills which can lead to incompetency in clinical learning skills and ultimately have an effect on the patient care delivered to health consumers.

Nursing student attrition is an international issue, causing concern in many parts of the developed world, including Australia, the United States and Europe (Prymachuk *et al.*, 2008:149). Student attrition presents numerous challenges for directors and deans of nursing programmes and the nursing profession (Wells, 2003:230). The attrition rate in Canadian nursing programmes has been estimated to be between 20% - 40%. Students' change in perception of nursing as an ideal career choice has been the main reason for attrition (Grainger & Bolan, 2006:39). According to Wells (2003:233),

population data suggests that the student pool will continue to be more diverse and therefore a retention programme must include faculty / staff development relating to cultural issues.

Baykal *et al.* (2005:256) state that there are many factors that adversely affect nursing education in Istanbul, such as professional nurses having different levels of education, inadequate infrastructure and the inefficient uses of educational techniques and technologies. The college being studied faces similar challenges, which inevitably affect the academic performances of learners namely:

- Selection criteria which are not adhered to;
- Lack of infrastructure;
- Lack of technology;
- Language barrier;
- Lack of motivation; and
- Inadequate learning opportunities.

According to the Government Gazette (1997), the admission of students to training and educational institutions should reflect national demography. Student selection should therefore be co-ordinated at national level in order to implement and monitor affirmative action policies.

1.3 PROBLEM STATEMENT

A decline in academic performance of students, specifically at the nursing college under study was observed which adversely influenced the throughput and output of students. It was postulated that possible factors may exist which may be influencing academic performance. Therefore, it became essential to investigate possible factors influencing learning of students at this specific nursing college.

1.4 AIM

The purpose of this study was to investigate the factors influencing learning of nursing students at a nursing college in the Western Cape.

1.5 RESEARCH QUESTION

The research question which guided this study was "What are the academic factors that influenced learning at a nursing college in the Western Cape.

1.6 OBJECTIVES

The objectives for this study were to investigate whether the following factors influenced learning at a nursing college in the Western Cape:

- Nursing as a career choice;
- Selection criteria;
- Approaches to learning;
- Motivation and learning;
- Language barrier; and
- Factors affecting the learning environment.

1.7 SIGNIFICANCE OF THE STUDY

It is the responsibility of the said nursing college to train and develop students. Therefore, when attrition rates are decreasing and academic performances are declining, it has become necessary to investigate the reasons. In order to do so, input has to be obtained from students in order to identify their learning experiences, both positive and negative. The outcomes of this study were aimed at providing policy makers in nursing education, higher education and the South African Nursing Council, with scientific evidence on how to address the factors influencing learning of their students. These results would also be published in an accredited journal.

1.8 RESEARCH METHODOLOGY

A brief description of the research methodology that was applied in this study is described in this chapter, whilst a more in-depth discussion follows in chapter 3.

A non-experimental, quantitative, descriptive research design was applied to investigate the factors influencing learning at a nursing college in the Western Cape. A questionnaire was used, which was developed and managed by the researcher. The questionnaire was based on the objectives of this study. Section A of the questionnaire aimed at collecting demographic information from the participants. Section B required of students to comment on their academic experiences. A preliminary pilot study was conducted in order to test the suitability of the instrument and the feasibility of the study. Experts in the fields of nursing, education, statistics and research methodology assisted in ensuring the reliability and validity of the study.

The data in this study was analysed with the support of a statistician, using computerised data analysis software, namely the STATISTICA Version 9 programme.

The data was predominantly presented in a quantitative form, as well as by way of the narrative responses to a few open questions.

1.9 ETHICAL CONSIDERATIONS

Ethics is defined as the study of moral standards and how they affect conduct. Research designs should always reflect careful attention to the ethical issues embodied in research projects (Terre Blanche & Durrheim, 2004:65). Ethical considerations were implemented throughout this study. According to Burns and Grove (2007:156), ethical issues must be considered in presenting research sources, e.g. contents from studies must be presented honestly, without distortion, to support evidence. Ethical concerns should thus be an integral part of the planning and implementation of research (Terre Blanche & Durrheim, 2004:65). Three broad principles have been identified through which to address ethical issues in research, which provide a basis for ethical guidelines. They are autonomy, non-maleficence and beneficence.

1.9.1 Autonomy

The principle of autonomy means that people should be free to decide whatever they want to, as long as their actions do not infringe on the autonomous actions of others (Mulaudzi *et al.*, 2001:26). Students participated voluntarily during this study and the researcher undertook to ensure that there would be no coercion from fellow students, whilst completing the questionnaires. According to Watson *et al.* (2008:131), autonomy also implies that the recruitment process is open to as many volunteers as possible and is it the responsibility of the researcher to ensure that recruitment, information and consent procedures are such that participation in the proposed study is equally available to all members of the identified population.

1.9.2 Non-maleficence

Non-maleficence is the duty not to inflict harm (Mulaudzi *et al.*, 2001:27). The ethical principle of non-maleficence also applies to data that has been collected with specific regards as to how data is stored and who would have access to it, so that no harm could accrue to individuals from whom that data originated (Watson *et al.*, 2008:131).

1.9.3 Beneficence

Beneficence is the duty to do well or promote good (Mulaudzi *et al.*, 2001:27). According to Watson *et al.* (2008:306), the principle of beneficence should be balanced against that of non-maleficence.

1.10 PERMISSION TO CONDUCT THIS STUDY

Before the commencement of this study, written permission was obtained from the Ethical Research Committee of the Faculty of Health Sciences of the University of Stellenbosch (Addendum B) and the Head of the nursing college being studied (Addendum C).

1.11 INFORMED PARTICIPANT CONSENT (ADDENDUM D)

Adhering to the principles of ethics was significantly relevant to this study, since the ultimate aim was to help the student and to not further harm his/her integrity. Informed consent is a statement, usually written, that explains aspects of a study to participants and asks for their voluntary agreement to participate, before the study begins (Neuman, 2000:135). In this study, informed consent was obtained by attaching a written statement to the questionnaire, in the form of a cover letter, for approval by the participant before completing the questionnaire.

Furthermore, the questions in a questionnaire should be presented in a consistent manner in order to minimise bias (Burns & Grove, 2009:406). A questionnaire was therefore carefully designed in order to conduct this study in a manner that would exclude bias and intimidation. Before conducting this study, students were informed by the researcher about the aim of the study and the reasons for conducting the study. Participants were given an opportunity to read the written statement and were informed that they could keep the covering letter.

Students were assured that confidentiality would be maintained at all times, as no names were required, and that no victimisation of students would occur. The researcher was unfamiliar with any of the college students. As questionnaires can potentially guarantee anonymity, this may encourage some respondents to reveal honest details of beliefs and behaviour (Watson *et al.*, 2008:306). Students were requested to answer as honestly as possible and to answer all the questions on the questionnaire. Participants were also informed that they could withdraw from the study at any time, without any fear of penalty.

1.12 OPERATIONAL DEFINITIONS

1.12.1 Nursing education

The science aspect of teaching, based on a body of knowledge derived from the theories and research from natural and social science disciplines, such as microbiology, anatomy, physiology, anthropology, psychology, sociology, and speech communication (Vandever, 2009:190 in Billings & Halstead, 2005:25).

1.12.2 Academic environment

A learning environment should be humanistic, authentic, supportive and caring and one that is characterised by respect for learners' uniquenesses and abilities. Furthermore, for learning to occur, it must be stimulating and disciplined in the pursuit of new knowledge (Meyer & Van Niekerk, 2008:107).

1.12.3 Nursing students

Student refers to a person studying at a university or other place of higher education, denoting someone who is studying to enter a particular profession, e.g. a student professional nurse (Oxford Dictionary, 2001:1285). The learner in nursing education is socially mature, but is still developing within the context of nursing, be it basic education, or specialisation in one of the nursing disciplines (Meyer & van Niekerk, 2008:25).

1.12.4 Attrition

Attrition refers in this context to a loss of individuals from nursing programmes (Deary, Watson & Hogston, 2003:72), or departure from a nursing programme without successful completion thereof (Newton & Moore, 2009:274). Glossop (2002:377) defines attrition as the difference between the numbers of students beginning each cohort and the numbers who complete that cohort.

1.12.5 Motivation

Motivation is an emotional state that arouses, directs, and sustains human behaviour (Glynn, Aultman & Owens, 2005:150).

1.12.6 Approaches to learning

Diseth (2007:187) defines students' approaches to learning as the intentions and motives a student has when approaching a learning task, as well as the corresponding strategies by which these intentions and motives are accomplished.

1.12.7 Matric exemption

"Advanced level subject" means a subject passed at advanced level (HG), as prescribed for the examinations of the examining bodies. National Senior Certificate is the official qualification obtained at the end of the secondary schooling. Students who fulfil certain requirements in their senior certificate results receive a matriculation endorsement on their certificates, referred to as a certificate of complete exemption (matric exemption). This certificate is issued by the Committee of Principals in terms of the provisions of section 7(1) (e) and (3) of the Universities Act and Section 74 of the Higher Education Act. This is the legal minimum requirement for admission to a bachelor's degree at any South African university, without any conditions or limitations.

A certificate of conditional exemption means a certificate issued by the Committee of Principals in term of the provisions of section 7(1) (e) and (3) of the Universities Act and Section 74 of the Higher Education Act. This certificate allows a candidate to a bachelor's degree study at a South African university, subject to specified conditions and for a specified period.

1.12.8 Curriculum

A curriculum provides the means of delivering a course of study, designed to support the achievement of intended outcomes, which is implemented for both the faculty and students, through teaching strategies and learning activities (Ellis, 2004:7).

1.12.9 Learner centered teaching

Learning activities that are learner centred facilitate acquisition of desired knowledge and abilities, as specified by curriculum outcomes (Candela, Dalley & Benzel-Lindley, 2006:60).

1.13 STUDY LAYOUT

Chapter 1: In this chapter the scientific foundation of the study was introduced with a brief description of the rationale, problem statement, research question, goals and objectives and research methodology.

Chapter 2: A literature review of various factors that may influence academic performance, nationally and internationally, is described.

Chapter 3: In this chapter the research methodology being applied during this research study is discussed in detail.

Chapter 4: Data analysis and interpretation. In this chapter the data analysis, interpretation and discussion about the findings are presented.

Chapter 5: In this chapter the conclusion and recommendations, based on the scientific evidence obtained from this study, are presented.

1.14 CONCLUSION

In this chapter, the researcher described the rationale for this study, as well as the research goals and objectives. A brief introduction of the research methodology being applied during this research study was presented.

The following chapter gives a detailed discussion of the literature review, which assisted in placing this study into context.

CHAPTER 2.

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, the literature study being performed to obtain scientific information about academic factors influencing students in different educational spheres, nationally and internationally, is discussed. According to Burns and Grove (2009:91), the purpose of a literature review is to convey what is currently known regarding a specific topic and to obtain a broad background and understanding of what is already known about a particular problem and the knowledge gaps that exist in the situation. Areas that need to be researched could be gaps that have been identified from previous research, or research has been conducted, but the need arises for it to be conducted in another country or institution.

According to Terre Blanch, Durrheim and Painter (2007:19), a literature review puts a research project into context by showing how it fits into a particular field.

Educational administrators, faculties and students, involved in nursing education, are responsible for advancing the development, dissemination and use of nursing knowledge (Newman, 2008:199). The purpose of nursing education is to prepare professional professional nurses, as well as to meet the health care needs of the public. Therefore, professional nurse educators need to be skilled in the classroom and the clinical setting (Rossetti & Fox, 2007:11).

Quality enhancement is about the continuing improvement of teaching in the institution, which goes beyond the teaching of individual teachers, but includes departmental and institutional responsibility. This would thus include the support of all members of a delivery team (Biggs, 2003:270).

Higher education administrations continue to face growing concerns about lower academic achievement and higher attrition rates amongst associated degree and degree nursing students (Hopkins, 2008:254). Students entering nursing courses are drawn from a range of traditional and non-traditional backgrounds, including experience and academic backgrounds. The backgrounds of these students pose opportunities and challenges in terms of how to deliver effective teaching and learning that would

provide students with a sound foundation to achieve both professionally and academically (Franks & McAlonan, 2007:259). It is believed that higher education has become part of a global shift to a new way of creating and using knowledge, focusing on solving problems, being sensitive to student needs and striving for quantity as well as quality (Ramsden, 2003:3). Academic performance in traditional college students is predicted by academic self efficacy (Spitzer, 2000:84).

According to Ofori and Charlton (2002:508), empirical evidence suggests that such an educational context affects the quality of student learning and subsequent performance. In the United Kingdom (UK), reforms in professional nurse education and its integration into the higher education sector provided an impetus to reflect on quality issues. With such integration there was an increasing national focus to improve quality and to increase professional accountability (Ansari, 2002:172). According to Wingate and Dreiss (2009:15), students in the UK have diverse entry qualifications, abilities, and learning experiences and therefore encounter more difficulties with the demands of academic study, than their predecessors from the selective admission system.

The literature review focused on the following topics, which are discussed next:

- Nursing as a career choice;
- Selection criteria;
- Approaches to learning;
- Motivation and learning;
- Language barrier to learning; and
- Factors affecting the learning environment.

2.2 NURSING AS A CAREER CHOICE

According to Larsen (2003:168), it is important to understand why students choose nursing as a career so that more appropriate recruitment strategies can be developed, instead of a generic approach, which is typical of current recruitment strategies. Perceptions of nursing have been linked to students, i.e. their decisions to enter the nursing profession and to continue with, or withdraw from nursing programmes (Grainger & Bolan, 2006:38). Entwistle (2009:1) states that the starting point to understanding student performance has to be the reasons for which a student is taking a particular course. Of particular relevance is that the driving force for today's college students has shifted from learning more to earning more (Hatfield 2007:2).

Coonan (2008:4) reports that the Philippines are experiencing a professional nurse training bonanza, as people seek ways to escape poverty and work abroad. He further states that going abroad is what everyone thinks about, since becoming a caregiver is a skill in demand abroad. Choosing nursing as a career and becoming a professional nurse may for some thus be a means of escaping poverty and seeking lucrative salaries.

Rognstad and Polit (2002:321) report that in 2000, a shortage of 3,750 professional nurses in Norway prompted them to carry out a study to gain insights into the characteristics of students who chose nursing and into the motives they expressed for their choice of occupation. That study also gave insights as to whether those students would remain in the profession upon completion of their courses, or whether they would remain in the country, or seek more lucrative prospects.

According to Entwistle (2009:1), students enter higher education, because they are concerned about obtaining qualifications that would ensure safe jobs, referred to by him as *vocational orientation*. A nursing qualification definitely affords one a secure job, even during unstable economic situations and provides one with enticing short and long term benefits. In a study carried out by Baykal *et al.* (2005:255), many student professional nurses declared that nursing education had not been their first choice, but a last resort, due to not obtaining scores high enough in the university entrance exam to enable them to study a different course.

The variety of reasons that exist as to why students enter particular courses will inevitably affect both the degree of effort that they will put into their studies and also the kind of effort that they will demonstrate (Entwistle, 2009:2). Parallel to this is the availability of bursaries in nursing courses. The National Assembly of Wales believes that supporting people appropriately whilst in a learning programme in further and higher education, is significant to the development of individuals and to strengthening the social and economic structures of Wales (Cordell-Smith 2008:35).

The Western Cape in South Africa has followed a similar trend, by introducing a bursary system in 2003, enabling students to study debt free. These bursaries cover all costs, including tuition fees and accommodation in the students' residence, which makes learning affordable and accessible (Department of Health, 2010:2).

2.3 SELECTION CRITERIA

According to Ofori (2000:299), nursing continues to rely on the mature, motivated, but less academically qualified students to make up its recruitment numbers. A recent surge in the interest in nursing in the United States has placed the profession in the privileged position of increasing its level of selectivity when screening candidates, applying to schools of nursing (Zysberg & Berry, 2005:193). Contrary, Franks and McAlonan (2007:259) report that globally, a shortage of professional nurses and the growth in the health care market have led to the need to recruit increasing numbers of students into the profession. However, the ideal is that admission criteria should identify those who are most likely to successfully complete the nursing curriculum (Gallagher, Bomba & Crane, 2001:132).

College recruitment staff has thus been charged with the increasingly challenging responsibility of identifying students, who may be successful (Hopkins, 2008:254). Newton, Smith and Moore (2007:440) agree that it will be necessary to explore ways of improving admission processes to better identify students who will succeed, and thus increase the percentage of students who graduate, in order to increase the number of registered professional nurses.

2.3.1 Predictors of college performance

The relationship between entry qualifications of candidates and their academic performances on courses of study has a mixed reception in educational establishments (Ofori, 2000:299). In the United States, traditionally, the quantitative measures of Grade Point Average (GPA), American College Test (ACT) and Scholastic Aptitude Test (SAT) are most often identified as predictor variables of success (Gallagher, Bomba & Crane, 2001:132).

The Entrance Examination for Schools for Nursing (RNEE) is an academic achievement measure being used by schools of nursing in assisting them with the evaluation of applicants for admission in America (Gallagher, Bomba & Crane, 2001:132). The contents of the RNEE assess areas relevant to the study of nursing and contain aspects, namely verbal ability, numerical ability, life science, physical science and reading comprehension. Contrary, Young and Fisler (2000:413) believe that the SAT is not an adequate tool as a predictor of college success among women. This view is supported by Schwartz and Washington (2002:364), and Ungerleider and

Maslow (2001:313), who suggest that non-academic variables are better predictors of success than SAT scores, especially when combined with high school GPA.

Studies carried out indicate a strong correlation between high school grade point average and cumulative college grade point average (Hopkins, 2008:254). Further studies have suggested that higher school quality and self efficacy are valid predictors of college success (Spitzer, 2000:92; Tam & Sukhatme, 2003:7). Karemera, Reuben and Sillah (2003:3) reiterate this by stating that high school performance is a significant predictor of college outcomes and performance. Therefore, in their study, carried out to determine the effects of the academic environment on student satisfaction, students were asked to state their high school grade point averages (GPAs). Their study concluded that college performance and high school achievements were interdependent factors.

Coonan (2008:5) states that a nursing college in Iloilo that is very selective in terms of grades and motivation when selecting nursing students is the top school for passing the board examination. According to Atkinson (2001:31), the whole student should be considered when admission decisions are being made, which holds true when predicting success. According to Lerner and Brand (2007:27), high schools are making commendable efforts to address the problems of poor academic and socio-emotional preparation of students for higher education. One approach being used in the US to improve preparation for higher education is to encourage high school students to take college classes for credit. They hence emphasise the importance of continuity of education from the student's schooling career into further and higher education.

2.3.2 Political issues

Political factors often influence selection committees to deviate from specific selection criteria required for a programme. The University of California's admission standards have for example, become intertwined with higher education regarding issues about whether members of underrepresented racial and ethnic minorities should receive special preferences for admission (Heriot, 2001:29). Subsequently, the University of California was filed with a lawsuit, arguing that standardised tests, like the SAT, discriminated against blacks and Hispanics.

In South Africa, the Employment Equity Act No. 55 of 1998, states that affirmative action measures must be implemented to redress the disadvantages experienced by

designated groups to ensure their equal representation in all occupational categories. This Act therefore prescribes the number of students that can be selected with regards to gender and race. Cape Peninsula University of Technology (CPUT) has also committed itself to redress past imbalances in enrolment in terms of race, by setting enrolment targets, based on an analysis of the overall Western Cape demographics (Favish, 2005:275). Furthermore, there is also an expectation from the South African Government to increase the number of students being trained in accordance with the Health Care 2010 plan (Department of Health,2010:). The Department of Health has also addressed equity in the Western Province by increasing the number of male professional nurses to be trained to 45%, in a currently, predominantly female profession (Department of Health, 2010)

At a professional nurses' conference held in Gauteng, the MEC for Health, Mr. Brian Hlongwa (2006), addressed the nursing crisis in South Africa. He stated that the quality of recruits had to be addressed to ensure that people, who eventually qualify as professional nurses, would deliver quality health care. He further stated that the quantity of professional nurse training should increase without inculcating the values that have been the foundation of nursing in the course of training. He emphasised that the quality of professional nurses produced should relate to the health needs and disease profile of the province.

2.4 APPROACHES TO LEARNING

Approaches to learning refer to individual differences in intentions and motives when facing a learning situation, and the utilisation of corresponding strategies (Diseth & Martinsen, 2003:195). Such approaches may also be considered to reflect different levels of processing. According to Herington and Weaven (2008:116), approaches to learning are related to the degree of satisfaction students experience in their learning. Ramsden (2003:45) states that an approach describes a relationship between the student and the learning style being adopted by the student and has elements of the situation, as perceived by the student, in it. If students perceive their workloads to be heavy, there is a tendency for them to employ a surface learning approach (Kember & Leung, 2006:185).

A student's choice of approach is to some extent determined by his/her past experiences (Case & Marshall, 2004:606). The approach being adopted by students is strongly influenced by teaching factors, such as the type of assessment used, the

workload of the subject, feedback received and the enthusiasm of the lecturer (Biggs, 2003:11).

Entwistle (2008:9) describes three components of approaches to studying, i.e. deep approach, surface approach, and strategic approach. He notes that students' entry characteristics, such as previous knowledge, self confidence abilities, orientation and attitudes, will determine the learning approaches to studies. An individual may adopt different approaches to learning in contrasting learning environments (Kember, Leung & McNaught, 2009:48).

Different learning styles are not regarded as 'good' or 'bad', but merely different, while learning approaches are distinguished as 'deep' and 'surface', and have connotations of quality associated with it (Rollnick et al., 2008:30). According to Gijbels, Segers and Struyf (2008:432), as students interpret the demands of the assessment tasks; they consciously or subconsciously vary their approaches to learning, in order to cope with the assessment tasks. The precise descriptions of surface and deep approaches differ from task to task, and so from subject area to subject area, just as learning outcomes vary in different subjects (Ramsden, 2003:80).

2.4.1 Surface approach

A surface approach is a passive stance that implies reproduction of the structures already present in the learning material and environment (Diseth & Martinsen, 2003:197). Students may have a predisposition to surface learning, based on previous educational experiences in secondary education (Oblinger, 2003:44). Students who learn from memory, however, are often unable to construct a holistic understanding of what they are learning (Rollnick *et al.*, 2008:30). Students who think that the workload is high, would more likely adopt a surface approach to learning (Biggs, 2003:15)

According to Ramsden (2003:53), surface learning is often dissatisfying and generally leads to poorer learning outcomes. Ramsden (2003:80) further states that a surface approach leads to the ability to retain unrelated details, often for a short period and since these are artificial, so are the outcomes. Thus, the low cognitive level of engagement deriving from the surface approach, yields fragmented outcomes that do not convey the meaning of the encounter (Biggs, 2003:13).

A surface approach predominates when the teaching and learning situation is disliked (Kember, Leung & McNaught, 2009:48). The presence of a surface approach may thus

signal that something is out of order in teaching, or in the assessment methods, and should be addressed (Biggs, 2003:15).

2.4.2 Deep approach

Contrary to the surface approach, students should adopt more deep approaches to learning in order to develop the skills to acquire and apply their knowledge efficiently, think critically, analyse, synthesise and make inferences (Gijbels, Segers & Struyf, 2008:432).

A deep approach is consistently linked with academic interest in the subject and with self confidence (Entwistle, 2009:3), as deep learning produces long term learning results (Riley & Anderson, 2006:134). In support Ramsden (2003:80) states that a deep approach generates high quality, well structured, complex outcomes and produces a sense of enjoyment in learning and commitment to the subject. According to Diseth and Martinsen (2003:197), a deep approach is characterised by relating evidence to a conclusion. Students, who engage in cooperative learning, perform better on questions involving a higher thinking level, than those in traditional classrooms (Riley & Anderson, 2006:131).

A deep approach is predominant when students are engaged in challenging tasks in topics of interest (Kember, Leung & McNaught, 2009:48). In a study conducted by Entwistle, McCune and Hounsell (2002:16), deep and highly self regulated learners indicated that they did not need detailed manuals, unlike surface / undirected learners. Early prediction of student success, or lack of success, is imperative in creating effective interventions (Glynn, Sauer & Miller, 2003:60).

2.4.3 Strategic approach

A strategic approach refers to the intention to achieve the best grades possible, by adapting to the assessment. This is obtained by managing time and intellectual resources in line with the perceived criteria for high grades (Diseth & Martinsen, 2003:196). Congruently, Woods, Hrymak and Wright (2000:2) state that in strategic orientation, the students are well organised, determined, confident and skilled at sensing what is going to be examined and studying for that. These students tend to be competitive.

A student enters a programme with the intention to do well and/or achieve personal goals. This will depend on conceptual organising of studying, effort, concentration and

monitoring studying (Entwistle, 2008:9). Rollnick *et al.* (2008:30) refer to the strategic learning approach as the student's ability to focus on organised study, time management and monitoring his/her achievement. Such students may also appear to use attributes of surface learning approaches to achieve a short term objective. However, knowing when to be 'strategic, is often a necessary skill of students, using deep approaches to learning. Results from a study by Diseth (2007:201) showed that even though a deep approach was positively related to examination performance, it may be more important to discourage a surface approach and to encourage a strategic approach, especially among undergraduate students.

2.4.4 Factors affecting approaches to learning

According to Biggs (2003:13), Herington and Weaven (2008:129), and Heikkila and Lonka (2006:100), the following factors impact on students' approaches to learning:

2.4.4.1 Students' concepts of learning

Various factors influence the way students learn and the speed at which they learn, such as differences in intelligence, learning styles and perceptions. Learning is both a constructive and a re-constructive process. The latter means that existing knowledge is re-organised in relation to newly learned information. Effective re-construction enhances the quality of learning outputs (Meyer & Van Niekerk, 2008:96).

2.4.4.2 Level of students' intellectual development

The level of each student's intellectual development will depend on the student's approach to study, the study methods being used and the achievement of course objectives. The use of the taxonomies of learning outcomes by lecturers will also build on the levels of knowledge development of the student.

2.4.4.3 Students' awareness of task demands

The student's understanding of what each task or project entails and the assessment criteria in order to be found competent.

2.4.4.4 Style of teaching

The approaches used by lecturers to enhance the learner's problem solving and analytical skills.

2.4.4.5 Newness and size of subject

Involves the student's active involvement in discovering the significance of contents, or situations in problem solving skills.

2.4.4.6 Workload/content

The load of the curriculum content will affect how the student will cope with the study matter which inevitably affects the approach to studying.

2.4.4.7 Degree of threat and anxiety felt by students

This will determine the approach that the student adopts to learning. A feeling of personal and academic safety, or confidence, is highly important and includes acceptance as a prerequisite for emotional maturity (Meyer & Van Niekerk, 2008:92).

2.4.4.8 Nature of assessment

The value of education and learning is determined through results. The assessment of learning indicates the necessity of assessing any change, development, or restructuring of learners' cognitive abilities, attitudes and knowledge. The results show themselves in the professional conduct of learners. The quality of this conduct depends, to a large extent, on the quality of education and learning (Meyer & Van Niekerk, 2008:149).

A study carried out by Ofori and Charlton (2002:512) concluded that support seeking had the highest direct effect on academic performance. The study also revealed that younger students were less willing to seek academic support, which put them at risk, both with regards to their performances and ultimately their withdrawal (Ofori & Charlton, 2002:513). However, students can also obtain support from cooperative learning. Riley and Anderson (2006:130) define cooperative learning as a pedagogical approach that involves learners in their own learning, by helping others learn and learning from others. In order for such learning to be successful, the professional nurse educator is required to monitor the structure of the learning groups, the interaction process and the accountability (Riley & Anderson, 2006:130). Welsh (2007:76) substantiates that the philosophy of peer and self assessment aligns with 'active' student involvement, cultivating a deeper cognitive approach to learning and consequently professional skills development.

Changing students' approaches to the subject matter they learn is the key to improving their learning (Ramsden, 2003:11).

2.5 MOTIVATION AND LEARNING

Glynn, Aultman and Owens (2005:150) define motivation as an internal state that arouses, directs and sustains human behaviour. Artelt (2005:233) defines motivation to learn as a current or recurrent desire to acquire knowledge. According to Entwistle (2008:1), academic achievement depends on the effort the student puts in and the general level of motivation that a student has.

Motivation is considered a highly significant psychological concept in education (Leufer, 2007:323). When students are asked to carry out academic tasks, such as preparing an assignment, the way in which they tackle those tasks will depend on the reason why they are taking the course and on what they believe the learning requires of them (Entwistle, 2008:1).

Meyer and Turner (2002:108) view “motivation to learn”, as evidenced by students’ perceptions and pursuits of learning, as goals that could be captured through efforts to seek and engage challenging academic tasks. The expectations that students have of college life may play a critical role in understanding academic performances, the pursuit of academic work, research and the formation of professional identity (Zysberg & Zisberg, 2008:389). Explicit and implicit expectations of students towards the institution may fuel motivation, achievement and commitment.

College students often experience difficulties in motivating themselves, due to the big adaptation from rigid school structures to more flexible structured environments in colleges (Glynn, Aultman & Owens, 2005:150).

According to Meyer and Turner (2006:377), engaging students in learning requires consistent, positive, emotional teacher-student relationships and interactions necessary for motivation to learn. Effort and persistence are motivational in nature and are therefore susceptible to change in the learning environment (Ofori & Charlton, 2002:513). Emotions emerge through interactions with the environment and they signal how well expectations are being met in the current situation (Meyer & Turner, 2006:387).

Koh (2008:225) suggests that formative assessment with feedback can influence students’ motivation and achievement and can either unlock the power and potential for learning, or it can demoralise learning. However, behaviourist theorists believe that behaviour does not come from any innate instincts or drives, but that it is learned (Ahl,

2006:390). This can occur if students, who are learning something new, are exposed to suitable stimuli. Biggs (2003:13) states that motivation is a product of good teaching and not its prerequisite. Glynn, Aultman and Owens (2005:150) further differentiate between intrinsic and extrinsic motivation.

2.5.1 Intrinsic motivation

Internal motivation is a desire from within to obtain knowledge. Therefore, Artelt (2005:233) states that intrinsic learning incentives possibly reside within the learner. This can be attributed to striving towards self actualisation. According to Herington and Weaver (2008:124), their study showed that engaging in group projects suggested that intrinsic factors may have encouraged students to engage in activities at different times, indicating the possibility that personal factors and social styles affected adopted learning approaches.

Students regard altruism and self realisation as important internal motivational factors for occupational choice (Rognstad & Polit, 2002:322). Furthermore, adult students are more intrinsically motivated, self directed, willing to seek assistance from classmates, and are contributing members of the learning process (Spitzer, 2000:84).

According to Diseth (2007:202), it is easier for lecturers to simply avoid an overload of the curriculum, than to impose an intrinsic motivation among students by means of external incentives. Bain (2004:35) suggests that in order to avoid extrinsic motivators and to foster intrinsic ones, students' minds must be shifted towards learning goals and a mastery orientation. This would include giving students control over their education as much as possible, displaying both a strong interest in their learning and a faith in their abilities, offering a non-judgmental feedback on students' work, providing stress opportunities to improve, and constantly looking for ways to stimulate advancement.

2.5.2 Extrinsic motivation

Extrinsic motivation, on the other hand, is reinforced by external factors, such as the need to acquire a qualification or a secure job (Artelt, 2005:233). Rognstad and Polit (2002:322) support this by stating that the opportunity to earn a living and advance in a career, by observing and following the nursing role, is external motivational factors. Spitzer (2000:84) states that extrinsic motivation is especially seen in younger students who are more dependent and relying more on the instructor to indicate what should be learned and how.

Teachers are simultaneously interacting with multiple students, experiencing a variety of emotions and therefore teachers' emotions are integral to their motivation and cognition and ultimately their teaching effectiveness (Meyer & Turner, 2006:388).

2.6 LANGUAGE BARRIER

Language use is one of the most important dimensions of acculturation. According to Salamonson *et al.* (2008:87), acculturation refers to those phenomena which result when groups of individuals, having different cultures, come into continuous, first hand contact with subsequent changes in the original cultural patterns, of either, or both groups. This is particularly evident when exploring the relationship between acculturation and the academic performance of students in higher education.

South Africa is currently experiencing a linguistic dilemma, which is at the heart of higher education (Foley, 2004:57). The Ministry of Education (2002:4) indicated that language had been and continued to be a barrier to access to and success in higher education, due to no development of certain languages as academic / scientific languages (Ministry of Education, 2002:5). The US faces a similar dilemma, as ethnic diversity in the US population is growing at a rapid pace, due to globalisation (Wong *et al.*, 2008:190).

Diverse native languages are thus becoming more common in nursing in the US, as the diversity of the student population increases. In response to this, the Federal Government in the US is encouraging schools of nursing to increase the diversity of the students and faculty bodies, in order to enhance the profession and its ability to care for the country's patients (Starr, 2009:478). Australia, like many Western countries, is a culturally diverse society (Omeri & Atkins, 2002:495). According the Australian Bureau of Statistics (2004), in 2001, 43% of the Australian population was either born overseas, and/or had at least one parent being born overseas. In addition, over 200 different languages are spoken in Australia, with 2.5 million Australians speaking a language other than English at home. This cultural and linguistic diversity is mirrored in the student profile in Australian universities (Salamonson *et al.*, 2008:86).

In countries having culturally and linguistically diverse populations, proactive strategies could promote equity and access to higher education, and help achieve meaningful representation in all professional groups (Salamonson *et al.*, 2008:93). Foley (2004:57) explains that the dilemma exists in South Africa, because English, and to a lesser

extent, Afrikaans, are the only languages capable of functioning fully as languages of teaching and learning at higher education institutions. Yet, he further explains that perhaps most, potential, higher education students are insufficiently fluent in English or in Afrikaans to study effectively through these languages (Foley 2004:57).

One aim of an effective nursing curriculum is thus to transform nursing students with English as a second language into professional professional nurses, who have academic English language fluency, coupled with the specific communication skills of a health care professional (Choi, 2005:267). The role of language and access to language skills play a critical role in ensuring the rights of individuals and giving them the opportunity to realise their intellectual potential (Ministry of Education 2004:4). Thus, if students are not proficient in English, they would not perform successfully academically. The Ministry of Education (2004:9) has acknowledged that there has been a problem regarding proficiency in English in South Africa.

Professional nurses entering a professional development programme in a Middle-Eastern hospital have to score a minimum of 120 out of 180 in the Oxford English test to enter the programme, since English is their medium of instruction and documentation (Simpson & Courtney, 2008:57). Similarly, the Australian University's School of Nursing requires that students demonstrate English proficiency, prior to admission, to meet the university's standards (Chiang & Crickmore, 2009:330). However, according to Shakya and Horsfall (2000:166), and Chiang and Crickmore (2009:330), these students had demonstrated the minimum English proficiency required, whilst advanced English and communication skills, related to clinical practice, were urgently needed.

According to Foley (2004:64), the real solution lies with the South African schooling system. He states that the real focus and attention should be concentrated on schools that should produce students who have the ability and skills to access and succeed in higher education. Thus, it is schools that should provide the requisite language proficiency. Foley (2004:64) also states that the Ministry and Department of Education should invest in massive amounts of energy and expertise to improving proficiency in English at all levels of the schooling system. In this way learners will be able to succeed in English by the time they matriculate. One of the fundamental requirements of higher education is the need for students to develop high levels of academic writing (Elander *et al.*, 2006:72). Gimenez (2008:152) emphasises that although academic

writing can be a challenge for all nursing students, it is particularly problematic for those who speak English as a second language.

2.6.1 The syntax of language

The syntax of the English language presents a challenge for many students, which can be a source of increased anxiety for many students during tests and examinations (Lujan, 2008:327). Some students have simply reached an age where their ability to improve their language skills is minimal (Foley, 2004:64). According to Bosher and Bowles (2008:166), in the US, non-native English speakers (NNS) must not only process the language of tests, but also negotiate the cultural expectations embedded in assessments, making every test also a test for language proficiency for students in the US, both in nursing classes and on the licensure exam (NCLEX-RN). Starr (2009:484) states that there are many students who have been academically successful in their native countries, but language and cultural transitions have caused less than acceptable grades, stress, and emotional turmoil, leading to low self image and shame. These then result in an inability to engage cognitively with course contents and examinations.

2.6.2 English as a second language (ESL)

English as a second language is defined as a student whose primary language at home is not standard English, and therefore, may not be fluent in standard English (Guhde, 2003:113). According to Salamonson *et al.* (2008:86), academic achievement of students who speak English as a second language (ESL) in English speaking universities, have been found to have lower academic achievements and more learning difficulties. As per Guhde (2003:114), in nursing education, ESL students have been found to have lower academic achievement, and more learning difficulties, compared to their native, English speaking counterparts.

Language can thus affect a student's ability to acquire the needed resources to continue his/her education, whilst a lack of language skills may lead employers, students, or faculties to believe that students with English as a second language are less intelligent (Starr, 2009:484). The use of different learning strategies in the classroom forms an important teaching tool for English as second language students, where learning strategies can, for example, be culture specific (Choi, 2005:266).

2.7 FACTORS AFFECTING THE LEARNING ENVIRONMENT

The learning environment has been recognised as either encouraging, or impeding a positive learning experience for professional nurses (Frankel, 2009:26). According to Entwistle (2004:1), the influences of teaching-learning environments on the quality of the learning outcomes start from extensive observation of current structures and practices. This would then lead to conceptualisation of the influences on outputs, collaborative thinking about realistic possible changes, discussions with the main groups in the organisation who are likely to be involved in any changes, implementation of agreed changes, and evaluation of their effects.

Nursing students need the appropriate knowledge and skills to enable them to deliver safe and competent care to their patients (Leufer, 2007:322). Nursing faculties are challenged to provide learning experiences for students that are as authentic as possible, in order to represent the complex and dynamic nature of contemporary patient care settings (DeBourgh, 2008:77). The learning environment in which students receive these knowledge and skills would contribute to their learning experiences and to how much they retain.

Testing and grading are not incidental acts that come at the end of teaching, but powerful aspects of education that have an enormous influence on the entire enterprise of helping and encouraging students to learn (Bain, 2004:150). According to Biggs (2003:31), surface and deep approaches to learning are considered to be reactions to the teaching environment. This is supported by the University of Technology in Sydney (UTS) (2008:1) that states that students' perceptions of the environment that is established for their learning will influence whether they will adopt a deep or surface approach.

According to DeBourgh (2008:77), many variables impact on interaction and participation in classrooms, including the course instructional design, the instructor's presentation skills, standards and expectations for student participation in discussions, individual learning styles, communication and student feedback mechanisms, and students' preparedness for class.

2.7.1 Infrastructure

Baykal *et al.* (2004:256) state that to improve the quality of education, educational institutions should have modern buildings and equipment, sufficient both in quality and

quantity. The University of California (UC) has committed to not only training professional nurses to work in hospitals, but in also ensuring that nursing classrooms are staffed by the best instructors (University of California, 2009:1). Hlongwa (2006:3) has admitted that in Gauteng there has recently been a struggle to attract professional nurse lecturers, with poor infrastructure being one of the reasons.

2.7.1.1 Large classrooms

According to Leufer (2007:322), in order to optimise the teaching and learning experience, it is essential to consider how nursing students experience learning in a large class environment. She observed that participation levels were lower in large class settings. Large cohorts of students often make it difficult for conveners to create an environment in which students feel that their own personal needs are being met (Stork, 2003:335).

Fewer students in a class create more opportunities for interaction and in-depth feedback, by using innovative questioning, coaching and collaboration (DeBourgh, 2008:77). Factors that inhibit student participation in such settings include low levels of student-instructor interaction, lectures that are not motivating and difficulty in paying attention (Leufer, 2007:324).

According to Wong *et al.* (2008:194), diversity experiences, which include peer interaction, are related to learning outcomes, such as the use of active thinking, intellectual engagement and motivation, academic skills, regardless of students' academic, socio-economic, or racial / ethnic background. Contrary, rather than reflecting and adapting to reconcile differences, teaching activities may proceed as initially planned, independent of evidence of student learning (Song, Hannafin & Hill, 2007:34). This is more likely to occur in large classroom settings, where it is difficult to monitor and control students' perceptions of the lesson.

Results yielded from a study carried out on factors affecting the learning environment, indicated that noise was the most notable, as 70% of students had problems hearing what had been said in class, whilst 41% had difficulty in concentrating in class (Leufer, 2007:324). Young (2000:416) concluded in his study that the tutor must have an understanding of each student's needs, before providing feedback. In response, Weaver (2006:382) notes that although this is commendable, it may sadly prove to be unrealistic in the move towards modularity and increasing class sizes.

As a possible solution, incorporating personal response system (PRS) technology into teaching, may be one pedagogical approach that can be used to stimulate active learning in large classrooms and possibly even in small classrooms (Revell & McCurry, 2010:272).

Additionally, colleges and universities must cope with the growing demand to provide infrastructural support for learners' personal technologies, such as wireless laptops, PDAs, and IPod's (Skiba & Barton, 2006:4).

2.7.2 Academic climate

The quality of the relationship between teacher and students, or within an institution, is referred to as its climate (Biggs, 2003:72). The consistency or ambivalence in emotional support over time is an important contributor towards the classroom climate (Meyer & Turner, 2006:379). In their study, Meyer and Turner (2002:111) found that a cognitively, supportive, instructional context was positively associated with students' reports of lower avoidance behaviour, compared to other classrooms where similar cognitive support was given. A defining feature of the latter classroom, was the low incidence of any form of teacher effective support, where effective teacher responses were absent in both their commonly positive (encouragement, interpersonal interaction, jokes, laughter) and negative (scolding, sarcasm, humiliation) forms.

Biggs (2003:72) describes two academic climates that may affect the approach to learning that students adopt, i.e. a theory X climate that is based on the assumption that students cannot be trusted, whilst a theory Y climate assumes that they can. 21st century learners demand new educational approaches, which require nursing education to evolve with ever changing forms of communication and technology (Brown & Marshall, 2008:283). The challenge is for professional nurse educators to move from traditional to non-traditional pedagogies. This should result in a learning climate that is more co-operative and egalitarian (Brown & Marshall, 2008:283). According to Koh (2008:224), an assumption is that teachers tend to think that they are teaching critical thinking and reasoning, whilst the students' assessments do not necessarily represent such higher-order thinking goals. Vacek (2009:45) states that there can be challenges in the implementation of critical thinking skills in the nursing curriculum, where professional nurse educators themselves may not be knowledgeable about critical thinking. Consequently, they may have limited knowledge about instructional methods that provide opportunities for incurring principles of critical thinking.

Furthermore, lecturers should provide a culturally supportive learning environment, by applying the art of posing effective questions and not asking too few cognitively demanding questions, especially to those students of whom they have low expectations (Choi, 2005:266). According to Haggis (2003:90), the phenomena of conception of learning and knowledge, the approach towards learning and the perception of the learning environment are seen to be linked to the outcomes of learning, i.e. surface approaches leading to poor outcomes, and deep approaches to good ones.

Monitoring studying is closely associated with the four environmental scales, which include 'encouraging learning', 'assessment feedback', assessing 'understanding' and 'staff support' (Entwistle, McCune & Hounsell, 2002:12). Teaching is considered to be effective when student performance improves, after a period of instruction, consistent with the goals of that instruction, relative to the teaching environment in producing these outcomes (Diseth, 2007:188).

2.7.3 Teaching strategies

Educational approaches facilitate or hinder effects on students' critical thinking development (Tiwari *et al.*, 2006:547). High quality teaching implies recognising that students must be engaged with the contents of learning tasks in a way that is likely to enable them to reach understanding (Ramsden, 2003:97).

In the United Kingdom there had been an upsurge in the interest in describing and measuring the study strategies of students in higher education, which was attributed to the increasing requirements on universities to justify public funding, by demonstrating effectiveness and efficiency in their teaching (Entwistle & McCune, 2004:325).

Professional nurse educators have struggled to develop teaching strategies that undergraduate nursing students find engaging and meaningful (McCurry & Martins, 2010:276). According to Ramsden (2003:146), the conventional one-hour lecture frequently represents a rigidly teacher centred concept of teaching and learning. The lecture format is economical, efficient, and commonly used to impart didactic information and explanations to large groups. However, this format limits options for instruction (DeBourgh, 2008:77). According to Biggs (2003:2), due to the more diversified student population, traditional methods of teaching no longer seem to be working. Hewson and Hewson (2003:13) found that instructional strategies that

integrate students' prior knowledge and principles of conceptual change, has had significantly positive effects on students' acquisition of scientific concepts.

The Net Generation (born in the 1980's) has unique characteristics that challenge the traditional classroom teaching structure, making traditional classroom teaching no longer effective for these students (Skiba & Barton, 2008:6). A study conducted by McCurry and Martins (2010:279) showed that addressing the learning preferences of millennial students (born between 1980 and 2000) resulted in increased classroom participation, collaborative learning, and ultimately greater mastery of course objectives. Professional nurse educators should therefore explore innovative technologies, which maximise the characteristics of millennial learners, who are comfortable with technology and prefer interactive classrooms with individual feedback and peer collaboration (Revell & McCurry, 2010:272).

2.7.3.1 Information literacy

Technology integration is defined as educators' use of technology to enhance instruction and to create rich environments to help each individual student develop a depth of understanding and critical thinking skills (ChanLin, 2007:45). Information literacy skills are necessary for the successful implementation of evidence based approaches to clinical practice, as well as to continued professional and personal development (Barnard, Nash & O'Brien, 2005:509).

Integrating computer technology into academic learning aims at helping students gain more opportunity and interest in exploring learning contents (Wright, 2001:39). Wang (2007:155) encourages the use of resource based learning, which involves a collaborative learning environment, where students utilise a variety of information resources to solve problems under the supervision of teachers and librarians, whilst also collaborating within their group. Information resources include books, journals, television, online databases, radio, internet and CD-ROMs.

2.7.3.2 Peer groups

According to Wang (2007:149), collaborative learning is an effective means of increasing student achievement and cognitive development. The learner's potential performance level is increased in a community of learners. Thus, the curricula require revision, with the aim of promoting critical thinking development, professional knowledge acquisition and life long, professional learning (Tiwari *et al.*, 2006:547).

Karns (2005:15) suggests that changes in teaching approaches are necessary to encourage students to engage in and be interested in the task itself, and to search for inherent meaning within the task. According to Welsh (2007:80), involving students in the assessment of others encourages the development of higher levels of cognitive thinking, resulting in the internalisation of the student's own strengths and weaknesses. As lecturers in the classroom and the clinical areas, they need to know how their performances reflect on the school at large, influence students, achieve curricular goals and make differences in the quality of the graduates being produced (Polifroni, 2008:95).

According to Polifroni (2008:95), no single evaluative instrument can meet all these purposes, so a conceptual model must be found to address and assure the reliability of the process.

2.8 ATTRITION

According to Stickney (2008:422), the attrition of students over the course of their nursing programmes contributes to the nursing shortage in the workforce. Educators are faced with the challenge of adapting their teaching styles to accommodate a new generation of learners (Skiba & Barton, 2008:2). A study being conducted by Noble, Miller and Heckman (2008:246) showed that due to their cognitive processing requirements, field dependent nursing students may be at risk for academic failure. This was directly dependent on the context in which information was obtained. Therefore, instructional strategies tailored to students' needs should be incorporated into the nursing curriculum. Hopkins (2008:255) suggests two approaches to predicting success. The first approach is prior to admission through the use of predictor variables in the application process and the second is to use academic and non-academic predictor variables to identify those students most at risk for being unsuccessful at college. According to Atkinson (2001:31), the whole student should be considered when admission decisions are being made.

According to Ofori and Charlton (2002:512), seeking academic support has had the greatest direct effect on academic performance. Much of the attrition occurs in the first two years, and therefore much emphasis is placed on the importance of retention programmes in the early years for students at risk (Tam & Sukhatme, 2003:4).

Institutions also realise the financial consequences of student attrition in terms of the loss in tuition fees (Wells, 2003:231).

2.9 CONCEPTUAL THEORETICAL FRAMEWORK

A conceptual theoretical framework explains either graphically, or in the narrative form, the main aspects to be studied, the key factors, constructs, or variables and the presumed relationships among them (Miles & Huberman, 2003:45). According to Mouton (2002:195), scientific statements do not exist in isolation. When statements are organised according to certain interests or objectives and become integrated into conceptual frameworks, familiar 'structures' of science are found, i.e. typologies, models and theories.

2.9.1 Bloom's taxonomy

Taxonomy (from Greek *taxis* meaning arrangement or division, and *nomos* meaning law or science) is the science of classification according to a pre-determined system, with the resulting catalogue being used to provide a conceptual framework for discussion, analysis, or information retrieval. Bloom's taxonomy is a multi-tiered model of classifying thinking according to six cognitive levels of complexity which was introduced by Benjamin S. Bloom in 1956. The levels are depicted as a stairway, leading many teachers to encourage students to "climb to a higher level of thought." The lowest levels are knowledge, comprehension, and application, whereas the highest levels are analysis, synthesis, and evaluation. Each level is subsumed by the higher levels (Forehand, 2005:11). Eventually this framework became a taxonomy of three domains, namely: cognitive, affective and psychomotor (Forehand, 2005:2). The conceptual theoretical framework of this study underpinned takes students to higher levels of thinking. It thus addressed the factors that could hinder or promote the quality of learning at the college being investigated.

2.9.2 SOLO taxonomy

Another taxonomy which could be used to improve the quality of learning is the SOLO taxonomy. SOLO, the acronym for the Structure of the Observed Learning outcome, provides a systematic way of describing how a learner's performance grows in complexity, when mastering many tasks (Biggs, 1995:2).

The goals of this study were to investigate the academic factors influencing learning at the college being studied and aimed at addressing the quality of learning. The

conceptual frameworks thus commenced with the selection criteria of students entering the nursing profession. High school subjects and grades are important to assist students with the transition from high school to higher education in this particular course. Certain subjects hence form the foundation for nursing courses and should be compulsory in the selection criteria.

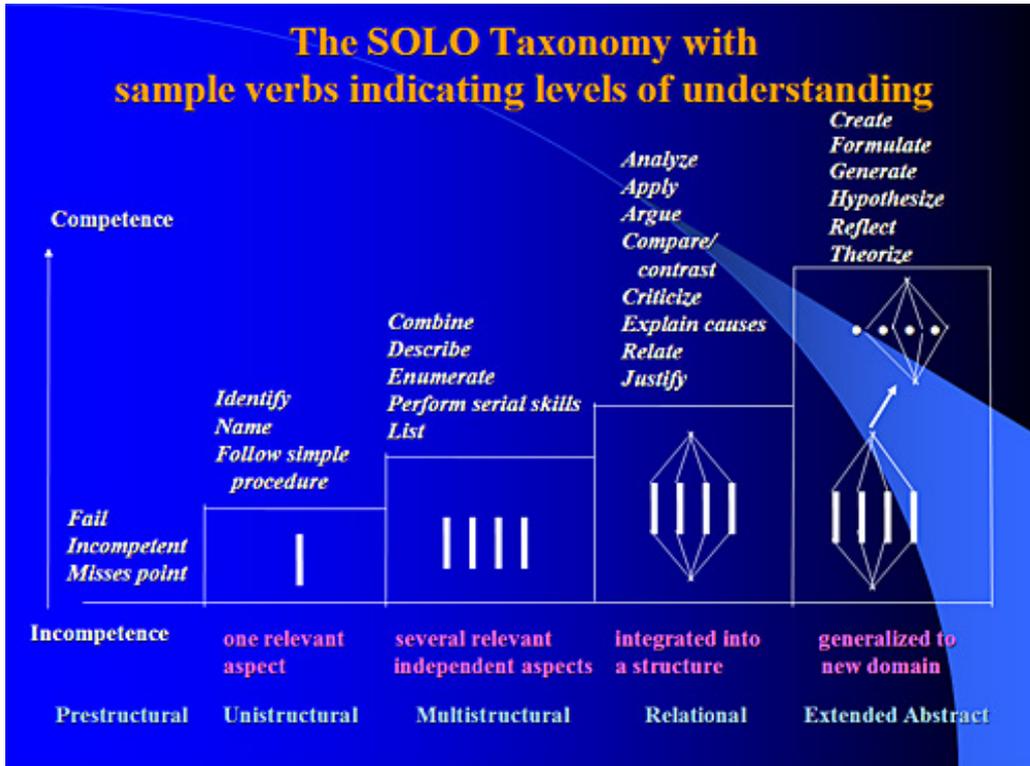


Figure 2.1: SOLO Taxonomy
(http://www.johnbiggs.com.au/images/solo_taxonomy.jpg)

The conceptual framework for this study was presented in a schematic form, followed by an explanation.

A good set of selection criteria would ensure that appropriate students are selected for nursing, who are well motivated to work hard and to complete the course successfully, within the prescribed period. Furthermore, English language proficiency could be determined and appropriate assistance methods could be planned early, where necessary.



Figure 2.2: Factors influencing learning (Illustration by Researcher)

Well motivated students are inclined to adopt a deep and/or strategic approach to studying most of the time. Students will thus be encouraged to learn with understanding and insight. In order to ensure that the deep approach to learning is encouraged, institutional factors should also be addressed.

The curriculum should be revised regularly and course contents be organised so that students would be able to cope with the workload. The attrition rate should serve as a

guideline as to whether the current strategic route requires adjustments. Furthermore, lecturers in higher education should be experts in their subject contents and should aim at facilitating more with higher student interaction. Lecturers should thus use pedagogical approaches that are learner centred and current, by introducing relevant information technology (IT) into the learning experience, for example. The academic environment should thus be conducive to learning, by addressing large classes that may be noisy and not conducive to an interactive learning experience.

All of the above should achieve an improvement in the quality of learning and should help reduce attrition rates.

2.10 SUMMARY

Learning is thus a way of interacting with the world, conceptualising the phenomena of change, which is achieved through the way that information is being structured (Biggs, 2003:13). Professional nurse educators in tertiary institutions are managers of this learning. For learning to be effective, the professional nurse educator must be able to guide students along the path of personal development (Meyer & Van Niekerk, 2008:77:105).

2.11 CONCLUSION

In this chapter, the literature regarding academic factors that influence nursing, nationally and internationally, was reviewed. The literature showed that higher education institutions, globally, face similar, numerous challenges with regards to the unsatisfactory academic performances of their students. An overview of the objectives of this study was thus provided by investigating the literature.

This study further investigated whether similar problems have been experienced in the college being studied, as is discussed in chapters 4 and 5.

CHAPTER 3.

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter 3 outlines the research methodology that was applied during this study. Included is a discussion of the research design, the research problem, the study population, the sampling procedure, data collection methods, data analysis and limitations of the study.

3.2 RESEARCH DESIGN

A non-experimental, descriptive research design was applied with a quantitative approach to obtain critical information from nursing students. Terre Blanche, Durrheim and Painter (2006:34) describe a research design as a strategic framework for action that serves as a link between research questions and the implementation of the research. According to Babbie and Mouton (2006:74), a research design is a plan, or structured framework of how one intends to conduct the research in order to address the research problem. Terre Blanche and Durrheim (2004:30) confer by stating that a research design should provide a plan that specifies how the research will be executed in such a way that it would answer the research question. Furthermore, a research design ensures that the research is conducted in an organised and logical manner. Polit and Beck (2008:765) allude to this by stating that a research design is the overall plan for addressing a research question, including specifications for enhancing the study's integrity. According to Brink (2006:104), a descriptive research design searches for accurate information about the characteristics of a single sample, such as subjects, groups, institutions, situations, or about the frequency of a phenomenon's occurrence. The primary purpose of this study was to investigate those academic factors that had influenced the occurrence of poor performance of nursing students in a specific nursing college in the Western Cape.

3.3 POPULATION AND SAMPLING

3.3.1 Population

According to Burns and Grove (2009:714), population refers to all the elements that meet the sample criteria for inclusion in a study, sometimes known as the target

population. Polit and Beck (2008:761) describe population as the entire set of individuals or objects, having some common characteristics. The target population in this study included all the nursing students being registered with a specific nursing college in the Western Cape. According to Neuman (2006:225), a population is an abstract concept, since it is difficult to gather the whole population at any given time to measure it. This was very relevant to the nursing students that formed the sample, as these students were constantly interchanging between clinical practice and theoretical classes. The total number of students for this population was (N = 963).

3.3.2 Sampling

Sampling is the process of selecting observations and generalising from those observations to a much wider population (Babbie & Mouton, 2006:164). According to Polit and Beck (2008:765), sampling is the process of selecting a portion of the population to represent the entire population. In this study, a probability, stratified, random sampling method was used. The basic principle of probability sampling is that the sample represents the population from which it is selected, if all members have an equal chance of being selected in the sample (Babbie & Mouton, 2006:173). Furthermore, probability sampling was done to minimise and exclude sampling errors. Sampling error is the difference between a sample statistic and a population parameter (Brink, 2006:125). The sample size in total was n = 174 (18%) students (Table 3.1).

To ensure that each student had an equal chance of being included in the study, the class lists were used to obtain an 18% stratified, random sample, by selecting every fifth student on the lists (Table 3.1). This was to ensure that sampling bias was also avoided. The researcher administered the sampling process personally. Sampling bias refers to distortions that arise when a sample is unrepresentative of the population from which it is drawn (Polit & Beck, 2008:765). The researcher collected the samples personally. The return rate of the completed questionnaires was 98%.

Table 3.1: Population and student sampling frame

Year of study	Total no of students per study year (N)	Sample (n/%) based on the response rate
First Year	441	75 (17%)
Second Year	209	40 (19%)
Third Year	252	49 (19%)
Fourth Year	61	11 (18%)
TOTAL	963	174 (18%)

3.3.3 Criteria

The following selection criteria were set for this study:

3.3.3.1 Specific criteria

All nursing students studying at a specific nursing college in the Western Cape, following the 4-year Diploma in General Nursing Science (Community and Psychiatry) and Midwifery programmes, leading to registration as a professional professional nurse, according to the South African Nursing Council's regulation 425, as promulgated by the Nursing Act 50 of 1978, as amended.

3.4 PILOT STUDY

A pilot study was conducted to test the feasibility of the study, i.e. to ensure that aspects, such as the correct methodology and data collection procedure were followed, including testing the questionnaire for any ambiguities and errors. According to Burns and Grove (2009:713), a pilot study is a smaller version of a proposed study, which is conducted to develop or refine the methodology. Terre Blanche and Durrheim (2004:70) further add that a pilot study also helps to identify potential problems with the design, which can thus be rectified before the actual study is carried out and enhance cost effectiveness. According to Burns and Grove (2007:244), even with the most carefully planned questionnaire, there is always the possibility of an error. The sample for the pilot study in this study was (n = 15/9%) of the actual number of participants being proposed for the sample. The pilot study was done at the same nursing college and was self administered, whilst participants in the pilot study were excluded from the actual study. The students responded well to the questionnaire during the pilot study and no changes were required on the questionnaire for the main study.

3.5 RELIABILITY AND VALIDITY

Reliability refers to dependability and consistency and are ideals being strived for by every researcher, to ensure that the research outcomes are accurate (Neuman, 2006:188). Reliability addresses characteristics, such as dependability, consistency, accuracy and comparability (Burns & Grove, 2007:365). Brink (2006:163) refers to reliability as the degree to which the instrument can be depended upon to yield consistent results, if used repeatedly over time by the same person, or if used by two researchers. To ensure reliability and validity, a pilot study was conducted to test the instrument and the feasibility of the study. Mouton (2008:103) further states that a pilot study is helpful to eliminate problems regarding interpretation of language, double-barrelled questions, leading questions and fictitious construction of questions. However, reliability does not ensure accuracy, as bias may also be portrayed (Babbie & Mouton, 2006:120). In order to reduce bias in this study, voluntary participation was encouraged and the questionnaire was completed in the presence of the researcher. No discussions were allowed amongst students, in order to prevent them from influencing one another.

The validity of an instrument is a method of ascertaining how well the instrument reflects the abstract concept being studied (Burns & Grove, 2007:365).

According to de Vos et al. (2007:160), validity has two aspects, namely that:

- The instrument actually measures the concept in question; and
- The concept is measured accurately.

The questionnaire designed for this study was validated by various experts in statistics, nursing, research methodology and academic experts in the field. Validity refers to a quality criterion, which comprises the degree to which inferences made in a study are accurate and well founded, whereas with regards to measurement, it is the degree to which an instrument measures what it is intended to measure (Polit & Beck, 2008:768). Different aspects of validity were used to assess the questionnaire. Face validity refers to whether the instrument looks as though it is measuring the appropriate construct (Polit & Beck, 2008:458). According to Burns and Grove (2009:700), face validity verifies that the instrument seems to or gives the impression of measuring the contents being desired for a study. Content validity comprises the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain (Polit & Beck, 2008:458). Construct validity examines the

fit between conceptual and operational definitions of variables and determines whether the instrument actually measures the theoretical construct that it purports to measure (Burns & Grove, 2009:693). For the purpose of this study, experts in the fields of nursing, education, research methodology and statistics were consulted to ensure face, construct, criterion and content validity.

3.6 INSTRUMENTATION

A questionnaire is a printed, self reporting form, designed to elicit information that can be obtained from a subject's written responses (Burns & Gove, 2009:406). According to de Vos *et al.* (2007:166), the basic objective of a questionnaire is to obtain facts and opinions about a phenomenon from people who are informed with regards to the particular issue. The advantage of a questionnaire is that it offers the possibility of complete anonymity, which is crucial in obtaining candid responses and it prevents interviewer bias, since there is an absence of an interviewer (Polit & Beck, 2008:424). In this study, the questionnaire was personally distributed and collected by the researcher. The questionnaire was designed having two sections, i.e. A and B.

Section A collected the demographic data that included:

- Age, gender, home language;
- Nursing as a career choice, reason for choosing nursing, bursary recipients; and
- Matric subjects and results, information on schooling years and current year of study.

Section B covered the factors influencing learning, based on the specific objectives set for this study. These included:

- The time spent per day on studies;
- Teaching strategies, the learning environment;
- Academic support;
- Use of the library, computer laboratory and the internet; and
- Language as a barrier to learning.

The questionnaire consisted of predominantly closed ended questions. Closed ended questions offered respondents response options, from which they had to choose the one that most closely matched their answer (Polit & Beck, 2008:414). These types of questions are advantageous when a substantial amount of information about a subject

exists and the response options are relatively well known (de Vos *et al.*, 2007:174). In addition, the questionnaire consisted of 23 multiple choice questions and 8 dichotomous questions. Multiple type questions are normally utilised to obtain information that can be logically divided into hard and fast categories. In section B, students had the option to choose from always, most times, seldom, or never. Dichotomous questions have only two response possibilities, which lengthen the questionnaire excessively, as each question must be followed by questions further exploring both response options (de Vos *et al.*, 2007:175). Open ended questions allow respondents to respond in their own words, in narrative fashion (Polit & Beck, 2008:414). There were two open ended questions in this questionnaire. Participants were required to give a written response to the open ended questions in the provided space. Furthermore, five of the remaining 31 questions allowed space for participants to comment

Table 3.2: Summary of questionnaires distributed and questionnaires returned

Year of study	Questionnaires Given out:	Questionnaires Returned
First	77	75
Second	41	40
Third	49	48
Fourth	12	11
TOTAL	179	174 (98%)

3.7 DATA COLLECTION

In quantitative research, data collection involves obtaining numerical data to address the research objectives, questions, or hypotheses (Burns & Grove, 2009:44). The data was collected by the researcher who personally issued the questionnaires to the participants. The questionnaire (Addendum A) required approximately 20 – 30 minutes for completing. The aim of the research study was explained to all students at the college and the importance of having the questionnaires completed was emphasised. According to the sampling plan, the researcher identified and selected every fifth name from the class list. Students then indicated whether they were willing to participate, or not. If a student declined, the next name was identified and selected. A total of (n =

174/18%) of the total population of 963 learners formed the sample. A return rate of 98% was obtained (Table 3.1). The researcher waited until all the participants had completed questionnaires and collected them personally. After the data was collected and collated the questionnaires was packed, sealed and stored in a safe.

3.8 DATA ANALYSIS

The analysis of quantitative data is a complex field of knowledge. Accuracy is extremely important when capturing data onto a computer, as errors can threaten the validity of measures and cause misleading results (Neuman, 2006:346). Quantitative data analysis reduces, organises and gives meaning to the data. It involves descriptive and exploratory procedures to describe study variables and the sample, statistical techniques to test proposed relationships, and techniques to make predictions (Burns & Grove, 2009:44). According to Polit and Beck (2008:751), data analysis is the systematic organisation and synthesis of research data and in quantitative studies the testing of hypotheses, using that data. Statistical procedures enable researchers to organise, interpret, and communicate numeric information (Polit & Beck, 2008:556). Statistics are often used not only to describe some characteristics of a sample group, but also to test for similarities, or differences between groups (de Vos *et al.*, 2007:218).

The data being generated during this study was thus analysed with the support of a statistician. Descriptive statistical analysis and various tests for statistical significance between variables, using a 95% confidence interval, were performed. Data was expressed in frequencies and tables. Frequency distribution is a systematic array of numeric values from the lowest to the highest, together with a count of the number of times each value was obtained (Polit & Beck, 2008:754). In this study, histograms were used to present the frequency distribution data. The following statistical tests were applied to analyse the data.

3.8.1 Chi-square

Polit and Beck (2008:749) describe the chi-square test as a statistical test, used to assess differences in proportions and is symbolised as X^2 . The chi-square can be used in two ways, i.e. as a descriptive statistic, or as an inferential statistic. According to Neuman (2006:372), a descriptive statistic communicates the strength of the association between two variables. A descriptive statistic was used for this study.

3.8.2 Bonferroni test

This test is used to control the escalation of significance, when different aspects of the same data must be performed (Burns & Grove, 2009:502).

3.8.3 Post-hoc test

A post-hoc test is used to compare all possible pairs of groups, following a significant test of overall group differences (Polit & Beck, 2008:762).

3.8.4 Mann-Whitney U test

The Mann-Whitney U test is a non-parametric statistic, used to test the differences between two independent groups, based on rank scores (Polit & Beck, 2008:757).

3.8.5 Test of homogeneity

According to Polit and Beck (2008:755), the test for homogeneity can be described in terms of the reliability of an instrument, where the degree to which its subparts are internally consistent (i.e. are measuring the same critical attribute), or more generally, the degree to which objects are similar (i.e. characterised by low variables).

3.8.6 Pearson's *r* value

The Pearson's *r* value is a correlation coefficient, designating the magnitude of the relationship between two variables, measured on at least an interval scale (Polit & Beck, 2008:761).

3.8.7 Kruskal-Wallis test

The Kruskal-Wallis test is a non-parametric test, used to test the differences between three or more independent groups, based on ranked scores (Polit & Beck, 2008:757).

3.9 ETHICAL CONSIDERATIONS

In this study, the principles of ethics were strictly adhered to. Students participated voluntarily and confidentiality was maintained at all times. The rights of those students, who refused to participate in this study, were respected. A positive aspect was that the researcher was unfamiliar with all of the students, since she was not a lecturer in their specific programme. Thus students could not feel intimidated in any way and bias was prevented.

According to Waltz, Strickland and Lenz (2005:378), ethical problems result when unsound instrument practices are used, which can lead to inadequate measurement.

This has the potential to produce useless or erroneous information, leading to a negative impact on the knowledge upon which it is based. In this study, the questionnaire was perused by fellow colleagues for its validity and reliability; class lists were used to ensure accurate and objective sampling, whilst a statistician helped ensure accurate measurement.

3.10 CONCLUSION

In this chapter, a detailed description of the research methodology being applied in this study was described, depicting the various steps in the research process.

In chapter 4, the data analysis, interpretation of the data and related discussions of the results are presented.

CHAPTER 4. PRESENTATION, ANALYSIS, AND INTERPRETATION OF RESULTS

4.1 INTRODUCTION

In this chapter, the analysed results from this study are interpreted, discussed and presented in tables, histograms and frequencies. The data in this study was analysed with the support of a statistician, using computerised data analysis software, namely the STATISTICA Version 9 programme. The data was predominantly presented in a quantitative form, whilst the responses to a few open questions were provided in narrative form.

4.2 DESCRIPTION OF STATISTICAL ANALYSIS

A full description of the tests being performed during the data analysis was given in 3.8.

The discussion of the outcomes regarding all variables covered in the questionnaire follows next.

4.3 SECTION A

4.3.1 Variable 1: Age

The response rate to this question was (n = 174/100%) with a mean age of 23 and a median of 21. The minimum age was 17 and the maximum 41 years (Figure 4.1). Though statistically insignificant, the outcomes showed that participants who passed with a matric exemption had a mean age of 22.7, whilst participants who did not pass with a matric exemption had a mean age of 23.5. According to a study conducted by Zeegers and Martin (2001:43) on first year chemistry students, the results showed that older students had a higher mean score for the deep and achieving approach and a lower mean score for the surface approach to learning. Ansari (2002:165), on student professional nurse satisfaction (2002:165), showed that higher satisfaction was experienced among the older mature participants (>25 years), followed by the mature participants (21-25 years). The lowest satisfaction was among the traditional students (<21 years). This was supported by a study carried out by Salamonson and Andrew (2006:348), which showed that older students performed better academically. A study conducted by Steele *et al.* (2005:579) showed that mature students experienced

problems, such as financial difficulties and psychosocial problems, which created difficulties for those students both in terms of their performance in their courses and in their private lives. This had been contrary to the findings in this study, which showed that older students spent more time studying, than younger students (see Table 4.14).

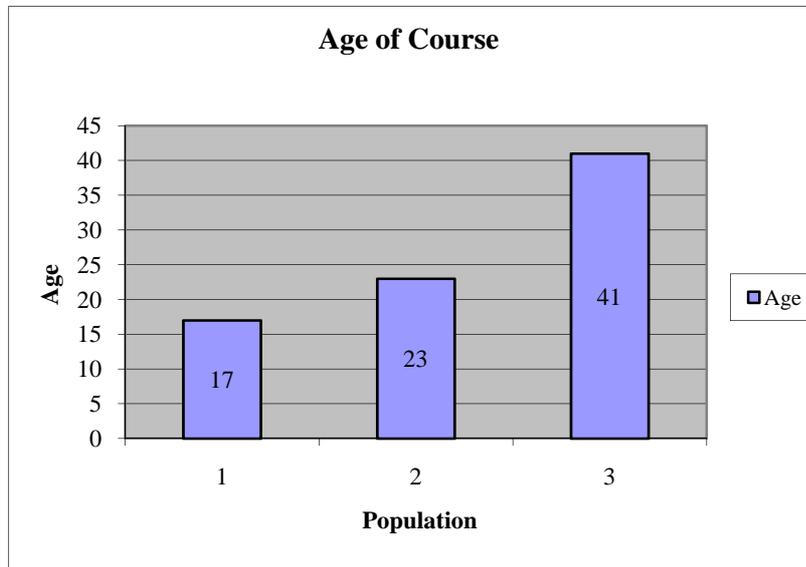


Figure 4.1: Age range and mean age of the participants.

4.3.2 Variable 2: Gender

According to Table 4.1, the majority of students were female. There was little difference between the female (23.07) and male (23.14) mean age scores. As nursing is predominately a female profession, these results were aligned with a study conducted by Meadus and Twomey (2007:14), which reported that men were deterred from entering nursing, due to the following reasons: public perceptions, images of nursing, the value of nursing to society, sex stereotypes and patient preferences. Rheaume *et al.* (2003:35) showed in their study that although men and woman primarily entered nursing because of a desire to care for people, the motivations of these two groups differed.

Table 4.1: Gender

Gender	n	%
Female	138	80
Male	35	20
TOTAL	173	100

4.3.3 Variable 3: Home language

The dominant first language of the students spoken at this particular college was Afrikaans (n = 80/46%), followed by Isi-Xhosa (n=73/42%) (Table 4.2). The results were aligned with the dominant language being spoken in the Western Cape Province, according to a language report survey, which showed that 39.8% of the population of the Western Cape spoke Afrikaans as their home language (2000:4).

Table 4.2: Home language

Home language	n	%
English	19	11
Afrikaans	80	46
Isi-Xhosa	73	42
Other	2	1
Total	174	100

4.3.4 Variable 4: Nursing as career choice

The majority (n = 86/50%) of the participants indicated that nursing was their first career choice, followed by (n = 70/41%) who indicated nursing as their second choice (Table 4.3).

Though statistically insignificant, results showed that those participants to whom nursing had been their first career choice, had a mean age of 24.15, compared to a mean age of 22.28 for participants to whom it had been their second choice. This study showed that nursing was more a first career choice among the older students. This was consistent with a study conducted by Beck (2000:321), in which results showed that students had started their college careers in majors other than nursing, and later sensed that something was missing from their original career choices. They then turned to nursing to fill the gap. The study by Zysberg and Zisberg (2008:392) showed that students' expectations and goals consistently emphasised materialistic aspects, such as preparing for a job and increasing chances of a high income. According to Mooney, Glacken and O'Brien (2008:390), the majority of participants in their study identified an intrinsic need to care, as the primary reason for choosing nursing as a career. Their study, nevertheless, revealed that to one third of the students being interviewed, nursing had not been their primary career choice. A study conducted by Beck (2000:322) showed that those students, to whom nursing had not been their first

career choice, reported a variety of reasons, including age, time commitment, and inability to pursue medicine as a career due to grades, and a fascination with science and the human body.

Table 4.3: Nursing as a career choice

Response	n	%
1 st choice	86	50
2 nd choice	70	41
3 rd choice	9	5
4 th choice	1	1
Other	6	3
Total	172	100

4.3.5 Variable 5: Why did you choose nursing as a career?

The results showed that (n = 98/58%) of participants had always wanted to be professional nurses and (n = 34/20%) had applied because they had considered nursing to be a secure job (Table 4.4). Furthermore, results showed that (n = 138/81%) of the participants had received bursaries, of whom (n = 82/59%) indicated that they had always wanted to be professional nurses. Results of gender analysis in this study showed that (n = 76/57%) of the females had always wanted to be professional nurses, (n = 25/19%) had chosen nursing because it was a secure job, (n = 18/13%) had chosen nursing because bursaries had been available and (n = 10/7%) had not been accepted for other courses. Results of male analysis showed that (n = 21/60%) of males had always wanted to be professional nurses, (n = 9/26%) had regarded nursing as a secure job, (n = 4/11%) had chosen nursing because bursaries had been available and (n = 1/3%) had not been accepted for other courses. According to a study conducted by Meadus and Twomey (2007:15), the most common reasons why men chose nursing was job security, career opportunities and the salary. This was supported by a study by Zysberg and Berry (2005:197) which showed that men put greater emphasis on aspects, such as salary, job security and the social image of the profession. It was encouraging that results in this study showed that 60% of the males had always wanted to be professional nurses.

Results from a study conducted by Price (2009:14) showed that nursing as a career choice was strongly associated with a person's preconceived notions and expectations of nursing. This was consistent with studies in which the respondents primarily perceived nursing to be about "caring for people" and "making them well" (Whitehead, Mason & Ellis, 2007:94; Larsen, McGill & Palmer, 2003:171; Beck, 2000:321; Glacken & O'Brien, 2008:388). A further study conducted by Price (2008:17) showed that early socialisation experiences influenced the decision to become a professional nurse, which could be interaction with professional nurses and exposure to health care settings, or self identification with the attributes of professional nurses. A study conducted by Rognstad and Polit (2002:323) concluded that nursing applicants were a heterogeneous group, having several motives for their vocational choice, which were related to their study preferences, wanting human contact and helping others, performing useful work and wanting job security, as being the most important. According to a study conducted by Hoke (2006:98), 48% of the school students reported a greater interest in nursing as a career, after a presentation on promoting this profession, compared to before the presentation.

Table 4.4: Why nursing as a career choice?

Nursing as a career choice			Female		Male	
	n	%	n	%	n	%
Always a professional nurse	98	58	76	57	21	60
Secure job	34	20	25	19	9	26
Bursary	22	13	18	13	4	11
Not accepted for other course	11	6	10	7	1	3
Other	5	3	5	4	0	0
Total	170	100	134	100	35	100

4.3.6 Variable 6: Do you currently receive a bursary?

The majority of students (n=145/84%) had received a bursary from the state to sponsor their studies. Those students who were not receiving a bursary, was due to them being penalised for repeating a year (Table 4.5). The college where this study was conducted switched over to a state funded bursary system in 2003. According to the National Assembly for Wales, supporting people appropriately, while they take up opportunities

for learning in further and higher education, is paramount to the development of individuals and to strengthening the social and economic structures (Cordell-Smith, 2008:35).

Table 4.5: Students receiving bursaries

Response	n	%
No	28	16
Yes	145	84
Total	173	100

4.3.7 Variable 7: Please indicate whether you passed or failed any of the following subjects in matric / grade 12

Results of this study showed that (n = 39/23%) of the students had passed mathematics on a higher grade and (n = 108/62%) on a standard grade. A total of (n = 147/85%) of the participants thus had a mathematics background. A total of (n = 40/23%) had passed physical science on a higher grade and (n = 86/50%) of students on a standard grade, which showed that (n = 126/73%) had a background in physical science. A further analysis showed that (n = 82/47%) of the students had passed biology on the higher grade, and (n = 92/53%) on a standard grade. Therefore (174/100%) of students had a background in biology.

Results of a study conducted by Pike and Saupe (2002:202) on measuring high school quality, for example the student aptitude test, showed that high school performance and high school course work may assist in identifying students at risk. Hopkins (2008:258) showed in his study that the high school grade point average (GPA), the scholastic aptitude tests (SAT) and the reasoning test were predictors of academic success. The South African Nursing Council stipulates in Regulation 425(10), as promulgated by the Nursing Act 50 of 1978, as amended, general nursing science should be a compulsory subject in the nursing curriculum. It should form the fundamental nursing science, integrated with social, natural and biological sciences, by providing a scientific basis for the cognitive, psychomotoric and affective skills required for comprehensive nursing. Therefore, mathematics, physical science and biology are integral subjects for the basis of nursing. The results obtained in this study were therefore congruent with expectations of students entering the nursing profession.

Table 4.6: Subjects passed or failed

Subject	Passed n/%	Failed n/%	NA n/%	Total n/%
Maths HG	39/23	6/4	136/74	171/100
Maths SG	108/62	6/3	60/34	174/100
Physical Science HG	40/23	5/3	127/74	172/100
Physical Science SG	86/50	1/1	85/49	172/100
Biology HG	82/47	2/1	79/46	173/100
Biology SG	92/53	0	72/41	174/100

4.3.8 Variables 8, 9 & 10: Have you ever repeated a year at school?

Most students (n = 143/83%) had completed their schooling in the minimum prescribed time of 12 years, with (n = 77/43%) obtaining university entrance. (n = 23/85%) of the (n = 36/17%) of those participants who had repeated a year at school, had repeated only one year. This was a positive aspect of the college being studied, as the majority of the students had a successful schooling career, adding value to the profession chosen. Furthermore, (n = 74/43%) of the participants had passed with a matric exemption.

According to a study conducted by Schwartz and Washington (2002:365), using cognitive data from high school at the beginning of the first academic year may identify students who are at risk of academic problems and once identified, appropriate interventions may be implemented. Similarly, Tam and Sukhtame (2003:8) state that a student's individual high school percentile rank is the best indicator of success and leads to the highest graduation rate. This is in agreement with a study conducted by Karemera, Reuben and Sillah (2003:306), in which the results showed a statistical significance of the test statistic, which suggested that performance in college is highly dependent upon performance in high school. Contrary, a study by Ofori and Charlton (2002:513) revealed that good entry qualifications were not necessarily good indicators of performance. In the study carried out by Karemera, Reuben and Sillah (2003:7) a large proportion of nursing students (43.8%) stated that mathematics and science were their favourite subjects in high school.

Table 4.7: Year repeated at school and matric exemptions obtained

Repeated a year at school		No of years repeated	n/%	Matric exemption	
No	Yes			No	Yes
29/17%	143/83%	1 year	23/85%	99/57%	74/43%
		2 years	4/15%		
		No response	2/6%		
TOTAL			29		

4.3.9 Variable 11: What year of study are you currently in?

The largest group of the participants were in their first year of study (n = 74/43%), followed by third year students (n = 49/28%), then by (n = 40/23%) of second years, with only (n = 11/6%) in their fourth year of study (Table 4.8). A study conducted by Noble and Sawyer (2004:22) showed that there was an apparent inability of high school GPA to predict high levels of academic achievement during the first year of college. According to a study conducted by Last and Fulbrook (2003:452), first year students indicated that they needed more guidance and support. In the same study, the third year level students reported that they were more pressurised by the quantity of academic work, but had become accustomed to taking responsibility for their own learning, and felt that they had acquired the necessary skills to do that. McCune and Entwistle (2000:5) substantiated in their studies that first year students had a limited ability to go beyond basic understanding of course material. They were less able than more experienced students to engage critically with the contents and to develop personal perspectives, which extended across the boundaries of particular tasks or lecture series. A study by Grainger and Bolan (2006:41) showed that 6% of the first years and 13% of the fourth years indicated that they were planning to change careers during or after their studies.

Table 4.8: Year of study currently in

Study year	n	%
1 st year	74	43
2 nd Year	40	23
3 rd Year	49	28
4 th Year	11	6
Total	174	100

4.4 SECTION B

4.4.1 Variable B1: How much time per day do you spend on your studies (own time)?

The results showed that the third year students spent the most time on their studies per day (3.5 hours). First and second years spent 2.3 hours and fourth years 3 hours on their studies daily (Table 4.9). A further analysis between the various language groups identified the Isi-Xhosa speaking students as the group who spent the most time on their studies per day (mean score = 3 hours), compared to Afrikaans speaking students who spent the least time studying per day (mean score = 2.5 hours). The mean time score for time spent studying for all students was 2.7 hours (Table 4.9). A study conducted by Mullen (2007:410) showed that students, who studied independently for a larger number of hours, used significantly more cognitive, self regulatory, learning strategies. In this study, time spent studying independently per week was significantly associated with higher scores on the following subscales, i.e. elaboration, time and study environment, effort regulation and help seeking.

Table 4.9: Own time spent on studies

Study year	n	%	Hours
1 st year	74	43	2.3
2 nd year	40	23	2.3
3 rd year	49	28	3.5
4 th year	11	6	3.0
Total	174	100	

4.4.2 Variable B2: Indicate if you are satisfied with the teaching strategies used by the lecturers

The results showed that the majority of the participants (n = 114/66%) were most of the time satisfied with the teaching strategies, with (n = 18/10%) indicating always.

However, many participants indicated that they were seldom (n = 32/18%) and never (n = 10/6%) satisfied with the teaching strategies (Table 4.10).

A study conducted by Zeegers and Martin (2001:48) showed that learning strategies and metacognitive awareness may lead to students having a broader range of skills at their disposal that may lead to confident, self directed learning. The lecturer has a key role in this process. Further studies by Prosser *et al.* (2003:47) showed that the quality of learning experiences depended on the approaches to teaching by lecturers. According to a survey conducted by Chakravarthi, Nagaraja and Judson (2010:218), a high proportion of the students at an International Medical University felt that problem based learning (PBL) was a refreshing change from the routine of day-to-day learning in the lecture halls. Despite these findings, this study also showed that many students appeared to struggle with the process of PBL, juggling between the role of information recipient (in conventional learning) and the information investigator (in PBL).

A study by McCurry and Martins (2010:279) showed that millennial learners (born between 1980 - 2000) commented favourably on group work, or interactive activities and they enjoyed the group experience. Noble, Miller and Heckman (2008:251) found that field dependent students, depending on the context in which information is obtained, benefited from enhanced strategies that gained and focused their attention. Besides well organised lectures, these students benefited from the provision of written organisers, such as handouts or lecture outlines that were, for example, provided online. Further studies by Artelt (2005:251) showed that motivation determined the choice to become engaged in a task and that strategies were the tools with which the task was actually accomplished.

Table 4.10: Teaching strategies used by lecturers

Satisfied with teaching strategies	n	%
Never	10	6
Seldom	32	18
Most times	114	66
Always	18	10
Total	174	100

4.4.3 Variable B3: Is the learning environment conducive to learning?

The majority of the participants (n = 123/71%) who indicated that the learning environment was conducive to learning, was satisfied with the teaching strategies being used, with a mean score of 1.85, while the (n = 51/29%) who indicated that it was inconducive to learning, obtained a lower mean score of 1.68, with reference to their satisfaction with teaching strategies being used (Table 4.11). According to a study conducted by Kember, Leunger and McNaught (2009:50), learning approaches may be markedly influenced by the nature of teaching of a learning environment. Substantiated further, Karemera, Reuben and Sillah (2003:306) found that performance was significantly correlated with satisfaction with the academic environment and services rendered. The outcome of a study of the perceived workload, as conducted by Kember and Leung (2006:195), showed that a teaching and learning environment could produce demanding work of high quality, despite the workload still being considered reasonable. In their study, Entwistle, Tait and McCune (2000:38) assessed students' preferences about a learning environment and found that students who adopted a deep approach to learning preferred an environment that encouraged understanding, while students who adopted a surface approach preferred an environment where information was transmitted. Diseth (2007:198) reported that the main findings from his study had shown a relationship between approaches to learning and academic achievement and between students' approaches to learning and evaluation perception. Vermetten, Vermunt and Lodewijks (2002:272) demonstrated in their study that student orientated education implied greater clarity and more suggestions for the students and the students' perceptions of what teachers expected from them. In this study, teachers increased the number of assignments, as assignments aimed at learning how to study.

Table 4.11: Learning environment conducive to learning

Response	n	%
No	51	29
Yes	123	71
Total	174	100

4.4.4 Variable B4: Would you like to see improvements or adjustments made to the learning environment?

The participants (n = 41/24%), as shown in Table 4.12, who indicated that they would not like to see improvements made to the learning environment, were satisfied with the teaching strategies and obtained a higher mean score (2.00), than the majority (n = 130/76%), who indicated that they would like to see improvements, having a lower mean score (1.73) with reference to their satisfaction with teaching strategies. Wierstra *et al.* (2003:521) showed in their study that, when students perceived a change in the teaching and learning environment towards 'correctedness' and a 'student orientation', there was a corresponding shift in learning process from reproductive to constructive. Results from a study conducted by Lizzio *et al.* (2002:44) confirmed that elements of the learning environment, which are under teacher control, may positively influence both the way students approach their study, and the learning outcomes that they may achieve. Further results in this study showed that perceptions of the teaching environment influenced learning outcomes both directly (perceptions to outcomes) and indirectly (perceptions to approaches to outcomes). Changes in the teaching environment may thus have an impact on students' learning outcomes, without necessarily affecting their learning approaches. Contrary, Diseth (2002:149) showed in a study that academic achievement was negatively correlated with the surface approach.

Results of a study conducted by Rossetti and Fox (2009:13) showed that a climate of trust, respect, and caring was important in the relationship between students and professors and promoted the 'professor' ability to be present with students. A study by Moore, Armstrong and Pearson (2008:20) showed that students did not articulate a sense of obligation to attend lectures, despite the messages, assumptions and convictions that faculty members may share the importance of such attendance. This study further showed that when recalling incidents of non-attendance, respondents' internal motivation to attend were low. This could indicate that lectures were not being perceived as useful, and that students were either gaining what was provided through lectures by other means, or that many of them may have been missing scheduled interactions that could have positively affected their academic performances, if attended. A further survey conducted by Chakravarthi, Nagaraja and Judson (2010:218) showed that motivation was one of the challenges that facilitators

encountered in PBL sessions, as students were not ready to undertake PBL, especially in an environment where conventional teaching approaches still predominated.

Table 4.12: Improvements to the learning environment

Response	n	%
No	41	24
Yes	130	76
Total	171	100

4.4.5 Variable B5: Do you obtain adequate academic support?

Participants (n = 97/56%) responded that they obtained adequate academic support most of the time. Results also showed that there were participants (n = 12/7%) who never and seldom (n = 32/18%) sought academic support (Table 4.13). Though statistically insignificant, further analysis showed that participants, who had passed with a matric exemption, sought academic support more often (1.98), than those participants who did not pass with a matric exemption (1.77). A study conducted by Rossetti and Fox (2009:13) showed that advice and mentoring were regarded as important and even more so when a student was struggling and having a difficult time. In a study carried out by Noble, Miller and Heckman (2008:250), nursing students were found to be more field dependent students than others, who required a high degree of human contact and refined communication skills. A further study by Harrison (2009:362) showed that students identified effective academic advisors as those being knowledgeable, followed by those showing qualities, such as fostering and nurturing.

Table 4.13: Academic support obtained

Response	n	%
Never	12	7
Seldom	32	18
Most times	97	56
Always	33	19
Total	174	100

4.4.6 Variable B6: You attend academic support classes when offered?

Table 4.14 shows that (n = 72/42%) of the participants responded that they attended academic support classes most times when offered and (n = 64/37%) responded always. Results in this study also showed a statistical relationship between age and seeking academic support (Spearman p-value = 0.04). Further analysis showed that participants who passed with a matric exemption, attended academic support classes when offered, obtaining a higher mean score (2.13), than participants who did not pass with a matric exemption (2.04). Participants to whom nursing was their first career choice, attended academic support classes when offered, obtaining a higher mean score (2.12), than those participants to whom nursing was their second career choice (2.04). In a study conducted by Ofori and Charlton (2002:512), the results showed that seeking academic support had the greatest direct effect on academic performance. They further state that student learning behaviour, such as support seeking, may compensate for the effects of low entry qualifications.

A study conducted by Rossetti and Fox (2009:13) showed that professors who took part in the study, valued the relationships they had with their students and spoke of the importance of working with their students and getting to know them. Further findings in this study revealed that the presence of a teacher was central in educational endeavours, as the primary role of teachers was their interaction with students. A study by Thatcher, Fridjhon and Cockcroft (2007:658) demonstrated that students who 'always' attended lectures, showed statistically significant academic performance advantages over students who 'seldom' or 'never' attended. This study further showed that the group of students who 'always' attended lectures, performed significantly better in a weighted composite of three assessments (test, essay and examination), than the groups who 'seldom' or 'never' attended.

Table 4.14: Attendance of academic support classes

Response	n	%
Never	13	8
Seldom	24	14
Most times	72	42
Always	64	36
Total	173	100

4.4.7 Variable B7: Are you able to apply the theory taught in class in the clinical area?

The majority of the participants (n = 82/47%) were always able to apply the theory being taught in class, followed by (n = 72/41%) who indicated most times (Table 4.15). Participants who passed with a matric exemption obtained a higher mean score (2.39) in being able to apply the theory taught in the clinical area, than those participants who did not pass with a matric exemption (mean score = 2.22). It is critically important that nursing students are able to apply theory to practice, as supported by the findings by Waterson *et al.* (2006:60), who state that the lack of integration of theory and practice emerged as a major problem.

Table 4.15: Application of theory taught in class to clinical areas

Response	n	%
Never	1	1
Seldom	19	11
Most times	82	47
Always	72	41
Total	174	100

4.4.8 Variable B8: Do you get adequate support in your clinical areas which help you to apply theory to practice?

Participants (n = 83/48%) indicated that they obtained adequate support most of the time in their clinical areas, while (n = 48/28%) indicated that they always received adequate support. Alarming (n = 38/22%) indicated seldom and (n = 3/2%) never received adequate support in the clinical areas (Table 4.16). A statistical association existed between age and adequate support in the clinical fields to help apply theory to practice (Spearman p-value = 0.03). According to Bloomfield *et al.* (2010:116), constructive feedback is essential with any clinical assessment, in order to allow the learner to integrate the knowledge and skills required to gain competence and confidence. According to a study conducted by Rogan *et al.* (2006:11), students perceived clinical placement as a difficult experience being related to language and cultural issues. They felt excluded in their interactions with professional nurses, patients, facilitators and other students. According to a study conducted by Last and Fulbrook (2003:449), findings showed that 97% of the students indicated that there was

a theory-practice gap. They indicated that too much emphasis was placed on theory and 91% felt that they did not have enough clinical skills teaching. These students reported that they experienced a lack of confidence and knowledge in practical nursing skills, as too much time was spent on the theoretical components of the programme. The first year students particularly found it difficult to relate theory to practice.

Table 4.16: Support obtained in the clinical areas to apply theory to practice

Response	n	%
Never	3	2
Seldom	38	22
Most times	83	48
Always	48	28
Total	172	100

4.4.9 Variable B9: Are you able to cope with the workload?

Despite the majority of participants (n = 107/61%) being able to cope most of the time, it was a cause for concern that (n = 51/30%) and (n = 6/3%) of the participants indicated seldom and never, respectively. Further analysis indicated that there was a significant relationship between the ages of participants and being able to cope with the workload (Spearman p-value = 0.02). With reference to language, the Afrikaans speaking participants coped the best with the workload (mean score = 1.72), followed by the English speaking (mean score = 1.68) and lastly the Isi-Xhosa speaking (mean score = 1.65). Males coped better (mean score = 1.77) than females with the workload (mean score = 1.66). A study by Lizzio *et al.* (2002:43) showed that perceptions of a heavy workload and inappropriate assessment, strongly influenced students towards applying surface approaches to their studies. According to a study conducted by Last and Fulbrook (2003:452), students indicated that academic overload led to non-learning, despair and disillusionment. Diseth (2007:197) indicated that “workload” was the only evaluation, perception variable, which correlated with examination grades. Furthermore, the surface approach correlated meaningfully with “workload”. One of the overall conclusions of this study was that the evaluation, perception-factor, “workload”, indeed predicted academic achievement. A further study by Waterson *et al.* (2006:58) showed that both tutors and students raised concerns about problems related to the

curriculum, such as curriculum overload, the curriculum being unrealistic and repetition of the contents at different levels of training.

Table 4.17: Coping with the workload

Response	n	%
Never	6	3
Seldom	51	30
Most times	107	61
Always	10	6
Total	174	100

4.4.10 Variable B10: Are the marking schedules, tests, examinations and guidelines a fair reflection of the work contents?

Table 4.18 shows that (n = 53/30%) of the participants indicated that the marking, schedules, tests, examinations and guidelines were always a fair reflection of the work content, while (n = 75/43%) indicated most times and (n = 24/20%) indicated seldom. Of concern was that (n = 12/7%) indicated never. Results showed that there was a statistical relationship between coping with the workload and whether there was a fair reflection of the marking schedule, tests, examination and guidelines to the work contents (Spearman p-value <0.01). Consistency between the contents and assessment of the work being taught is imperative. It was concerning that all of the participants in this study did not indicate that there was always a fair reflection of the marking schedules, tests, examinations and guidelines to the work content. According to a study conducted by Weaver (2006:388-389), comments by students on feedback from tutors was indicative of an imbalance in course design, or that feedback was unrelated to the assessment criteria. The students noted that their marks and feedbacks did not match, which suggested that comments made were not linked to the assessment criteria.

Table 4.18: Reflection of marking schedules, tests, examinations and guidelines on work content

Response	n	%
Never	12	7
Seldom	34	20
Most times	75	43
Always	53	30
Total	174	100

4.4.11 Variable B11: Are all the contents covered according to the study guides?

The majority of participants either indicated most times (n = 79/45%) or always (n = 85/49%) that the contents were covered according to the study guides. Only (n = 9/5%) indicated that the contents were seldom covered according to the study guides (Table 4.19).

Table 4.19: Contents being covered according to study guides

Response	n	%
Never	1	1
Seldom	9	5
Most times	79	45
Always	85	49
Total	174	100

4.4.12 Variable B12: Do the study guides reflect the contents of the subjects?

The majority of participants either indicated most times (n = 59/34%), or always (n = 105/61%) that the study guides reflected the contents of the subjects. Only (n = 8/5%) indicated that the study guides seldom reflected the contents of the subjects (Table 4.20).

Table 4.20: Reflection of study guides on contents of subjects

Response	n	%
Never	1	1
Seldom	8	5
Most times	59	34
Always	105	60
Total	173	100

4.4.13 Variable B13: How often do you use the library?

Table 4.21 shows that participants indicated that they seldom used the library (n = 78/45%), (n = 69/40%) most times, (n = 18/10%) always and (n = 9/5%) never. It was concerning that (78/45%) of the participants seldom used the library and (9/5%) never did.

In a study conducted by Karemera, Reuben and Sillah (2003:306), students who rated library resources as adequate, were more likely to be better students. Franks and McAlonan (2007:264) showed that a significant number of students were neither conversant with, nor confident in how to use the library resources effectively. Students indicated no use of the on site university library, nor another, because of uncertainty about what information was available and due to a lack of understanding how they could use the facilities. This study further showed that students reported overall higher confidence levels in using textbooks and journals, yet less confidence in using the university library catalogue, which indicated that searching was superficial and unsystematic.

According to Franks and McAlonan (2007:264), these findings are important, because student professional nurses spend significant times on placements away from the university and rely on external access, which requires skills in computer and internet use that are becoming increasingly important for effective knowledge retrieval.

Table 4.21: Use of libraries

Response	n	%
Never	9	5
Seldom	78	45
Most times	69	40
Always	18	10
Total	174	100

4.4.14 Variable B14: How often do you use the computer laboratory?

It was concerning that (n = 91/52%) of the participants seldom and (n = 10/6%) never used the computer laboratory. Only (n = 58/33%) of the participants used it most times (Table 4.22). Analyses showed that there was a statistical relationship between coping with the workload and how often participants used the computer laboratory (Spearman p-value <0.01). The findings from this study was contradicted by the findings of a study conducted by McCurry and Martins (2010:279), which showed that the millennial students reported that they would prefer to see faster and more interactive online course management systems, such as WebCT and Blackboard activities. According to a study conducted by Fetter (2009:84), numerous barriers to competency attainment in achieving information technology (IT) outcomes were identified. These included wide variations in access to informatics and technologies in clinical areas, inconsistent integration of informatics contents into theory and clinical courses, and lack of faculty knowledge, skills and motivation to integrated IT skills in the curriculum. These were regarded as significant challenges. Another study by Bond (2010:487) showed that students, who considered that they lacked the skills to use computers in their placements, reported significantly lower computer use in practice, than students who were satisfied with their skills.

Table 4.22: Use of computer laboratory

Response	n	%
Never	10	6
Seldom	91	52
Most times	58	33
Always	15	9
Total	174	100

4.4.15 Variable B15: Do you have internet access?

The majority of the participants (n = 147/84%) indicated that they had access to internet, whereas (n = 27/16%) indicated that they had no access (Table 4.23).

Table 4.23: Access to internet

Response	n	%
No	27	16
Yes	147	84
Total	174	100

4.4.16 Variable B16: How often do you use the internet?

The results were alarming, as only (n = 12/7%) of the participants indicated that they always used the internet, and (n = 55/32%) most times. Most of the students indicated that they either seldom (n = 77/44%), or never (n = 24/14%) used the internet (Table 4.24).

A study conducted by Tarrant, Dodgson and Law (2008:458) showed that students with prior experience in reading professional journals and students with prior experience in using electronic databases, reported higher competencies in academic writing skills, than those with no prior experiences. However, Nayda and Rankin (2009:31) showed that students related developing information literacy skills to gaining information from librarians, academics and their peers, rather than using online and other search strategies. Another study by Bond (2010:487) showed that students' use of the internet had increased significantly after a three month course and it was unusual for students not to have internet experience.

Table 4.24: Use of the internet

Response	n	%
Never	24	14
Seldom	77	44
Most times	55	32
Always	12	7
Not Applicable	6	3
Total	174	100

4.4.17 Variable B17: Is language a barrier to your learning?

The results showed that (n = 44/25%) of the participants indicated that language was never a barrier to their learning, with (n = 54/31%) of the participants indicating seldom. A further analysis showed that participants with Isi-Xhosa as their first language had the lowest mean score (1.02) with regards to language being a barrier to learning, followed by English (mean score = 1.17) and Afrikaans the highest (mean score = 1.30). Junious *et al.* (2010:268) showed that foreign students studying in the United States found issues relating to language, heavy accents and overall communication as significant stressors.

Table 4.25: Language as a barrier to learning

Response	n	%
Never	44	25
Seldom	54	31
Most times	61	35
Always	7	5
Not Applicable	7	4
Total	173	100

4.4.18 Variable B 18: Do your language problems affect your learning?

Participants (n = 65/37%) indicated that their language problems seldom affected their learning, and (n = 45/26%) indicated never. It was concerning that (n = 7/5%) of the participants indicated that their language problems always affected their learning. Participants with Isi-Xhosa as their first language had the lowest mean score (0.92) with reference to their language problems affecting their learning, followed by the English (mean score = 1.00), with Afrikaans being the highest (mean score = 1.22). Results from a study conducted by Salamonson and Andrew (2006:348) showed that students from non-English speaking backgrounds had lower academic performances than those from English speaking backgrounds.

Table 4.26: Language problems affecting learning

Response	N	%
Never	45	26
Seldom	65	37
Most times	48	28
Always	6	3
Not Applicable	10	6
Total	174	100

4.4.19 Variable B19: How are your writing skills in English?

Results from this study showed that (n = 91/52%) of participants indicated that their writing skills were good, with (n = 63/37%) indicating fair. Only (n = 20/11%) indicated that their writing skills were very good. It was concerning that (n = 63/37%) of the participants indicated that their writing skills were fair.

A study conducted by Shakya and Horsfall (2000:166) showed that international students with English as a second language, had an adequate level of English for conservation and non-discipline specific reading. Higher levels of proficiency were, however, required to successfully grapple with verbal and written academic demands of the nursing course. Of significance was that all of the participants in this study experienced difficulty in at least one of the areas of listening, speaking, reading or writing.

Table 4.27: Competence in writing skills

Response	N	%
Fair	63	37
Good	91	52
Very Good	20	11
Total	174	100

4.4.20 Variable B 20: Do you receive support to assist you with language problems?

Participants indicated that (n = 83/48%) received support to assist with language problems, whilst (n = 75/43%) indicated that they did not.

Table 4.28: Support received with language problems

Response	N	%
No	75	43
Yes	83	48
Not Applicable	16	9
Total	174	100

4.5 OPEN QUESTIONS

4.5.1 Variable 21: What can you do as a student to improve your performance?

This was an open ended question to which (n = 160/92%) of the participants responded and (n = 14/8%) did not respond (n = 174). These responses were categorised as follows:

4.5.1.1 Study schedule

The majority of the participants (n = 122/76%) indicated that they needed to spend more time on their studies and put in more effort into their work. Participants further indicated that they needed to study every day, even when they were in the clinical areas. They expressed the need to therefore plan so that there would be a balance between work, studies and their social lives. Participants indicated the realisation that they had to study consistently and not wait for tests and examinations. They also indicated that when attending classes, that they should revise the work being done in class every afternoon.

Many students indicated that another reason why they wanted to study harder was because they wanted to understand the work and not just memorise it. A few students, who lived outside of the students' residence, indicated that they did not get enough time to spend with their books, due to family commitments. They indicated that if they were living in the residence, they would be able to spend more time on studies and would perform better. A study conducted by Yurkovich (2001:277) showed that students reported that students' development of assertive skills began to empower the students to advocate for their learning processes.

Table 4.29: Study schedule

Total	n	%
160	122	76

4.5.1.2 Study groups

Many participants (n= 39/24.37%) indicated that study groups would help them study better and help them understand the work with insight. They expressed the intention to join study groups, or to form new study groups. They also indicated that this would particularly be helpful when they did not understand English contents or terminologies. A fellow student could then explain the contents in his/her mother tongue.

A study conducted by Welsh (2007:70) showed that students overwhelmingly endorsed the peer assessment process as significantly challenging, stimulating, invaluable in focusing and in directing the associated course work and as ultimately worthwhile. Feingold *et al.* (2008:221) showed that students viewed the interactive learning experiences of team learning and being able to articulate, as positive aspects of the learning process. This study further demonstrated that students regarded the team as more likely to arrive at a correct answer, than the individual working alone, which helped reinforce the concept of strength in teamwork. Students also clearly connected the concept of teamwork to their future roles as members of health care teams. A further study by Nayda and Rankin (2009:32) showed that students identified that a large contribution to their information literacy skills development came from the university lecturers and peer students. This supported the notion that students preferred episodic assistance from more easily accessible sources to complete assignments, rather than going through formal information seeking strategies that would contribute to life long learning skills and best practice processes.

Table 4.30: Study groups

Total	n	%
160	39	24.37

4.5.1.3 Consulting with lecturers

Participants (n= 41/25.62%) also indicated that they should consult their lecturers more often, especially when they did not understand the work. They further indicated that they should ask lecturers questions in class.

Table 4.31: Consulting with lecturers

Total	n	%
160	41	25.62

4.5.1.4 Use of library, computer laboratory and the internet

Participants (n = 28/17.5) indicated that they needed to make use of library facilities more often and read more to improve their English and thus their studies. Library facilities include the computer laboratory and the use of the internet.

Table 4.32: Use of library, computer laboratory and the internet

Total	n	%
160	28	17.5

4.5.1.5 Study methods

Participants (n = 23/14%) reported that they needed assistance with their study methods. Case and Gunstone (2002:465) identified three qualitatively different and distinct approaches to learning in the second year course in chemical engineering, i.e. a conceptual approach, where the intention is to understand concepts; an algorithmic approach, where the intention is to remember calculation methods for solving problems; and an information-based approach, where the intention is to remember information that can be applied in response to assessment questions. This article focused on students' metacognitive development, in other words, the extent to which they changed their approaches to learning over the duration of the course.

Table 4.33: Study methods

Total	n	%
160	23	14%

Participants also indicated that the classes were too big and that it was difficult to participate in class. They furthermore stated that the workload was too heavy and that the course duration should be extended. The last response came particularly from the third and fourth year students, who specifically mentioned midwifery. Findings of a study by Buckley *et al.* (2009:350) to determine the educational effects of portfolios on undergraduate student learning revealed that for the undergraduate setting, the evidence base for the educational effects of portfolios was limited.

Table 4.34: Recommended solutions to study problems

Solutions	n	%
1. Study more time per day	48	26
2. Study everyday	85	
3. Plan Studies (study methods)	21	12
4. Make use of library resources	25	14
5. Consult internet resources	12	7
6. Seek academic support	41	24
7. Peer learning	39	22
8. Attend extra classes	0	0

4.5.2 Variable 22: What can your lecturers do to provide additional assistance, to help improve your academic performance?

This was an open ended question to which (n = 170/98%) responded, whereas (n = 4/2%) did not respond. Participants indicated that lecturers should make use of different ways of presenting to make the lectures more interesting and to present with more passion. Participants provided more than one comment to this question. Responses from participants were grouped as follows:

4.5.2.1 Improved teaching strategies

Participants (n = 72/45%) indicated that lecturers needed to be more creative. Specific comments included that overhead projectors were boring, whilst PowerPoint presentations should be used as well. Participants also mentioned that lecturers needed to know the contents and come to class being prepared. This was congruent with study outcomes being conducted by Waterson *et al.* (2006:60), where students shared the same sentiment. Students in this study voiced a desperate need for a more exciting and dynamic classroom atmosphere, thoughts and ideas. Again, large classes were mentioned, which made it difficult for lecturers to teach and work with the group. There were many requests for smaller groups and more lecturers. Many students suggested that there should be more interaction in class, whilst the need for opportunities for group work was expressed. Students also requested that lecturers needed to identify the difficult work and emphasise this. In their study on comparing traditional and innovative approaches in achieving success with millennial learners, McCurry and Martins (2010:279) reported that teachers needed to reflect on former

traditional methods and continue to create strategies that stimulate and inspire current nursing students in higher education.

Students, who undertook a programme of study of engaging with peer assessment, endorsed the process as significantly challenging, stimulating, and invaluable in focusing and directing the associated coursework and as ultimately worthwhile (Welsh, 2007:79). A very small minority of students did not appear to support the use of the peer assessment mechanism during this study.

Table 4.35: Five teaching strategies

Problems with teaching strategies	n	%
1. Overhead projectors boring	40	23
2. Lecturers not prepared for lectures	19	11
3. Too little interaction	23	13
4. Classes too big	37	21
5. Too little emphasis on difficult work	15	9

4.5.2.2 *Academic climate*

Participants responded that lecturers should present with more passion and make the lectures more interactive. A few participants mentioned that lecturers should be more student friendly and approachable. Many participants replied that lecture times were short and therefore should not be used for making announcements. Participants commented that lectures were rushed and that the pace was too fast. According to a study by Waterson *et al.* (2006:72), students stated that the teaching strategies and classroom environment being created by their tutors had demotivated them and that they had coped by making a noise and sleeping in class. Furthermore, this study also showed that students raised concerns about the lack of skills and experiences of some tutors, and suggested that this had contributed to the poor performance of students, as tutors were not specialised enough in their fields of knowledge (Waterson *et al.*, 2006:61). In a study conducted by Ates and Eryilmaz (2010:2327), students expressed the view that tutors should guide the discussions and lead students to the right way in their roles as tutors in PBL. Similarly, in the same study, the tutors emphasised the importance of guidance and explained their required roles in detail, such as being a subject matter expert, keeping the discussion alive, explaining rarely, intervening discussions when necessary and preventing students from wandering away from the

subjects. According to the students, a lack of these characteristics had resulted in a drop in the motivational levels of students.

Table 4.36: Academic climate

Problems with academic climate	n	%
1. Lecturers' presentations lack passion	27	16
2. Lack of approachability	10	6
3. Lecturers not student friendly	22	13
4. Lecture times too short	35	20

4.5.2.3 Workload

Participants responded that the workload was “too heavy” and therefore class time should be extended and practical made shorter. Third and fourth year students complained specifically of the workload of the midwifery course in relation to the allowed time. In general, most participants complained that the workload was too much.

4.5.2.4 Seeking academic support

A common response of the participants was that they required revision, or extra classes. Some mentioned that they were prepared to come in the afternoons and others over weekends. There were participants who suggested that they would benefit from one on one meetings with their lecturers.

4.5.2.5 Feedback

There were participants who commented that feedback should not just be a reading session.

A study conducted by Weaver (2006:387-389) showed that students responded that feedback was unhelpful and that it was too general and lacked detail. Students noted that feedback lacked guidance, as it did not contain suggestions for improvement.

Further responses included the demarcation for tests and examinations. Many participants commented on the demarcations being too broad and indicated that they were not tested on the topics that they were told to study. Participants thus requested that the demarcation should be more specific and clear and that the lecturers should ask the contents that were in the demarcation.

One student recommended that students be asked to acknowledge their best lecturer, for example, after every college block.

There were participants who also suggested that the lectures be presented in their mother language. No specific language was mentioned. Other participants suggested that lecturers taught at a slower pace, since English was their second language, which was sometimes difficult to follow

There were participants who responded that lecturers were trying their best (n=6/4%), but that the workload was too much.

Table 4.37: Response to open questions: Additional assistance, to help improve your performance?

Responses	n	%
1. Teaching strategies	72	41
2. Academic climate	21	12
3. Workload	22	13
4. Seek academic	28	16
5. Support (extra classes)	28	16
6. Feedback	20	11
7. Use of library resources	28	16
8. Peer learning	39	22

4.6 CONCLUSION

In this chapter, the data being collected during this study was analysed, interpreted and discussed. The researcher succeeded in exploring, investigating and successfully addressing the research question, i.e.:

“What are the academic factors that influence the academic performances of students in a nursing college in the Western Cape?”

By using scientific, investigative techniques, the factors influencing the academic performances of students in a specific nursing college in the Western Cape, were successfully identified.

The following objectives were thus achieved:

1. Factors that influence the learning environment.

2. Factors that influence language.
3. Factors that influence the teaching strategies.
4. Factors that influence approaches to learning.

In the final chapter, recommendations are made, based on the study outcomes being generated during this research.

CHAPTER 5.

RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter, conclusions, based on the scientific evidence being obtained during this study, are drawn, with reference to the outcomes from similar studies. The purpose, research question, objectives, as well as the limitations of this study are then briefly discussed. Finally, the recommendations, as derived from this study, are presented.

5.2 CONCLUSIONS

The following objectives were set for this research study, namely to investigate:

- The reasons why students enter the nursing profession;
- The selection criteria;
- The approaches to learning;
- Motivation and learning;
- Language barrier;
- The factors affecting the learning environment;
- Factors affecting attrition; and
- Factors affecting information technology.

These objectives were met through an in-depth research study that aimed at identifying the factors that had influenced academic performance of students at a nursing college in the Western Cape in recent years.

5.3 RECOMMENDATIONS

5.3.1 The reasons why students enter the nursing profession

The following reasons were communicated by nursing students who participated in completing the questionnaire.

5.3.1.1 *Nursing as a career choice (Section A 1– A 5)*

Most of the participants (58%) in this study indicated that they had chosen nursing as a career, because they had always wanted to be professional nurses, followed by participants (20%) who considered nursing to be a secure job. All of the reasons why participants had chosen nursing as a career choice, was summarised in Table 4.4.

5.3.1.2 Marketing strategies

Mooney, Glacken and O'Brien (2008:391) recommend that by creating an awareness of the reasons why students choose nursing as a career may be useful to those being involved with recruitment, as this information can be used to underpin suitable recruitment strategies.

Recommendations therefore include the following:

- Stronger marketing strategies should be used to market the nursing profession and to target school learners when they start choosing subjects for grade ten. School teachers and guidance counsellors / advisors should be involved in assisting school learners with career guidance.
- An open day should be held at the specific nursing college being investigated and by others, as well as road shows to accommodate the rural areas.
- Open days should be campaigned well in advance and be broadly advertised so that all schools and interested prospective students can be captured. Learners in schools should be targeted from grade nine and ten onwards.

A study conducted by Hoke (2006:99) concluded that presentations on nursing as a career are most effective for students who are in the prime of their career decision making stages.

5.3.2 Selection criteria (Section A 6 – A 9)

Most participants (83%) in this study had completed their school careers in the minimum prescribed period of 12 years. Furthermore, (85%) had a background in mathematics, (73%) in physical science, whereas all students had backgrounds in biology (Table 4.6). These results were congruent with the scientific field being offered by the nursing career.

5.3.2.1 Recommended selection criteria

In order to prevent the currently experienced high attrition rate of nursing students over the course of their studies, selection criteria must be strictly adhered to. It is emphasised that the selection criteria must be clear, specific and transparent, especially to those involved with the recruitment process.

The following are hence recommended:

- Evidence of job shadowing should be included as a selection criterion, in order to determine the caring and nurturing aspects of prospective, new nursing

students. Learners should therefore be compelled to complete a certain number of community hours in a local health institution, such as a hospitals, and/or at old age homes. This would provide them with an opportunity to observe and shadow professional nurses in action and to help in making informed decisions. Consequently, students entering a nursing course would not be oblivious to what nursing entails. A theme that has emerged from a study being conducted by Beck (2000:322) was the powerful impact of observing professional nurses in action. This study also confirmed a repetitive pattern being observed among students entering nursing as a career, which was their strong desire to help people.

- To maintain a minimal attrition rate, aptitude tests in matric, or in the year prior to registration should be conducted on all preliminary students, hoping to enter the nursing profession. These tests should ideally be conducted in the month of June or July to allow adequate time for the analysis of the data.
- Introduction of the English language acculturation, as measured on the 5-item English Language Acculturation Scale (ELAS), should be adopted as part of the screening and orientation process of new students. Salamonson *et al.* (2008:92) emphasise the heterogeneity of nursing students with English as a second language (ESL), particularly the range of academic performances and the levels of the English language acculturation, as measured on the 5-item ELAS. This study has shown the relevance of incorporating, for example the ELAS tool, in assessing nursing students' English language acculturation aptitudes and English proficiency.
- The selection process should not be rushed, as this may result in unsuitable candidates being selected. The process should allow adequate time for detecting problems and/or re-advertise, if an inadequate number of suitable candidates have applied for the course. This should help prevent long term problems that may be encountered, due to wrong career choices and thus unacceptably high attrition rates.
- Entry tests, designed specifically for identifying those students to whom nursing is a first career choice, should be written and should be fair and appropriate to the learners taking the test.
- Only one intake of students, at the beginning of the academic year, is recommended. Multiple intakes result in a large number of students into nursing programmes, which may affect the quality of students being enrolled. Ultimately,

the risk of failure may increase, due to students not being prepared for the academic course, as was revealed by the outcomes of a study by Newton, Smith and Moore (2007:440).

- In order to achieve high scores, the importance of good grades in English and mathematics at high school, especially at the advanced level (Higher grade HG), cannot be overstated. Parents, teachers and guidance counsellors should take cognizance of the rationale for students choosing specific courses in light of their career choices. According to Young and Fisler (2000:412), demographic and educational variables have a powerful impact on SAT scores.
- Higher education institutions should increase the level of qualifications required to gain entry into programmes in order to decrease student attrition rates, as substantiated by Prymachuk, Easton and Littlewood (2009:158).

5.3.3 Approaches to learning

Results from this study showed that first and second years spent 2.3 hours and fourth years 3 hours on their studies per day (Table 4.9) In addition, some participants indicated that they were seldom (18%) and never (6%) satisfied with the teaching strategies used by lecturers (Table 4.10).

With regards to the learning environment being conducive to learning, (29%) indicated that the learning environment was inconducive to learning. It was concerning that (30%) and (3%) of the participants indicated that they seldom and never, respectively, coped with the workload. All of the above would have contributed to the students' levels of motivation and to the types of learning approaches adopted by them.

5.3.3.1 Quality assurance

To maintain quality assurance in higher education, various strategies should be introduced. An educational audit should be carried out after every college block, or whenever the need arises. An evaluation form or questionnaire should be designed and distributed to students to complete anonymously in a formal class setting. The document should include the following basic information, whilst more specific information may be added and/or adapted as required, especially in the event of specific problems / negative academic trends arising.

Criteria for the educational audit should include the following:

- a) *Ethos of the academic environment*

- Evaluation and perception of the academic environment;
- General climate;
- Channels of communication;
- Approachability of lecturers; and
- Commitment to teaching and learning.

b) Teaching programme and assessment

- Planned programmes;
- Opportunities for students to achieve competencies through continuous assessments; and
- Learning outcomes set at appropriate academic and professional levels.

c) Teaching / learning resources and strategies

- Teaching / learning resources availability;
- Different teaching strategies used; and
- Availability of information technology.

This recommendation underpins Bloom's (Forehand, 2005:3) taxonomy.

5.3.4 Coping with the workload

Results showed that (29%) of the students seldom coped with the workload and (3%) indicated never. This was concerning in respect of the college being studied, as the academic workload of students may have been seriously compromising academic performance. It may thus have become necessary that the curriculum be revised regularly to enable the students to cope with the learning material so that they experience reasonable learning demands and less of an overload. The learning objectives, teaching strategies and assessment should be aligned with the aims of teaching. Assessment should be aimed at determining whether students truly understand the work, rather than simply reproducing the content. This is in support of studies conducted by Diseth (2007:201), and Entwistle and Peterson (2004:424).

The following recommendations are made:

5.3.4.1 Curriculum

- Regular updates of the contents of the curriculum are required to ensure that only the relevant learning outcomes are included.
- There should be a policy on how often the curriculum should be revised.
- The academic performances of students should be taken into consideration, with particular attention to the workloads of students. Based on the outcomes of this study, specific attention should be paid to the third year curriculum.
- Only the core learning objectives for each subject matter must be included in the curriculum. This should help prevent curriculum overloading. According to a study conducted by Waterson *et al.* (2006:59), in order to solve problems of curriculum overload, frequent curriculum revision must be done.
- ESL students should be encouraged to adopt a strategic approach to their studies, which would allow them to pay more attention to the organisation of their studies. This should help them to experience the satisfaction of short term wins, which should consequently result in a better self esteem and in their studies becoming more appealing, due to higher self motivational levels.

Once students show signs of adopting a strategic approach, the deep approach to learning may be pursued. Often students will take their own initiatives and automatically make the transition to the deep approach. This intervention should enable students to be more prepared for examinations and may improve results.

5.3.5 Motivation to study / own time spent on studies (B 1)

According to this study, first and second year students spent an average of 2.3 hours per day studying, whilst fourth year students spent an average of 3 hours studying. Third year students spent the most time studying on their own, i.e. 3.5 hours daily.

A study conducted by Artelt (2005:251) in different countries showed that motivation determined the choice to become engaged in a task. This supported the hypothesis of this study that students would only control their learning, once they are well motivated.

The following are therefore recommended to help ensure that students become motivated:

5.3.5.1 *Motivation*

- Nursing students should be integrated and form part of a higher education, student population. Currently, professional nurses in nursing colleges form a group in isolation and as such are not exposed to how other students interact and cope with their studies. For example, most higher education institutions have a wide range of sport facilities available, where students of different faculties play together and even compete against each other. Such socialisation can lead to discussions pertaining to studies. Students may thus be motivated to work harder if exposed to non-nursing students and their approaches to their studies.
- Nursing programmes should be combined with other programmes, comprising other student populations. This would provide diversity in the learning environment. This notion is supported by the conclusion drawn by Giddens (2008:82), after investigating the achievement of diversity in nursing, through multicontextual learning environments.
- Students should be motivated to increase the number of hours they spend studying per day. The average time spent studying by nursing students in the college being investigated, was 2.7 hours per day. According to a study conducted by Young (2002:1), full time students should be spending 25 - 30 hours per week studying on their own, thus 3.6 - 4.3 hours daily.

Bloom's taxonomy operates on three domains, i.e. cognitive, affective and psychomotoric (Forehand, 2005:2). The affective domain in Bloom's taxonomy would encourage motivation and perseverance.

5.3.6 Language (Section A 3, B 17 – B 20)

The data analysis showed that Afrikaans was the dominant first language of students in the college studied, followed by Isi-Xhosa. Table 4.2 summarised the differences in the languages spoken at this college. Only 11% of the students had English as their first language, which was the language medium of the college.

The following recommendations are thus made:

5.3.6.1 Interaction between English and non-English speaking students

- Professional nurse lecturers should use different teaching strategies to stimulate the students' critical thinking. This could be achieved by encouraging

interaction between English and non-English speaking students through group discussions or group projects.

- Included in these group activities could be tasks that require literature research to improve reading skills, summaries of the findings from the discussions and reading to improve writing skills, as well as presentations of the end products to improve communication and public speaking skills. A study conducted by Artelt (2005;251) showed that the interest in reading had a particularly strong link with performance, which was largely independent of the fact that good readers were more likely to adopt certain strategies.
- Lecturers could also include in their teaching strategies learning activities or study questions to find pertinent / important information in texts. This could be an effective strategy to assist students with low levels of English language acculturation, as well as to focus the attention on the material of importance. This recommendation is in support of studies conducted by Choi (2005:267) and Salamonson *et al.* (2008:92).
- Peer or support groups should be formed among a combination of English and non-English speaking students. Non-academic interaction between these two groups should also be encouraged and arranged at college administration level.

5.3.6.2 *Feedback*

- The provision of effective feedback is an essential educational tool generally, but particularly to ESL students. An educator should begin by providing the positive components of the feedback and then offering suggestions on how to improve the student's reasoning (Choi, 2005:266).

The value of using detailed feedback questionnaires, together with group interviews to describe students' experiences of teaching and learning, is essential. In this way, it would become clear which aspects of the teaching-learning activities are most appreciated by students and supportive of their learning. In addition it would also assist with interpreting those findings in relation to the explanations / recommendations given by staff about ways in which current feedback may be strengthened (Entwistle, 2004:11).

5.3.6.3 *Language academic support workshops*

- A language centre could be established, headed and managed by language experts. These language experts should work closely with professional nurse

lecturers to enhance their acquaintance with the English nursing curriculum and clinical scenarios in nursing. Students who experience problems in between academic workshops could then have the choice of approaching the language centre, or their professional nurse lecturers for assistance. Assistance at the language centre may include programmes for improving reading and comprehension skills, and academic writing skills. Professional nurse lecturers may be approached for a more scientific approach to reading and writing and interpretation. This could be done on an individual level with students.

- Academic workshops could be held, aimed at improving verbal communication, and academic interactive and writing skills. This type of workshop should be presented by presenters with a nursing or science background, who are thus able to use examples and make references to outcomes and the objectives of the students. These academic workshops should be held for second, third and fourth year students separately.
- A study conducted by Salamonson, Andrew and Everett (2010:418) showed that a brief, intensive, embedded, academic support workshop was effective in improving the academic writing ability of nursing students with low to medium English language proficiency, and it promoted academic success of at-risk student groups.
- The use of recordings about specific information on any nursing topic, for students to listen to in class exercises, can be done to test the four areas of language, i.e. reading, listening, speaking and writing. This is in support of a study by Salamonson *et al.* (2009:418) and Guhde (2003:115), in which exercises were done to cover the four areas of language.

This recommendation underpins the SOLO taxonomy, which aims at mastering tasks early in the course and then grows in complexity as the course progresses (Biggs, 1995:7).

5.3.6.4 *Introduction of English as a subject / module*

- English should be introduced as a compulsory subject / module in the first year and should be integrated with the nursing curriculum, in order to enhance language competence in their profession. This would thus allow for structured, ongoing support in the first year. Thus, as the student experiences problems in writing and verbal skills, they can be addressed in the English class. By the time the students enter the second year, they will have a better understanding of the

type of academic language and writing that are expected of them, apart from being more comfortable and proficient in English. English as a subject / module could be presented in integration with other first year courses. Thus, the class can be a combination of different courses all sitting together, with English as a subject / module, presented by an English expert language lecturer.

5.3.7 Learning environment (Section B 2 – B 16)

The majority of participants (71%) in this study indicated that they were satisfied with their learning environments. Most of the participants (56%) indicated that they obtained adequate academic support. A further analysis showed that participants who had passed with a matric exemption sought academic support more frequently, than those who had not passed with a matric exemption.

The participants (41%) indicated that they were able to apply the theory being taught in the class to their practical experience most times, whilst (46%) indicated always. Participants (48%) also indicated that they received adequate support while in the clinical areas most times, whilst (28%) indicated always.

Even though the majority of the participants indicated that they were able to cope with the workload, it was concerning that (29%) of the participants indicated that they seldom coped with the workload, whereas (3%) never coped. A further concern was an overall majority of participants who indicated that there was inconsistency in the marking, schedules, tests, examinations and guidelines.

Another concern was that half of the participants indicated that they seldom (45%) or never (5%) used the library. Similarly (52%) of the participants seldom used the computer laboratory, whereas (6%) never used it.

5.3.7.1 Learning environment

According to a study conducted by Waterson *et al.* (2006:72), students stated that the teaching strategies and classroom environment being created by their tutors had demotivated them and they had coped by making a noise and sleeping in class.

It is thus recommended that:

- Lecturers should be well prepared, dynamic in their teaching approach, passionate about the subject matter, approachable and student friendly.

- An award system should be introduced, such as the Head of College award, for the best achieving lecturer in teaching and learning, based on a portfolio of evidence, based mainly on student evaluation.
- Mechanisms should be implemented to evaluate how students perceive their learning environments, as those ultimately influence the approaches that students adopt when learning and subsequently their examination performance. This could be achieved by allowing students to complete an evaluation form anonymously at the end of each class block. Alternatively, there could be an electronic feedback system, or a “suggestion / complaint” box at a central point. This is in support of a study conducted by Entwistle and Peterson (2004:424).

5.3.7.2 *Teaching Strategies*

The following recommendations are aimed at improving teaching strategies:

- The use of student evaluations could be a valuable method of inducing the transformation of teaching strategies and course design in nursing education, as supported by Hessler and Humphreys (2008:187). Nursing students in the class evaluate the teaching style and not the clinical expertise. This is supported by Polofroni (2008:95), who states that as teachers in the classrooms and the clinical areas, we need to know how our performance reflects on the school at large, influences students, achieves curricular goals, and makes a difference in the graduates we produce. According to Artelt (2005:251), adopting an effective learning strategy depends not just on having cognitive tools (knowing how to learn), but also on having certain attitudes and dispositions (wanting to learn) (Conceptual framework, Bloom's taxonomy (Forehand, 2005:4) and SOLO taxonomy (Biggs, 1995:7).
- New teachers and lecturers should take regular refresher courses on how to teach in a modern, higher education environment, as supported by Kember, Leung and McNaught (2009:44). There should also be an orientation workshop for new lecturers, to introduce them to current teaching strategies and techniques, suitable to the higher education environment and to prepare them for possible challenges that are commonly encountered.
- Strategies to encourage a learner centred approach to teaching must be introduced. This can be brain stormed in a workshop and can be done in the form of in-service training for lecturers. Teaching strategies should be highly focused on when planning a learner centred approach to teaching, as supported

by Bruce (2002:11). The introduction of electronic learning (e-learning) should be implemented as a matter of urgency.

5.3.7.3 Academic support

The following are recommended to enhance academic support:

- Lecturers should be available for consultation outside of class times and provide adequate contents assistance to take the students' exploration to another level. This is in support of a study by Chakravarthi, Nagaraja and Judson (2010:219), who recommend that in order to obtain structure and engaging students in the right level of empowerment, relationship boundaries must be flexible, yet firmly established.
- The establishment of a teaching and learning resource centre to support learners with aspects, such as studying methods, use of technology and an electronic library.

5.3.7.4 Information literacy

Information technology (IT) is a compulsory requirement in higher education today.

The following are therefore recommended:

- A compulsory engagement with current academic practices through the use of IT, such as the use of fast, interactive, online, course management systems, such as Web based communication (WebCT) and Blackboard activities. These should include assignments, assessments, posting notices onto the electronic calendar and discussions. Submitting assignments through the use of software, such as turn-it-in, will also counteract plagiarism, for example.
- WebCT should be introduced between lecturers and students.
- Liaise with the librarian with regards to the implementation of the Chelsea document, with specific reference to Web search tools (Chelsea, 2010:21).
- Technology requirements should be available and easily accessible to lecturers for use. The introduction of a central depot, providing IT support and the required teaching equipment, such as data projectors and laptops, is essential in a current, academic institution.
- Upgraded lecture halls, with built-in data projectors, computers and internet access facilities, are compulsory requirements in education today.

- The establishing of student friendly computer laboratories, accessible 24 hours around the clock, with the required IT support, should receive priority in order to enhance the use of technology in nursing education.
- Regular updates and in-service training for academic staff.

5.3.7.5 *Physical environment*

The physical environment may either enhance learning, or influence students negatively.

The following are therefore recommended:

- Teaching strategies should be introduced on how to manage large classes, especially during activities, such as group work and peer assessment.
- Large classes, especially of first and second year students, must be divided into smaller groups, as it should help improve the academic climate, for example with regards to interaction, teaching strategies and group activities.

5.3.8 **Attrition (Questions B 21 – B 22)**

Analysis of the data showed that students did not spend sufficient time on their studies per day in their own time (Table 4.9).

To enhance throughput of students, the following are this recommended:

5.3.8.1 *Primary prevention strategies*

- Improve public awareness regarding the realities of the nursing curriculum and the nursing profession. As a primary prevention strategy, this intervention may reduce the number of students who leave nursing, because the realities of the nursing curriculum are then consistent with their pre-enrolment perceptions of nursing and the nursing curriculum, as supported by Wells (2003:233). This is in support also of the recommendation being made in this study regarding nursing as a career choice.

5.3.8.2 *Secondary prevention strategies*

- Conduct student satisfaction surveys to identify risk factors related to student attrition, as supported by Wells (2003:234). The 'at risk' students must be timeously identified.
- A referral system for support should be implemented to help students succeed. Support systems may include peer tutoring, course contents review sessions,

personnel and academic counselling, study skills workshops and other students support programmes, as substantiated by Hopkins (2008:258).

- The introduction of specific strategies to facilitate student success should include intensive academic advisory services, mentoring and tutoring, as supported by Delapp, Hautman and Anderson (2008:295).
- The introduction of a mentorship programme for students, especially for the novice in nursing, is imperative. A mentor offers advice and guidance to learners, provides support, challenges and envisions (Escallier & Fullerton, 2009:489). Mentoring should involve narrowing the gap between theory and practice and should not just be about competency in practical procedures. Mentors can also be prepared in the form of a workshop, be regularly updated and familiarised with changes in the course content.

5.3.8.3 Recruitment strategies

The obtaining of a nursing qualification indicates to society that the graduates have a certain level of skills and expertise and are safe and competent practitioners.

The following are therefore recommended to help decrease the attrition rate and improve the quality of trained professional nurses:

- Appropriate and justifiable criteria for a nursing programme should be debated and decided upon.
- Criteria for recruitment should be adhered to. Students who do not meet the criteria should not be accepted into the programme.
- Criteria should not be lowered to meet projected numbers of students that are required to be trained on national level, equity and/or gender ratios.

5.3.8.4 Feedback

It is a critical academic requirement to provide constructive feedback to students relating to their academic performance.

The following are thus recommended:

- General and one-on-one feedback should be given after assignments, tests and examination outcomes are made available.
- It should become practice to provide feedback by giving the answer and giving a rationale, especially with multiple choice questions, as supported by Noble, Miller and Heckman (2008:252). Mistakes, incorrect interpretation of questions,

and mark allocations should be emphasised and discussed. Feedback should not be a reading session, but an opportunity for revising important work and for correcting misinterpretations and student errors / incorrect examination techniques.

- Both written and oral feedback should be given in an understandable and clear manner that is specific. In a study conducted by Duers and Brown (2009:657), some students indicated that written feedback was illegible, as “big” academic words were used, or was very vague. In the same study, some of the students responded that they preferred oral feedback to written feedback, as they then had the opportunity to ask questions.
- Feedback should be given to both academically strong and weak students. A study conducted by Weaver (2006:388-389) showed that a number of students responded that they did not receive guidance when high marks were achieved.
- Structured feedback is essential to ensure a balance between positive and negative comments. Many negative comments may be demoralising, whilst the slightest good comment could make a student feel good and give the necessary confidence.
- Methods of giving student feedback should be discussed among lecturers to ensure consistency and optimal outcomes through improvement strategies.
- Feedback sessions should also be used as an opportunity for detecting whether there is a need for a combined remedial session, or individual remedial sessions with students. It is therefore imperative that students give feedback by indicating their needs. This is in support of a study by Ofori and Charlton (2002:514).

5.3.8.5 *Identifying ‘at risk’ students*

At risk students should be identified early in the programme, in an effort to enhance the throughput of students.

Therefore the following are recommended:

- At risk students should be identified early in the course and be informed of their unsatisfactory and risky academic progress, through one on one interview with a lecturer(s) or a member of academic administration. The reasons for poor performance should be investigated and identified in one on one consultation with the student, which may include the number of hours spent studying on a

student's own, English as language barrier, approaches to studying and the use of information technology.

- The introduction of an institutional policy for the student at risk, which should be strictly adhered to. All communication between the student and lecturer must be documented and signed by both student and lecturer
- Students at risk must be notified early of their unsatisfactory progress in the course and the possibility of failure or termination that exists and a one on one appointment scheduled with a suitable lecturer.
- Each problem should be addressed individually and solutions negotiated with the student and documented, for example a student should not be spending less than three hours a day studying on his/her own.
- Assistance could after consultation be offered in the form of workshops, where clearly identified problems are addressed. Follow up workshops / interviews should be held to evaluate if any progress has been achieved.
- At risk students should also be exposed to peer tutoring by academically stronger students, both in college placements and clinical placements. Students can also form study groups where learning can take place under controlled circumstances.

5.4 FURTHER RESEARCH

Further research is recommended with regards to the following:

- Identifying the school learners' perceptions of nursing.
- The use of different admission practices or criteria and how they assess a student's preparedness for the academic course.
- A comparison between the younger and the older students with regards to their progress and academic achievements in nursing.

5.5 LIMITATIONS OF THE STUDY

It was difficult to plan the data collection strategy, since students from the four academic years were separate and even further subdivided into groups per academic year. One year group could thus be at different locations at a specific point in time, e.g. one group would be in college, another group of that same academic year in midwifery and a third group in the clinical areas. This required meticulous planning to ensure that each group was represented in the study and that no groups were duplicated, or excluded. As a result, data collection was done over a lengthy three-month period.

The responsible lecturers granted the researcher time only after a lecture to conduct the study. As a result, this was either before a tea or lunch break, or before going home. Students were thus impatient and wanted to be dismissed. This could have been one of the reasons why many students were reluctant to participate.

This study was limited to one nursing college and it was therefore difficult to make generalisations, due to the small sample.

Statistics at the college being studied were outdated, for example specific statistics were not kept as to why the attrition rate had declined / increased. An overall percentage of attrition rates were available, but lacked the reasons, for example due to failure, termination due to pregnancy, or termination due to wrong career choice.

It was further difficult to obtain information from the Provincial Government of the Western Cape's Department of Health regarding projected numbers of students to be trained in the Western Cape, based on gender and race and other demographics. This information had either not been documented or archived, especially prior to 2009.

5.6 CONCLUSION

The results from this research supported the research question being investigated, i.e. whether there were academic factors influencing learning at a specific nursing college that was investigated in the Western Cape. This study showed that a variety of factors had indeed contributed to the academic underachievement of students at this college.

Recommendations, based on the scientific evidence obtained from nursing students who completed the questionnaire, were provided that aimed at overcoming underachievement and promoting academic performance. The recommendations thus aimed at enriching the learning experiences of the students, by focusing on the learning activities, teaching strategies, workload and learning approaches.

It is believed that the insights gained from this study would positively contribute towards the necessary debate and implementation of suitable teaching and learning strategies at the specific nursing college being studied in the Western Cape, as well as at nursing colleges in South Africa as a whole.

It is thus anticipated that the implementation of the findings from this study would help improve the academic achievements of nursing students, substantially lower the

currently high attrition rate and thus increase the throughput of nursing students. All this would result in the successful delivery of more nursing professionals, able of providing quality health care and in accordance with Government's expectation of curbing the serious nursing shortage in this country.

BIBLIOGRAPHY

- Ahl, H. 2006. Motivation in adult education: a problem solver or a euphemism for direction and control? *International Journal of Lifelong Education*, Vol.25(4):385-405.
- Ansari, W.E. 2002. Student professional nurse satisfaction levels with their courses: Part 1: effects of demographic variables. *Professional nurse Education Today*, 22:159-170.
- Ansari, W.E. 2002. Student professional nurse satisfaction levels with their courses: Part 11: effects of academic variables. *Professional nurse Education Today*, 22:171-180.
- Artelt, C. 2005. Cross-cultural approaches to measuring motivation. *Educational Assessment*, 10(3):231-255.
- Ates, O. & Eryilmaz, A. 2010. Factors affecting performance of tutors during problem-based learning implementations. *Procedia Social and Behavioral Sciences*, 2:2325-2329.
- Atkinson, R.C. 2001. Achievement versus aptitude in college admissions. *Issues in Science and Technology*, 31-38.
- Bain, K. 2004. What the best college teachers do. London: Harvard University Press.
- Barnard, A., Nash, R. & O'Brien, M. 2005. Information literacy: developing lifelong skills through nursing education. *Journal of Nursing Education*, 44(11):505-510.
- Baykal, U., Sokmen, S., Korkmaz, S. & Akgun, E.I. 2005. Determining student satisfaction in a nursing college. *Nursing Education Today*, 25:255-262.
- Beck, C.T. 2000. The experience of choosing nursing as a career. *Journal of Nursing Education*, 39(7):320-322.

- Biggs, J. 1995. Assessing for learning: some dimensions underlying new approaches to educational assessment. *The Alberta Journal of Educational Research*, 41(1):1-17.
- Billings, D.M., & Halstead J.A. 2005 *Teaching in Nursing: A Guide for Faculty*, 2nd ed. St. Louis: Elsevier
- Biggs, J.B. 2003. *Teaching for quality learning at university*. 2nd ed. Berkshire: The Society for Research into Higher Education & Open University Press.
- Biggs, J.B. *Solo Taxonomy* 1995. Available
http://www.johnbiggs.com.au/images/solo_taxonomy.jpg. [accessed]
30 November 2010
- Bloomfield, J., Fordham-Clarke, C., Pegram, A. & Cunningham, B. 2010. The development and evaluation of a computer-based resource to assist pre-registration nursing students with their preparation for objective structured clinical examinations (OSCEs). *Professional nurse Education Today*, 30:113-117.
- Bok, D, 2006. *Our underachieving colleges: a candid look at what students learn and why they should be learning more*. United Kingdom: Princeton University Press.
- Bond, C.S. 2010. Surfing or still drowning?: student professional nurses' internet skills. *Professional nurse Education Today*, 30:485-488.
- Bosher, S. & Bowles, M. 2008. The effects of linguistic modification on ESL students' comprehension of nursing course test items. *Nursing Education Research*, 29(3):165-172.
- Brink, H. 2006. *Fundamentals of research methodology for health care professionals*. Kenwyn: Juta.
- Brown, S.T., Kirkpatrick, M.K., Mangum, D. & Avery, J. 2008. A review of narrative pedagogy strategies to transform traditional nursing education. *Journal of Nursing Education*, 47(6):283-286.

- Brown, S.T., Kirkpatrick, M.K., Greer, A., Matthias, A.D. & Swanson, M.S. 2009. The use of innovative pedagogies in nursing education: an international perspective. *Nursing Education Research*, 30(3):153-158.
- Brown, J.F. & Marshall, B.L. 2008. Continuous quality improvement: an effective strategy for improvement of program outcomes in a higher education setting. *Nursing Education Perspectives*, 29(4):205-211.
- Buckley, S., Coleman, J., Davison, I., Khan, K.S., Zamora, J., Malick, S., Morley, D., Pollard, D., Ashcroft, T., Popovic, C. & Sayers, J. 2009. The educational effects of portfolios on undergraduate student learning: a best evidence medical education (BEME) systematic review. BEME Guide No.11. *Medical Teacher*, 31:340-355.
- Burns, N. & Grove, S.K. 2007. *Understanding nursing research: building an evidence-based practice*. 4th ed. Philadelphia: Saunders.
- Burns, N. & Grove, S.K. 2009. *The practice of nursing research: appraisal, synthesis, and generation of evidence*. 6th ed. St Louis: Saunders.
- Case, J. & Gunstone, R. 2002. Metacognitive development as a shift in approach to learning: an in-depth study. *Studies in Higher Education*, 27(4):459-470.
- Case, J. & Marshall, D. 2004. Between deep and surface: procedural approaches to learning in engineering education contexts. *Studies in Higher Education*, 29(5):605-615.
- Campbell, M.R. Minority student success in nursing education. Available at: <http://209.85.229.132/searchq=cache:ZXFLn7sci6UJ:https://repository.unm.edu/dspace/> [Accessed 28 March 2010].
- Camposino, M. 2008. Beyond transculturalism: critiques of cultural education in nursing. *Journal of Nursing Education*, 47(7):298-303.
- Candela, L., Dalley, K. & Benzel, L.J., 2006. A case for learning-centered curricula. *Journal of Psychosocial Nursing*, 45(2):59-66.
- Chakravarthi, S., Nagaraja, H.S. & Judson, J.P. 2010. An exploration of the strategic challenges of problem based learning (PBL) in a medical education

- environment: a shift from traditional lectures. *Indian Journal of Science and Technology*, 3(2):216-221.
- ChanLin, L.J. 2007. Perceived importance and manageability of teachers towards the factors in integrating computer technology into classrooms. *Innovations in Education and Teaching International*, 44(1):45-55.
- Chelsa. 2010. Draft Information Literacy Guideline. Pretoria (South Africa): Chelsa.
- Cherulnik, P.D. 2001. *Methods for behavioural research: a systematic approach*. California: Sage Publications.
- Chiang, V. & Crickmore, B.L. 2009. Improving English proficiency of post-graduate international nursing: seeking further qualifications and continuing education in foreign countries. *Journal of Continuing Education in Nursing*, 40(7):329-336.
- Choi, L.L.S. 2005. Literature review: issues surrounding education of English-as-a-second language (ESL) nursing students. *Journal of Transcultural Nursing*, 16(3):263-268.
- Cokley, K.O., Bernard, N., Cunningham, D. & Motoike, J. 2001. A psychometric investigation of the academic motivation scale using a United States sample. *Measure and Evaluation in Counselling and Development*, 34:109-119.
- Coonan, C. 2008. Nursing the Western world. *The Irish Times*. 29 January 2008.
- Cordell-Smith, R. 2008. Impact of debt on nursing students in higher education. *Nursing Standard*, 22(19):35-38.
- Creswell, J.W. 2009. *Research design: qualitative, quantitative, and mixed methods approaches*. 3rd ed. Sage: Los Angeles.
- David, G., Segers, M. & Struyf, E. 2008. Constructivist learning environments and the (im)possibility to change students' perceptions of assessment demands and approaches to learning. *Springer*, 36:431-443.
- DeBourgh, G.A. 2008. Use of classroom "clickers" to promote acquisition of advanced reasoning skills. *Professional nurse Education in Practice*, 8:76-87.

- DeLapp, T., Hautman, M.A. & Anderson, M.S. 2008. Recruitment and retention of Alaska natives into nursing (RRANN). *Journal of Nursing Education*, 47(7):293-297.
- Department of Health Provincial Government Western Cape. 2008. Western Cape College of Nursing Statistics. Cape Town: Provincial Government Western Cape.
- Department of Health Provincial Government Western Cape. 2008. Professional nurses Update. Cape Town: Provincial Government Western Cape
- Department of Health. Provincial Government Western Cape. 2010. Bursary offer for full time study purpose towards the undergraduate diploma R425 Nursing Science: intake for 2011 academic year 23 August 2010. Cape Town: Provincial Government Western Cape.
- Department of Health. Provincial Government Western Cape. 2009/2010. Annual performance plan. Cape Town: Provincial Government Western Cape.
- Department of Health. Provincial Government Western Cape. 2010. Directorate Human Resource Development. Cape Town: Provincial Government Western Cape.
- Department of Health. Provincial Government Western Cape. 2010. Strategic plan 2010-2014. Cape Town: Provincial Government Western Cape.
- De Vos, A.S., Strydom, H., Fouche, C.B. & Delpont, C.S.L. 2007. *Research at grass roots: for the social and human service professions*. 3rd ed. Pretoria: Van Schaik Publishers.
- Diseth, A. 2002. Personality and approaches to learning as predictors of academic achievement. *European Journal of Personality*, 17:143-155.
- Diseth, A. 2007. Students' evaluation of teaching, approaches to learning, and academic achievement. *Scandinavian Journal of Educational Research*, 51(2):185-204.
- Diseth, A. & Martinsen, O. 2003. Approaches to learning, cognitive style, and motives as predictors of academic achievement. *Educational Psychology*, 23(2):195-207.

- Dreary, I.J., Watson, R. & Hogston, R. 2003. A longitudinal cohort study of burnout and attrition in nursing students. *Issues and Innovations in Nursing Education*, 43(1):71-81.
- Drew, S. 2001. Student perceptions of what helps them learn and develop in higher education. *Teaching in Higher Education*, 6(3):309-331.
- Duers, L.E. & Brown, N. 2009. An exploration of student professional nurses' experiences of formative assessment. *Professional nurse Education Today*, 29:654-659.
- Elander, J., Harrington, K., Norton, L., Robinson, H. & Reddy, P. 2006. Complex skills and academic writing: a review of evidence about the types of learning required to meet core assessment criteria. *Assessment and Evaluation in Higher Education*, 31(1):71-90.
- Employment Equity Act, No 55 of 1998. 1998. Cape Town: Butterworths.
- Entwistle, N. 2008. Approaches to learning and levels of understanding influences and responsibilities. Available at: <http://www.ed.ac.uk/etl> [Accessed 10 July 2009].
- Entwistle, N. 2009. Learning and studying: contrast and influences. Available at: http://www.newhorizons.org/future/Creating_the_Future/crfut_entwistle.html [Accessed 28 March 2010].
- Entwistle, N. & McCune, V. 2004. The conceptual bases of study strategy inventories. *Educational Psychology Review*, 16(4):325-344.
- Entwistle, N. 2004. Teaching and learning in diverse university settings: analytic frameworks for integrating different data sources. *Teaching and Learning Research Programme Annual Conference Papers*, 1-12.
- Entwistle, N., McCune, V. & Hounsell, J. 2002. Approaches to studying and perceptions of university teaching-learning environments: concepts, measures and preliminary findings. *Enhancing Teaching-Learning Environments in Undergraduate Courses*, (1):1-19.

- Entwistle, N.J. & Peterson, E.R. 2004. Conceptions of learning and knowledge in higher education: relationships with study behaviour and influences of learning environments. *International Journal of Educational Research*, 41:407-428.
- Entwistle, N., Tait, H. & McCune, V. 2000. Patterns of response to an approach to studying inventory across contrasting groups and contexts. *European Journal of Psychology of Education*, (1):33-48.
- Escallier, L.A. & Fullerton, J.T. 2009. Process and outcomes evaluation of retention strategies within a nursing workforce diversity project. *Journal of Nursing Education*, 48(9):488-494.
- Favish, J. 2005. Equity in changing patterns of enrolment in learner retention and success at the Cape Technikon. *South African Journal for Higher Education*, 19(2):274-291.
- Feingold, C.E., Cobb, M.D., Givens, R.H., Arnold, J., Joslin, S. & Keller, J.L. 2008. Student perceptions of team learning in nursing education. *Journal of Nursing Education*, 47(5):214-222.
- Fetter, M.S. 2009. Curriculum strategies to improve Baccalaureate nursing information technology outcomes. *Journal of Nursing Education*, 48(2):78-83.
- Flanagan, N.A. & McCausland, L. 2007. Teaching around the cycles: strategies for teaching theory to undergraduate nursing students. *Nursing Education Perspectives*, 28(6):310-314.
- Foley, A. 2004. Language policy for higher education in South Africa: implications and complications. *South African Journal for Higher Education*, 18(1):57-71.
- Forehand, M. 2005. Bloom's taxonomy: original and revised. In M. Orey (ed.). *Emerging perspectives on learning, teaching, and technology*. Available at: projects.coe.uga.edu/epltt [Accessed 15 October 2010].
- Frankel, A. 2009. Professional nurses' learning styles: promoting better integration of theory into practice. *Nursing Times*, 105(2):24-27.

- Franks, H. & McAlonan, C. 2007. Establishing library 'key skill' confidence levels amongst a cohort of nursing students at an English university. *Nursing Education in Practice*, 7:258-265.
- Freeman, E. & Lynd-Balta, E. 2010. Developing information literacy skills early in an undergraduate curriculum. *College Teaching*, 58:109-115.
- Gallagher, P.A., Bomba, C. & Crane, L.R. 2001. Using an admission exam to predict student success in a program. *Professional nurse Educator*, 26(3):132-135.
- Giddens, J.F. 2008. Achieving diversity in nursing through multicontextual learning environments. *Professional nurse Outlook*, 56:78-83.
- Giddens, J., Brady, D., Brown, P., Wright, M., Smith, D. & Harris, J. 2008. A new curriculum for a new era of nursing education. *Nursing Education Perspective*, 29(4):200-204.
- Gijbels, D., Segers, M. & Struyf, E. 2008. Constructivist learning environments and the (im)possibility of changing students' perceptions of assessments demands and approaches to learning. *Instructional Science*, 36:431-443.
- Gimenez, J. 2008. Beyond the academic essay: discipline-specific writing in nursing and midwifery. *Journal of English for Academic Purposes*, 7:151-164.
- Glossop, C. 2002. Student professional nurse attrition: use of an exit-interview procedure to determine students' reasons. *Professional nurse Education Today*, 22:375-386.
- Glynn, S.M., Aultman, L.P. & Owens, A.M. 2005. Motivation to learn in general education programs. *The Journal of General Education*, 54(2):150-170.
- Glynn, J.G., Sauer, P.L. & Miller, T.E. 2003. Signalling student retention with prematriculation data. *NASPA Journal*, 41(1):41-67.
- Grainger, P. & Bolan, C. 2006. Perceptions of nursing as a career choice of students in the Baccalaureate nursing program. *Professional nurse Education Today*, (26):38-44.
- Gray, J. 2006. Heartbroken in defeat. *Nursing Standard*, 20(23).

- Guhde, J.A. 2003. English-as-a-second language (ESL) nursing students: strategies for building verbal and written writing skills. *Journal of Cultural Diversity*, 10(4):113-117.
- Haggis, T. 2003. Constructing images of ourselves?: a critical investigation into approaches to learning research in higher education. *British Educational Research Journal*, 29(1):89-104.
- Harrison, E. 2009. What constitutes good academic advising?: nursing students' perceptions of academic advising. *Journal of Nursing Education*, 48(7):361-366.
- Harvey, A. & Kamvounias, P. 2008. Bridging the implementation gap: a teacher-as-learner approach to teaching and learning policy. *Higher Education Research and Development*, 27(1):31-41.
- Hatfield, M. 2007. Financial security is student's goal: pay is bigger motivator than learning in college. *The Modesto Bee*. 2 September 2007.
- Heikkila, A. & Lonka, K. 2006. Studying in higher education: students' approaches to learning, self-regulation, and cognitive strategies. *Studies in Higher Education*, 31(1):99-117.
- Herington, C. & Weaven, S. 2008. Action research and reflection on student approaches to learning in large first year university classes. *The Australian Educational Researcher*, 45(3):111-134.
- Heriot, G. 2001. The politics of admissions in California. *National Association of Scholars*, 29-36.
- Hessler, K. & Humphreys, J. 2008. Student evaluations: advice for novice faculty. *Journal of Nursing Education*, 47(4):187-189.
- Hewson, M. & Hewson, P. 2003. Effect of instruction using students' prior knowledge and conceptual change strategies on science learning. *Journal of Research in Science Teaching*, 40:S86-S98.
- Higher Education Act, No 101 of 1997, as amended May 2008. 2008. Cape Town: Butterworths.

- Hlongwa, B. 2006. Speech by MEC for Health, Brian Hlongwa at the Nursing Education Conference. In Citation styles [Online]. Available at: <http://www.gpg.gov.za/docs/sp/2006/sp1003.html> [Accessed 15 July 2009].
- Hoke, J.L. 2006. Promoting nursing as a career choice. *Nursing Economics*, 24(2):94-101.
- Hopkins, H.T. 2008. Early identification of at-risk nursing students: a student support model. *Journal of Nursing Education*, 47(6):254-259.
- Jacobs, E., Chen, A.H.M., Karliner, L.S., Agger-Gupta, N. & Mutha, S. 2006. The need for more research on language barriers in health care: a proposed research agenda. *The Milbank Quarterly*, 84(1):111-133.
- Jeffries, P.R. 2001. Computer *versus* lecture: a comparison of two methods of teaching oral medication administration in a nursing skills laboratory. *Journal of Nursing Education*, 40(7):323-329.
- Junious, D.L., Malecha, A., Tart, K. & Young, A. 2010. Stress and perceived faculty support among foreign-born Baccalaureate nursing students. *Journal of Nursing Education*, 49(5):261-270.
- Karemera, D., Reuben, L.J. & Sillah, M.R. 2003. The effects of academic environment and background characteristics on student satisfaction and performance: the case of South Carolina State University's School of Business. *College Student Journal*, 1(2):298-308.
- Karns, G.L. 2005. An update of marketing students' perceptions of learning activities: structure, preferences, and effectiveness. *Journal of Marketing Education*, 27(2):163-171.
- Kember, D. & Leung, D.Y.P. 2006. Characterising a teaching and learning environment conducive to making demands on students while not making their workload excessive. *Studies in Higher Education*, 31(2):185-198.
- Kember, D., Leung, D.Y.P. & McNaught, C. 2009. A workshop activity to demonstrate that approaches to learning are influenced by the teaching and learning environment. *Active Learning in Higher Education*, 9(1):43-56.

- Kim, A., Son, Y.D. & Sohn, S.Y. 2009. Conjoint analysis of enhanced English medium instruction for colleges. *Expert Systems with Applications*, 36:10197-10203.
- Koh, L.C. 2008. Refocusing formative feedback to enhance learning in pre-registration professional nurse education. *Professional nurse Education in Practice*, 8:223-230.
- Koivunen, M., Valimaki, M., Jakobsson, T. & Pitkanen, A. 2008. Developing an evidence-based curriculum designed to help psychiatric professional nurses learn to use computers and the internet. *Journal of Professional Nursing*, 24(5):302-314.
- Kuh, G.D., Cruce, T.M., Shoup, R., Kinzzie, J. & Gonyea, R.M. 2008. Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79(5):540-563.
- Larsen, T.D., McGill, J.S. & Palmer, S.J. 2003. Factors influencing career decisions: perspectives of nursing students in three types of programs. *Journal of Nursing Education*, 42(4):168-173.
- Last, L. & Fulbrook, P. 2003. Why do student professional nurses leave?: suggestions from a Delphi study. *Professional nurse Education Today*, 23:449-458.
- Lerner, J. & Brand, B. 2007. The impact of secondary-postsecondary learning options on college preparation. *AAC&U Winter 2007 Peer Review*, 27-30.
- Leufer, T. 2007. Students' perceptions of the learning experience in a large class environment. *Nursing Education Perspectives*, 28(6):322-326.
- Lizzio, A., Wilson, K. & Simons, R. 2002. University students' perceptions of the learning environment and academic outcomes: implications for theory and practice. *Studies in Higher Education*, 27(1):27-52.
- Lujan, J. 2008. Linguistic and cultural adaptation needs of Mexican American nursing students related to multiple-choice tests. *Journal of Nursing Education*, 47(7):327-331.
- Maltby, J., Day, L. & Williams, G. 2007. *Introduction to statistics for professional nurses*. Pearson Education: England.

- Maponya, P.M. 2005. Fostering the culture of knowledge sharing in higher education. *SAJHE*, 19(5):900-911.
- McCune, V. & Entwistle, N. 2000. The deep approach to learning: analytic abstraction and idiosyncratic development. *Innovations in Higher Education*, 1-17.
- McCurry, M.K. & Martins, D.C. 2010. Teaching undergraduate nursing research: a comparison of traditional and innovative approaches for success with millennial learners. *Journal of Nursing Education*, 49(5):276-279.
- McLaughlin, K., Moutray, M. & Muldoon, O.T. 2007. The role of personality and self-efficacy in the selection and retention of successful nursing students: a longitudinal study. *Journal of Advance Nursing*, 61(2):211-221.
- McPherson, M. & Schapiro, M.O. 2002. Global issues in higher education: what American colleges should know? *Journal of Economic Perspectives*, 7(3):167-171
- Meadus, R.J. & Twomey, J. 2007. Men in nursing: making the right choice. *The Canadian Professional nurse*, 103(2):13-16.
- Mellish, J.M., Brink, H.I.L. & Paton, F. 2009. *Teaching & learning: the practice of nursing*. 4th ed. Cape Town: Heinemann Higher & Further education.
- Meyer, D.K. & Turner, J.C. 2002. Discovering emotion in classroom motivation research. *Educational Psychologist*, 37(2):107-114.
- Meyer, S.M. & Van Niekerk, S.E. 2008. *Professional nurse educator in practice*. Cape Town: Juta.
- Meyer, D.K. & Turner, J.C. 2006. Re-conceptualizing emotion and motivation to learn in classroom contexts. *Educational Psychology*, 18:377-390.
- Miles, M, & Huberman, A.M. 2003. *Qualitative data analysis*. Sage Publication: London.
- Ministry of Education. 2002. *Language policy for higher education*. Language policy 5 November 2002.doc. Available at: [http://education.pwv.gov.za/DoE_sites/Higher\)Education/revise](http://education.pwv.gov.za/DoE_sites/Higher)Education/revise) [Accessed 12 February 2009].

- Mooney, M., Glacken, M. & O'Brien, F. 2008. Choosing nursing as a career: a qualitative study. *Nursing Education Today*, (28):385-392.
- Moore, S., Armstrong, C. & Pearson, J. 2008. Lecture absenteeism among students in higher education: a valuable route to understanding student motivation. *Journal of Higher Education Policy and Management*, 30(1):15-24.
- Moseley, L.G. & Mead, D.M. 2008. Predicting who will drop out of nursing courses: a machine learning exercise. *Nursing Education Today*, 28:469-475.
- Mouton, J. 2002. *Understanding social research*. Van Schaik: Pretoria.
- Mulaudzi, F.M., Mokoena, J. & Troskie, R. 2001. *Basic nursing ethics in practice*. Heinemann: Sandown.
- Mullen, P.A. 2007. Use of self-regulating learning strategies by students in the second and third trimesters of an accelerated second-degree Baccalaureate nursing program. *Journal of Nursing Education*, 46(9):406-412.
- Mulholland, J., Anionwu, E.N., Atkins, T., Tappern, M. & Franks, P.J. 2008. Diversity, attrition and transition into nursing. *Jan Original Research*, 49-59.
- Nayda, R. & Rankin, E. 2009. Information literacy skills development and life long learning: exploring nursing students' and academics' understanding. *Australian Journal of Advanced Nursing*, 26(2):27-33.
- Neuman, L.H., Pardue, K.T., Grady, J.L., Gray, M.T., Hobbins, B., Edelstein, J. & Herrman, J.W. 2009. What does an innovative teaching assignment strategy mean to nursing students? *Nursing Education Research*, 30(3):159-175.
- Neuman, W.L. 2000. *Social research methods: qualitative and quantitative approaches*. 4th ed. Boston: Allyn & Bacon.
- Neuman, W.L. 2006. *Social research methods: qualitative and quantitative approaches*. 6th ed. Boston: Pearson International.
- Newman, D.M.L. 2008. Conceptual models of nursing and Baccalaureate nursing education. *Journal of Nursing Education*, 47(5):199-200.

- Newton, S.E., Smith, L.H. & Moore, G. 2007. Baccalaureate nursing program admission policies: promoting success or facilitating failure? *Journal of Nursing Education*, 46(10):439-444.
- Newton, S.E. & Moore, G. 2009. Use of aptitude to understand Bachelor of science in nursing student attrition and readiness for the national council licensure examination: registered professional nurse. *Journal of Professional Nursing*, 25(5):273-278.
- Noble, K.A., Miller, S.M. & Heckman, J. 2008. The cognitive style of nursing students: education implications for teaching and learning. *Journal of Nursing Education*, 47(5)245-253.
- Noble, J.P. & Sawyer, R.I. 2004. Is high school GPA better than admission scores for predicting academic success in college, 79(4):17-22.
- Nursing Act, No. 33 of 2005. Cape Town:Butterworths.
- Oblinger, D. 2003. Boomers & Gen-Xers millennials: understanding the new students. *Educause*, 37-47.
- Ojeda, B.S., Creutzberg, M., Feoli, A.M.P., Melo, D.S. & Corbellini, V.L. 2009. Nursing, nutrition and physiotherapy students: career choice. *Rev Latino –am Enfermagem*, 17(3):396-402.
- Orfori, R. 2000. Age and type of domain-specific entry: qualifications as predictors of student professional nurses' performance in biological, social and behavioural sciences in nursing assessment. *Professional nurse Education Today*, 20:298-310.
- Orfori, R. & Charlton, J.P. 2002. A path model of factors influencing the academic performance of nursing students. *Journal of Advanced Nursing*, 38(5):507-515.
- Omeri, A. & Atkins, K. 2002. Lived experiences of immigrant professional nurses in New South Wales, Australia: searching for meaning. *International Journal of Nursing Studies*, 39:495-505.
- Pike, G.R. & Saupe, J.L. 2002. Does high school matter?: an analysis of three methods of predicting first-year grades. *Research in Higher Education*, 43(2):187-207.

- Pintrich, P.R. & Schunk, D.H. 2002. *Motivation in education, theory, research and applications*. 2nd ed. New Jersey: Merrill Prentice Hall.
- Price, S.L. 2009. Becoming a professional nurse: a meta-study of early professional socialization and career choice in nursing. *Journal of Advanced Nursing*, 65(1):11-19.
- Prymachuk, S., Easton, K. & Littlewood, A. 2009. Professional nurse education: factors associated with attrition. *Journal of Advanced Nursing*, 65(1):149-160.
- Polifroni, E.C. 2008. Evaluating teaching strategies: a blend perspective. *Journal of Nursing Education*, 47(3):95-97.
- Polit, D.F. & Beck, C.T. 2008. *Nursing research generating and assessing evidence for nursing practice*. 8th ed. Philadelphia: Lippincott Williams & Wilkins.
- Price, S.L. 2009. Becoming a professional nurse: a meta-study of early professional socialization and career choice in nursing. *Journal of Advanced Nursing*, 65(1):11-19.
- Prosser, M., Ramsden, P., Trigwell, K. & Martin, E. 2003. Dissonance in experience of teaching and its relation to the quality of student learning. *Studies in Higher Education*, 28(1):37-48.
- Ramsden, P. 2003. *Learning to teach in higher education*. 2nd ed. London: Routledge Falmer.
- Reason, R.D. 2003. Student variables that predict retention: recent research and new developments. *NASPA Journal*, 40(4):172-191.
- Revell, S.M. & McCurry, M.K. 2010. Engaging millennial learners: effectiveness of personal response system technology with nursing students in small and large classrooms. *Journal of Nursing Education*, 49(5):272-275.
- Rheume, A., Ditommaso, E., Woodside, R. & Gautreau, G. 2003. Why students choose nursing?: a decade ago, most nursing students said that they chose nursing because they wanted to care for people and help others: are those desires still true today? *The Canadian Professional nurse*, 99(5):25-39.

- Riley, W. & Anderson, P. 2006. Randomized study on the impact of cooperative learning distance education in public health. *The Quarterly Review of Distance Education*, 7(2):129-144.
- Rodgers, C.R. & Raider-Roth, M.B. 2006. Presence in teaching. *Teachers and Teaching: Theory and Practice*, 12(3):265-287.
- Rogan, F., Miguel, C.S., Brown, D. & Kilstoff, K. 2006. Perceptions of nursing students from non-English speaking backgrounds of the effect of an intensive language support program on their oral clinical communication skills. *Contemporary Professional nurse*, 23(1):1-17.
- Rognstad, M.K. & Polit, C. 2002. Recruitment to and motivation for nursing education and the nursing profession. *Journal of Nursing Education*, 41(7):321-325.
- Rollnick, M., Davidowitz, B., Keane, M., Bapoo, A. & Magadla, L. 2008. Students' learning-approach profiles in relation to their university experience and success. *Teaching in Higher Education*, 13(1):29-42.
- Rossetti, J. & Fox, P.G. 2009. Factors related to successful teaching by outstanding professors: an interpretive study. *Journal of Nursing Education*, 48(1):11-16.
- Salamonson, Y. & Andrew, S. 2006. Academic performance in nursing students: influence of part-time employment, age and ethnicity. *The Authors. Journal Compilation*, 342-349.
- Salamonson, Y., Andrew, S. & Everett, B. 2010. Academic engagement and disengagement as predictors of performance in pathophysiology among nursing students. *Contemporary Professional nurse*, 32(1-2):123-132.
- Salamonson, Y., Everett, B., Koch, J., Andrew, S. & Davidson, P.M. 2008. English-language acculturation predicts academic performance in nursing students who speak English as a second language. *Research in Nursing and Health*, 31:86-94.
- Salamonson, Y., Koch, J., Weaver, R., Everett, B. & Jackson, D. 2009. Embedded academic writing support for nursing students with English as a second language. *Journal of Advanced Nursing*, 66(2):413-421.

- Sayles, S., Shelton, D. & Powell, H. 2003. Predictors of success in nursing education. *The ABNF Journal*, 116-120.
- Schwartz, R.A. & Washington, C.M. 2002. Predicting academic performance and retention among African American men. *NASPA Journal*, 39(4):354-370.
- Shakya, A. & Horsfall, J.M. 2000. ESL undergraduate nursing students in Australia: some experiences. *Nursing and Health Sciences*, 2:163-171.
- Sheperd, J. 2008. Adolescent student professional nurses: implications for retention. *Paediatric Nursing*, 20(3):42-45.
- Skiba, D.J. & Barton, A.J. 2006. Adapting your teaching to accommodate the Net Generation of Learners. Available at: <http://web.ebscohost.com/ehost/delivery?vid=10&hid=116&sid=26d88260-0cd8-418b-8cf> [Accessed 17 April 2008].
- Simpson, E. & Courtney, M. 2008. The development of a critical thinking conceptual model to enhance critical thinking skills in Middle-Eastern professional nurses: Middle-Eastern experience. *Australian Journal of Advanced Nursing*, 25(1):56-63.
- Soanes, C., Waite, M., & Hawker, S. 2001. *Oxford dictionary and word power guide*. Oxford: University Press.
- Song, L., Hannafin, M.J. & Hill, J.R. 2007. Reconciling beliefs and practices in teaching and learning. *Education Technology Research and Development*, 55:27-50.
- Spitzer, T.M. 2000. Predictors of college success: a comparison of traditional and nontraditional age students. *ProQuest Education Journals*, 38(1):82-98.
- Starr, K. 2009. Nursing education challenges: students with English as an additional language. *Journal of Nursing Education*, 48(9):478-487.
- Steele, R., William, L., Caperchione, C. & Anastasi, J. 2005. An exploratory study of the concerns of the mature access to nursing students and the coping strategies used to manage these adverse experiences. *Nursing Education Today*, 25:573-581.

- Stickney, M.C. 2008. Factors affecting practical nursing student attrition. *Journal of Nursing Education*, 47(9):422-425.
- Strydom, H., Fouche, C.B. & Delpont, C.S.L. 2007. *Research at grassroots for the social and human service professions*. 3rd ed. Pretoria: Van Schaik.
- Stork, D. 2003. Teaching statistics with student survey data: a pedagogical innovation in support of student learning. *Journal of Education for Business*, 78(6):335-339.
- Tam, M.S. & Sukhatme, U. 2003. The importance of high school quality in university admissions decisions. *ProQuest Education Journals*, 78(3):3-8.
- Tam, M.S. & Sukhatme, U. 2004. How to make better college admission decisions considering high school quality and other factors. *Journal of College Admission*, Spring: 1-7.
- Tarrant, M., Dodgson, J.E. & Law, B.V.K.K. 2008. A curricular approach to improve the information literacy and academic writing skills of part-time post-registration nursing students in Hong Kong. *Nursing Education Today*, 28:458-468.
- Terre Blanche, M. & Durrheim, K. 2004. *Research in practice*. Cape Town: University of Cape Town Press.
- Thatcher, A., Fridjhon, P. & Cockcroft, K. 2007. The relationship between lecture attendance and academic performance in an undergraduate psychology class. *South African Journal of Psychology*, 37(3):656-660.
- Timpson, W.M., Winokur, M. & Merline, A.M. Skills for success in college: what students need from high school. *International Electronic Journal for Leadership in Learning*, 6(4):1-8.
- Tiwari, A., Lai, P., So, M. & Yuen, K. 2006. A comparison of the effects of problem-based learning and lecturing on the development of students' critical thinking. *Medical Education*, 40:547-554.
- Ungerleider, D. & Maslow, P. Association of educational therapists: position paper on the SAT. *Journal of Learning Disabilities*, 34(4):311-314.

Universities Act, No 24 of 1997. 1997. Cape Town: Butterworths.

University of California. Growing UC nursing programs. Available at: www.universityofcalifornia.edu/news/factsheet/nursing111407.pdf [Accessed 28 March 2009].

University of Technology Sydney. 2008. Student learning. Available at: <http://www.iml.uts.edu.au/learnteach/resources/tm/studentlearn.html> [Accessed 07 August 2009].

University of Wisconsin Oshkosh. 2001. College of Education and Human Sciences. Available at <http://www.uwosh.edu/coehs> [Accessed 17 April 2008].

Urwin, S., Stanley, R., Jones, M. & Gallagher, A. 2010. Understanding student professional nurse attrition: learning from the literature. *Professional Nurse Education Today*, 30(2):202-207.

Wainwright, P. & Perkins, A. 2010. Understanding student professional nurse attrition: learning from literature. *Professional Nurse Education Today*, 30:202-207.

Vacek, J.E. 2009. Using a conceptual approach with concept mapping to promote critical thinking. *Journal of Nursing Education*, 48(1):45-48.

Vermetten, Y.J., Vermunt, J.D. & Lodewijks, H.G. 2002. Powerful learning environments?: how university differ in their response to instructional measures. *Learning and Instruction*, 12:263-284.

Wang, L. 2007. Sociocultural learning theories and information literacy teaching activities in higher education. *Reference and User Services Quarterly*, 47(2):149-158.

Waterson, E., Harms, E., Qupe, L., Maritz, J., Mannning, M., Makobe, K. & Chabeli, M. 2006a. Strategies to improve the performances of learners in a nursing college: Part 1: issues pertaining to nursing education. *Curationis*, 29(2):56-65.

Waterson, E., Harms, E., Qupe, L., Maritz, J., Mannning, M., Makobe, K. & Chabeli, M. 2006b. Strategies to improve the performances of learners in a nursing college: Part 11: issues pertaining to management, attitudes and values. *Curationis*, 29(2):66-76.

- Watson, R., McKenna, H., Cowman, S. & Keady, J. 2008. *Nursing research designs and methods*. Elsevier: Toronto.
- Wells, M.I. 2003. An epidemiologic approach to addressing student attrition in nursing programs. *Journal of Professional Nursing*, 19(3):230-236.
- Weaver, M.R. 2006. Do students value feedback?: student perceptions of tutors' written responses. *Assessment and Evaluation in Higher Education*, 31(3):379-394.
- Welsh, M.M. 2007. Engaging with peer assessment in post-registration professional nurse education. *Professional Nurse Education in Practice*, 7:75-81.
- Whitehead, E., Mason, T. & Ellis, J. 2007. The future of nursing: career choices in potential student professional nurses. *British Journal of Nursing*, 16(8):491-496.
- Wierstra, R.F.A., Kanselaar, G., Van Der Linden, J.L., Lodewijks, H.G.L.C. & Vermunt, J.D. 2003. The impact of the university context on European students' learning approaches and learning environment preferences. *Higher Education*, 45:503-523.
- Wilkes, Z. 2006. The student-mentor relationship: a review of the literature. *Nursing Standard*, 20(37):42-47.
- Williams, H.A. & Lawson, M.J. 2001. Mapping students' perceptions of interesting class lessons. *Social Psychology of Education*, 5:127-147.
- Wilson, K. & Fowler, J. 2005. Assessing the impact of learning environments on student's approaches to learning: comparing conventional and action learning designs. *Assessment and Evaluation in Higher Education*, 30(1):87-101.
- Wingate, U. & Dreiss, C. 2009. Developing students' academic literacy: an online approach. *Journal of Academic Language and Learning*, 3(1):A14-A25.
- Wong, S.T., Seago, J.A., Keane, D. & Grumbach, K. 2008. College students' perceptions of their experiences: what do minority students think? *Journal of Nursing Education*, 47(4):190-195.

- Woods, D.R., Hrymak, A.N. & Wright, H.M. 2000. Approaches to learning and learning environments in problem-based *versus* lecture-based learning. *In Proceedings of the ASEE Conference and Exposition*. Washington DC: American Society for Engineering Education.
- Wright, C. 2001. Children and technology: issues, challenges, and opportunities. *Review of Research*, 37-41.
- Young, P. 2000. 'I might as well give up': self-esteem and mature students' feelings about feedback on assignments. *Journal of Further and Higher Education*, 24(3):409-418.
- Young, J.W. & Fisler, J.L. 2000. Sex differences on SAT: an analysis of demographic and educational variables. *Research in Higher Education*, 41(3):401-416.
- Young, J.R. 2002. Homework?: what homework? *The Chronicle of Higher Education*, 49(15): A35-A37
- Yurkovich, E. 2001. Working with American Indians toward educational success. *Journal of Nursing Education*, 40(6):259-284.
- Zeegers, P. & Martin, L. 2001. A learning-to-learn program in a first-year chemistry class. *Higher Education Research and Development*, 20(1):35-52.
- Zysberg, L. & Berry, D.M. 2005. Gender and students' vocational choices in entering the field of nursing. *Professional nurses Outlook*, 53:193-198.
- Zysberg, L. & Zisberg, A. 2008. Nursing students' expectations of the college experience. *Journal of Nursing Education*, 47(9): 389-395

ANNEXURE A

Questionnaire

Section A

Demographics

Please Mark with an X

1. Age on commencement of course

1	17 years	
2	18 years	
3	19 years	
4	20 years	
5	Other: Please specify	

2. Gender

6	Female	
7	Male	

3. Home Language

		Mother tongue
8	English	
9	Afrikaans	
10	Isi - Xhosa	
11	Other: Please specify	

4. Nursing as your career choice

12	First choice	
13	Second choice	
14	Third choice	
15	Fourth choice	
16	Other: Please specify	

5. Why did you choose nursing as a career?

17	I always wanted to be a professional nurse	
18	Nursing is a secure job	
19	Bursary is available which pays for the training	
20	Did not get accepted for any other career	
21	Other: Please specify	

6. Do you currently receive a bursary?

22	Yes	No

7. Please indicate your results of the following subjects in matric / Grade XII

23		Passed	Failed	NA
	Maths HG			
	Physical Science HG			
	Biology HG			
	Maths SG			
	Physical Science SG			

	Biology SG			
--	-------------------	--	--	--

8. Have you ever repeated a year whilst at school?

24	Yes	No
-----------	------------	-----------

9. If Yes:

How many years did you repeat whilst at school?

25	One year	
	Two years	
	Three years	
	Other please specify	

10. Did you pass with a matric exemption?

26	Yes	No
-----------	------------	-----------

11 What year of study are you currently in?

27	First year	
	Second Year	
	Third Year	
	Fourth Year	

Section B: Factors influencing learning

Please mark with X

1. How much time per day do you spend on your studies (own time)

28	One hour	
	Two hours	
	Three hours	
	> three hours (Please specify)	

2. Indicate if you agree with the following statement.

I am satisfied with the teaching strategies used by the lecturers?

29	Always	Most Times	Seldom	Never

Please comment:

.....

3. Is the learning environment conducive to learning?

30	Yes	No
-----------	------------	-----------

If no to question 3 please specify

.....

**4. Would you like to see improvements or adjustments made to the learning?
environment?**

31	Yes	No
-----------	------------	-----------

If yes to question 4 please specify:

.....
.....

.....
.....

.....
.....

5. Do you obtain adequate academic support?

32	Always	Most times	Seldom	Never

6. When Academic support is offered do you attend?

You attend academic support classes when offered

33	Always	Most times	Seldom	Never

7. Are you able to apply the theory taught in class in the practical training?

You apply the theory taught

34	Always	Most times	Seldom	Never

8. Do you get adequate support in your clinical areas which helps you to apply the theory to practice?

35	Always	Most times	Seldom	Never

Comment:

.....
.....
.....
.....

9. Are you able to cope with the workload?

36	Always	Most times	Seldom	Never

10. Are the marking schedule, tests, examinations and guidelines a fair reflection of the work contents

37	Always	Most times	Seldom	Never

Comment?

.....

.....

.....

11. Is all the contents covered according to the study guide?

38	Always	Most times	Seldom	Never

12. Does the study guide reflect the contents of the subject?

39	Always	Most times	Seldom	Never

13. How often do you use the library?

40	Always	Most times	Seldom	Never

14. How often do you use the computer laboratory?

41	Always	Most times	Seldom	Never

15. Do you have access to internet?

42	Yes	No
-----------	------------	-----------

16. If Yes:

How often do you use the internet?

43	Always	Most times		Never	Not Applicable

17. Is language a barrier to your learning?

44	Always	Most times	Seldom	Never	Not Applicable

18. Do your language problems affect your learning?

45	Always	Most times	Seldom	Never	Not Applicable

19. How are your writing skills in English?

46	Very Good	Good	Fair	Poor	Very Poor

20. Do you receive support to assist you with language problems?

47	Yes	No	Not Applicable

21. What can you do as a student to improve your performance?

48

.....

.....

.....

22. What can your lecturers do, to provide additional assistance, to help you improve your performance?

.....

.....

.....

THANK YOU

ANNEXURE B

Assessment of data collection

ASSESSMENT OF THE DATA COLLECTION INSTRUMENT

Please indicate your view about the data collection instrument by circling the appropriate number option.

	<u>Excellent</u>					<u>Poor</u>
Clarity of covering letter	(6)	5	4	3	2	1
Overall appearance	6	(5)	4	3	2	1
Page layout	(6)	5	4	3	2	1
Clarity of Instructions	(6)	5	4	3	2	1
Legibility	(6)	5	4	3	2	1
Realistic completion time	(6)	5	4	3	2	1
Assurance of anonymity	(6)	5	4	3	2	1
Relevance of items regarding the academic problems of students at the Western Cape College of nursing	(6)	5	4	3	2	1

Please write any comments or suggestions below.

The questionnaire was a good way of making one realise where you still lack academically.

Its a good idea and it covers all aspects of academic difficulties.

THANK YOU

ANNEXURE C

Letter of request to participate in the study and instruction to complete the questionnaire

Factors influencing Learning in Nursing Colleges in the Western Cape

Study Aim

The purpose of this study is to determine whether there are factors influencing learning in nursing colleges.

Dear Student

Thank you for participating in this study. The information that you provide is very important to make this study successful and to help students in the future. Therefore it is important that you answer honestly and accurately.

All information will be treated confidentially and the researcher undertakes not to reveal any information in this questionnaire at any time.

It will take you approximately 30 minutes to complete this questionnaire.

Yours Sincerely

Yolande Magerman

(Student at the University of Stellenbosch, Division of Nursing)

Contact Number

0824479701 (CELL)

ANNEXURE D

Letter of request to participating educational institution to conduct the research

Mr D Govin

Head of College

Western Cape College of Nursing

Private Bag

Surwell

7762

10 October 2008

Dear Mr Govin

Re: Consent to Conduct Research Investigation

I am a post graduate student at the University of Stellenbosch who is currently busy with my Masters Degree in Nursing. My research topic is *An investigation into academic factors that influence learning of student professional nurses at the Western Cape College of Nursing*. I chose this topic because since being appointed at the Western Cape College of Nursing I have become very concerned of the declining academic performances. It is thus my aim to address the problems that affect students and assist them to improve their academic performances.

In order to conduct this study I would like to hand out a questionnaire to students, with your permission. Students will be selected by means of stratified random sampling. In

total 60 students will be asked to fill in the questionnaire, which will include 10 students for the pilot study. I would like to use 20% students from each year in order to obtain a good representation of the issues students encounter.

I would also like to use the college's statistics in my study to motivate my reasons for conducting this study.

I hereby request your permission to conduct my research investigation at the Western Cape College of Nursing. Attached please find a copy of the questionnaire for your perusal. Students will participate voluntarily and may withdraw during any time of the study. All information will be handled confidentially and will be collated personally. No names will be required from the students.

The results of the research will be forwarded to all necessary stakeholders.

Yours Sincerely

YN Magerman

ANNEXURE E

Letters of permission from the participating health care institution to conduct the research



DEPARTMENT
of HEALTH

Provincial Government of the Western Cape

Western Cape College of Nursing

jmdavids@pgwc.gov.za
Tel: +27 21 6841202
Private Bag, Surwell, 7762

REFERENCE:

ENQUIRIES: MRS J.M.DAVIDS

Date: 5 November 2008

Dear Mrs. Y. Magerman,

CONSENT TO CONDUCT RESEARCH INVESTIGATION

Your letter dated 10 October 2008 hereby refers.

Your request to conduct research at this college was presented at the Executive Management Committee meeting of the college. Permission has been granted for you to conduct your research. Kindly contact the relevant Heads of Departments should you need permission to gain access to the students or statistics.

The college management wishes you success with your investigation and your studies.

Yours sincerely,


.....
MRS J.M.DAVIDS (HOD)

for

MR. D.GOVIN
COLLEGE PRINCIPAL

ANNEXURE F

University of Stellenbosch Ethics clearance certificate



UNIVERSITEIT STELLENBOSCH UNIVERSITY
UNIVERSITY OF STERLING KNOWLEDGE PARTNERS

17 February 2009

Mrs YN Magerman

Western Cape College of Nursing Private Bag

Surwell

7762

Dear Mrs Magerman

"An investigation into academic factors that influence learning of student professional nurses at the
Western Cape College of Nursing,"

ETHICS REFERENCE

NO:
N08/12/356

RE : RATIFICATION

At a meeting that was held on 4 February 2009, the Committee for Human Research ratified the approval of the
above project by the Chairperson.

Yours faithfully

~

MRS ELVIRA ROHLAND

RESEARCH DEVELOPMENT AND SUPPORT Tel: 021 9389677 / E-mail: elr@sun.ac.za Fax: 021 931 3352

17 February 2009 13:53

Page 1 of 1



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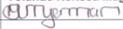
Afdeling Navorsingsontwikkeling en -steun . Division of Research Development and Support

Posbus/PO Box 19063 . Tygerberg 7505 . Suid-Afrika/South Africa

Tel.: +2721 938 9075 . Faks/Fax: +27 21 931 3352

CHECKLIST	PRINCIPAL INVESTIGATOR			EVALUATOR	
	YES	NO	N/A	ACCEPTABLE	
				YES	NO
0. Has the patient been informed that he/she will not be remunerated for his/her participation in the trial, but that he/she may claim for certain expenses incurred by him/her?	✓				
0. Has the patient been informed that insurance cover is available should a study-related adverse event occur?			✓		
0. Will the patient be requested to inform his/her general practitioner of his/her participation in the study?			✓		
0. Will the patient be requested to inform his/her insurance company/companies where he/she may have a policy or policies of their participation in the study?			✓		
0. Will the patient be informed that all data collected during the study will be kept strictly confidential?			✓		
0. Will there be adequate care for the health of researchers and laboratory personnel?			✓		
0. Will the patient be informed that results of the study will be made public as well as be published without compromising confidentiality?	✓				
0. Are the name(s) and telephone number(s) of the investigator(s) that will be on call on a 24-hour basis, and in emergencies, provided?	✓				
0. Has it been indicated that the study will be conducted according to the Declaration of Helsinki and to MRC and ICH guidelines?	✓				

SIGNED BY:

PRINCIPAL INVESTIGATOR	Yolande Nerissa Magerman 	DATE	06 November 2008
DEPARTMENTAL CHAIR		DATE	
EVALUATOR		DATE	