CURRENT PEDAGOGICAL TEACHING STRATEGIES BEING USED BY EDUCATORS AT THE KWAZULU NATAL COLLEGE OF NURSING CAMPUSES ACROSS VARIED SUBJECTS AND THEIR VIEWS REGARDING INNOVATIVE METHODOLOGIES

BY

MARY SHAMANE SUBHAN

A dissertation submitted in fulfillment of requirements for the degree of

Masters of Technology: Nursing

Faculty of Health Sciences

Department of Nursing

Durban University of Technology

SUPERVISED BY PROFESSOR RAISUYAH BHAGWAN

2014

DECLARATION

I, Mary Shamane Subhan, hereby declare that all the content within this dissertation is my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or any other institution for assessment or any other purposes.

Signature of student

Date

Approved for final submission

Raisuyah Bhagwan (PhD)
Assoc Prof. Community Health Studies
Child and Youth Care Program
Durban University of Technology

Date

DEDICATION

This dissertation is dedicated to my Dad Mr. Ronnie Marion,

who had the most amazing general knowledge due to his passion for reading

"***Now all glory to God, who is able, through his mighty power at work within us, to accomplish infinitely more than we might ask or think" (Ephesians 3: 20).***

Thank you heavenly Father for granting me wisdom and never failing to answer my prayers.

ACKNOWLEDGEMENTS

My sincere and heartfelt gratitude to my supervisor Professor Raisuyah Bhagwan, who has supported me through all my personal, professional and academic challenges. Your belief in me, your hard work and dedication is that which motivated me to complete this study. Your extremely high standards and work ethic have made me realise that I have been led by a true academic. I pray for the Lord's amazing and abundant blessings for you and your family.

To Professor Sibiya, thank you for your encouragement, understanding and support. God Bless.

To my loving, adoring and ever patient husband, Ismail Subhan, the Lord truly blessed me when he brought you into my life. You have supported me through some of the most difficult times and your patience and assistance has made me realise once again how deeply I love you. You have worked tirelessly making sure that I meet my deadlines. This study belongs to "us".

My only child, Javid Mickhail Subhan, your belief in my abilities is truly humbling "mum you can do anything, you put your mind to". Those words are music to my ears and have spurred me on. I love you to "infinity and beyond".

My mum, thank you for educating me, all the sacrifices you made for me, your constant encouragement, support and love. I love you. To my brother, sisters, aunt, mother in law, and the rest of my family thank you for always encouraging me and having faith in me. I love you.

A special thank you to the managers at the Kwazulu Natal College of Nursing and the principals of all ten campuses (Addington, Benedictine, CJM, Edendale, Grey's, Madadeni, Ngwelezana, Port Shepstone, Prince Mshiyeni and RK Khan), my colleagues who assisted me and all the lecturers who participated in my study. To the principal and staff off Iris Marwick, thank you for piloting my questionnaire. You have all made this study possible, my sincere gratitude; I will always remember that without you there would be no study.

To my colleagues and friends thank you for your encouragement, support and guidance. This study has helped me learn how unselfish you are and some of your willingness to share will never be forgotten.

To Deepak Singh, thank you for your patience and your willingness to assist at anytime no matter where you are. I have learnt so much from you.

Thank you to Angeline Van Wyngaarden for allowing me the use of her questionnaire as a guide to design one for this study. Your permission was greatly appreciated.

To Thaba Madlala thank you for your expert advice and willingness to always assist me.

GOD BLESS YOU ALL

ABSTRACT

Nursing education has entered a new era as educators are tasked with ensuring that student nurses are adequately prepared with knowledge and skill to care for an increased number of patients, that are being brought on by the escalating burden of disease in South Africa. This preparation requires developing critical thinking nurses who can work amidst a milieu of a shortage of staff and a lack of resources in the South African context. Despite there being a rapid advance in technology and that the type of student nurse has evolved, little is known about the types of teaching methodologies being used by nurse educators to prepare students for real life practice situations.

Globally there has been a call for a paradigm shift, from a teacher to a learner centered approach in nursing education. This study evolved to explore what current teaching strategies are being used to teach nursing students and their views on the use of more contemporary creative methodologies. Nurse educators at the Kwazulu Natal College of Nursing campuses were involved in the study through the use of a quantitative cross-sectional descriptive research design. Data was collected by means of a survey questionnaire from a census sample of lecturers, working at the ten campuses of KZNCN offering the R. 425 curriculum.

The study found that respondents were still predominantly using didactic teaching methods such as the lecture method and demonstration to teach across all subject areas. They however supported the use of more creative methodologies and requested a need for further training and development to better empower them to utilize web based teaching, portfolios, case studies and a range of other creative teaching strategies in teaching. Recommendations to interweave specific strategies with specific teaching areas were provided as part of the conclusions.

TABLE OF CONTENTS

LIST OF ANNEXURES	
1	Letters of permission to 10 campus principals and KZNCN and letters of support (A-K)
2A	Letter of information and instructions for research participant to complete the questionnaire
2B	Questionnaire
2C	Letter requesting permission to use questionnaire and letter of support (e -mail)
3	Letter of information and consent form - DUT
4	Declaration from statistician
5	Letter requesting permission from Kwazulu Natal Department of Health and letter of support (A-B)
6	Ethics clearance certificates (Durban University of Technology) (A-B)
7	Statistical Analysis

ACRONYMS AND ABBREVIATIONS	MEANING
AIDS	**Acquired Immuno Deficiency Syndrome**
ANC	**Antenatal care**
Admin	**Administration**
A&P	**Anatomy and physiology**
CBL	**Community based learning**
CBS	**Case based studies**
G&D	**Growth and development**
HIV	**Human Immuno Virus**
IMCI	**Integrated Management of Childhood Illnesses**
MDG	**Millennium Development Goals**
NLN	**National League of Nursing**
NNC	**Neonatal Nursing Care**
OBE	**Outcomes Based Education**
PLWHA	**People living with HIV and Aids**
PNC	**Postnatal Care**
PBL	**Problem based learning**
SGD	**Small Group Discussion**
SANC	**South African Nursing Council**
SID	**Student Involved Demonstration**
TCS	**Traditional Classroom Setting**
VCS	**Virtual Class room Setting**
WHO	**World Health Organisation**

CHAPTER 1

1.1 INTRODUCTION

“If we teach today as we taught yesterday, we rob our children of tomorrow” (John Dewey).

Nursing is described as an art and a science. As an art the nurse masters a variety of technical skills to execute procedures in the provision of care to patients who are sick and in need of assistance. Nursing as a science requires the nurse to have extensive knowledge of the biological sciences viz. anatomy, physiology, microbiology, chemistry and the social sciences. Nursing has both a theoretical and a clinical component. The nurse serves humanity by providing holistic health care, such as the promotion of health care, the prevention of ill health and curative and rehabilitative care to the sick or injured patient. This also encompasses the important components of mental and spiritual care (Russom, Andemariam and Haile 2006: 4).

Education in these areas will ensure that the nurse is adequately prepared to assess patients, make a nursing diagnosis, plan patient care with the patient and their family, implement treatment plans, evaluate the effectiveness of care executed and teach patients to care for themselves. In order for this to occur, the World Health Organisation (WHO) developed global standards for the initial education of professional nurses and midwives, that countries could bench mark against and use as a guideline for curriculum development to train and educate nurses (WHO 2009: 10).

The WHO advocated that curricula designs encompass “classroom and clinical learning” that delivers the knowledge and skills required to meet the needs of their respective populations. Nursing education institutions must demonstrate the use of recognised approaches to teaching and learning in their programmes, including, but not limited to, adult education, self-directed learning, e–learning and clinical simulation and learning based on

established competencies. These approaches should also be grounded in the most current, reliable evidence, and learning that enables the development of clinical reasoning, problem solving and critical and analytical thinking" (WHO 2009: 21).

In 1949 America adopted the Tyler curriculum model for the training of nurses. This model stipulated curriculum developmental products such as the philosophy, a conceptual framework, predetermined course objectives that were behaviorally-defined measurable objectives for each year of study and the evaluation of learning based on preset objectives. This led to nursing curricula that was content driven, very structured and which placed emphasis on measurable behavioural outcomes. There was no mention of how to teach and facilitate learning (National League of Nursing 2003: 2).

The National League of Nursing in America (NLN) (2003: 1) re-examined how nursing programmes were designed and how learning was facilitated. The outcome of the evaluation was that nurse educators were of the view that nursing curricula involved the teaching of all content and they felt that it was their responsibility to ensure that all the content is taught or "covered" by them (NLN 2003: 2).

Ironside (2004: 5) also said that nurse educators felt pressurised by both their students and colleagues to "cover" content. Schaefer and Zygmont (2003 cited in Ironside 2004: 6) noted that participants in their study felt that "curriculum mandates" created a barrier to the adoption of learner-centered environments. Graff (2003 cited in Ironside 2004: 6) explained that the educators' continuous focus on what needs to be taught leads to courses that students find boring, encourages rote learning and prevents students achieving higher order capabilities.

Globally most countries including the Republic South Africa (RSA) adopted a similar approach to designing curricula and teaching nursing students. Nursing curricula in South Africa are guided by directives laid out by the South African Nursing Council (SANC) (2005: 25).The focus was still content

driven as opposed to how to teach. Young, van Niekerk and Mogotlane (2003: 3) stressed that nursing encompasses varied functions, ranging from the provision of basic nursing care to the performance of complex activities that requires critical thinking, reflection, decision making and technological skill. Nursing focuses on meeting the needs of patients at a promotive, preventive, curative and rehabilitative level. The aim of nursing education is thus to improve the quality of nursing by promoting personal and professional development (Young *et. al*. 2003: 3).

1.2 Background of the study

The global disease burden of people with non-communicable diseases such as heart diseases, chronic respiratory diseases, cancers, asthma, diabetes and mental illness creates a need for a professionally prepared nurse to deal with these health problems. As nurses are the primary health care providers in a variety of settings, they would be charged with the responsibility for the diagnosis, care and management of these patients (DeCola, Benton, Peterson and Matebeni 2012: 2).

Mayosi, Flisher, Lalloo, Sitas, Tollman and Bradshaw (2009: 1) wrote that the health burden of South Africa is fourfold, and included communicable, non-communicable, perinatal and maternal, and injury related diseases. In addition the country also has a large aging population who also require specialised care. These authors were of the view that there needs to be a revitalization of the district-based primary health care system in order to address these health issues in a cost effective manner. The revitalization of primary health care facilities will require more nurses who are critical thinkers to provide effective care for these patients (Mayosi *et al*. 2009: 11).

In 2001 the spiralling disease burden and the advent introduction of antiretroviral programmes to treat people living with the human immuno virus and acquired immuno deficiency syndrome (PLWHA) resulted in the KwaZulu Natal Department of Health experiencing severe shortages of health

personnel, especially nurses who form the backbone of a health institution. Professor Ronald Green Thompson (Cullinan 2004: 1) announced the increased intake of student nurses at nursing campuses and sub-campuses for training in KwaZulu Natal. The goal was to increase the number of qualified nurses who would meet the increased demands on the already over burdened health work force. This meant that nurse educators needed to adapt their teaching methodologies to prepare nurses to work with this range of health care problems and increased staff shortages.

In 2007 the World Health Organisation (2007:1) estimated that there was a shortage of four million health workers worldwide. In South Africa the ratio of doctors to the population was 66.2: 100 000 and the ratio of nurses to the population was 388: 100 000. The Democratic Nursing Organisation of South Africa (DENOSA) (2007 cited in Wildschut and Mgqolozana 2007: 132) asserted that this shortage of nurses resulted from the country not training enough nurses to deal with the current and changing health care needs of the population. Wildschut and Mgqolozana (2007: 146) argued that nurses needed to be trained innovatively to enable them to work effectively in health care settings with limited resources. The need to increase the number of nurses trained is fundamental due to the present aging workforce of the South African nurses; with 32.8% of nurses in the 40-49 year age group (Wildschut and Mgqolozana 2007: 147).

In South Africa the shortage of nurses is compounded by the fact that nurses themselves become infected with HIV/AIDS. Shisana, Hall, Maluleke, Chauveau and Schwabe (2004: 850) in their study concluded that the HIV prevalence rate among health care workers was 15.7%. They recommended that more nurses be trained to replace those who may die from HIV/AIDS, especially as it was the younger nurses who were infected with HIV (Shisana *et al*. 2004: 850).

Mokoka, Oosthuizen and Ehlers (2010: 1) said that other factors contributing to the shortage of nurses include the fact that nurses moved to other work

situations due to dissatisfaction with their present work environments and they immigrate to countries offering them better opportunities and decreased crime rates and a lower HIV prevalence and the challenges associated with this disease. The Health Systems Trust (2008 as cited in Mokoka *et al.* 2010: 2) noted that in 2008, there were 40.3% professional nurse posts vacant in South Africa. KwaZulu Natal had 39.6% of professional nurse posts vacant.

This shortage was also highlighted by Rondganger's (2013: 1) report that South Africa has 44 780 nursing posts that were vacant, as per the national survey conducted in 2010. Health experts verbalised their concern over the shortage of health personnel countrywide especially with the plans to introduce the National Health Insurance System and suggested a need to train more health care professionals.

In September 2000, South Africa together with 188 other member states signed the United Nations Millennium Declaration with a commitment to improving the health of the global population. There are eight millennium development goals (MDG'S) that the Government wished to achieve by the year 2015. The goals that impact directly on health care and that would require an increased number of nurses who are better prepared to achieve these goals are MDG 4 – to reduce child mortality, MDG 5 – to improve maternal health and MDG 6 – to combat HIV/AIDS, malaria and other diseases (United Nations 2000: 1).The Cape Town Declaration on the MDG'S emerged in 2010, when the strategies to evaluate South Africa's progress to achieving the MDG'S were revisited. All these strategies require a professionally prepared nurse practioner who has to be a critical thinking professional in order to make the best clinical judgements and ultimately achieve the best care for the patients. There also needed to be an increase in the number of nurses trained, to accommodate the demand made on the present workforce (Statistics South Africa 2010: 82).

To accommodate the political reconstruction process and the changing needs of the nursing workforce, nursing education in KwaZulu Natal

progressed in 2005 with the establishment of the KwaZulu Natal College of Nursing (KZNCN). This provincial college of nursing served as the umbrella body that provided education and training at public nursing campuses and sub-campuses throughout the province (KZNCN 2005: 5). There are ten campuses that are involved in teaching the R. 425 curriculum.The students registered in the R. 425 curriculum all follow a unified curriculum, with the curriculum being developed by the KZNCN and with examinations that are set and marked by educators working within this structure (KZNCN 2005: 17).

The R. 425 training programme leads to registration as a professional nurse with additional qualifications in psychiatry, community health nursing and midwifery. In order to administer this programme the KZNCN had to be affiliated to a university (SANC 1985: 1). KZNCN (2005: 3) is affiliated to the University of KwaZulu Natal and the University of Zululand. Moderators of examinations are appointed from these two universities. The governing structures for the KZNCN are the campus boards, senate and college council (KZNCN 2005: 6). This programme has a flexible problem based teaching curriculum (KZNCN 2005: 4).

The R. 212 programme leads to a post registration qualification in clinical nursing science e.g. Diploma in operating theatre technique, critical care nursing, orthopaedic nursing, child nursing science and advanced midwifery and neonatal science (SANC 1993a: 1). Learners write examinations set by examiners at the KZNCN and marked by lecturers working within the KZNCN structure. These examinations are also moderated by the two universities mentioned above.

All other training programmes offered by the campuses are South African Nursing Council (SANC) programmes. Each training institution follows the SANC directives and develops their own syllabi. Learners following these programmes write examinations administered and marked by persons employed by the South African Nursing Council. The R. 683 programme

(SANC 1989: 1) regulates the training of enrolled nurses leading to registration as a professional nurse. The R. 2175 (SANC 1993b: 1) is a certificate course that leads to enrolment as a nurse; R. 2176 (SANC 1993c: 1) is a certificate course that leads to enrolment as a nursing auxilliary and the R. 254 (SANC 1975: 1) leads to registration for the diploma in midwifery. This is undertaken by nurses who have received professional nurse training in the R. 683 programme.

The South African Nursing Council does not stipulate specific teaching models for the various nursing programmes. SANC (1992:6),The Standards for Nursing Practice, stipulates that nurse training should develop a nurse that has the ability to produce a clinical nurse practitioner that has the ability for analytical, critical and creative thinking and sound decision making.

1.3 Background to General Education and Nursing Education

Post 1994 the South African Government of National Unity sought to rejuvenate its education system in order to address the inequalities of the past and to better prepare its students for the workforce. It adopted the Outcomes Based Education (OBE) model in 1998 and introduced it in the form of Curriculum 2005. Malan (2000: 22) described outcomes based education as a model that has been favoured internationally to reform education. The stakeholders at the time envisaged a major paradigm shift (Malan 2000: 22).

Spady (1994 cited in Malan 2000: 23) who was referred to as the father of outcomes based education conceded that outcomes based systems dated back 500 years. Scholars such as Spencer, Herbert, Tyler and Wheeler introduced educational models for curriculum design that were objective and content driven. Malan (2000: 23) noted that the basic Philosophy of OBE is embedded in both Tyler and Wheeler's models. In the 1960's Americans were concerned that students were not taught skills that they required to practice in the real working world. This led to the introduction of the competency-based movement. An important aspect of competency based

learning is that the learner takes responsibility for his/her own achievements (Malan 2000: 23).

Mastery of the learning movement was another model also introduced for its value of providing learners with an appropriate learning environment, learning material and guidance. These characteristics were also common to OBE. Criterion referenced instruction required that learners were concerned with the mastery of predetermined standards in order to achieve success. Malan and Jorissen (1990 cited in Malan 2000:24) introduced a three tiered framework for curriculum design and the teaching/learning practices. The characteristics included in this model are, it is needs-driven, it is outcomes driven, it has a design down approach, it specifies outcomes and levels of outcomes, the focus shifts from teaching to learning and the framework is holistic in its outcomes focus (Malan 2000: 24).

Malan (2000: 24) was of the view that previous educational systems did not prepare learners with the life skills that they needed to join the workforce. He therefore concluded that OBE takes the best of several educational approaches and incorporated them into one approach. OBE as a transformational approach affords the opportunity for dialogue between the learners and the curriculum and also allows the opportunity for the learner to interact with the sources of knowledge, reconstruct knowledge and take responsibility for his/her own learning. The teacher becomes the facilitator of learning instead of the person transmitting information to the students (Malan 2000: 26).

Claassen (1998 cited in Malan 2000: 26) argued that many educators, educational institutions and trainers already adopt a learner-centered and problem-based learning approach in their curricula in which learners are future orientated, the move is away from a content driven process and teaching, learning programmes are open ended, there is continuous assessment of learners, learners discover new knowledge, skills and attitudes through creative planning and guidance by their facilitators,

teamwork/cooperative learning is encouraged, and the curriculum is open to the environment. OBE therefore reinforces a culture of lifelong learning, introduces strategic educational planning and learners take greater responsibility for their own learning (Malan 2000: 28).

South Africa's Critical Outcomes are generic outcomes that were introduced as a cornerstone to OBE and it was intended that they form the key focus to the setting of standards and the development of curricula in all fields of learning and teaching (Maree and Fraser 2008: 28). These critical outcomes are that learners, identify and solve problems using critical and creative thinking, work effectively within a team, have skills to manage and take responsibility for their work activities and have good research skills. Learners should also be able to communicate effectively both verbally and non-verbally, use science and technology effectively and take responsibility for the environment and have an understanding of the world and culture (Maree and Fraser 2008: 28).

Lombard and Grosser (2008: 561) argued that in South Africa like any other country globally, education and training systems should enable learners to become critical thinkers. In order for the economy of any country to survive it needs to produce a workforce that consists of curious, critical, analytical and reflective thinkers who are effective problem solvers, quick to learn and add value to the organisation in which they work (Lombard and Grosser 2008: 561). Barnes (2005 cited in Lombard and Grosser 2008: 561) said that learners are flooded with information but lack the skills to question, interpret and reason this information for its validity. South Africa introduced Curriculum 2005 as it required a workforce that are independent workers and critical thinkers who are able to question and make informed decisions. These criteria would foster lifelong learning and process orientated learning (Lombard and Grosser 2008: 561).

Lombard and Grosser (2008: 572) added that global studies indicate that the development of critical thinking relied on effective teaching strategies. They

concluded that the following problems create barriers to critical thinking in the South African context viz. teachers dominate classroom instruction, they continue to teach the way they were taught, with very little emphasis being placed on the construction of knowledge and thinking skills. Teachers continue to encourage the assimilation and recall of information, they themselves do not have the knowledge to teach higher order thinking and they confuse critical thinking with active involvement in learning. Curricula designs also fail to structure cognitive development and prospective teachers are unable to solve problems requiring critical thinking. These scholars therefore concluded that critical thinking and the ability to teach critical thinking skills are lacking among current and prospective teachers (Lombard and Grosser 2008: 561).

Outcomes based education is a concept that is used interchangeably with the term competency-oriented based approach (Mtshali 2005: 177). Outcomes based education was adopted as a model for nursing curricula as the profession was faced with a challenge of graduates being well equipped academically but lacked the ability to apply this information in practice (Mtshali 2005: 176 and Anema and McCoy 2010: 13). Graduates lacked problem solving, critical thinking, leadership and communication skills. This was supported by Lombard and Grosser (2008: 561) findings regarding graduate teachers. It was envisaged that the introduction of OBE curricula in preregistration nursing programmes would improve the graduate nurse's competencies in his or her clinical role, management role, research role and clinical teaching. These improved competencies would therefore improve clinical practice (Mtshali 2005: 182).

An OBE curriculum for nursing students should ensure that appropriate teaching strategies are adopted to meet the unique learning needs of all individuals and would promote creative and critical thinking required for clinical practice (Kim 2012: 927 and Chabeli 2010: 434). Chabeli (2010: 432) stressed that nursing education exposes students to a plethora of information

and nurse educators need to provide learning opportunities that encourage understanding through meaningful interaction. If this is not provided learning would not be meaningful and rote learning would be encouraged. She added that facilitating critical thinking in nursing students remains a challenge for educators. Novak (2007 cited in Chabeli 2010: 433) pointed out that collaborate group work was valuable to meaningful learning and the construction of new knowledge. There is a global call for educators to engage in scientific studies to determine the validity of teaching methods (Chabeli 2010: 433).

In 2003 the National League of Nursing Board of Governors in the United States of America advocated a paradigm shift, with regard to nursing programmes and advocated for a focus on active learning. They found that content was merely shifted around in the nursing curricula with traditional didactic methods being the mode of delivery for such content. Although technology has advanced and the type of student nurse has also evolved, nurse educators continue to teach using this traditional methodology. Hence the Board believed that educators needed to look at new creative teaching methodologies to facilitate learning of students who would be more prepared to care for patients (National League of Nursing Board of Governors 2003: 2).

Contemporary pedagogies such as case studies, group learning, debates, role playing and online exercises are some of the student-centered approaches that lecturers can adopt to encourage active engagement of students (Horsfall, Clearly and Hunt 2012: 932). A study by Van Wyngaarden (2008: 95) in a nursing college in Gauteng however confirmed that nurse educators still used traditional methods to teach nursing students, with the lecture method being most popular. Thus far most studies in the nursing field both in South Africa and abroad have used students in their investigations. They focused on experimental studies, where the efficacy of one or two methodologies was studied (Le Roux and Khanyile 2012: 1; Kaddoura 2011: 1; Cliff and Wright 1996: 19; Ghafourifard, Haririan and Aghajanloo 2013: 18; Baghcheghi, Koohestani and Rezaei 2011: 2 and Sand-Jecklin 2007: 404).

1.4 Research problem

Studies undertaken globally and in South Africa have revealed that although there is rapid technological advancement and the nursing student has evolved, nurse educators continued to utilize outdated didactic teaching methods (Van Wyngaarden 2008: 95 and NLN 2003: 1). These studies also highlighted the fact that didactic teaching methods do not stimulate critical thinking in the students and therefore will not prepare student nurses to make sound clinical judgements in practice.

Research on a combination of diverse innovative methodologies that stimulate critical thinking in students or the suitability of one particular approach for teaching different content or subject areas is thus sparse. It is here that the research gap lies.

Clynes (2009: 22) a neophyte nurse educator evaluated her own teaching strategy when she started teaching. She explained that she adopted the didactic teaching method of the lecture to teach her students, as she had been taught without taking into consideration the learning styles of her students or the appropriateness of the teaching strategy for the content being taught. Bligh (1998 cited in Clynes 2009: 23) reviewed a plethora of studies on the lecture as a teaching method and concluded that they are effective for teaching information, but fail to stimulate higher order thinking and do not inspire students to become active learners. In her study with students Clynes (2009: 23) felt that student evaluations are a fundamental aspect to the teaching curriculum. Her study concluded that she focused on content, did not ask effective questions during lecturers, spoon fed students, did not engage them and prevented them from taking responsibility for their own learning (Clynes 2009: 24).

Walker (2003: 264) also explained that diverse teaching methods were required to promote critical thinking. She recommended questioning that promotes evaluation and synthesis of concepts, Socratic questioning, classroom discussions, debates, written assignments and poems as student-

centered teaching strategies are those which would encourage critical thinking in students (Walker 2003: 264).

Dunn and Griggs (1998 cited in Gerkin, Taylor and Weatherby 2009: 8) concurred that live didactic lectures were not appropriate for varied learning styles, the learners are passive participants, lecturers require lots of preparation time and can be expensive. Gerkin *et al.* (2009: 8) argued that an innovative alternative to the traditional lecture is e-learning.

Youngblood and Beitz (2001: 39) also advocated for active student-centered teaching strategies be used to promote critical thinking skills in students and prepare them for practice. They argued that nursing curricula should endeavor to make students open minded and creative thinkers in order for them to apply their knowledge to good quality patient care. They identified the following teaching strategies to promote student-led class presentations viz. clinical case studies and cooperative learning (Youngblood and Beitz 2001: 41).

Bimray, Roux and Fakude (2013: 116) posited that the challenge of nurse education and training evolving in South Africa and the ever shortage of professional nurses, warranted an adoption of more innovative teaching strategies by nurse educators. An increased number of a new cadre of nurses was necessary to address the health challenges of the country and ensure access to quality health care. The Western Cape Provincial Government sought to address the health crises by implementing strategies to increase the student intake for training. This created a challenge for education institutions and educators who were faced with teaching large groups of students (Bimray *et al.* 2013: 117).

The University of Western Cape responded to this challenge by revisiting their nursing curricula and implementing innovative teaching strategies in order to meet the needs of the students. Large groups were divided into smaller sub groups and these sub groups were further divided into smaller groups of 5-6 learners per group. This made facilitation more manageable.

Other teaching strategies introduced were the case-based method, simulation and computer-simulated patients. The authors acknowledged that many South African nurse education institutions are facing the same challenges as they take on the challenge to meet the Government's demand to train more nurses (Bimray 2013: 119).

The University of KwaZulu Natal responded to the South African government's call to make nursing education more accessible and implemented the case-based teaching strategy in their decentralised nursing programmes. Nkosi, Pillay and Nokes (2013: 130) argued that the case-based teaching strategy promotes advanced critical thinking skills in student nurses. Mtshali (2005 cited in Nkosi *et al*. 2013: 131) asserted that teaching needed to shift from "a disease" to "a population" focus and teaching strategies should move away from traditional methods to case-based methods in nursing. Agbor-Balyee (2009 cited in Nkosi *et al*. 2013: 132) stressed that the case-based teaching strategy, possesses primary critical thinking strategies as it is problem orientated, it is student-centered, allows for the use of small groups and facilitates and promotes learning strategies through the use of situation-specific cases.

Kok and Chabeli (2002: 35) also advocated for the use of reflective journal learning in an interactive teaching learner-centered strategy which underpins the expectations of OBE. The researchers stressed that educators should use a variety of learner-centered teaching strategies in order to ensure quality education and improve practice (Kok and Chabeli 2002: 42). Van Wyngaarden (2008: 96) highlighted the fact that although there was a curriculum change at a college in Gauteng, to an outcome based problem solving model, nurse educators have continued to use traditional teaching methods, with the lecture method being most popular. The extent to which contemporary teaching strategies are implemented in the KZNCN campuses, to facilitate learning and manage large groups of students effectively is unknown. This is where the current study will position itself.

This study will focus on surveying the views of nurse educators working within the Kwa-Zulu Natal College of Nursing structure to ascertain what current teaching methodologies are being used, the extent of same and the educators' views with regard to adopting more contemporary creative methodologies and the barriers to their use. The study will also identify teaching methodologies most suited to specific content areas and make recommendations with regard to same.

1.5 Purpose of the study

The purpose of this study is to investigate which pedagogical teaching methodologies are currently being used by lecturers, at the ten campuses teaching the R. 425 programme within the KwaZulu Natal College of Nursing structure, and to establish their views with regard to the integration of contemporary creative methodologies, in relation to specific areas of teaching content.

1.6 Objectives

1.6.1 To investigate which are the most common teaching methodologies used by nurse educators at the KwaZulu Natal College of Nursing campuses.

1.6.2 To determine the extent to which innovative contemporary teaching strategies are being used.

1.6.3 To determine the extent of use of teaching strategies in relation to the specific content taught.

1.6.4 To determine the views of lecturers with regards to the use of other contemporary teaching methodologies.

1.7 Value of the study

This study has the potential to positively influence nursing education especially with regard to making nurse educators aware of a variety of teaching strategies that can be adopted to teach varied subject content.

Contemporary teaching strategies have the ability to promote critical thinking in nurses and therefore improve their ability to make sound clinical judgements.

The study will also give nurse educators the opportunity to reflect on their own teaching practices and consider options to improve professionally. By evaluating her own teaching strategy Clynes (2009: 25) made adjustments to her teaching strategy to ensure that it was more beneficial to the students. She improved on her questioning techniques in the class, devised more effective lesson plans and moved away from focusing too much on content. She also changed her attitude in class and made her lessons more interactive, taking into consideration the valued input of her students.

Meehan-Andrews (2009: 24) was of the view that nurse educators must engage with each other in adopting tools that can assist with assessing learning styles of students. Lecturers should also adopt teaching strategies that would enable them to engage weaker students in learning experiences e.g. the use of group work for students who are struggling academically. Nurse educators would gain insight into the adoption of contemporary teaching strategies that would assist students become independent learners, responsible, creative and critical thinkers and therefore accommodate a variety of learning styles (Kaducakova 2007: 17).

These strategies would enable the learners to correlate theory with practice by associating teaching strategies with varied subject matter and will also contribute to an already evolving research-based science of nursing education (Brown, Kirkpatrick, Greer, Matthias and Swanson 2009: 1).

1.8 Theoretical Framework

David Kolb's Experiential Learning Theory will be used as a framework for this study. Laschinger (1990 cited in Kolb and Kolb 2005: 19) reviewed evidence on experiential learning research in nursing and noted that Kolb's Experiential Learning Style theory was highly applicable to nursing education.

It requires the application of a variety of teaching methods to suit the varying learning styles of learners during the different stages of maturation (Kolb and Kolb 2005: 19). This theory is aligned to the current study as it is learner-centered and encourages lifelong learning. Kolb is of the view that knowledge is developed through the acquisition and transformation of experiences with the focus being on the process of learning (Mashaba and Brink 1994: 151; Svinicki and Dixon 1987: 141 and Yildrim, Ozkahraman and Karabudak 2011: 129).

Salehi and Shahnooshi (2007: 86) in their study on “nursing students preferred learning styles” applied “Kolb’s Learning Style Inventory” test, to establish nursing students learning styles. They concluded that learning styles of students differed with junior students preferring “active experimentation” which involves learning by performing an action and senior students preferring “abstract conceptualization” which requires that the students “think or analyze problems” which will assist them in developing skills in critical thinking and problem solving.

Kolb explained that learning occurs in a cycle, each of which must exist for learning to occur completely, it begins with the learner having a concrete experience or observes something. A nursing example can be that of a student nurse actually seeing a patient with pedal oedema. The learner reflects or thinks about what she saw seeking to find meaning to her experience e.g. what are the possible causes of oedema; her reflection can be stimulated by the educator asking questions. The learner then moves on to abstract conceptualisation during which she will draw logical conclusions about her experience. Her conclusions would then guide the decision making process and actions that need to be taken to manage the pedal oedema (active experimentation). This would be preceded by active reading (Svinicki and Dixon 1987: 141 and Mashaba and Brink 1994: 152).

1.8.1 The Stages of Kolb's Learning Style Theory

Stage 1: Concrete Experience – involves the learner actively experiencing an activity e.g. laboratory work in a simulation laboratory.

Stage 2: Reflective Observation – the learner thinks back on the experience in stage 1.

Stage 3: Abstract Conceptualisation – the learner tries to make sense of what was observed by forming theories or models.

Stage 4: Active Experimentation – the learner attempts to test a model or theory or may even plan for a future experience (Kolb's learning styles 2005: 4).

David Kolb (2005) also identified four learning styles that correspond to these four stages.

1.8.2 Kolb's Learning Styles

- Diverging: This type of learners prefer to work in groups and like to collect information in order to find solutions to problems. They prefer to observe rather than perform activities as in demonstrations.
- Assimilating: These learners are not very concerned with people; prefer working with ideas and abstract concepts. They find lectures beneficial.
- Converging: Solve problems with knowledge they acquired. Simulations are a suitable teaching strategy to be adopted for this learner.
- Accommodating: These are hands on learners who like to do things and to work in teams to complete tasks (Kolb's and Kolb 2005: 6)

1.8.3 Application of Kolb's Learning Styles and Stages of Learning to teaching methods in nursing education.

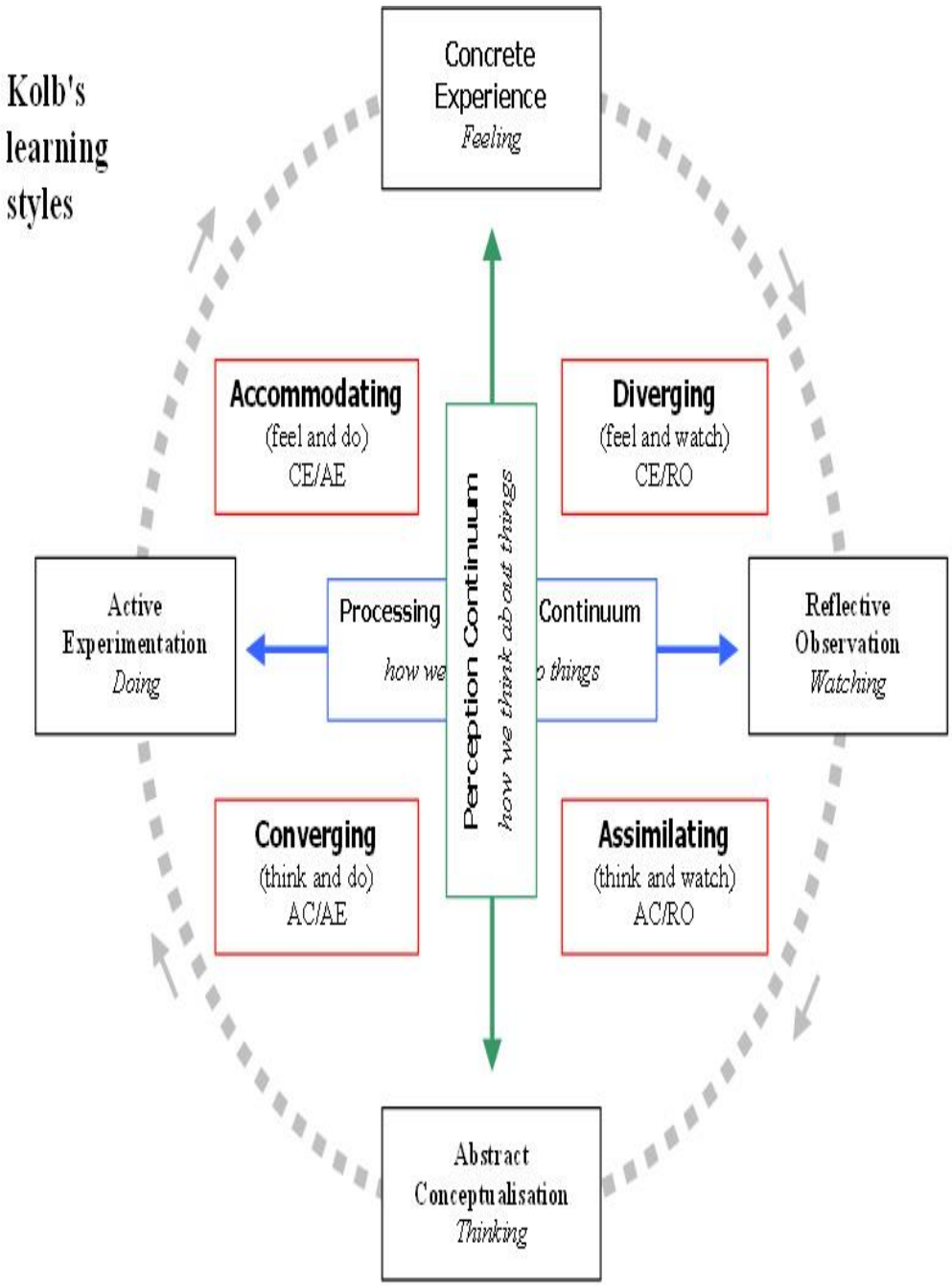
- Divergers: During the stages of concrete experience and reflective observation these learners demonstrate a good imagination and are interested in people and tend to be emotional (Mashaba and Brink 1994: 155). Teaching strategies best suited to this learning style are laboratory work, demonstrations, text reading, simulations, games, films, journals, small group discussions, brain storming and questioning (Svinicki and Dixon 1987: 141 and Mashaba and Brink 1994: 157).

- Assimilators: During the stages of reflective observation and abstract conceptualization, these students enjoy creating theoretical models, show little interest in people and prefer to apply their ideas to practice (Mashaba and Brink1994: 155). Teaching strategies that can be effectively applied are journals, small group discussions, brain storming, questioning, lectures, research papers and projects (Svinicki and Dixon 1987: 141 and Mashaba and Brink 1994: 157).

- Convergers: The stages of abstract conceptualisation and active experimentation are the maturation stages where the students are able to apply their ideas (Mashaba and Brink 1994: 155). Suitable teaching strategies are lectures, research papers, projects, simulations, case studies, problem based learning, laboratory work, field work, projects and homework (Svinicki and Dixon 1987: 141 and Mashaba and Brink 1994: 157).

- Accommodators: During the stages of active experimentation and concrete experience students enjoy doing things. They are able to solve problems through trial and error and rely on other people for information (Mashaba and Brink 1994: 155). Teaching strategies that can be beneficial are simulations, case studies, laboratory work, field

work, projects, home work, journals, small group discussions, brainstorming and questioning (Svinicki and Dixon 1987: 141 and Mashaba and Brink 1994: 157).



1.9 OPERATIONAL DEFINITIONS

1.9.1 Curriculum

A curriculum is described as a planned logical sequence of learning experiences that a student nurse is exposed to, in order to achieve the outcomes of the course of study (Billings and Halstead 2009: 78). The curriculum is aimed at assisting the nurse develop his/her knowledge and psychomotor and affective skills that would ensure that he/she becomes a competent and caring health care practitioner (Quinn 1991: 240).

1.9.2 Pedagogy

Pedagogy refers to the art, science and profession of teaching. It also explains the method and practice of teaching especially involving academic teaching and is further explained as ways in which knowledge is imparted and received through social interaction/communication between teacher and learner (Csibra and Gergely 2006: 5). Pedagogy is further described as including information about what is taught, how it is taught, what is learning and how students and teachers learn (Horsfall, Cleary and Hunt 2012: 930)

1.10 Organisation of the report

Chapter 1: Scientific foundation of the study

This chapter described the background of the study, the research problem, purpose of the study, objectives of the study, significance of the study, theoretical framework that guided the study and operational definitions.

Chapter 2: Literature review

This chapter contains a detailed literature review on the various didactic and contemporary teaching methodologies.

Chapter 3: Research methodology

This chapter describes the research design and methodology that was used in this study.

Chapter 4: Data analysis

This chapter presents the data analysed, interpretation of data and the tests used.

Chapter 5: Conclusions and recommendations

This chapter contains a detailed discussion and recommendations based on the study's findings.

1.11 Conclusion

Chapter 1 provided an introduction to the study undertaken, the background to the study, the research problem, objectives of the study and significance. It also provides an outline of the operational definitions. The next chapter 2 is the literature review.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 INTRODUCTION

"It is in fact nothing short of a miracle that the modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from simulation, stands mainly in need of freedom; without this it goes to wrack or ruin without fail" Albert Einstein.

A literature review provides a researcher with more insight into the nature and meaning of the problem being studied (de Vos, Strydom, Fouche and Delport 2005: 123). It enables the researcher to gather information about current theoretical and scientific knowledge about particular phenomena under study and allows deductions to be made about what is and what is not known (Burns and Grove 2007: 135). Literature reviews assists the researcher to identify gaps in research, prevent duplication of research and justifies one's research as contributing to the current knowledge base (Botma, Greeff, Mulaudzi and Wright 2010: 64 and Babbie and Mouton 2001: 565).

In other words, it is a critical summary of research on a topic of interest, often prepared to put a research problem in context thereby enabling the researcher to make a constructive critique of previous research. It therefore allows one to explore the strengths and weaknesses of previous studies (Polit and Beck 2012: 732 and de Vos *et.al* 2005: 87). Furthermore a search of the literature helps discover what the current theorising about the subject is, identifies the most recent empirical findings and places the current study within its context (Babbie and Mouton 2001: 565).

This chapter will provide a brief explanation on the requirements of a professional nurse and review literature on teaching and learning styles. A review of literature on didactic and contemporary teaching strategies will also provide information supporting or discouraging their use.

2.2 A PROFESSIONAL NURSE

According to the Oxford Paperback Dictionary (2000: 637) a profession is defined as “an occupation that involves knowledge and training in a branch of advanced learning”. Russom *et al.* (2006: 5) described the characteristics of a profession as including a scientific knowledge base which is derived from scientific research and involves the attainment of pre-set standards before practice is allowed. It further prescribed a period of study that would involve the acquisition of theoretical knowledge and clinical skills, a code of conduct to guide practice, the goal to serve mankind, national and international recognition and with a self-governing body that protects society at large. South Africa was the first country to recognize nursing as a profession, making nurses responsible for their own acts and omissions (Searle, Human and Mogotlane 2009: 20).

The preparation of nurses to become professionals required that they undergo educational training to acquire both theoretical knowledge and clinical skills. The training of nurses during the Nightingale era focused on the training of nurses in “civil hospitals”, using an “apprentice-ship model” with lectures being overseen by the hospital matron (McDonald 2010:1). Nursing has advanced and nurses can now study at universities, colleges affiliated to universities, technikons and nursing schools provided that these institutions are registered with the South African Nursing Council (South Africa 2005: 30). The South African Nursing Council is the governing body for all nurses in South Africa and protects the safety of all South African citizens. All nurses need to be registered or enrolled with the South African Nursing Council in order to practice legally in the country (South Africa 2005: 7).

Professional status means that nurses need to be critical thinkers in order to make sound and reliable decisions, solve problems, practice ethically and act as the patients’ advocate (Santiprasitkul, Sithivong, Polnuengma 2007:1). Distler (2007: 53) reiterated in her study on critical thinking and clinical competence that critical thinking is an “essential component of professional

accountability and quality nursing care". Nurses who are critical thinkers exhibit the following characteristics viz. confidence, contextual perspective, creativity, flexibility, inquisitiveness, intellectual integrity, intuition, open-mindedness, perseverance and reflection. These nurses possess the cognitive skills to analyse information, apply standards, seek information, reason logically, predict and transform information (Distiler 2007: 54). Di Vito-Thomas (2005 cited in Badeau 2010: 245) explained that critical thinking can be described as creative thinking, smart thinking, high quality thinking and in-depth thinking.

If nurses are to be critical thinkers and caring human beings then the focus should change from content driven curricula to how to teach. Although technology has advanced and the type of student nurse has also evolved, nurse educators continue to teach the way they were taught (National League for Nurses Board of Governors 2003: 1). In order for the nurse to be an effective carer and critical thinker he/she must be able to apply her scientific and technological knowledge. Nurses are responsible for caring for patients from conception to death and include individuals, families and communities. Critical thinking in nursing is fundamental to professional accountability and quality nursing care (Distler 2007: 55). The National League of Nurses (2002 cited in Distler 2007: 56) encouraged nurse educators to develop more innovative teaching strategies in order to stimulate critical thinking in student nurses.

According to Yildirim, Ozkahraman and Karabudak (2011: 174) learning is a lifelong process therefore the focus of teaching nurses should be on "how to think" as opposed to "what to think". This is necessary as nurses live and work in a complex world that is continuously evolving with technological advancement. There is however continuous debate on how to choose teaching strategies to stimulate critical thinking in student nurses (Yildirim *et al*. 2011: 174).

The National League of Nursing in America (2005: 1) argued that nursing programmes and thus nursing teaching strategies should be designed to be student centered and move away from traditional past practices. More innovative research based pedagogies are required to prepare the nurse practitioner to work, within the rapidly changing health care systems. There is therefore a need for nursing curricula to move away from being content driven. Nurse educators need to explore new approaches to prepare the future generation of nurses (National League of Nursing Board of Governors 2003: 4). Russel, Commelo and Wright (2007: 1) concurred with the NLN of America (2003: 4) that there should be a shift from teacher–centered to learner centered approaches, which requires that the learner be an active participant in his/her learning. Di Vito-Thomas (2005 cited in Badeau 2010: 15) stipulated self-directed learning and teaching strategies, such as, interactive discussion, role playing, problem-based learning, mastery learning, case-based studies, clinical rounds, reflective logs/journaling and reflective practice groups to stimulate critical thinking.

The main principles of student centered learning can be described as the student taking full responsibility for his/her learning, being involved in and participating in the learning process, the teacher is the facilitator and resource person, the learner and facilitator are equal partners in the learning process and the learner developing cognitive and affective skills concurrently (O' Neill and McMahon 2005: 1). Other learner – centered teaching strategies include questioning techniques, concept mapping, independent projects, group discussion, peer mentoring, debates, field trips, reflective diaries, computer assisted learning, writing newspaper articles and portfolio development as learner-centered innovative teaching strategies (Russel *et al*. 2007: 1 and O' Neil and McMahon 2005: 6).

Choice of teaching methodologies requires that nurse educators consider a number of factors viz. preparation time that one has, the size of the class, individual teaching styles and preferences, the content to be covered, the varying learning styles of students, time allocated to cover content and the

knowledge and skills that the students should achieve by the end of the session (Herrman 2002: 1).

Grasha (1996: 154) described the following five teaching styles:

Expert: The teacher sees himself or herself as the person who possesses all the knowledge and expertise that needs to be transmitted to the students to ensure that they are well prepared. This type of teaching style may intimidate the student thus hindering learning (Grasha 1996: 154).

Formal Authority: The teacher is the one with status as he/she is part of the academic staff and has the knowledge. The teacher prescribes the learning goals, the learning content, expectations, rules of conduct, standardises the way to do things and provides positive and negative feedback. This teaching style does not allow flexibility in the classroom with regards to management of students and their concerns (Grasha 1996: 154).

Personal Model: The teacher provides a blue print for how to think and behave. He or she "oversees, guides, and directs by showing how to do things and encourages students to observe and then to emulate the instructors approach". The students feel inadequate if they cannot live up to the teacher's standard (Grasha 1996: 154).

Facilitator: The teacher "guides and directs students by asking questions, exploring options, suggesting alternatives, and encouraging them to develop criteria to make informed choices". The main aim of this teaching style is to become independent and take initiative and responsibility for their actions. The facilitator works with students on projects as their consultant and provides support and encouragement. This style allows for personal flexibility, with the focus being on the students' needs and goals and developing them to explore alternate options (Grasha 1996: 154).

Delegator: The teacher focuses on developing students to function independently. Students work on their own or in groups. The teacher functions as a resource person. Students therefore see themselves as

independent learners (Grasha 1996: 154). Ideally teaching and learning styles should match each other.

According to Chambers (2008: 77) educators develop their teaching styles from a mix of which come naturally to them and from their experience. They may try to copy styles of their own teachers or may try to avoid adopting teaching styles that their teachers used. When educators are aware of their teaching styles they would be able to adapt to the learning styles and needs of the students. There are four ways for educators to tailor their teaching styles to the students' needs:

Matching: Students who are introverts will benefit from a structured format of teaching and gaining straight facts. On the other hand extroverts will thrive with less structured experiences, therefore the educator should adopt a flexible and adaptable teaching style (Chambers 2008: 78).

Allowing choice: Students are recruited from a variety of backgrounds and present with different learning styles. It is therefore imperative that the educator has flexibility and adaptability in his/her teaching style so that different approaches can be applied in a variety of situations, taking into consideration the needs of all students (Chambers 2008:78). The use of a variety of teaching methods in one teaching course would accommodate the varying learning styles of the students (Chambers 2008: 79).

Independent study: This all round flexible and adaptable teaching style allows for the students to have complete freedom in meeting their learning needs. Mature students find this approach of value to them (Chambers 2008: 79).

2.3 TEACHING STRATEGIES

2.3.1 Case based learning

Billings and Halstead (2009: 247) defined a case study as a teaching strategy that involves the application of didactic content to analyse a real case of a

patient or a simulated case. They highlighted the following advantages of this teaching strategy viz. it encourages the stimulation of critical thinking, improves retention and recall of information, allows for the correlation of theory with practical work and allows for the presentation of lecture material into a more practical context. It further improves problem solving skills in a safe environment thus preventing harm to the patient, encourages peer interaction and allows for the application of embedded knowledge. The disadvantages of the case study as a teaching strategy are, it is time consuming to design cases, requires good questioning skills and students who are poorly prepared will learn less and it may cause frustration for students who prefer traditional teaching methods (Billings and Halstead 2009: 248).

2.3.1.1 Case studies stimulate critical thinking

Kaddoura (2011: 1) reiterated that with global technological advancement, the nursing profession is also evolving and requires that nurses be taught in a manner that would ensure that they become critical thinkers capable of caring for patients of the twenty first century. Gentner, Loewenstein and Thompson (cited in Kaddoura 2011: 2) supported case based learning, saying that it prepares students to become critical thinkers. A comparative descriptive survey of third year student nurses (n=103) was conducted in the United Arab Emirates (UAE), to investigate which teaching strategy stimulated critical thinking. A convenient sample was used, with one group of students (n=65) enrolled in the case-based learning programme and the other group (n=38) enrolled in the didactic lecture-based teaching programme.

Kaddoura (2011: 12) reported that the students who were exposed to case based learning (CBL) and worked together in small groups to achieve outcomes, achieved higher critical thinking test scores than those taught using the traditional lecture based method. The California Critical Thinking Skills Test (CCTST) was used to test critical thinking skills. He argued that as

case-based learning promoted critical thinking and thus deep learning, it would therefore assist students to deal with complex problems. It is therefore an approach that nurse educators should consider adopting. Results of the CCTST demonstrated that the mean score for the respondents in the lecture-based group was 10.11 with a SD of 3.15 and the mean score for the case-based 14.45 and a SD of 2.80 (Kaddoura 2011: 9). A strength of this study was that the researchers actually tested the critical thinking skills of the students using the CCTST, which yielded objective data and this adds value to the study as other nurse educators globally could benchmark against this study to test the critical thinking skills of their students. An area of concern in this study was that a significant uneven distribution of the number of participants in the control and experimental groups could skew the results.

2.3.1.2 Case studies applied to anatomy and physiology

Cliff and Wright (1996: 19) in an experimental study in New York investigated the effectiveness of the directed case study. The sample consisted of (n=68) first year anatomy and physiology student nurses. The study was conducted for the duration of one academic year. They explained that anatomy and physiology is a content rich systematic course of study. Mastery of this subject requires that the students have the ability to recall a large proportion of facts. They argued that the case study is an effective method to teach anatomy and physiology as this is a foundational course for other advanced subject areas. Therefore if this methodology is introduced early in education programmes, it can be applied at a later stage of study at a higher level. It would also give the students the opportunity to deepen their understanding of anatomy and physiology and apply it to real life situations (Cliff and Wright 1996: 19).

The aim of the directed case study, which included closed ended questions, was to encourage junior students to grasp factual and conceptual facts about anatomy and physiology and to develop critical thinking skills (Cliff and Wright 1996: 20). The researchers concluded that the directed case study

was an effective teaching strategy for anatomy and physiology as students' examination results improved and the majority of students felt that solving the cases were fun (Cliff and Wright 1996: 24).

Cliff and Wright (1996: 24) based their deductions on the following findings from the respondents (n=66). Seventy four percent of students agreed that the case study made it easier for them to learn anatomy and physiology and 70% responded that the case study solidified and deepened their understanding of anatomy and physiology. A further 65% of students agreed that the case studies made them appreciate the relevance of learning anatomy and physiology, 67% said that the case studies made them more curious to learn more advanced concepts about anatomy and physiology and 71% of the students agreed that case studies are useful in learning anatomy and physiology. A strength of this study is that it took place over a whole academic year with a variety of directed cases that were suitable for first year nurses. This period of time gave the researchers adequate time to collect sufficient and valuable data. Limitations of this study were that the researchers designed all the research material and were also involved in all the teaching and grading of written answers and class discussions, with no outside objective personnel. It is also difficult to generalise these findings to other institutions as this study took place in only one institution.

2.3.1.3 Case studies applied to midwifery

Ghafourifard, Haririan and Aghajanloo (2013: 8) in a quasi-experimental study in Iran investigated the value of case studies in an intensive nursing care course. Thirty (30) third year baccalaureate student nurses, 16 females and 14 males who were completing a part of their curriculum in the nursing and midwifery faculty participated in the study. The case designed for this study was a midwifery case in which the patient had acute renal failure. Data for the study was collected using a self constructed questionnaire. The first part of the study exposed the participants to case-based learning and the

second part was presented with the lecture method (Ghafourifard *et al*. 2013: 10).

The findings indicated that 66.7% of the participants felt that the case study increased their reading comprehension, as opposed to the lecture method and 61.9% of the students perceived an increase in retention of knowledge and felt that this methodology allowed them to complete the course objectives better. In addition 57.1% declared that the case study also increased their motivation to learn and 66.7% said that the case study was overall a better teaching method than the lecture. Ghafourifard *et al.* (2013: 12) concluded that the case-based teaching method is an important teaching method for nursing. A strength of this study was that the same group of students were exposed to both the case study and the lecture, which placed them in a well informed position to provide valuable data for the study (Ghafourifard *et al.* 2013: 3). A limitation of the study was that a very small sample was used in this study and the setting was just one institution which would make it difficult to generalise these findings.

2.3.1.4 Case studies and the application of biological, behavioural and theoretical knowledge by senior students

A South African study conducted at the University of Johannesburg by Malesela (2009: 33), explored how twenty four fourth year (R425) baccalaureate student nurses experienced the case study as a teaching method. The study population consisted of fifty (50) fourth year students but only twenty four students agreed to participate voluntarily. From the themes that arose, the researcher deduced that the case study enhanced critical thinking; it prevented rote learning and encouraged students to become inquisitive, curious and enthusiastic about enquiring knowledge. Case studies also improved the students' ability to apply theoretical information learnt in text books to practical real life situations and also enhance presentation skills (Malesela 2009: 35). These findings supported those made by Kaddoura (2011: 12) in the previous study discussed.

Malesela (2009: 35) concluded that case based teaching improves the integration of theory with practice as students expressed that they applied biological, behavioural and nursing theoretical knowledge, as they interacted with patients. It adds value in improving the acquisition of knowledge, skills and attitudes. Finally Malesela (2009: 37) stressed that case based teaching also improves the presentation skills of students as they had to analyse information, interpret patient records and consult with the multidisciplinary team members and practice before presenting their information. Case studies can also assist lecturers to get to know their students better during the presentations. A strength of this study was that the data collection process was in a written format, so the identification of themes was less time consuming than listening to audio recordings. Participants in the study were fourth year, senior students, who had sufficient experience with the teaching strategies to provide valuable input. The study was conducted at one institution only, so it may create a challenge to generalise it to other similar populations.

2.3.1.5 Case studies and preparation for professional practice

A quantitative cross-sectional survey was conducted in South Africa at the University of Western Cape, by Le Roux and Khanyile (2012: 1), to compare the competence of students registered for the Baccalaureus Curationis programme using different learning approaches. The ultimate aim was to identify which teaching strategy adequately prepared graduating students for professional practice (Le Roux and Khanyile 2012: 3). A stratified random sampling technique was used to select 250 nursing students, from the first to fourth year of nurse training. The data collection instrument was a five-point Likert questionnaire that was applicable to all four levels of training of the participants (Le Roux and Khanyile 2012: 1). The researchers applied the case based teaching methodology in teaching first year student nurses, whilst more traditional teaching methods were used for more senior student nurses. The study revealed that although first year students had little clinical experience case based learning assisted them to display higher levels of

competence than their senior counterparts, as they worked through “cases in small groups” which also facilitated their critical thinking. There was no significant change in the competence of senior students (Le Roux and Khanyile 2012:6).

Second year students who were taught by means of content-focused and teacher- centered approaches, did not record an increase in competence. Piercey (1995 cited in Le Roux and Khanyile 2012: 7) explained that traditional content-focused curricula lack the ability to stimulate competency in students. Third year students recorded competence in academic and clinical practice. At this level the students were exposed to more traditional based teaching and assessment methods. They however had an increased exposure to the clinical setting where they could develop their nursing skills, engage in experiential learning and apply their previous knowledge to new learning experiences. The added learning opportunities facilitated the development of their understanding (Le Roux and Khanyile 2012: 8). The fourth year students did not record an increased performance at the proficiency level, in spite of them having a greater exposure to the clinical setting. Fourth year students are expected to start making the transition from their role as students to practicing professionals. These respondents were found to lack the skills required to practice as professionals (Le Roux and Khanyile 2012: 8).

The fourth year students were taught using a content-based curriculum following a block programme that stipulated time in the academic and the clinical settings. Students are given restricted time frames, to achieve competence in both clinical and theoretical areas. This follows a traditional approach to nurse training (Le Roux and Khanyile 2012: 8). The researchers thus argued for the case-based teaching method, as the teaching method of choice that can be applied in large classes, and as a method that promoted competence and self-confidence in students. They said that it encouraged learners to be actively involved in their own learning, facilitated collaborative learning as learners worked in groups, improved problem solving skills, and

experience realistic real life situations in a safe classroom. The mean scores regarding competency for first year students reflected the highest mean scores for section 1, *M*=22.518, out of a possible score of 35, section 2, *M*=29,806, out of a possible score of 40 and section 4, *M*=43.378, out of a possible score of 55. It is only in section 3 that the third year students achieved a higher mean score for competence *M*=35.926 out of a possible score of 45.

The strengths of this study was that it was effective in indicating that traditional and contemporary teaching methodologies could be combined to make teaching strategies innovative and it assessed both clinical and theoretical teaching. A comparison was also made on the effects of the various teaching strategies, at different levels of training of nurses and with a large sample size of 250.

It can therefore be concluded that use of case studies are student centered teaching approach that stimulates critical thinking and encourages students to apply prerequisite knowledge. This teaching strategy can be used to teach both junior and senior nurses and has been successfully used to teach midwifery, anatomy and physiology

2.3.2 Small Group Work or Co-operative Learning (Collaborative/Peer/Team based learning)

Billings and Halstead (2005: 255) defined small group work as a meeting of a group of individuals with the aim of exchanging ideas on a particular matter through guided discussion. The lecturer may take a participatory role in the group or may act as a consultant to the students. This method requires that students and the lecturer plan in advance and be creative in order to make this method of acquiring knowledge effective. The group needs to be controlled to prevent monopolisation by one group member (Billings and Halstead 2005: 255).

The advantages of small group work are described as encouraging students to actively engage with the subject content, stimulating cooperative learning, peer sharing, and enhancing dialogue and group problem solving skills. Small group work also requires little preparation time for lecturers although planning is still necessary and it is an economical method, as it does not traditionally require additional material such as handouts or audiovisual aids. Disadvantages highlighted were that students need time for preparation, students need adequate prerequisite knowledge in order to participate in group discussions and students with an inadequate comprehension of the subject matter may be missed (Billings and Halstead 2005: 255).

Billings and Halstead (2005: 248) described co-operative/collaborate learning as a method that involves groups of students working together on a common assignment and assume responsibility for achieving their own learning outcomes, as required in small group work. Groups should consist of three to five heterogeneous members in terms of gender, intellectual ability, ethnic group and experience, as it would add value to learning. Each group member should be assigned a role e.g. reader, scriber etc. Adequate time should be allowed for reporting and processing of work (Billings and Halstead 2005: 248).

Advantages of co-operative learning includes the encouragement of active learning, team work, reflective learning and promotes accountability as students learn to take responsibility for their own as well as group members work and large assignments can be effectively achieved in groups. Other advantages include the fact that co-operative learning improves critical thinking skills, promotes positive relationships between group members, students take responsibility for each other's learning; each member takes responsibility for doing an adequate amount of work and that students gain an active insight into how they work together as a group. Disadvantages are that the students may become resistant to this teaching method if they are too frequently used and some students may not participate adequately in group activities (Billings and Halstead 2005: 248).

Chapman (2006: 298) in her review of literature on small group work pointed out that this teaching strategy is being increasingly used in higher education nursing institutions. She said that in order for group work to be effective, it should however be conducted in an environment that is conducive to freedom of thought and speech, respect for different views and values, and that lastly the environment should allow for the promotion and maintenance of subjective realities. She argued that there needs to be a change in mindset in lecturers from a traditional pedagogical approach to a contemporary approach (Chapman 2006: 302).

Mennenga and Smyler (2010: 1) added another dimension to group work as they addressed the importance of team based learning in nursing education. They supported it as a structured student-centered learning method, with a focus on active teaching strategies such as case studies. Clark *et al.* (2008 cited in Mennenga and Smyler 2010: 7) supported the fact that team based learning can take place in any classroom including large classes, that may have up to 200 students and with one lecturer facilitating class activities. This strategy allowed for small groups of students to work together and take the responsibility for learning. Touchet *et al.* (2005 cited in Mennenga and Smyler 2010: 7) wrote that this paradigm shift affords the lecturer more time to act as a facilitator of learning. This paper adds value to nursing education as it provided guidelines on how to facilitate team based learning.

2.3.2.1 Small group work (peer learning) applied to ethics

Stone, Cooper and Cant (2013: 1) explained that peer learning is referred to by various different names such as co-operative learning, mentoring, peer review learning, peer coaching, team learning, peer mentoring and problem based learning. This is a student centered approach that requires that students work in groups in order to achieve their learning outcomes. Only 18 studies were suitable, for review and used varied research methodologies (Stone *et al*. 2013: 2). Owens *et al.* (2001 cited in Stone *et al.* 2013: 1) supported the fact that peer learning in education promotes critical thinking,

psychomotor skills, cognitive and clinical skills development. A type of peer learning is problem based learning where students are given cases to work on in small groups; thereby making this method a student centered teaching approach (Stone *et* al. 2013: 1).

The researchers concluded that peer learning was acceptable to students, it can be used to convey information to large groups of students, it increases the confidence of students, and it requires little involvement of the lecturer and promotes the effective utilization of resources. They found that peer learning could be implemented across multiple areas e.g. the teaching of ethics. They argued that this teaching methodology would be very beneficial in undergraduate nursing programmes. They identified anxiety as a disadvantage that peer learning may cause (Stone *et al.* 2013: 7).

2.3.2.2 Small group work (team based learning) used to teach midwifery

Lubeck, Tschetter and Mennenga (2013: 112) explained that the traditional lecture-based theory courses and on-site clinical experiences are being replaced by more evidence based teaching strategies, that encouraged the students to be more actively involved in their own learning. Parmelee (2008 cited in Lubeck *et al.* 2013: 112) defined team based learning as a structured student centered teaching approach that promotes the development of interpersonal and teamwork skills in students. Lubeck *et al.* (2013: 113) in an attempt to transform the current inactive class room environment, implemented team based learning in a Maternal-Newborn Nursing Course, in large classes of at least 80 students per semester, in a South Dakota State University.

The researchers concluded that developing learning activities was time consuming for the lecturers but the advantage was that there was a shift in the control of learning from the teacher to the student as students became more engaged in learning. Students pointed out that they learnt to work with others and were able to use the feedback to improve their own intelligence. Others felt frustrated by team based learning and were of the view that

lecturers were paid to teach them and not watch them learn (Lubeck *et al.* 2013: 115). A strength of this study was that the researchers used a variety of learning activities, to accommodate the varying learning styles of students and it worked in combination with team based learning. This made the study a valuable contribution to nursing education as students have varied learning styles and the study created the opportunity for more studies to be conducted. A limitation of the study was that only one institution was reviewed, thus meaning it could not be generalised to other institutions.

2.3.2.3 Small group work (collaborative learning) and community health nursing

Yang, Woomer and Mathews (2011: 72) piloted a collaborative learning project with (n=83) undergraduate community nursing students at the University of Pittsburgh School of Nursing. All senior nursing students in the United Kingdom Baccalaureate programme are mandated to take a community health nursing course. Students are placed in schools, public health programmes, home care and hospice, ambulatory care, community based health, social health agencies, health education and outreach programmes to gain clinical experience. Nurses in community health and public health settings frequently work in teams. It therefore made sense to teach students in teams. Students were randomly divided into groups of four, using numbers generated by a computer. They were assigned assignments that addressed common health issues such as infectious diseases, immunisation, teen pregnancies, cancer screening, addiction, environmental contaminants, healthy lifestyle and injury prevention (Yang *et al.* 2011: 73).

The researchers concluded that although some students were apprehensive about this teaching approach due to prior experience with group work, most students enjoyed working with their peers and found this learning experience beneficial. This method assisted students to improve their team work and conflict management skills. Students however did not seem comfortable to evaluate their peers which created a limitation to the study as the

researchers could have gained valuable feedback on group dynamics (Yang *et al.* 2011: 75). A strength of this study was that of the 83 participants only 2 individuals were not previously exposed to group work. This made it possible for participants to give valuable input based on their experience with this learning method.

2.3.2.4 Small group work (co-operative learning) used to teach medical and surgical nursing and community health nursing

Smith-Stoner and Molle (2010: 314) implemented co-operative learning in their undergraduate nursing courses at a rural state funded nursing university in Southern Carolina. Classroom action research was used to describe, analyse and address problems experienced in introducing co-operative learning in two undergraduate nursing programmes. Cross and Steadman (1996 cited in Smith-Stoner and Molle 2010: 315) described classroom action research as a cumulative and ongoing process that examines what affects student learning in the classroom. Classroom action research is recommended for educators who wish to develop their own skills or change their current teaching strategies (Smith-Stoner and Molle 2010: 315).

Co-operative learning was introduced to the introductory medical and surgical course and senior level community health course, to manage large classes of at least 80 students, due to the number of students who were failing, and students who were not prepared for class. The lecturers divided students into groups based on whether students saw themselves as extroverts or introverts or in between both. In groups, extroverts learned to listen to others and the introverts had an equal opportunity to talk (Smith-Stoner and Molle 2010: 315). The researchers pointed out that the study enabled them to identify students with learning difficulties and intervene early to assist them, secondly they could address students' misconceptions immediately and finally it gave the lecturers the opportunity to act as role models (Smith-Stoner and Molle 2010: 317).

Challenges experienced were that some students did not want to participate in collaborative learning opportunities so it was time consuming for lecturers to try and get them to get involved in learning. Also others did not take the responsibility of preparing their work before the classroom session, as they felt that they were doing all the work. Another challenge was that the teaching venue could not be rearranged to suit this teaching method (Smith-Stoner and Molle 2010: 317). A significant contribution of this study was that it used classroom action research as the methodology which can be used by nurse educators to develop contemporary teaching strategies and to improve their own teaching skills. A limitation was that the researchers had difficulties recruiting participants for the study.

2.3.2.5 Small group work (co-operative learning) used to teach pharmacology and medical and surgical nursing

Goodfellow (1995 cited in Hanson and Rinaldi Carpenter 2011: 270) affirmed that co-operative learning involves students working in small groups, thereby encouraging students to learn from each other through dialogue and sharing of views. Johnson and Johnson (2003 cited in Hanson and Rinaldi Carpenter 2011: 270), firm supporters of co-operative learning added another dimension to this methodology by identifying five components that was required for this strategy to be implemented effectively. They are viz. face to face interaction, individual and group accountability, interpersonal and small group skills, passive independence and group processing.

Hanson and Rinaldi Carpenter (2011: 270) implemented co-operative learning in junior level courses of pharmacology (n=35) and medical and surgical (n=35) nursing at a private religious-affiliated University in a North-Eastern region in America. The participants were students enrolled in an undergraduate Baccalaureate programme. The participants were divided into smaller groups, with five to six members each. It was imperative that each group had one academically strong student. Each individual participant took

a test and then took the same test in their individual groups. No inter-group discussions were allowed (Hanson and Rinaldi Carpenter 2011: 271).

The students perceived co-operative learning as a method that helped them understand concepts better, they enjoyed learning from their group members and they appreciated the way that their fellow students explained information. Others viewed co-operative learning as stressful and there were times when the group had difficulty in reaching a consensus. The researchers asserted that although co-operative learning is time consuming for educators, it does however promote ethically responsible actions and addresses the various learning styles of students (Hanson and Rinaldi Carpenter 2011: 272). An advantage of this study is that it indicated that this teaching strategy can be implemented for different subject areas in nursing.

Baghcheghi, Koohestani and Rezaei (2011: 2) undertook a comparative study of co-operative learning and traditional learning methods at a University in Iran. The participants (n=34) were nursing students, in their second semester of their first year of study. The participants were randomly divided into two groups. The control group (n=18) were taught medical and surgical nursing with traditional lectures. The experimental group (n=16) were taught the same content using co-operative learning. They were divided into smaller heterogeneous groups of four members each (Baghcheghi *et al*. 2011: 2).

The group exposed to the lecture method of teaching demonstrated no major difference in the pre- and post – tests on problem solving and interaction skills. However with the co-operative groups post – test results revealed improved problem solving, critical thinking skills, communication skills with patients and peers, group and conflict management skills. Baghcheghi *et al*. (2011: 5) asserted that nurse educators must shift towards more learner-centered approaches and recommended this strategy.

2.3.2.6 Small group work (co-operative learning), an active teaching strategy

Sand-Jecklin (2007: 474) explained that the increased demand for qualified nurses resulted in the intake of large groups of student nurses. There was however no adjustments to the resources in place. Sand-Jecklin (2007: 474) undertook a quasi-experimental study, at a Mid-Atlantic University in the United States of America, to investigate the effects of active/co-operative instruction or small group work as opposed to traditional teaching methods in beginner student nurses. A convenience sample (n=104) of Baccalaureate nursing students was used in this study. The participants were randomly divided into two groups. One group was taught using the didactic lecture-based method and the second group was taught using the co-operative teaching method. The students were all exposed to the same syllabus, homework and examinations. Data was collected with a Teaching and Learning Strategies Inventory that was specifically designed for this purpose (Sand-Jecklin 2007: 476).

Surveys from 87 respondents were analysed. The researcher reported that at the beginning of the study, both groups of students preferred passive instruction methods and surface learning. As the study proceeded, those learners who were exposed to traditional passive teaching methodologies continued to prefer these methods, whilst those who were now exposed to more active teaching methodologies began to enjoy these methods of teaching. On completion of the study the group exposed to the traditional lectures, indicated a higher preference for passive teaching strategies than the active instruction group [t (df 91) = 2. 73, p = .008] and the active group had a higher preference for active teaching strategies [t (df 91) = -2.92, p = .004] (Sand-Jecklin 2007: 477).

The researcher concluded that if learners are exposed to more contemporary teaching methods they would begin to adapt to them and reap their benefits. This however requires that facilitators be prepared to implement these

strategies and reassess curricula to allow for such teaching methodologies and assessment methods in order to produce critical thinking nurses (Sand-Jecklin 2007: 479).

2.3.3 Problem Based Learning (PBL)

Problem based learning (PBL) is used as a teaching strategy to correlate theory with practice. The problem is used as a stimulus to facilitate the acquisition of problem solving skills and knowledge and the application of knowledge by students. It can be used as a teaching approach in the entire curriculum. PBL aims to “construct an extensive and flexible knowledge base, develop effective problem solving skills, develop self-directed and lifelong learning skills, it encourages students to become effective collaborators and intrinsically motivated to learn” (Billings and Halstead 2005: 25 and Badeau 2010: 252).

Advantages of PBL are its potential to stimulate active and co-operative learning, critical thinking, clinical reasoning and an opportunity for peer review and evaluation. Students learn to apply their knowledge in the clinical area. Problems can be developed by the educator in pencil and paper formats, videotape, computer assisted instruction or the internet, which can be reused with different groups of students. The disadvantages of PBL include factors such as, it takes time to develop problems, the shift of roles of both student and educator, time for educators to learn how to apply PBL and students need to be orientated on their role in PBL. Other disadvantages are that it may be difficult to implement in large classes and students may not gain a comprehensive knowledge base of the problem which would result in a knowledge gap (Billings and Halstead 2005: 253 and Badeau 2010: 246).

2.3.3.1 Problem based learning and post basic nurse training

Distler (2007: 53) explained that the changing disease profile of the American population, the shift in the demographics of student nurses and the shrinking workforce require that nurse educators change their teaching strategies, so

that the limited numbers of nurses are effectively trained to be safe and effective practitioners. The focus of nursing care has changed from secondary and tertiary care to primary care requiring that Advanced Practice Nurses (APN) work as independent practitioners.

The National League of Nursing (2003 cited in Distler 2007: 55) stressed that nursing curricula needed to be more focused on flexibility, evidence-based best practice and collaboration with other nursing programmes, with the aim to incorporate the latest technology in a cost effective manner. Dolmans *et al.* (2005 cited in Distler 2007: 56) argued that for PBL to be effective, the learning process needs to be constructive, self-directed and collaborative. Educators need to draw up patient scenarios, which are based on real life situations, complex and open ended. The student must be able to apply his/her prior knowledge to this scenario. Based on the evidence from literature reviewed, Maryland School of Nursing in America redesigned their nursing curricula and implemented a problem-based learning and evidence based practice strategy to teach Advanced Practice Nurses. Before commencing the sessions, each student's learning style was assessed using the VARK (visual, auditory, reading/writing and kinesthetic) learning style questionnaire (Distler 2007: 57).

Teaching strategies included online large and small group discussions, prior preparation for weekly in-class case studies, clinical laboratory work, clinical logs and reflective feedback. The students' knowledge acquired was then evaluated. Distler (2007: 57) concluded that both students and lecturers viewed student-centered strategies, as superior in terms of professional satisfaction. This teaching method still required the educator to maintain control and be the advocate and facilitator in the teaching/learning process. He also highlighted the importance of having an educator who has extensive clinical experience and experience in teaching for PBL to be implemented and used as an effective teaching strategy. Initially preparation for the implementation of PBL can be time consuming for the educator (Distler 2007: 58).

Neophyte nurse educators need to be mentored before and during the implementation phase. This strategy requires a lot of work before introduction to the curriculum but the end product, the competent confident nurse practitioner, is worth the effort. Students participated actively in the learning process and were allowed to participate in decision making. They however did find student-centered teaching strategies very time consuming (Distler 2007: 58).

2.3.3.2 Problem based learning used in teaching midwifery

Rowan, McCourt, Bick and Beake (2007: 133) conducted a qualitative study at the Thames Valley University in the United Kingdom. Barrows (1986 cited in Rowan *et* al. 2007:132) suggested that problem based learning is advantageous for its ability to structure knowledge in clinical situations, develop clinical reasoning and self-directed learning and increase motivation for learning. The aim of this study was to explore the experiences of lecturers involved in teaching in a problem based midwifery curriculum. The sample was randomly selected from two groups of lecturers, those who were experienced in teaching and from novice lecturers. Thirteen lecturers were interviewed using semi-structured interviews. The interviews were transcribed, analysed thematically and coded independently by co-researchers to ensure reliability (Rowan *et* al. 2007:134).

The first theme that emerged was that educators felt that facilitation was a key area of concern as participants had different views on the level of intervention required. Most of the participants felt that the students required a lot of support, guidance, nurturing and reassurance at the beginning. The second theme that arose was that it was challenging for students to work in groups, as they varied in age, social, cultural and educational background. The third theme was that the students who benefited from the PBL approach were well motivated and had a good sense of responsibility. Students also needed to have a degree of confidence to benefit from PBL. Educators felt that students who were less motivated, were lower academic achievers and

older students would find it difficult to learn with PBL. They felt that PBL was more effective when implemented from the second year of nursing as students then had some nursing experience (Rowan *et al.* 2007:135).

The fourth theme was the impact that PBL had on the educators. Most of the participants reported that they were happy using PBL to teach the midwifery students and felt that this approach, encouraged a higher degree of engagement with the students (Rowan *et al*. 2007:136). The researchers thus concluded that PBL was viewed by the participants as an approach that allowed the students to develop skills which were relevant to practice and some recommended that PBL be gradually introduced to teach students in combination with other teaching methods (Rowan *et al.* 2007:137). This study adds value to nursing education as it provides evidence that PBL, a student centered teaching strategy can also be implemented in a midwifery curriculum. An area of concern in this study however was that the participants and the researchers were all from the same institution, so it was possible that participants could have provided socially accepted responses.

2.3.3.3 Problem based learning applied to community health nursing, child health, mental health and critical care

Horne, Woodhead, Morgan, Smithies, Megson and Lyte (2007: 103) applied a qualitative evaluative study, to explore the effectiveness of PBL in undergraduate student nurses in the community, child health, mental health and critical care disciplines. The study was conducted at a higher education institution in the United Kingdom. A purposive sample of 121 students and 15 facilitators were selected for this study. Data collection was done by using the nominal group technique and focus group interviews (Horne *et al.* 2007: 105). The university's envisaged move, aimed at moving away from the traditional large group lectures to small group self-directed enquiry led learning, created some concerns for educators and clinical staff (Horne *et al.* 2007: 104).

Students were gradually introduced to PBL in the curriculum. In the first year of study students were introduced to teacher led, case study and small group

work. In the second year students were expected to take greater responsibility for their learning by setting their own learning outcomes and working in small groups with the nurse educator acting as a facilitator. For the purpose of this study the large group of students was divided into smaller heterogeneous working groups. From the themes that arose, the researchers concluded that PBL was well accepted by the students and had a positive influence on students by assisting them to develop independent learning skills, allowed for deeper investigation into nursing and allied subject content, created self-awareness, confidence, and self-direction, improved presentation skills and the ability to correlate theory with practice (Horne *et al.* 2007: 107).

Nurse educators participating in the study, found preparation workshops of help but also felt that experiential learning would assist. They however felt that they needed more training and support. This study highlighted the fact that PBL can be applied across varied disciplines/subject areas in a nursing curriculum (Horne *et al.* 2007: 111). A strength of this study was that data was collected from both the students and the lecturers, so this data may be compared and verified. The study also sought to investigate the use of PBL across varied subject disciplines and aimed at capacity building amongst lecturers. The results of this study may be applied to similar nursing programmes and disciplines. The participants may however have given socially accepted responses during focus group sessions as the participants and researchers were all from the same education institution.

2.3.3.4 Problem based learning used to teach medical and surgical nursing

Hwang and Kim (2006: 316) in their endeavor to explain the value of PBL performed a quasi-experimental comparative study in Korea, to assess the effectiveness of the lecture method as opposed to PBL. The final sample consisted of participants (n=71) who were second year nursing students and participation was on a voluntary basis. The PBL group consisted of students

(n=35) who were divided into smaller groups and were already taught pathophysiology, anatomy and pharmacology in their first year of training. They were never exposed to PBL teaching. The problem-based scenarios were developed on cardio-respiratory conditions from real patient situations in the hospital unit. Students in the PBL groups (experimental group) were given very limited class sessions and on completion of their work were given time to present the work in class. Students exposed to the didactic lecture method (control group; n=36), received lectures and used the same reference books and teaching material as the PBL students. Data were collected by using a knowledge test and a five point Likert scale questionnaire to measure attitude. The level of learning motivation was evaluated by using a questionnaire (Hwang and Kim 2006: 317).

The researchers concluded that students in the PBL group attained higher knowledge scores than their counter parts (*M*=18.1, SD=3.0) after being exposed to PBL, in comparison to the control group (*M*=16.3, SD=4.4; *t*=2.007, *p*= .045). Positive learning attitudes were also higher in students, who received instruction by PBL (*M*=54.3, SD=7.4) in comparison to the control group (*M*=51.5, SD=6.9) in the post test. In the learning motivation, which measured post test only the PBL group (*M*=90.1. SD=10.6) recorded a much higher score than the control group (*M*=82.3, SD=13.6) (*t*=2.608, *p*= .012). They also noted that the teaching methods did not make any difference to academically talented students (Hwang and Kim 2006: 318).

Hwang and Kim (2006: 318) were also of the view that students could have achieved better grades if lectures were intermittently used with PBL, especially to benefit the students who achieved lower grades and felt frustrated because they could not grasp the information during the PBL sessions. They reported that the lecture method did not benefit the poor graders either as they needed more support.

2.3.3.5 Problem based learning used to teach paediatrics, midwifery, psychiatric and medical and surgical nursing

Niemer, Pfendt and Gers (2010: 69) implemented an experimental course at a Kentucky university that would use the PBL teaching strategy, to teach senior students that predominantly used didactic teaching methods. Senior students were chosen so that they could apply their cumulative knowledge to the scenarios. Duch (2009 cited in Niemer *et al.* 2010: 69) described the characteristics of a well designed PBL learning experience, that included subject matter that is related to the real world and must be interesting, engage and motivate the students, students must be allowed to make decisions and judgements based on facts and logic, questions in the scenario should be open ended, related to previous knowledge and include controversial issues that will elicit a variety of views. In order to prepare for the introduction of PBL three workshops were held with ten nurse specialists to develop scenarios. The nurses were representative of paediatric, obstetric/newborn, medical-surgical and psychiatric nursing disciplines and a simulation nurse specialist (Niemer *et al.* 2010: 70).

The scenarios assisted the students to generate nursing diagnoses and move away from the use of medical diagnosis to organize content. Students were positive about this teaching approach and were of the view that PBL made them think, seek new information and apply their embedded knowledge. The students found this teaching strategy fun as it allowed them to reinforce information learnt from the entire nursing course. Scenarios drawn up were for a variety of medical conditions viz. anaemia, genetics, respiratory distress, midwifery, surgical nursing, oncology, asthma and trauma. This experimental course reiterated the fact that PBL can be applied in the teaching of any subject area/discipline and therefore implies that there is room for evidence based research in this area (Niemer *et al.* 2010: 73).

2.3.3.6 Problem based learning applied to improve practice

The Joseph Brant Memorial Hospital in Southern Ontario embarked on an educational initiative to upgrade the skills of their staff nurses (Badeau 2010: 244). Their aim was to challenge their nurses to 'learn to learn" and "work cooperatively and collaboratively in groups to solve real-life clinical problems and issues". The organisational leaders applied the PBL approach, for capacity building, to improve team work and leadership skills and thus improve patient care. The staff nurses were divided into groups of eight members with each having a facilitator. On completion of the training, the staff nurses noted an improvement in their critical thinking, communication skills and application of PBL in the clinical setting. They also noted an improvement of research skills that would improve their use of evidence based practice (Badeau 2010: 247). The implementation of PBL for capacity building in staff nurses supported the fact that this methodology can be applied in post graduate nursing curricula. PBL is an important strategy in evidence based practice and professional development (Badeau 2010: 240).

2.3.3.7 Problem based learning and humour

Chauvet and Hofmeyer (2007: 286) in an attempt to make PBL more enjoyable focused on the use of humour to facilitate PBL in their paper. Achike and Nain, Morrison, Morales-Mann and Kaitell and Nahas (2005, 2004, 2001 and 1998 as cited in Chauvet and Hofmeyer 2007: 287) identified the following values of humour viz. it creates a non-threatening environment which increases the students ability to learn, increases attention span and retention, reduces stress levels and improves team work and collaborative relationships between educators and students. PBL stimulates the integration of knowledge, reason, intuition and emotion and is at an advantageous position to educate future generations of nurses. PBL as a method of teaching and learning is well rooted in the pedagogical belief that learners should be active participants in their learning, which makes this strategy a student-centered approach (Chauvet and Hofmeyer 2007: 287).

PBL as a teaching strategy is most favoured over other strategies due to the fact that it uses real life stories to initiate brain storming, improve decision making, psychomotor skills and critical discussion and bridges the gap with theory and practice. Humour in PBL helps to breakdown social and power barriers thus allowing the student and the educator to share decision making in the learning process (Chauvet and Hofmeyer 2007: 288). Humour further reduces stress levels and depression, improves mood and self esteem thereby facilitating the learning process. The researcher concluded that if humour is introduced into PBL teaching sessions, it would assist in facilitating critical thinking, problem solving and build lifelong coping and learning skills in nurses (Chauvet and Hofmeyer 2007: 291).

2.3.3.8 Problem based learning – a model for implementation

Problem-based learning was also introduced in higher education institutions in the United Kingdom, in order to produce critical thinking nurse practitioners, who would be able to correlate theory with practice in the clinical area (McLoughlin and Darvill 2007: 271). Oliffe (2000 cited by McLoughlin and Darvill 2007: 272) was of the view that educational curricula should facilitate “lifelong learners” and “self-directed practitioners”, which is possible with problem-based learning. In order for problem based learning to be implemented successfully there is a need to provide guidance and support to both learners and facilitators (McLoughlin and Darvill 2007: 272). Woods (2001 cited in McLoughlin and Darvill 2007: 272) recommended the development of a model that had relevance to specific teaching areas that would guide and add structure for students and facilitators who are new to PBL. The Salford design was thus born, that consisted of two components viz. the ONION model and the SALFORD process. (McLoughlin and Darvill 2007: 272).

2.3.4 Simulation

Simulation is a learner centered strategy that assists nurse educators to move away from the demonstration method to more creative teaching methods.

Proponents of simulation argued that simulation is also a teaching methodology that stimulates critical thinking in a safe environment. Jeffries (2005 cited in Billings and Halstead 2009: 160) defined simulation as a creation of a situation or event that closely resembles real practice, to teach clinical nursing and critical thinking. Simulations should be developed with the correct complexity level for the level of training of the student, provide appropriate patient data, allow the students the opportunity to use information obtained to make a nursing diagnosis and take the necessary nursing actions. This would make it possible for the students to practice nursing procedures safely on simulated patients or mannequins. The use of simulation as a teaching strategy however comes with its own advantages and disadvantages (Billings and Halstead 2009: 160).

Some advantages of simulation identified were that, students can make mistakes without causing injury to real patients, clinical situations can be manipulated to suit the teaching situation, time allocated for learning can be planned in a controlled learning environment and multiple learners can use the same simulation. It also promotes the practice of psychomotor skills, using modern day simulators involves the learner in active learning , provides an opportunity for immediate feedback and promotes problem solving, critical thinking, and bridges the theory practice gap (Billings and Halstead 2009: 160 and Mc Callum 2007:87).

The disadvantages of using simulation are that, academic staff needs more time to set up and conduct simulation, students and lecturers may be anxious about this experience, only a small number of students may practice at a time and this strategy may be expensive in terms of equipment, material and human resources needed to set up and deconstruct the situation. Other

challenges involve accessing laboratory facilities, replicating real life situations and there may be difficulty experienced in communicating outcomes and skills from the simulation experience (Billings and Halstead 2009: 160).

There are various categories of simulation which include simple models or mannequins, simulated patients; computer based clinical case simulators, realistic high-tech procedural simulators, virtual reality and realistic high-tech interactive patient simulators (Billings and Halstead 2009: 161). Wilford and Doyle (2006: 604) argued that with the increased intake of student nurses, there is an increased demand for clinical placement and the correct category of patients which results in student nurses competing with students from other disciplines to gain knowledge and skills. Simulation allows many different learning outcomes to be taught in realistic situations, with the use of simulators as real patients (Wilford and Doyle 2006: 604). The authors concurred with Billings and Halstead (2009: 160) that simulation prevented harm to real patients. Students therefore will practice safely and communicate with the mannequin and the simulation could mimic clinical situations in a hospital, clinic or community. The closer the simulation is to the real life situation the better the learning experience for the students and improved retention of skills learned (Wilford and Doyle 2006: 605).

2.3.4.1 Simulation used to teach second year student nurses

An experimental study conducted by Alinier, Hunt, Gordon and Harwood (2006: 10) in the United Kingdom to evaluate the use of simulation as a teaching strategy in nursing, aimed at determining the effect of scenario-based simulation on student nurses clinical skills and competence. The research population consisted of three consecutive cohorts of students (n=344) in their second year of training, who were enrolled in an undergraduate programme for the Diploma in Higher Education. A sample of participants (n=125) were required for the study, one hundred and thirty three volunteered to participate but only (n=99) completed the study. The

participants were randomly divided into a control group (n=50) and an experimental group (n=49) (Alinier *et al*. 2006: 11).

Data was collected from pre and post tests that took the form of an Objective Structured Clinical Examination (OSCE). The control group achieved 48.82% and the experimental group achieved 47.54% in the pre-test scores. Students in the experimental group worked in small groups in a simulated intensive care situation, on patient simulators as they would in real life situations. They were observed by the researchers using an audio video link. The observations were that after working with the mannequins, the participants started treating them like real life patients and communicated with them. On completion of this exposure, all the participants took the identical post-test OSCE. The study documented the value of simulation, as the experimental groups achieved a higher mark (*M*=61.71, SD=7.53) than the control group (*M*=56, SD=9.46) in the post test objective structured clinical examination (OSCE). The researchers also concluded that a variety of skills could be learnt from simulation e.g. psychomotor as well as affective skills (Alinier *et al.* 2006: 16). The research design chosen for this study provides a guide for future studies by nurse educators. Given that the study was conducted over two years gave the researchers sufficient time to collect adequate relevant data.

2.3.4.2 Simulation and human patient simulators and interactive case studies

Howard, Ross, Mitchell and Nelson (2010: 42) added another dimension to stimulation by exploring the effectiveness of human patient simulators (HPS) and interactive case studies (ICS). Human patient simulators are usually programmed with certain predetermined outcomes of the student's interventions, which may result in the patient recovering from the problem with the student's nursing intervention or dying as a result of the student omitting an intervention or implementing an inappropriate intervention. Human patient simulators allow facilitators to copy real life scenarios, which

students would encounter in the clinical area. Students therefore get the opportunity to practice decision-making skills in a controlled environment (Howard *et al.* 2010: 42). The traditional case study has been successfully implemented in nursing curricula to promote the student's learning and improve clinical decision-making skills. Interactive case studies involve the facilitators interacting with students, regarding content and decision-making in the case (Howard *et al.* 2010: 43).

Howard *et al.* (2010: 43) conducted a quantitative quasi-experimental study in Pennsylvania to compare the effectiveness of human patient simulators (HPS) and interactive case studies (ICS). The sample consisted of senior nurses (n=49) which included Baccalaureate (BSN) students (n=13), accelerated Baccalaureate (A-BSN) students (n=13) and Diploma (n=23) students. Participants were randomly divided into two groups, that were the, HPS group (n=25) and the ICS group (n=24). Both these groups were exposed to the same curriculum with each group being exposed to either the HPS or the ICS approaches to teaching and learning. Data was collected by means of identical pre and post tests for both groups of students (Howard *et al*. 2010: 45).

On completion of the educational interventions, the researchers concluded that students who participated in the HPS intervention demonstrated a greater understanding of concepts. Human patient simulators provided a valuable learning experience, helped to stimulate critical thinking in respondents, decreased anxiety and they learnt more than the interactive case study respondents (Howard *et al*. 2010: 45). The HPS group recorded an increase (3.49%) in the post-test scores, as compared to the pre-test scores. The ICS students on the other hand recorded a lower score in (17.32%) the post-test score. The researchers attributed this to the possibility that the ICS intervention seemed to have provided a more passive learning experience and that the students were fatigued after the learning experience (Howard, *et al.* 2010: 46). In order for HPS to be successfully implemented in nursing curricula, resources such as time and money must be made available

for the development of lecturers. Lecturers also need to be given time to design simulations, plan outcomes, programme scenarios, pilot the scenarios and revise them as needed (Howard, *et al.* 2010: 47).

2.3.4.3 Simulation and its value as opposed to learning on live patients

Parsh (2010: 569) concurred with Wilford and Doyle (2006: 604) that a shortage of clinical placement for student nurses, made it necessary for students to learn clinical judgement and decision-making skills in simulated clinical experience (SCE) with human patient simulators. A qualitative study was conducted in two Northern Californian Universities to gather data about the characteristics required of clinical facilitators (Parsh 2010: 569). The participants were nursing students (n=8) and SCE instructors (n=3). Data was collected by means of telephonic and face-to-face interviews, designed with three open ended questions (Parsh 2010: 570).

Parsh (2010: 570) reported on the themes that emerged from this study. The students' felt that the instructors' needed to be patient, show respect and demonstrate an understanding of students. They also felt that the instructors' needed to engage students more, guide them throughout the experience and through the next step of the process. Other important characteristics reported were that instructors' needed to have the ability to teach, be knowledgeable and be updated with clinical practice. During SCE students could talk and ask questions that they would not be able to, whilst learning with real life patients. Also instructors could slow down and even repeat the simulation to teach the students and students were able to learn and build confidence and were made to feel as part of a team. Students also felt that SCE instructors were less egocentric and had a more positive attitude (Parsh 2010: 570).

In addition students felt that with traditional clinical instructors the instructor is not always present with the students, as they have a number of students to work with, in the clinical environment. Thus students find themselves often alone and they often felt 'stuck". Procedures on the patient are done once

and cannot be repeated on the same patient to correct errors in practice and instructors have to adapt to unexpected situations. Other students were of the view that learning within the traditional clinical setting was irreplaceable, due to all the variances that exist with real life patients (Parsh 2010: 571).

The SCE instructors in this study felt that they must be trained in order to make this strategy effective, humour would make this experience enjoyable for the students, instructors must have the ability to allow students to work independently, hold students accountable for their actions and debrief them immediately following the learning experience and instructors must be technologically skilled to work with HPS. Simulated clinical experience instructors however felt that whether you are using simulated clinical experience or teaching in the traditional clinical learning environment instructors must have high standards and must have the ability to communicate their expectations to the students. They themselves must have the ability for critical thinking, are excellent bedside nurses and have updated clinical practice skills (Parsh 2010: 571).

2.3.4.4 Simulation and the management of obstetrical emergencies (midwifery)

Birch, Jones, Doyle, Green, McLaughlin, Champney, Williams, Gibbon and Taylor (2007: 915) conducted a mixed method study in the United Kingdom, to determine the most effective method to train staff on the management of obstetrical emergencies. Participants (n=36) were randomly selected from obstetric and midwifery staff. They were divided into six smaller groups with six members each (Birch *et al*. 2007: 918). The six teams were then divided to make up three sets of teams. The first two teams were taught using lecture based teaching (LBT), the second two teams were taught using simulation based teaching (SBT) and the last two teams were taught with a combination of these two teaching strategies, (LAS). They were taught the emergency management of post partum haemorrhage in obstetrics (Birch *et al*. 2007: 920).

Scenarios were carefully designed by researchers who were specialists in obstetrics and midwifery (Birch *et al*. 2007: 919). Data was collected by pre and post training assessments and semi-structured interviews. The researchers concluded that although all groups recorded an increase in knowledge, the LAS participants demonstrated a short term improvement of 98 points in their post training scores, in team performance and improved team work. The simulation group improved in their post training scores by 74 points and the lecture group by 75 points. The SBT participants documented sustained improvement in clinical management, confidence, communication skills and knowledge that was transferrable to other emergency situations, decreased anxiety levels, record keeping, leadership and crisis management (Birch *et* al. 2007: 922). The long term improvement of the SBT team continued to increase (25) points as opposed to the LBT and LAS teams who recorded a long-term decrease in scores of 3 points and 4 points respectively (Birch *et* al. 2007: 921).

2.3.4.5 Simulation - revitalisation of a clinical skills laboratory

Jeggels, Traut and Kwast (2010: 51) who were also proponents of simulation explained that institutions offering training for health related occupations have clinical skills laboratories which are generally used for demonstration and assessments of clinical skills. An increased student nurse intake and decreased clinical placement facilities required that student nurses in the Western Cape in South Africa acquire competency in clinical skills before they are placed in the clinical area. The school of nursing in the University of Western Cape had to review their undergraduate clinical nursing curricula in order to address these challenges. The Faculty at this University revitalized their clinical skills laboratory to adopt innovative teaching strategies that would be more beneficial to the current day student nurse (Jeggels *et al.* 2010: 51).

The University adopted a simulation model to translate classroom subject content into clinical skills. Kraakinen and Arwood (2009 cited in Jeggels *et al.*

2010: 52) were of the view that simulation reflects real life scenarios and would be more effective with the inclusion of role play. This process involved the training of all the lecturers and facilitators, a re-organisation of the clinical laboratory, the acquisition of the appropriate equipment and the recruitment of simulated patients from the local community, who also needed training. The use of simulated patients in nurse training is a novice practice as it is not commonly used in South Africa (Jeggels *et al.* 2010: 55).

All levels of students from the first year of training to the fourth year were exposed to teaching in the clinical laboratory. They started from a simple approach to a more complex one as they progressed to the next level of training. The students were allowed to also practice in their own time, either with peers or after watching a video and had to produce evidence of learning experiences. The model encouraged self-directed learning in students (Jeggels *et al*. 2010: 55). The phases that the students were exposed to in the skills laboratory fitted well with Kolb's experiential learning model which was the learning theory that was used for the development of this learning/teaching model (Jeggels *et al.* 2010: 53).

The authors concluded that the development of a skills laboratory to teach clinical skills using simulation was successfully introduced in the University Western Cape. In spite of the increased student numbers, all students were still able to get the opportunity to master clinical skills (Jeggels *et al.* 2010: 58). A strength in the implementation phase was that variety of faculty members from the different disciplines participated in this phase, which was important as it reduced the chances of bias. An area of concern with the introduction of this type of model was the use of human simulated patients as this could at some stage create legal and ethical issues.

2.3.5 Narrative Pedagogy

Another student centered teaching strategy is narrative pedagogy. Billings and Halstead (2009: 218) explained that narrative pedagogy can assist in the

reformation of nursing education with the sharing of experiences by students, lecturers and clinicians. When students listen to and respond to stories, they develop new knowledge. An advantage of narrative pedagogy is that it uses all the different pedagogies and allows for the creation of newly emerging teaching and learning that moves beyond issues of power, critique and deconstruction (Billings and Halstead 2009: 218).

2.3.5.1 Types of narrative pedagogy

Brown, Kirkpatrick, Mangum and Avery (2008: 283) noted that with the evolution of technology there was also a need for nursing education, to change in its approaches to teaching to meet the needs of the twenty first century student nurse. There should be a partnership in learning between the nurse educator, the student and the clinician. Learning opportunities therefore needed a paradigm shift, viz. to move from the traditional pedagogies to more cooperative and egalitarian approaches (Brown, *et al.* 2008: 283).

Brown *et al.* (2008: 284) affirmed that narrative pedagogy allows critical thinking, and analyzing concepts, ideas and situations which create a learning environment that allows for partnership development between student and teacher. They undertook to review literature to support their views. Narrative pedagogy can be demonstrated through a variety of modes such as art, music, storytelling and journaling. Darbyshire (1994 cited in Brown *et al.* 2008: 283) explained that teaching illness, disease and caring is more meaningful when taught through the medium of poetry, drama, film and paintings rather than the use of textbooks.

2.3.5.2 Narrative pedagogy used in teaching geriatrics and psychiatry

Kirkpatrick and Brown (2004 as cited in Brown *et al.* 2008: 284) applied narrative pedagogy to teach geriatrics in undergraduate students. When taught using films students are able to learn the concepts of life and death, loving and forgiving, and are also able to learn about their own values about

life and death. Kirkpatrick *et al.* (2004 as cited in Brown *et al.* 2008: 284) believed that narrative pedagogy improves learning and problem solving, critical thinking and foster personal growth. Wall and Rosen (2004 as cited in Brown *et al.* 2008: 284) successfully used film and music to teach psychiatric students and concluded that their critical, analytical, introspection and self-reflection skills were improved.

Sharing personal experiences also assists nurses to prevent the same mistakes made by educators and clinicians. Gillis (2001 as cited in Brown *et al.* 2008: 284) advocated for the use of journaling as a narrative pedagogy, as she felt that when students write out their own experiences they grow personally and develop their ability to use intuition, problem-solve and reduce stress.

2.3.5.3 Narrative pedagogy and reflexive thinking bridge the gap between theory and practice

Kawashima (2005: 168) argued that the use of narrative pedagogy in Japanese nursing curricula would assist in moving away from the limitations of conventional teaching methodologies. Baccalaureate nursing curricula in Japan have changed resulting in students spending less time in the clinical area leaving them very little time to perform procedures on patients and thus develop vital nursing skills. The researcher felt that Japanese students are taught to rote learn, therefore it is difficult to expect students to think critically, independently and reflect on learning experiences (Kawashima 2005: 168).

In view of this Kawashima (2005: 169) advocated for the implementation of narrative pedagogy in combination with traditional teaching methods in nursing curricula, as this combined methodology would assist students maximize their clinical learning experiences and improve their reflexive thinking skills. In order to support his argument Kawashima (2005: 170) reviewed extensive literature. The researcher felt that students could write down their own clinical experiences and then engage with lecturers to

interpret their clinical learning experiences (Kawashima 2005: 168). This would enable the students to bridge the gap between theoretical knowledge and clinical practice. In order for narrative pedagogy to be implemented effectively in nursing curricula, nurse educators should change their mind sets, and to become more open minded, develop their own reflexive thinking skills and be willing to review nursing curricula (Kawashima 2005: 169).

2.3.5.4 Narrative pedagogy and critical thinking

For centuries now storytelling has been used as a tool for communication (Davidhizar and Lonser 2003: 217). In nursing it can be used for developing critical thinking, to model behaviours, to teach culture sensitivity and communication skills in the clinical setting. Stories are enjoyed by most people and as a teaching method have the ability to capture and hold attention and interest. This can facilitate retention and recall of information. Modes of transmission include legend, myth, folk tale, poem, novel, film and play have progressed to radio, television, printing, cinema and the internet. Storytelling in nursing education would thus stimulate a more humane approach to nursing and learning (Davidhizar *et al*. 2003: 217).

2.3.5.5 Story telling and cultural competence

Story telling is a teaching strategy that has been applied at the Bethel College in Mishawaka. Davidhizar and Lonser (2003: 218) found that students at this college performed well in tests and that students attributed the good results to the fact that they enjoyed stories and were able to remember the facts from the stories (Davidhizar and Lonser 2003: 218). These authors identified three methods of utilising storytelling in nursing education, viz. the use of storytelling that models good and bad nursing interventions and illustrates concepts, use of scenarios, case studies, and vignettes for analysis, and use of reflective analysis. Storytelling in nursing education also enhances self-esteem, allows for role modeling, teaches

communication, develops critical thinking and can be used to teach ethics and cultural sensitivity (Davidhizar and Lonser 2003: 218).

2.3.6 Role Play

Billings and Halstead (2009: 254) described role play as a character driven teaching strategy i.e. students would enact the roles of others. It is usually unscripted, and hence gives the students the opportunity for creativity. It involves spontaneous interactions which are witnessed by the rest of the students who are given the opportunity to critically analyse and interpret the role play (Billings and Halstead 2009: 254). Advantages of role play are an improvement in observational skills, decision making skills, increased comprehension of human behaviour, and the opportunity for immediate feedback on interpersonal and problem solving skills. Role play further provided a safe environment in which students could practice unfamiliar communication and decision-making skills. This is a cost effective teaching method, as it relies on adult learners' using their real life experiences and does not need props, handouts and models etc. (Billings and Halstead 2009: 254).

Billings and Halstead (2009: 254) described the disadvantages of role play as being the reluctance of students to participate, time required by educators to develop scenarios and the fact that it may cause frustration for educators who like to be in control of the learning environment. There is a risk that stereotypical behaviour may be reinforced and if not planned effectively can result in the loss of valuable class time.

2.3.6.1 Role play and cultural competence

Shearer and Davidhizar (2003: 273) reviewed literature to assess the use of role play in developing cultural competence. Cultural competence is defined as the ability to care for patients in a culturally sensitive and appropriate way. Role play provides students with the opportunity to simulate the roles of culturally diverse patients and nurses caring for them. It allows the freedom

to express their own thoughts and feelings spontaneously. Feedback sessions on role play exercise improves the students' ability to express their feelings, improves observational skills and enables them to constructively critique nursing interventions (Shearer and Davidhizar 2003: 273).

2.3.6.2 Role play and communication skills

The use of role play as a method to teach students how to manage diversity, affords students the opportunity to improve their verbal and non–verbal communication and conflict resolution skills (Shearer and Davidhizar 2003: 274). Kuipers and Clemens (1998 cited in Shearer and Davidhizar 2003: 275) described other benefits of role play as encouraging students to become more assertive, improves self-confidence and prepares them for clinical practice. There were however educators who agree with Billings and Halstead (2009: 254) and feel that role play, may reinforce stereotypes and result in a waste of class time (Shearer and Davidhizar 2003: 275).

2.3.7 Reflective writing/thinking

Reflective writing is yet another contemporary teaching strategy which includes the keeping of clinical logs, journaling and critical incident analysis. Billings and Halstead (2009: 253) described reflective writing as a teaching strategy where students annotate their personal experiences during their clinical placement and correlate this information with theoretical content that was learnt in the classroom. Students are required to critically analyse their clinical experience. In order for this strategy to be effective, students need to receive clear objectives, implement different approaches such as a diary to create interest in the students and receive thoughtful feedback from the lecturers. Further value can be added to this strategy, by introducing group discussions regarding reflective writing so that all students may benefit from this experience and the allocation of marks would increase the motivation of students to use this approach (Billings and Halstead 2009: 253).

The advantages of reflective writing are explained as a means of correlating clinical practice to that which was learnt in the classroom. It is a student-centered approach and facilitates lifelong learning. It also stimulates critical thinking and allows for a process of feedback between lecturers and students which can assist the lecturer to identify learning gaps and can also be implemented at all levels of nursing education (Billings and Halstead 2009: 254). These authors argued that the disadvantages of reflective writing, are that lecturers may feel tempted to go back to the role of expert rather than focus on the students' experiences. This method may therefore frustrate lecturers as they may need to support students, when they are experiencing conflict by their experiences (Billings and Halstead 2009: 254).

As facilitators, lecturers may need to engage in discussions with students on subject matter that they may not be subject experts on. Students may not take this learning opportunity seriously, especially if they are not getting graded on this exercise. Reflective writing can also be time consuming for the lecturers and the students. Lecturers need time to develop reflection guidelines, read the students' reflections and it takes time for the students to compile their reflections (Billings and Halstead 2009: 254).

2.3.7.1 Reflective writing (thinking) applied to disaster nursing

Craft's (2005: 53) real life experience facilitated her interest in reflective writing as a teaching strategy. The researcher was involved in the emergency management of the survivors from the Oklahoma City bombing in 1995 and did not receive critical incident stress management immediately after the incident. It was only offered a few days later and only a few nurses attended as many affected had all already returned to their normal work. Due to her contribution to the book "In Their Name", she realized the value of reflective writing, as a tool for nurses to cope with critical incidents (Craft 2005: 53).

In order to support her views on the values of reflective writing Craft (2005: 53) reviewed the related literature. She argued that reflective writing can be

implemented as a valuable tool to teach nursing students, as it encourages critical thinking, allows for the opportunity to document professional practice experiences, facilitates self-awareness and improves coping with critical incidents. The documenting of important incidents, gives nurses the opportunity to make comparisons with theories and practice and also generates the development of new nursing knowledge. It further assists nurses' deal with stress and burnout (Craft 2005: 55). Burton (2000 cited in Craft 2005: 55) argued that the sharing of reflective experiences in groups, may increase anxiety in students rather than reduce it as it may make students feel that they are being coerced, exposed and threatened.

2.3.7.2 Training of students and lecturers for the introduction of reflective writing

Craft (2005: 55) stressed that in order for reflective writing to be implemented effectively in a curriculum, it requires preparation of nurse educators. They need to receive support and training in the use and evaluation of reflective writing (journals) and the development of guidelines for reflective writing assignments and its grading. Students require guidance on what needs to be written, how to write and which elements to include. Craft (2005: 56) strongly viewed reflective writing (journaling) as a dynamic tool to prepare nurses to explore and reflect on in the twenty first century saying it should be introduced to student nurses early in their training.

2.3.8 Socratic questioning/inquiry

Billings and Halstead (2009: 253) described questioning, as the use of an interrogative sentence, phrase or gesture that requires an answer. Socratic questioning is the use of probing questions, used to analyse an individual's thinking. Facilitators need time to construct thought provoking questions, be prepared to facilitate discussion following questioning and questions should be designed to assess cognitive skills and sub skills associated with critical

thinking. Questions must also be appropriately phrased to prevent students feeling belittled (Billings and Halstead 2009: 253).

The advantages of Socratic questioning can be explained, as the promotion of active thinking, enhancement of interaction between students and lecturers where students are encouraged to use their own experiences to discuss various concepts. The increased vocalisation by students, increases the students' ability to ask higher level questions, allows for a higher level of problem solving and the transfer of information learnt in the classroom to the clinical area. The disadvantages of Socratic questioning however list that it is based on the presumption that the student has a thorough knowledge base, that there is thorough preparation by students and lecturers before class begins, and that students cannot simply rely on recall. This method also implies that there may be no right answer (Billings and Halstead 2009: 253).

2.3.8.1 Socratic questioning and virtual classroom settings

In an endeavor to highlight the use of Socratic questioning, Whitely (2006: 65) a Canadian academic, reviewed literature to enhance online learning. She found that Socratic questioning can be used in the traditional classroom setting (TCS), as well as the virtual classroom setting (VCS) that includes correspondence courses, distance learning and e-learning. This method of teaching is another approach, that can stimulate students to achieve higher order learning which reflects critical thinking, makes them move beyond the basic facts, understanding and application and to use reasoned thinking, to gain insight in order to deal with the situation at hand. Socratic questioning is referred to as the method of dialectic as it stimulates discussion between students and lecturers as students work through a series of questions, presented by lecturers (Whiteley 2006: 67). Magee (2001 cited in Whiteley 2006: 66) argued that this methodology encouraged students to re-evaluate what they believe and it does not present absolute facts. The lecturer is required to be empathic of the problems that face the students and guide them towards a better understanding of the subject area.

2.3.8.2 Guidelines for the use of Socratic questioning

Merritts and Walter (2005 cited in Whiteley 2006: 67) argued that during Socratic questioning the lecturer, feigns ignorance on the subject matter. The lecturer's role is to guide the students on the correct path, correct any misconceptions that may arise and encourage students to gain a more accurate understanding of the subject. Socratic questioning is aimed at engaging students in critical and reflective thinking. It also affords students the opportunity to be challenged and answer questions, in a non-threatening learning environment. A fundamental value of this method of teaching is that it allows the lecturers the opportunity, to guide the learning of students through the various levels of Bloom's Taxonomy of Learning (Whiteley 2006: 67).

Merritts and Walter (2005 cited in Whiteley 2006: 67) suggested the following guidelines for the use of Socratic questioning by lecturers viz. plan significant questions ahead in order to provide structure and direction, phrase clear and specific questions, give the student five to ten seconds to respond to questions, ensure that the discussion stays focused, follow up on responses and request elaboration, involve students in the dialect by asking probing questions, present a summary of points discussed, avoid "yes/no" answers, avoid questions that are vague, ambiguous and too advanced for the level of the students. Whitely (2006: 69) concluded that including Socratic questioning in VCS settings, as in TCS will assist in the much needed paradigm shift in education.

2.3.8.3 Socratic questioning applied across multiple disciplines

Sorvatzioti (2012: 61) described Socratic questioning as a well-established teaching method that stimulates discussion, through critical thinking among students resulting in well reasoned conclusions. She explored the use of the Socratic method of teaching in a multidisciplinary educational setting in a higher education institution in Cyprus. The sample consisted of students from

various countries, ethnic groups and cultures, gender, educational levels and studying varied subject areas. Data was collected by using open ended questions and interactive observations. The researcher guided the process of learning, by introducing Socratic questioning in the classroom. This promoted dialogue in the classes and students were encouraged to debate various subject areas (Sorvatzioti 2012: 61).

Socratic questioning was used to teach law, economics and public relation students about human rights violations. This methodology was also used in other subject areas such as criminology, hospitality management, sociology, psychology, ethics, bioethics and legislation (Sorvatzioti 2012: 65). The researcher reported that Socratic questioning encouraged democracy in the classroom, as it reinforces the need for students to listen to one another's views with respect. She also concluded that Socratic questioning is a valuable teaching strategy for dyslexic students. Students with learning disabilities listen to the discussions in class, remember these discussions and apply this information later. The lecturer must create an open minded environment, respect and listen to the students and allow them the freedom to build their own personalities. The lecturer should also avoid humiliating his/her students, as it would only anger students and prevent analysis and critical thinking (Sorvatzioti 2012: 68). A value of this study was that the participants were from varied ethnic and cultural groups and were studying a variety of courses which serves as an indication that Socratic questioning can be applied to teaching any subject area.

2.3.8.4 Types of questions and techniques used in Socratic questioning

Neenan (2009: 250) added another dimension to Socratic questioning, by explaining that it relies on asking a series of open ended questions, which would facilitate reflection and produce newly acquired knowledge that can assist in solving problems. Rather than receiving the answers from the coach or the lecturer, the individual is given the opportunity to use the acquired knowledge to reach his/her own conclusions (Neenan 2009: 250). Padesky

(1993 cited in Neenan 2009: 251) noted that Socratic questioning should not only focus on the changing of mindset so that the students give answers that the lecturer expects, but more importantly it guides discovery thus allowing students and teachers to learn.

Oermann (1997:26) in her paper on the evaluation of critical thinking in clinical practice, explained that Socratic questioning has two components with the use of a series of open ended questions, that guide students along preplanned paths that stimulate rational thinking with students being actively involved in learning. Students are given the opportunity to express and defend their own views. The next component encourages students to compare problems and approaches. During this phase students learn to generalise one patient situation in the clinical area to another thereby gaining a better understanding of difficult concepts and phenomena (Oermann 1997: 26).

Nicholl and Tracey (2007:285), in their paper on “Questioning: A tool in the nurse educator’s kit”, examined literature on questioning as a teaching methodology in nursing. James and Baldwin (1997 cited in Nicholl and Tracey 2007: 286) argued that effective questioning techniques was beneficial to enhance students’ learning, but also provides the lecturer with an opportunity to assess the level of the student’s knowledge, improve the student’s communication skills, confidence and give the students the opportunity to raise any concerns. It also facilitates the analysis of complexities and encourages students to develop their ability to defend their arguments and positions. Lecturers are provided with a platform to ask more questions to increase the knowledge base of students and stimulate their critical thinking and problem solving skills. Lecturers however must ensure that they are well prepared and use well constructed, accurate and probing questions with an appropriate mix, to stimulate critical and higher order thinking in student nurses (Nicholl and Tracey 2007: 286).

Montello and Bonnel (2009: 71) supported Nicholl and Tracey's (2007:291) view that questions engage students and extend the learning situations. Walsh and Sattes (2004 cited in Montello and Bonnet 2009: 72) argued that quality questions focuses attention, facilitates thinking and results in learning. A good question would promote instructional purpose, focus on important content and facilitate thinking at a specified level. They developed a framework for the use of questionnaires in the classroom named Questioning and Understanding to Improve Learning and Thinking (Montello and Bonnet 2009: 72).

Forehand (2005 cited in Montello and Bonnet 2009: 72) agreed with Whiteley (2006: 67) that questions should be designed, using Bloom's taxonomy of the six cognitive levels, which range from simple recall to abstract intellectual tasks. Questions are also used in the inquiry based teaching strategies as they create a context for exploring ideas; questions are the context and not the method. Ellis (1993 cited in Montello and Bonnet 2009: 72) developed a questioning strategy called OFAKA which represent concepts of open, focus, analysis, keystone, and application. This model is based on the premise that higher level questions in Bloom's taxonomy subsume lower level questions. It therefore provides lecturers with an organisational framework, to develop lesson plans and initiate critical thinking. It is adaptable and therefore can be used in a variety of teaching situations (Montello and Bonnet 2009: 72).

Nickitas (2012: 106) supported the fact that an effective way to promote knowledge is to ask thought provoking questions i.e. asking the right question at the right time, that should promote interest and understanding. She argued that this pedagogical strategy stimulates new and different ways of teaching and learning as it assists students to apply knowledge, generate deep thinking and provide effective feedback. The nurse educator would thus use this opportunity to identify gaps in learning. Questions carefully integrated into classroom and clinical teaching experiences would stimulate students to apply their critical, creative and scientific reasoning. Good questions should

be clear, purposeful, useful, customised for the subject content, follow a logical sequence, stimulate thinking and be flexible (Nickitas 2012: 107).

2.3.8.5. Socratic questioning in combination with problem based learning

Effective questioning is also imperative in the application of other teaching strategies such as problem based learning. Questioning is a valuable method to capture and hold the attention of the students, especially when teaching large groups of students as it encourages the involvement of all students. However if the lecturer is not sensitive in the application of this strategy, it could result in increasing student anxiety, confusion, encourage guess work from students, vagueness and may embarrass or alienate which will result in students not learning (Nicholl and Tracey 2007: 291).

2.3.8.6 Socratic questioning used to teach ethical dilemmas

Nurse educators must create a culture of asking questions in both the theoretical and clinical environments. They should encourage and welcome students' questions. Educators must stress that there are no wrong questions but there are appropriate ways to question. Cranton (2006 cited in Nickitas 2012: 106) recommended the use of the following type of questions viz. content questions which enable the students to become aware of basic assumptions and beliefs, process questions that reveal how learners hold certain perspectives and premise questions that would reveal the reasons for students holding certain beliefs and perspectives.

Nickitas (2012: 107) asserted that the teaching of ethical dilemmas in nursing can be done by using skillful questions, as it would stimulate dialogue that would result in the sharing of various views, attitudes, values and feelings. In this instance the nurse educator will be formulating Socratic questions, that would facilitate problem solving and critical thinking. Questioning is very effective when used before, during and after the presentations of the required content (Nickitas 2012: 109).

Maiorana (1990 cited in Yang, Newby and Bill 2005: 164) supported the view that Socratic questioning stimulated critical thinking skills, in students as it allowed for the exchange of ideas, viewpoints, gives meaning to new content, investigates applications to problems and provides for application to real life situations.

2.3.9 Demonstration

Demonstration is a means of showing how to do something (Billings and Halstead 2009: 248). It is an adaptation to the lecture and a visualized representation of facts, concepts and procedures (Quinn 1991: 143). The aim of demonstration is show the learner, how to perform certain expected psychomotor skills. Once the skill is demonstrated to the learners they are then given the opportunity to practice the skill, so the learner learns by doing (Quinn 1991: 144).

Billings and Halstead (2009: 248) described the advantages of demonstration, as improving retention of information, complicated skills are made more understandable and allowing an expert to model the behaviour. The disadvantages of a demonstration are that students that are quick learners may become bored once they have completed tasks, whilst waiting for the others who are still practicing. Practicing skills can be stressful for students who feel rushed and it requires more than one lecturer to supervise the students. Demonstration is also time consuming for lecturers and it requires adequate space, and equipment, an increased cost with regards to supplies and equipment and there may be a limited time for students to practice (Billings and Halstead 2009: 248).

2.3.9.1 A four step model for demonstration

Allery (2009: 58) explained that the teaching of practical skills in medicine has been grounded in the principles of “see one, do one, teach one”. Teaching procedural skills is fundamental for many health care lecturers. The trainer himself/herself needs to be highly skilled or competent before he/she

can teach the students. The lecturer must be able to assist the students, to develop an understanding of the various components of a skill and the elements involved. Students must be able to conceptualise, visualize and verbalise the skill, practice it and the lecturer must provide correction and reinforcement and give constructive feedback. Allery (2009: 59) argued that the teaching of skills can also be adapted, by allowing students to watch a recording of the skill thereby increasing the time for discussion. She advocated for the four step model to teach students skills which includes the real life demonstration, trainer talk through, learner talk through and the learner does.

2.3.9.2 The lecture-demonstration

Cooper (1982: 44) described demonstration as a way of showing students how to do a particular procedure or use a particular piece of equipment. A lecture-demonstration is a common teaching method used to teach nursing students. It can be done during a teachable moment in the clinical setting with little or no prior preparation or in a classroom setting requiring prior formal preparation. This teaching strategy can be used to teach individuals or groups of students. An advantage of using the demonstration is that it gives the students an opportunity to sharpen their observational skills (Cooper 1982: 44).

For an effective demonstration, the lecturer should prepare all his/her requirements and ask the students to read up the relevant subject content in advance. The lecturer should also prepare appropriate questions to ask the students before, during and after performing the procedure, so that she engages them and keeps them focused. A discussion session, will follow the demonstration which gives the students the opportunity to clarify any misconceptions and the lecturer is able to reinforce important facts. As soon as possible students are given the opportunity to practice. It is important when demonstrating a procedure in a classroom environment that the

environment should replicate the clinical setting, as far as possible or else the students will be confused (Cooper 1982: 45).

Birnbaumer (2011: 390) explained that medical educators needed to concentrate on teaching medical students, both cognitive and manual skills of procedures. The lecturer demonstrates a skill in full view of all the students, whilst giving them a detailed explanation of each step. The procedure is broken down into a logical sequence of steps to facilitate learning for the student. These steps are normally recorded on a checklist. Students are then expected to do a 'verbal walk through" of the steps before they can commence practicing the skill, in full view of the lecturers whilst he/she talks through each step. The lecturer is expected to watch the student perform each step and correct mistakes as they occur and where possible intervene before the student makes a mistake. Most times the students need to practice multiple times. Once a student has mastered the skill the student is then expected to demonstrate this mastery by teaching another student (Birnbaumer 2011: 391).

2.3.9.3 Student involved demonstration to teach anatomy and physiology

Narayanan, Kumar and Nayak (2001: 269) stressed that it is a challenge to teach complicated subject areas like the physiology of vestibular apparatus, to undergraduate students. They applied an experimental study to investigate the advantages of using student involved demonstration (SID) to teach medical students (n=182), at an Indian university. They converted traditional demonstration into a more student centered approach. Data was collected by means of pre-SID tests and post-SID tests. Students were first given lectures on the subject content, and then shown power point presentations. Student involved demonstrations were incorporated in the middle of each lecture and students' role played the physiology of the vestibular apparatus (Narayanan *et* al. 2001: 269).

The researchers concluded that the SID, assisted them in conveying a large amount of information in a short space of time. These demonstration sessions also enhanced students' participation in class activities and improved their understanding of complex concepts in physiology. They deduced that students preferred the SID method of teaching, to the lecture method as it increased their motivation to learn, improved their retention of information and stimulated a more positive attitude to learn (Narayanan *et al.* 2001: 277). Seventy four percent of participants agreed that the sessions were more interesting, when their peers participated in the teaching sessions with 26% disagreeing. Ninety eight percent of students involved in the SID teaching sessions felt that they were more interactive and avoided the monotony associated with lectures (Narayanan *et* al. 2001: 277). The strength of this study is that all the participants were exposed to both the lecture and SID methods of teaching and this exposure allowed them to give valuable input. This teaching method may also adds value to teaching nursing students' physiology.

Jeggels *et al.* (2010: 52) explained that the traditional teaching of clinical skills was grounded in the lecture-demonstration method which was followed by giving the students the opportunity to practice the skill. Then a clinical assessment was done to assess mastery of a list of predetermined clinical procedures. This method of teaching promoted rote learning in the students and did not encourage the development of critical thinking skills in students and therefore is not a student centered approach (Jeggels *et al.* 2010: 54).

2.3.10 Lecture Method

A lecture as a teaching method involves the lecturer presenting information to students (Billings and Halstead 2009: 246). This is usually accompanied by a visual aid or handout. It is used to clarify concepts that may not be clear or provide background information that the students do not have access to. Billings and Halstead (2009: 246) stated that the advantages of the lecture are that, it is economical as complex material may be delivered to many

students at the same time and students have the opportunity to ask questions to clarify any misconceptions. The disadvantages include decreased student involvement, time spent on preparing the teaching content, and it may be expensive due to the preparation of handouts and accessing visual aids (Billings and Halstead 2009: 246).

2.3.10.1 The lecture use in higher education

Morris (2009: 67) a proponent of the lecture, stated that it is lengthy and meaty, is meant to capture and hold the attention of the audience, while concepts are dealt with in depth by a person who is knowledgeable about the subject matter. She reminds us that historically, lectures were recorded for use by future generations, whereas presently lectures are delivered by PowerPoint presentations and made accessible through being published and through audio recordings and video podcasts. The history of the use of lectures in higher education institutions can be traced back to medieval times, when professors read out texts to students took down notes. At present lectures are still useful in higher education institutions especially when teaching large groups of students (Morris 2009: 67). The financial, structural and physical conditions that it's continuous use necessary, especially when teaching core subjects in undergraduate courses (Morris 2009: 68).

2.3.10.2 The interactive lecture

Chitra (2012: 95) an academic from India, said that teaching is fundamental in education. The aim is to impart knowledge to students and ensure the development of understanding and skills. There are a variety of teaching strategies, that lecturers may use but the lecture remains the most common. The author a firm supporter of the lecture asserted that the lecture can be an effective teaching strategy, if made interactive. She maintained that with careful planning and effective presentation skills, the lecturer will be able to deliver a lively, educative, creative, thought provoking, understandable,

relevant and enjoyable active lecture, whilst imparting vital information to students (Chitra 2012: 96).

Brawer, Lener and Chalk (2009:1) described the value of lectures to first year medical and dental students. The students attended lectures as an optional learning experience as the course and examinations were based on the distribution of notes. The researchers concluded that lectures provide focus and emphasis, the multimodality approach reinforced learning and lectures explained/resolved difficulties and complexities in the notes and other readings. Lectures also provided an overview of the big picture, allowed for the exposure to experts or role models, lectures are a time efficient way to learn. They also encourage structure and discipline and provide depth and insight through examples not present in the readings. They also provide a habitual or traditional way of learning that soothes anxiety and provides a dynamic way to learn. However they said that the value of lectures depended on the quality of the lecturer and the availability of other sources of content material (Brawer *et al*. 2009:3).

2.3.10.3 The lecture combined with questioning to teach the cardiovascular system

Kumar (2003:20) conducted a study at a University in Nepal, in which he investigated how to enhance interaction during lecture sessions. The participants of the study were first year dentistry students (n=40) where an innovative hybrid curriculum that has a community-based, integrated and partially problem-based curriculum was followed. Data was collected by means of a standard student questionnaire and observation. Kumar (2003: 20) argued that the lecture is worthwhile as it has the potential to raise curiosity, motivate students to learn, encourage creative thinking and accomplish more than a textbook. Conventional lectures were replaced by structured interactive sessions, which enhanced interaction between teachers, students and lecture content. This method was applied to teach the cardiovascular system. Participants were required to come prepared to

lectures and students interacted with each other and asked questions during lectures. Brainstorming was introduced to generate information and to answer questions. Straight forward questions were also asked during the lecture session (Kumar 2003: 21).

Kumar (2003: 22) concluded that the inclusion of simple innovative techniques such as brainstorming, the lecturer posing simple questions to students and encouraging students to ask questions during lectures made them interactive. This improved student participation in the classroom and enhanced their attention span. He argued that this methodology can be effectively used when teaching larger groups of students. Interaction by students made the lecture a more student centered approach. The interaction in classrooms thus reduces the monotony and passive learning by students (Kumar 2003: 24).

Trigwell *et al*. (1999 cited in Van Dijk and Jochems 2002: 275) lent support for the assumption, that the teaching approach used by the lecturer has a distinct influence on the learning of the students. They investigated the implementation of the interactive lecture approach, amongst engineering students as opposed to the traditional lecture (Van Dijk and Jochems 2002: 275). This quasi-experimental study was conducted in Netherlands and data was collected by means of an observation instrument, a student questionnaire and a questionnaire on student self study. Tests were conducted after the traditional lectures were given and again after the interactive lecture sessions. The participants were first year mechanical engineering students who participated in the study for two courses i.e. course 1 and course 11. The participants were divided into a control (n=108) and an experimental group (n=82) for course 1. Participants were also divided into a control (n=294) and an experimental group (n=282) for course 11. The interactive lectures incorporated assignments, questions and peer instruction (Van Dijk and Jochems 2002: 277).

The researchers deduced that the use of the interactive lecture approach was more beneficial to students, than traditional lectures as it allowed the students to participate, get involved in problem solving and it also accommodated individual differences. The researchers highlighted that when students are involved during lectures they have a better understanding of the subject content and will subsequently produce better results. The study also found that lecturers can adapt their lectures to more interactive formats and that professional development is important and can be done in the form of peer coaching, discussion groups and mentoring of junior lecturers (Van Dijk and Jochems 2002: 283).

Sullivan and McIntosh (1996: 1) also believed that whilst there is a shift to computer assisted instruction, there is still and will be a need for effective lectures. They argued that health care professionals must aim to change the role of their students from passive recipients to active participants. Hogan and Ramgopal (1995 cited in Sullivan and McIntosh 1996: 2) in their assessment of learning styles of student nurses, suggested that a variety of teaching styles be adopted, that would accommodate the varied learning styles of students. They asserted that the lecture could be a highly effective strategy if adapted to be more participatory and interactive by applying a variety of teaching techniques as discussed in the aforementioned section.

2.3.10.4 The lecture as video casts and You Tube Videos

Furse (2011: 176) converted her face to face lectures to pre-class video lectures, which she uploaded on You Tube to teach fifty to eighty engineering students. The students were required to watch these videos before attending class. During class sessions students worked in small groups and worked through critical questions and problems presented by the lecturer. The students also used class time to apply the theory to engineering situations (Furse 2011: 176).

Furse (2011: 177) concluded that students asked higher level questions during class sessions and there was better attendance of class sessions, because after watching the videos students realised that the subject area was difficult and knew that the problem areas would be discussed in the class. After the class sessions the students could go back and watch the videos and stop and rewind the lecture as they needed to. The author concluded that, with this teaching method students achieved a higher level of learning, developed a better understanding of course content and problem solving skills. She thus converted a didactic teaching method to a more innovative teaching strategy (Furse 2011: 179).

2.3.10.5 The lecture and humour

Nesi (2012: 79) added laughter to university lectures to make them more enjoyable and interactive. She reiterated that the lecture is a prominent teaching method, and is the only time when groups of students come together and can bond. She said that one needs to be culturally sensitive, when introducing laughter into lectures as it may be inappropriate for some students due to their varied cultures. The introduction of laughter in lectures is recommended, as it is believed to maintain social order, build rapport, relieve tension and model academic and professional identities (Nesi 2012: 88).

2.3.10.6 The lecture and web based technology

Cooke, Watson, Blacklock, Mansah, Howard, Johnston, Tower and Murfield (2012: 14) investigated the experiences of first year bachelor of nursing students on web-based lecture technology at an Australian University. Data was collected by using a survey questionnaire with a four point Likert scale with voluntary participants (n=128).

The “lecture capture” was introduced via web based lectures, to the nurses. This was done to encourage a smooth transition of students into university. Students were exposed to web based lectures in their first three weeks of

studying and thereafter received traditional face to face lectures, small group face to face and large group face to face learning then took place (Cooke *et al*. 2012: 14).

Cooke *et al*. (2012: 17) said that 97.4% of respondents, felt that the lecture capture was a good way to learn; 72.6% of students reported that this method helped them to understand the subject matter better and 83.5% said that it also allowed them to revise at their own pace. About 65.8% of respondents agreed that the lecture capture afforded them the opportunity to practice note taking. After students were given instruction by face-to-face lectures, 98.3% of respondents felt that the face-to-face lecture was more enjoyable, than the lecture capture and felt that the lecture capture should only be used for revision purposes (Cooke *et al*. 2012: 18).

The respondents reported that they felt that this new methodology, presented information that was very streamlined without the option to download information, no opportunity to ask questions and made it difficult to form study groups. The researchers however concluded that, in spite of all these benefits, a vast majority of students still preferred the traditional face to face lectures. They felt that this could be because students are social beings and needed an active process of engagement, interaction and reflection. Hence while students do support the web based lecture technology it is strongly recommend that it should be used to supplement the traditional face to face lecture and not replace it (Cooke *et al.* 2012: 20).

2.3.10.7 The lecture an ineffective method to teach nursing research

The lecture method is not a suitable method to teach all nursing subjects. Pugsley and Clayton (2003: 520) undertook an experimental study using a traditional teaching model and an experiential model. The control group (n=19) were senior students who were exposed to the traditional lecture, article critiques and examinations. The experiential group (n=25) were junior students who were exposed to the model, that included hands on problem

solving activities, a mini research project in small groups, and article critique that individuals did as homework followed by class discussion.

These researchers concluded the students exposed to the experiential learning model, showed more appreciation and demonstrated a more positive attitude towards research (*M*=64.2, SD=6.85), than their counterparts who were exposed to didactic teaching methods (*M*=53.4, SD=11.4). The experimental group also demonstrated an improvement in their theory evaluations and their attitudes improved with them verbalizing that they looked forward to attending class and had a better understanding of the research process than the control group. The lecture therefore may not be an appropriate method to teach nursing research to students (Pugsley and Clayton 2003: 523).

2.3.10.8 The didactic lecture an ineffective method to teach medical and surgical nursing

Adib-Hajbaghery and Aghajani (2011: 2) conducted a quasi-experimental study in Iran that with second year student nurses (n=40), to investigate which teaching method students preferred. Students were taught the first third of their medical nursing with the traditional lecture, the middle third with Socratic questioning and the last third with student lectures. The aim of the study was to compare the effects of these three methods on anxiety levels, examination scores and students learning satisfaction (Adib-Hajbaghery and Aghajani 2011: 3).

They concluded that students obtained higher evaluation scores for areas that they were taught using Socratic questioning and student lectures, which indicated that the students learnt more from these two methods. Students experienced more anxiety during Socratic questioning teaching sessions. If the lecturer is supportive and adequately prepared then this can be avoided. Students' satisfaction was increased with their increased involvement in their learning. The mean scores for learning satisfaction were 3.37 for the

traditional lecture, 3.65 for Socratic questioning and 5.10 for student lectures. These researchers therefore concluded that interactive teaching methods can ensure more effective learning than the traditional lecture (Adib-Hajbaghery and Aghajani 2011: 4).

2.3.11 Community based learning (CBL)

The World Health Organisation (2010: 8) described community health as a specialty in nursing where nurses practice community based care away from hospitals. Community nursing focuses on care provided by nurses to individuals, families and their communities in their homes, workplaces, schools, day care centres and clinics etc. The World Health Organisation (2010: 23) recommended that the teaching and learning process for community health, be community based and interactive; with students receiving clinical placement in clinics, schools and workplaces, in order to get hands on experience and gain knowledge and skills from the experts in the field.

The Health Minister of England Dr. Poulter announced that there needed to be an increase in the number of student nurses placed in primary health care settings for experiential learning. This would prepare nurses to care for patients in the community as envisaged by the government's health plan and would adequately prepare them to care for the elderly with complex problems (Government sets a target for community nursing 2013: 5).

2.3.11.1 Community based learning and home care

Traditionally students are placed for community based learning experiences in public health facilities. Placement in facilities outside public facilities are referred to as nontraditional and are on the increase due to limited availability of facilities for student placement. It is therefore necessary for nursing institutions to forge partnerships with other agencies (Van Doren and Vander Werf 2012: 46). A college in Michigan therefore entered into a partnership with an agency, to provide nursing care to clients in need within

their homes. Student nurses were paired and they conducted these home visits in pairs and provided the necessary care. They received academic support when the need arose telephonically from their lecturers. Students were placed in each working environment for seven weeks (Van Doren and Vander Werf 2012: 48).

The advantages identified were that the relationship between student and client had mutual benefits, students were able to meet their learning outcomes, students appreciated the value of seeing how their clients live in poverty and with disabilities in their homes which challenged their personal perspectives and gave them a better understanding of the barriers to health care. Some of the disadvantages were the potential danger that students could find themselves in, in the homes of clients and clients were exposed to different nurses every seven weeks due the college academic programme (Van Doren and Vander Werf 2012: 48).

2.3.11.2 Community based learning at homes for the aged

Wade and Skinner (2001: 14) Austrian academics explored the value of placing student nurses to work in homes for the aged, to meet their learning outcomes. Participants included student nurses (n=17), members of the community, a matron and staff members. Data was collected by means of semi-structured interviews that were conducted individually or in focus groups. Before placement students viewed their forthcoming placements, as an opportunity to practice basic nursing care and a focus on patient centered care. Others were concerned that they will be an additional pair of hands to provide care rather than meet their learning outcomes. On completion of their community placement, the students identified the following benefits viz. they learnt to respect the wishes of the elderly, they appreciated that caring for the aged is complex and skills acquired could be transferred to other situations. Other advantages identified were that that the home environment provided a different learning experience than hospital wards and allowed the students to focus on patient centered holistic care (Wade and Skinner 2001: 15).

Students however felt that they needed to receive theory on geriatric care before they can be placed, to gain maximum benefit from this learning experience. The challenges experienced was that some staff at the homes felt that students were there to work and this resulted in students feeling that they lost valuable learning opportunities. In addition students also felt that they were not part of the team and could not voice their views with regards patient care, as they were afraid of victimization. Although most students did not enjoy their experiences they later saw the value of these placements. The matrons felt that placing students in the homes provided a valuable learning experience for them (Wade and Skinner 2001: 15).

2.3.12 Evidence-Based Teaching

The world of higher education is in the midst of driving change beyond the learning environment, to include the building of partnerships between practice and nursing education (Billings and Halstead 2009: 131). The ultimate aim of this change would be to produce nurse practitioners who would be able to transit effectively into the nursing practice role. Greiner and Knebel (2003 cited in Billings and Halstead 2009: 132) explained that as per the Health Professions Education Summit Committee all health care professionals should receive education that would prepare them to provide patient-centered care based on evidence based practice and implement quality improvement approaches.

This would demand a change in nursing curricula models and a change in teaching methodologies. A crucial factor in nursing education would be for nurse educators to teach evidence-based practice. Nursing curricula would thus focus on building a foundation dependent on scientific evidence, that will support nursing practice. This would enable nursing students to learn nursing practice based on documented evidence and would encourage them to continue seeking evidence for application in practice (Billings and Halstead 2009: 133). Billings and Halstead (2009: 134) posited that evidence-based practice will stimulate critical thinking and lifelong learning skills and will

prepare the nurses to deal with challenges that they may encounter in the health care settings.

2.3.12.1 Evidence based learning used to teach research

Callister, Matsumura, Lookinland. Mangum and Loucks (2005: 59) affirmed that with the increased focus on evidence-based nursing practice nurse educators needed to adopt teaching strategies that would ensure that students become critical thinkers and appreciate the importance of inquiry and evidence-based practice. They explored the value of evidence based practice for baccalaureate nursing students (n=20).

The study required that the students design research questions, write clinical journal entries, participate in a research projects with a mentor and they also participated in research studies as an unpaid research assistant with research teams. They worked in teams critiquing quantitative and qualitative research studies and designed posters related to real life situations based on evidence from scholarly journals (Callister *et al*. 2005: 61).

The researchers concluded that evidence-based teaching enabled students to have an increased interest in evidence based practice and to participate in research. Other benefits were that this teaching strategy stimulated critical thinking and lifelong learning skills; it improved the students' use of research and motivated students to continue with post graduate studies. Some challenges reported were that it is very time consuming for educators and the researchers felt that research needed to be introduced early in the curriculum which creates a problem as the emphasis early in nurse training is the acquisition of foundational skills (Callister *et al*. 2005: 63).

2.3.13 E- Learning/ Web-based teaching

E-learning is a teaching strategy that integrated information technology with learning material posted on a website with the intention of stimulating learning anywhere and anytime. It involves the use of internet learning tools

that include discussion forums, chats, testing and e-mail to support teaching and learning (Billings 2002 cited in Billings and Halstead 2009: 161 and Reime, Harris, Aksnes and Mikkelsen 2008: 798). As there is no face-face contact this type of learning is referred to as ‘distance learning”. The educator becomes the facilitator of learning who is responsible to assist the learners to achieve learning goals and outcomes. An advantage of website-based teaching, is that it provides learners the opportunity to access the rich content delivered and also explore related links for more related information (Billings and Halstead 2009: 161).

2.3.13.1 E – learning used to teach infection control

A Norwegian study by Reime *et al*. (2008: 798) explored the difference between using the lecture method and e-learning to teach infection control. They conducted a comparative study with second year degree students (n=141). The participants were divided into 2 groups, one group received instruction with the traditional lecture and the other received instruction via an e-learning programme. The e-learning group learnt the information independently and the lecture group received a three hour long lecture. The e-learning group felt that the teaching content was good, concrete and precise and this strategy provided a more creative and exciting way of learning. The students exposed to the lecture also favoured this method and felt that the information they received was very good, however they received too much information in a very short space of time (Reime *et al*. 2008: 799).

Seventy percent of students reported that they were satisfied with their teaching method irrespective of whether they were taught by lecture or e-learning. The e-learning students however achieved lower test scores than the students who were taught by means of a lecture. This occurred as the majority of students in the e-learning group used the e-learning programme as the only source of information and it did not cover all the content taught in the syllabus. Only 63.2% of the e-learning group covered all the learning goals as opposed to their counter parts, 90.4 % covered the learning goals.

The group taught by lecture also accessed the internet for additional information and also had other sources of information (Reime *et al*. 2008: 803). The researchers concluded that e-learning can be used in the same way as a lecture. They further stressed that a variety of methods should be used when teaching degree students as it is important for students to have the necessary information technology skills before this methodology can be implemented (Reime *et al*. 2008: 806). The study found that found that e-learning can be used in the same manner as a lecture (Reime *et al*. 2008: 805).

2.3.13.2 Lectures and web based learning used to teach medication administration

Sung, Gak Kwon and Ryu (2008: 944) also investigated the value of a blended teaching strategy that involved face-face lectures and web-based e-learning as opposed to receiving lectures only. A quasi-experimental study with a non equivalent group design was conducted at the Samsung Medical Centre in Korea. Participants were new student nurses (n=50) who were being taught medication administration. The control group (n=24) received ten and a half hours of lectures and eleven and a half hours for practice. The experimental group (n=26) received three hours of lectures, eleven and a half hours for practice and twenty e-learning sessions. Data was collected by means of questionnaires that included pre and post-test sections (Sung *et al*. 2008: 946).

The results of the study after the educational intervention indicated that knowledge of medication was significantly higher in the experimental group (M=82.21. SD=8.75), than the control group (M=67.92, SD=7.17) (t=6.248, p=0.000). The mean scores for the ability to administer medication was 3.81 (SD=0.51) for the experimental group and 3.94 (SD=0.39) in the control group (t=1.017, p=0.314) (Sung *et al*. 2008: 948). The researchers concluded that both groups achieved an increase in knowledge after receiving

instruction on medication, however the experimental group's knowledge increased considerably higher (14.3 points higher) than the control group. SD

The researchers therefore argued that when classroom teaching is accompanied by web-based teaching, it has greater value than using the lecture only as a teaching strategy as it gives students the opportunity to access information at their own leisure in their own areas and therefore allows them to have a greater knowledge base. The combination of the lecture and e-learning is referred to as blended learning. E-learning is beneficial as it reduces lecture time and it is cost effective, as it is relatively inexpensive to repeat the programmes. The initial phases of adopting e-learning may be costly but the benefits outweigh these costs (Sung *et al*. 2008: 951).

2.3.13.3 E-learning used to teach medical and surgical nursing

Abdelaziz, Kamel, Karam and Abdelrahman (2011: 50) in a study in Cairo focused on second year student nurses (n=276) who were divided into a control group (n=186) and who were taught by the traditional lecture and an experimental group (n=90) who used the e-learning strategy. They investigated the advantages of teaching cardiac diseases using e-learning as opposed to teaching this content using the lecture method (Abdelaziz *et al*. 2011: 52).

They found that e-learning, is self-paced, students have the opportunity to either speed up or slow down their learning and it encourages self-directed learning. They concurred with Reime *et al*. (2008: 799) that e-learning allowed the students to access information any time, any place. Anderson and Elloumi (2004 cited in Abdelaziz *et al*. 2011: 51), further identified other advantages of e-learning as that, online information can be updated with students having immediate access to it and lecturers are able to identify learning needs of the students and make the necessary materials available for them.

The disadvantages of e-learning are that, students need to have access to a computer and the internet and they also need to possess computer skills (Art and Lisa 2008 cited in Abdelaziz *et al.* 2011: 51). Chaffin and Maddix (2004 cited in Abdelaziz *et al*. 2011:51) added that students feel isolated from educators and the possibility to misinterpret information is high due to the lack of face-to-face contact. In their study the control group received face-to-face instruction and procedures were demonstrated for both the groups in the clinical skills laboratory. The experimental group received a conventional form of instruction and had access to watching online videos (Abdelaziz *et al*. 2011: 53).

Test scores revealed that students in the experimental group performed much better than the control group, thus confirming that this type of e-learning stimulates a higher level of cognitive knowledge. Students exposed to lectures with an instructor demonstrated a better short-term retention of information than their counter parts. The researchers attributed this to the fact that the experimental group was unable to go back to the internet cafes to access information. In addition the study group did not have hard copies of the study material that was given to the control group (Abdelaziz *et al*. 2011: 53).

Participants in the experimental group felt that they could watch the online videos as many times as they wished, however they still preferred face-to-face interaction and the videos were no substitute for human contact. The online videos however afforded the students the opportunity to practice skills safely, build their confidence, decrease anxiety levels and help them become aware of both their positive and negative behaviours. Both groups were satisfied with their instructors, the content and the learning objectives (Abdelaziz *et al*. 2011: 57).

The researchers concluded that students would benefit from e-learning programmes through the use of CD-ROMs. E-learning allowed students to gain a deeper understanding of the subject content and it also assists

students to improve their computer skills. They recommended that a blended approach be used. They concurred with Reime *et al*. (2008: 806) that e-learning can be used in the same way as a lecture (Abdelaziz *et al*. 2011: 58).

2.3.14 Portfolios

A portfolio can be described as a collection of work or evidence that learning has taken place (Billings and Halstead 2009: 418 and Burch and Seggie 2008: 894). They can take the format of paper copies of evidence kept in files or they can be in electronic formats. Portfolios are useful in nursing practice, as they provide proof of achievement in the classroom, can be used to ensure the achievement of an outcome measure of a programme, can be used as a marketing tool for job placement and it can be used to place students correctly in the clinical learning environment. The advantages identified are that it provides the facilitator with evidence of the student's achievements and progress and also highlights the student's strengths and limitations, thus allowing for critical thinking. The student is given the opportunity to gain credits for previous experience and reduces the chances of repetition in course content (Billings and Halstead 2009: 419). Gallagher (2001 cited in McMullan 2006: 335) said that a major advantage of a portfolio is it assists the students to correlate theory with practice. This requires self reflection by the student (Grant and Dornan 2001 cited in McMullan 2006: 335).

Billings and Halstead (2009: 419) argued that the disadvantages are that it is time consuming to provide feedback and grades, and it is it is difficult to establish validity and reliability for the grading criteria and rubrics. Gannon *et al*. (2001 cited in McMullan 2006: 335) added that the compilation of portfolios could infringe on ethical issues of privacy and confidentiality.

2.3.14.1 Portfolios and critical thinking

A quantitative study in a Higher Education Institute in the United Kingdom investigated the perceptions of student nurses' with regards the use of portfolios. The sample consisted of pre-registration student nurses (n=253), first year (n=131) and third year (n=122) student nurses. Data was collected by means of a questionnaire that pertained to the opinions regarding the use of portfolios. Ninety first year students and 84 third year students participated and it was concluded that 74% of respondents agreed that portfolios assisted them to take responsibility for their own professional development (*M*=3.78, SD=0.9), 60% of respondents felt that portfolios improved their reflective thinking skills (*M*=3.51, SD=1.05). About 50% of the respondents felt that portfolios made them aware of their strengths (*M*=3.25, SD=0.981) and 52% felt that portfolios made them aware of their weaknesses (*M*=3.24, SD=0.979), 51% felt that it assisted with independent learning (*M*= 3.39, SD=1.00) and 42% of respondents agreed that portfolios stimulated critical thinking (*M*= 3.17, SD=1.03) (McMullan 2006: 337)

The participants felt that the compilation of portfolios were time consuming as they were concentrating on obtaining signatures, rather than on the achievement of their learning outcomes and their clinical placements. Portfolios can be used as effective teaching tools provided they have clear guidelines (McMullan 2006: 341).

2.3.14.2 Portfolios and the theory practice gap

Portfolios were also introduced at the University of Glamorgan in Wales in 1997, to bridge the theory practice gap and to ensure that the student nurses achieved the skills that they required for professional practice. Students keep a portfolio in the form of a ring binder in which they could add or remove material. This was a learner centered approach, as students took responsibility its compilation and were expected to reflect, carry out self-appraisals, devise and record what they did. A study was conducted to explore whether portfolios assisted nurses in addressing the theory practice

gap, whether portfolios assisted in preparing nurses for professional practice and whether the student nurses experienced the benefits of the learning portfolios (Dolan, Fairbairn and Harris 2004: 5).

Data was collected in the first stage of the study, with the use of semi-structured interviews and focus groups with students, lecturers and management. Data collected from the first stage was used to design a questionnaire that was used for data collection in the second stage of the study. A sample (n=247) of students participated in the study and completed a self-administered- questionnaire. The study found that only 27% of students agreed that the portfolios, helped them to understand clinical practice, whilst 63% of participants did not feel that portfolios could help them link theory with practice (Dolan *et al*. 2004: 6).

Fifty two percent of participants agreed that the portfolio would prepare them for future professional practice; 51% agreed that it should be used as a means of assessments, 53% of the participants were of the view that the portfolios did not influence the way they learn. Thirty nine percent felt that portfolios do not encourage independent learning and the researchers deduced that the portfolios were not used as often as it was envisaged that it would have been used. It was concluded that the students and lecturers do see the potential value of the portfolios and its integration into the course should therefore be improved (Dolan *et al*. 2004: 9).

2.3.15 Blended teaching approach

Brown, Kirkpatrick, Greer, Mathias and Swanson (2009: 153) conducted a global descriptive mixed method study, to explore the types of innovative teaching strategies that are being used worldwide. Data was collected via an electronic survey with participants from the Sigma Theta Tau International membership list. A survey web-link was sent to 10 465 members but only 946 members' participated (Brown *et al*. 2009: 155). Many of the respondents in this study felt that critical thinking was crucial to creating safe nurse practitioners and case-based approaches, narrative/storytelling and

simulation were particularly useful in teaching nurses (Brown *et al*. 2009: 156).

Respondents who used conventional pedagogical strategies preferred the use of “case-based studies (36%), lectures (78%), and client/patient care strategies” (20%) most useful in teaching. On the other hand proponents of inquiry pedagogy felt that case-based, evidence-based, inquiry-based, and client/patient care strategies were most effective in teaching student nurses. Seventy percent of the respondents reported that they used evidence based, lecture based, and multimedia strategies which demonstrated that educators are integrating active teaching strategies into course design. It was noted that in the blended pedagogical approach case-based and evidence teaching strategies were found to be most helpful. This study thus provides empirical evidence that a combination of teaching strategies are needed in order to meet learner needs and produce critical thinking nurses (Brown *et al*. 2009: 156).

2.4. Conclusion

This chapter reviewed literature on both didactic and contemporary teaching strategies. The extensive literature review supports the fact that no one teaching strategy is effective for teaching nursing students. There needs to be a combined approach. Studies have also found that didactic teaching methods are still being used to teach various subjects. There is a need to shift this paradigm to the use of more interactive contemporary approaches. This extensive review has illustrated how the various student teaching strategies can be applied to the various nursing subjects, provided that they are adapted to match the level of training of the student. Much of the research thus far has focused on student studies, where experimentation was utilised to expose one group to a conventional teaching strategy and the other to more innovative methodologies and deduce their findings from there. Researchers fail to target the most important people, the educators as they need to change their mind sets from teaching to facilitating. Academics also

choose one methodology to study and advocate it as a good method, however in nursing there needs to be a variety of teaching strategies applied. These gaps make it evident that there needs to be more research done in this area. The next chapter focuses on the research methodology used in the study.

CHAPTER 3

3. RESEARCH METHODOLOGY

3.1 Introduction

This Chapter aims to describe the research methodology that was used to guide the study. It focuses on the research design, the research instrument, validity and reliability of the research instrument, the data collection process, method of data analysis and the ethical considerations that were addressed. Research methodology describes the steps that are followed and the procedures that are employed to complete the research process (Babbie and Mouton 2001: 74).

3.2 Research design

Babbie and Mouton (2001: 74) described the research design as a plan or blueprint that stipulates how the research study will be conducted. It follows a logical sequence to the way a study is planned and the results achieved. Polit and Beck (2012: 58) concurred with this view saying that it is the “architectural backbone” of a study. They explained that the research design, provides answers to questions, assists the researcher to identify measures to reduce bias, stipulates the frequency of data collection, guides the comparisons that will be made, describes the place of the study and emphasises the end product. The research design therefore places maximum control over any factors that may interfere with the study’s desired outcome and it guides the selection of the research population, methods for sampling, measurement, data collection and analysis (Burns and Grove: 2007: 38).

3.2.1 Quantitative research

The quantitative research paradigm was the overarching paradigm used to guide this study. Burns and Grove(2007: 17) described a quantitative research design as a “formal, systematic process in which numerical data are

used to obtain information about the world". The quantitative research design was born from a branch of philosophy referred to as logical positivism. Logical positivism functions on strict rules of logic, truth, laws and predictions. Proponents of quantitative research believe that "truth is absolute and that a single reality can be defined by careful reality" (Burns and Grove2007: 18). In order to achieve truth, researchers using the quantitative approach must remain objective and not apply their own opinions and personal biases into the measurement of reality. This design aims to "test theory by describing variables, examining relationships among variables and determining cause and effect relationships amongst variables" (Burns and Grove2007: 18). Researchers adopting the quantitative approach assign numbers to the perceived qualities of things (Babbie and Mouton 2001: 49).

Quantitative research can therefore be described as being a "formal, objective, rigorous and systematic process for generating information about the world", which is applied to give description to "new situations, events, or concepts in the world" (Burns and Grove 2007: 24). To achieve rigor, quantitative research requires the use of precise measuring tools, a representative sample and a tightly controlled study design (Burns and Grove 2007: 28). It is for this reason that quantitative research was adopted as the methodology for this study. Given that the primary objectives was to survey the most commonly used teaching methodologies, to determine the extent to which innovative contemporary teaching strategies are used and to identify which teaching strategies were most used for the varied subject areas, survey research was deemed the most appropriate design to follow.

In quantitative research the research process follows specific steps that are accurately developed and linked logically (Burns and Grove 2007: 28). Neuman (1997: 132) argued that the quantitative research approach applies deductive logic and during its application the researcher begins with a general topic and then narrows it down to research questions or hypotheses and then tests hypotheses against scientific evidence. He added that it is for

this reason that researchers use statistical analysis to test hypotheses and answer research questions.

3.2.2 Cross-sectional descriptive design

This study fits that of a cross-sectional descriptive design as it allowed the researcher to deduce information about characteristics of individuals, situations and groups that were being studied. In this design the researcher is able to describe concepts, identify relationships, and develop hypotheses that provide grounding for future quantitative research (Burns and Grove 2007: 249). Descriptive studies also allow the researcher to gather more information about characteristics within a specific field of study. Advantages of descriptive studies are that they can be applied to develop new theories, identify problems with current practice, justify current practice, make judgments or determine what other practitioners in similar situations are doing (Burns and Grove 2007: 249).

A cross-sectional descriptive approach was adopted for this study so that the researcher could investigate current teaching practices of nurse educators in the KwaZulu Natal College of nursing campuses. The criteria for investigating phenomena in their natural settings were therefore addressed, in a specific field. It afforded the researcher the opportunity, to indentify whether lecturers assessed the learning styles of their students and matched their teaching styles to suit the learners. It also gave the researcher an opportunity, to identify the various teaching strategies used to teach the different nursing subject areas. This approach provided a means of describing the participants' views with regards to adopting more innovative teaching strategies. This type of study enabled the researcher to identify problems with current practice and to compare it with what practitioners in similar fields are doing.

Polit and Beck (2012: 55) described a non-experimental study as a study in which the researcher is an observer and collects information from participants without intervening. Thus a quantitative non-experimental

descriptive survey was used, to investigate the current pedagogical teaching strategies that are being used by nurse educators working in the ten campuses within the KwaZulu Natal College of Nursing Campuses across various subjects and their views regarding innovative methodologies. A quantitative design was used so that research was followed in a logical manner with minimal bias and so that the findings could be generalised as numerical data would be more meaningful (Polit and Beck 2013: 739).

3.2.3 Data collection tool

In this study data was collected using a survey questionnaire. The latter is a printed self-report form that is developed, to collect information through written or verbal responses from study participants. Questionnaires are often referred to as surveys hence when a questionnaire is used in a study, the study is referred to as a survey research (Burns and Grove 2007: 382). Each participant in the study is given an identical questionnaire to complete which decreases the chances of bias. There is no opportunity for the participant to ask for clarification of questions, which also prevents the researcher from manipulating the answers. Questionnaires are frequently used in descriptive type studies as they are useful in gathering broad spectrum data from participants, such as facts about the participant, facts about persons, events, or situations known by the participants, or beliefs, attitude, knowledge, or intentions of the participants (Burns and Grove 2007: 382). When participants complete a questionnaire by themselves either in writing or on a computer, the questionnaire is referred to as a self-administered questionnaire. Questionnaires are also described as structured instruments (Polit and Beck 2012: 297).

A self administered survey questionnaire was therefore the data collection tool used in this study (Annexure: 2B). Questionnaires were distributed to all research participants to complete. Participants had to provide responses in writing to pre-prepared questions about their teaching practices and some personal information about themselves.

The questionnaire may be structured with either open or close ended questions or a combination of both. Open ended questions give the research participants the opportunity to respond to questions by providing their own answer in their own words. Open ended questions provide an opportunity for creativity, self-expression and richness to detail (Neuman 1997: 241 and Polit and Beck 2012: 298). Questionnaires must provide sufficient space for participants to narrate their responses. Responses may tend to be more subjective as participants are given the freedom to annotate their opinions and this may make it difficult to analyse. Open ended questions therefore need to be categorised and encoded before being processed for computer analysis (de Vos, Strydom, Fouche and Delport 2005: 174 and Polit and Beck 2012: 298).

Closed ended questions provide predetermined options from which participants choose the response that most suits them, therefore data collected tends to be more objective. The disadvantage of closed ended questions is that the researcher may omit an important response. Well constructed closed ended questions are easier to administer and analyse as they provide greater uniformity and can be transferred directly onto a computer format. In order to obtain descriptive information for closed ended questions, the researcher needs to tabulate responses to each alternative. An advantage of using close ended questions is that participants can complete more questions in a relatively short period of time, as they minimize the writing burden on the participants (Neuman 1992: 241). The data collection instrument used in this study comprised of thirty eight (38) items, with primarily closed ended questions and two open ended questions ((Annexure: 2B).

It had four (4) sections, ie A, B, C and D and comprised the following sub-sections:-

Section A: demographic data viz. information regarding gender, age, ethnicity, and educational qualification, education institution where

qualifications were achieved and the year in which the qualification was achieved were included.

Section B: teaching experience viz. the duration of teaching experience, programmes involved in teaching and the level of the students taught.

Section C: teaching strategies viz. current and past teaching strategies used, teaching strategies used for the different nursing programmes and teaching strategies used in relation to the different subject areas, assessment of the level of student training and assessment of learning styles of students.

Section D: evaluation of teaching strategies viz. information on the evaluation of the teaching strategies used by self, peers and students and tools used to evaluate teaching strategies, elements of an innovative teaching strategy and suggestions by lecturers for adopting more learner-centered teaching strategies.

The questionnaire for this study was adapted from that which was used in studies by Van Wyngaarden (2008) and Brown *et al.* (2009). Permission to use the questionnaire by Van Wyngaarden (2008) was granted via electronic mail (Annexure 2C) and the questionnaire by Brown *et al.* (2009) was used as a guide only, as the researchers did not respond to many electronic requests to use their questionnaire. The questionnaire included varied types of questions such as close ended questions, dichotomous questions and matrix questions. Matrix questions were used to determine the teaching strategies that were used by lecturers and that are currently in use. Questions also addressed teaching strategies that were used and currently being used to teach the different nursing programmes, offered at the campuses and the teaching strategies used in relation to the different subject areas that are taught and the assessment of the level of training and learning styles of students. There were also matrix type questions where participants had to choose a response from the following options: always, sometimes and never. For example when assessing the frequency that lecturers assessed the learning styles of students.

Items thirty two (32) and thirty three (33) assessed whether the micro-curricula stipulates teaching strategies, the participants had to choose a response from the following options: “yes”, “unsure” or “no”. There were two open ended questions that required the participants to provide their opinions. For example the lecturers were asked to provide suggestions on how to introduce more learner centered approaches. The dichotomous questions required the participants to choose an answer from two (2) responses ie “yes” or “no” (Polit and Beck 2012: 298). An example is whether a tool exists for lecturers to assess the learning styles of their students. Closed ended questions assessed personal information about nurse educators’ e.g. educational qualifications.

3.2.4 Pilot study

Although the questionnaire was adapted from studies conducted by Van Wyngaarden (2008) and Brown *et al.* (2009) it still required piloting, as the researcher had to modify the questionnaire to suit the current study. The questionnaire also needed to be piloted within a South African context and in the province where the research took place. A pilot study is used as a trial run to test the methods that would be adopted in the main study; it is therefore referred to as a small-scale version of the study. It aims to prevent expensive flaws in the main study. Although the pilot study is time consuming, it ensures reliability and validity of measures. A pilot study is generally undertaken on participants who do not form part of the main study, but have similar characteristics to the sample. The pilot study also aims to assess the appropriateness and quality of the instruments. The trial run enables the researcher to identify errors in the instrument, e.g. ambiguous questions, double barrelled questions and to identify where certain important questions are missing. Once the weaknesses in the instrument have been identified, efforts can then be made to improve and correct the instrument to ensure validity and reliability of the tool (Polit and Beck 2012: 195; Botma, Greef, Mulaudz and Wright 2010:275 and de Vos 2005 *et al*. 206).

The questionnaire for this study was piloted on educators that work on a campus that was not part of the main study. The instrument was piloted at Iris Marwick sub campus. The information letter and consent forms and questionnaires were identical to those used in the main study. The questionnaire was administered to five lecturers, who filled in the questionnaire in their work environment at their own leisure. There was no need to adjust the tool in any way as the lecturers were able to answer the questions and felt that the questions were straight forward and included all the relevant questions. The fifth lecturer was a clinical facilitator who attempted to answer the questionnaire but felt that many questions related to the classroom environment and therefore was not suitable for her. This concurred with the researcher's decision to only sample the 230 lecturers that were involved in teaching both theoretical and clinical teaching (de Vos *et al*. 2005: 208). It is important to note that the job description of the clinical facilitators differs from those of the lecturers. Clinical facilitators are only involved in clinical teaching and therefore did not make up part of the research population or sample.

The questionnaire was also reviewed by a nurse educator specialist, who works at the KwaZulu Natal College of Nursing College and has a good working knowledge of all the courses offered by the ten participating campuses. She found that the questionnaire covered all significant areas and recommended that the questionnaire be used as is, so there was no need to make any adjustments to it.

3.2.5 Validity

Validity refers to the degree to which the instrument measures what it is intended to measure. Reliability and validity are dependent on each other. An instrument that is not consistent or is inaccurate, is therefore not a reliable tool and cannot be valid as it will not be able to measure an attribute accurately. An instrument can meet the criteria for reliability, but does not

necessarily have to be valid. There are various categories of validity (Polit and Beck 2012: 336).

Face validity refers to whether the instrument looks like it is measuring a targeted construct, it may be useful when attempting to get participants for the study. It gives the impression that the instrument is measuring the content that is desired for the study. Content validity refers to whether an instrument, for example a questionnaire has sufficient and appropriate items to provide answers to all the research questions or objectives (Polit and Beck 2012: 336). Construct validity refers to what the instrument actually measures, in other words do the questions in the instrument tie in with the objectives of the study. It is concerned not only with the validation of the instrument but also with the theory underlying it (Polit and Beck 2012: 339). Validity thus varies from one sample to another, from situation to situation; therefore when validity is tested it is tested for that particular sample in that particular situation (Burns and Grove 2007: 365).

For the purpose of this study the questionnaire was piloted on nurse educators working in a sub-campus within the KwaZulu Natal College of Nursing structure and with a nurse educator specialist from the KwaZulu Natal College of Nursing. Voluntary participation was encouraged to reduce bias. All participants had to read the instruction letter and give written consent before participating. These nurse educators did not form part of the main study. The educators that participated in the study were asked to actually complete the questionnaire rather than to read through it, as on reading it, it may appear to be error free but only when answering it problems can be identified (de Vos *et al*: 2005: 209). There was no need to modify the questionnaire, as the educators felt that the questionnaire was straight forward and they answered appropriately. A statistician was consulted to ensure construct, face and criterion validity.

3.2.6 Reliability

de Vos *et al.* (2005: 162) described reliability of a measurement procedure as the stability or consistency of the measurement. It implies that if the same variable is measured under the same conditions using the same measurement procedure, it will produce identical or near identical numerical values each time it is applied. Reliability testing takes into account characteristics such as dependability, consistency, accuracy and compatibility. As all measurement techniques have some random error, reliability thus exists in degrees and is usually expressed as a correlation coefficient. Coefficients of 1.00 indicate a perfect reliability and in contrast to that a coefficient of 0.00 indicates no reliability. A measurement tool (questionnaire) that yields a reliability of 0.80 would be the lowest acceptable coefficient. A newly designed instrument that yields a coefficient of 0.70 would be acceptable. Reliability of an instrument may not stay constant if it is used on another sample or population, it is therefore necessary to pilot that instrument before using it. Cronbach's alpha coefficient is the most commonly used measure of reliability (Polit and Beck 2012: 333 and Botma *et al*. 2010: 164).

Polit and Beck (2012: 331) argued that reliability of a quantitative measurement is a major criterion for assessing its quality. When an instrument produces decreased variability the reliability of the instrument will increase. These two authors concurred with de Vos *et al.* (2005: 162) that reliability of a measurement instrument is equated to its stability, consistency, or dependability and accuracy.

The three key aspects of reliability are thus stability, internal consistency and equivalence. Stability of the instrument is achieved when the instrument is applied to the same sample on different occasions and yields the same results. An item that measures the same trait or characteristic and is not confused with measuring any other is said to have achieved internal consistency. Cronbach's alpha is commonly used to measure internal

consistency (Polit and Beck 2012: 331). When two or more independent observers or coders achieve the same score using the same instrument it can be stated that equivalence has been achieved. An increased measurement of agreement means that errors are minimized. Neuman (1997: 139) also discussed representative reliability, which means that an instrument has representative reliability if it yields the same results with different subpopulations like varying race groups, gender, age groups and class.

Every researcher strives to achieve reliability to ensure that research outcomes are accurate. Van Wyngaarden tested the reliability of her questionnaire by administering it to expert nurse educators to evaluate it for "homogeneity of the variables" and it was also piloted where stability of the instrument was tested (Van Wyngaarden: 2008). Brown *et al.* (2009) do not specify how reliability of their instrument was tested.

3.2.7 Study setting

Research can be conducted or data can be collected in a variety of settings and can include one or more sites (Polit and Beck 2012: 49). The research setting for this study was naturalistic. Participants of the study completed the questionnaires at their work environments, i.e. the ten campuses of the KwaZulu Natal College of Nursing. The ten campuses are located throughout the Province of KwaZulu Natal and are both in urban and rural areas. There is one campus in Port Shepstone, three campuses in Durban, two campuses in Pietermaritzburg, one campus in Newcastle, one campus in Empangeni, one in Nquthu and the last campus in Nongoma.

3.2.8 Population

A population refers to all components that could be individuals; objects or substances who meet certain selected criteria that would include them in a research study (Burns and Grove 2007: 40). In order to define a population, the researcher should stipulate geographical location and the temporal

boundaries of populations. The researcher first begins with an idea of a population (e.g. registered nurses working in KwaZulu Natal) then delineates or defines it more clearly. The term target population refers to a particular pool of cases that the researcher wishes to study and generalise her findings to e.g. registered nurses working in the public sector of KwaZulu Natal (Neuman 1995: 203 and Polit and Beck 2012: 274).

The target population for this study is the nurse educators involved in teaching both theoretical and clinical aspects of nursing, working in the ten campuses offering the R425 curriculum within the KwaZulu Natal College of Nursing structure.

Table 3.1: Depicts the campuses and geographical distribution of the research population from the researcher

Campuses	Geographic location	Distance from the researcher (single trip)
1. Addington	Durban	85 km
2. Benedictine	Nongoma	375 km
3. Charles Johnson Memorial	Nquthu	294 km
4. Edendale	Pietermaritzburg	5 km
5. Grey's	Pietermaritzburg	Researcher's place of work
6. Madadeni	Newcastle	280 km
7. Ngwelezane	Empangeni	250 km
8. Port Shepstone	Port Shepstone	200 km
9. Prince Mshiyeni Campus	Durban	87 km
10. R.K. Khan	Durban	87 km

3.2.9 Sample

A sample is a smaller selection of the research participants from a research population. A sample's "key characteristics" closely resemble those of the population (Polit and Beck 2012: 275). A sample normally means certain

eligibility criteria are met; the researcher therefore applies certain inclusion criteria to choose appropriate participants for the study. Inclusion criteria can stipulate that participants need to be able to read and write, have the ability to speak English and all of them should be registered nurses etc. to qualify them to be participants in the study. Exclusion criteria on the other hand stipulate those who would be excluded from the study e.g. all males over the age of forty years. Inclusion and exclusion criteria are employed to ensure accuracy in sampling and therefore the study (Burns and Grove 2007: 325).

Neuman (1997: 203) argued that when a population is small, a large sample ratio is required for a higher degree of accuracy and to ensure the probability of yielding the same results as the entire population. For the purpose of this study the study population and the sample were one and the same. As there is a small number (n=230) of nurse educators working within these ten campuses that includes lecturers and subject heads, involved in teaching both theoretical and clinical nursing, at the ten nursing campuses in the KwaZulu Natal College of Nursing structure, the researcher used the entire population in the study. All 230 lecturers were included as potential participants in this study as they were involved in teaching both theoretical and clinical aspects of nursing.

This is therefore a census study. A census study serves to study the entire study population, especially if the population is small and precise information can be collected. It therefore provides the researcher with information on the characteristics of an entire research population. A favourable characteristic of a census is that there is almost zero sampling variance, as the information for the study is collected from the entire study population (Polit and Beck 2012: 721 and Neuman 1997: 228). The sampling process for this study therefore included accessing the number of lecturers in each campus who are involved in teaching both theory and clinical aspects of nursing and including them in the study.

3.2.10 Data collection

Burns and Grove (2007: 536) described the data collection process as involving the acquisition of participants and the collection of information relevant to the study. The actual steps in the data collection process, are specific to each study and depends on the research design and the measurement techniques. The researcher should focus on the tasks of data collection that are interrelated and are performed concurrently, i.e. recruiting participants, training data collectors if they are going to be used, collecting data in a consistent way, maintaining research controls, protecting the validity of the study, and solving problems that may threaten to disrupt the study (Burns and Grove 2007: 393).

Participants may only be selected at the start of data collection or throughout the data collection process. The research design guides the method that will be used to select participants. It is critical to select the number of participants, which was originally planned for because data analysis and the interpretation of research findings are dependent on an adequate sample. Burns and Grove (2007: 393) reiterated that consistency must be maintained in order to achieve accurate data collection; this can be done by maintaining the data collection as it was developed in the research plan. A well developed plan will facilitate consistency and maintain validity of the study. Research controls must be built into the plan, in order to reduce the influence of intervening forces on the study findings. The researcher should also look for previously unidentified, extraneous variables that might have an impact on data collection, as they need to be considered during data analysis and interpretation (Burns and Grove 2007: 394).

Burns and Grove (2007: 394) stressed that protecting the integrity or validity of the study, involves maintaining consistency and controls during the selection of the participants and data collection. The integrity of the study should be viewed in a broad context and therefore the process of data collection should be viewed as a whole instead of concentrating on the

examination of single elements. A change in one element of data collection may alter other elements, thereby affecting the entire process in ways that may threaten the validity of the outcomes. The most important task of the data collection process is the solving of problems (Burns and Grove 2007: 396).

Problems will occur during the data collection process; however it is the success of resolving these problems that are important in this process. Serendipity refers to the accidental discovery of useful or valuable information. During the collection of data the researcher may come across elements or relationships that they had not previously identified. These newly discovered aspects may or may not be related to the original study. The discovery of new information is imperative for the development of new insights in any profession, and can lead to new areas of research that generate knowledge (Burns and Grove 2007: 396).

Botma *et al*. (2010: 131) explained that data collection in quantitative research involved the systematic gathering of numerical data relevant to the purpose or specific objectives, questions, or hypotheses of the research study. Quantitative data collection methods frequently use predesigned structured measuring instruments. Data collection can be achieved through the use of various instruments namely, questionnaires that could be mailed, telephonic, self-administered, delivered by hand or group administered. Other instruments include checklists, indexes and scales (de Vos *et* al: 2005: 166).

Polit and Beck (2012: 293) postulated that in the quantitative data collection process of structured data, data collectors and participant are constrained. This ensures that consistency is maintained in order to promote objectivity, reduce bias and facilitate data analysis. Burns and Grove (2007: 41) stressed that before data collection takes place the researcher must ensure that consent has been obtained from all the relevant stakeholders. Prior to the collection of data consent should also be obtained from the prospective participants.

The data collection phase for this study spanned from October 2013 to February 2014. A structured survey questionnaire was used as the data collection tool, as the quantitative research method proposes the use of a predetermined instrument. The instrument was a self-administered questionnaire which each participant had to complete at their own leisure in the absence of the researcher as this ensured that objectivity was maintained and bias was minimized, which facilitated accurate data analysis and interpretation. As per the research plan participants were selected from the ten campuses working within the KwaZulu Natal College of Nursing structure.

All ten campuses that were involved in the study were randomly encoded alphabetically as follows; the numbers of lecturers are as per the information received in May 2012

Table 3.2: Alphabetical encoding of campuses

Encoded Name	Number of lecturers
Campus A	n=17
Campus B	n=28
Campus C	n=16
Campus D	n=30
Campus E	n=33
Campus F	n=21
Campus G	n=28
Campus H	n=16
Campus I	n=17
Campus J	n=24
Total	n=230

All questionnaires and all return envelopes were numerically encoded for each campus in order to maintain anonymity of the research participants. An instruction sheet (Annexure 2A) and an information letter (Annexure 3) were attached to each questionnaire. The instruction sheet gave the participant

clear guidelines, on how to go about completing the questionnaire and the information letter gave the participant details about the researcher and information about the study, the aim of the study and the importance of completing the questionnaires. The participant was only to complete the questionnaire, after signing the written consent form.

All the questionnaires were sealed in a large envelope and addressed to the campus principal, as all communication had to go to the campus via the principal first. The questionnaires were delivered to each campus. It was arranged with the campus principal that the questionnaires would be disseminated amongst the nurse educators who were involved in teaching both theoretical and clinical aspects of nursing. The procedure regarding the dissemination of the questionnaires, signing of consent forms, completion of questionnaires and the collection of questionnaires was clearly explained, in order to ensure consistency in the data collection process. The researcher consulted with each lecturer in each campus of the ten campuses who were involved in assisting the researcher with data collection. The procedure for data collection and storage was discussed telephonically with each lecturer. Adequate preparation of these lecturers also ensured that the integrity and validity of the study was maintained.

Once the questionnaires were delivered to the campuses, the researcher followed up telephonically and by electronic mail with the campus principals and the lecturers assisting, to monitor the progress of completion of these questionnaires. The lecturer at each campus, who assisted the researcher, disseminated the questionnaires to the participants who volunteered to participate in the study. The participants were requested to sign the written consent before answering the questionnaire. On completion questionnaires were sealed in the individual encoded envelopes provided. Participants took approximately fifteen to twenty minutes each to complete the questionnaire. All questionnaires and consent forms were collected on the pre-arranged dates.

According to the sample plan, the researcher needed to include every lecturer that was involved in teaching both theoretical and clinical aspects of nursing in these ten campuses which was n=230 (100%). The total number of questionnaires that were distributed was 230. One hundred and sixty three of questionnaires were completed and returned (see Table 3). This was a 70% response rate.

Table 3.3: Summary of the number of questionnaires distributed and returned

Campus	No. of questionnaires distributed	No. of respondents	Response rate
A	17	n=17	100%
B	28	n=13	46%
C	16	n=13	81%
D	30	n=24	80%
E	33	n=32	97%
F	21	n=18	86%
G	28	n=17	61%
H	16	n=6	38%
I	17	n=7	41%
J	24	n=16	67%
Total	230	n=163	70%

3.3 Data capturing

All the returned questionnaires for the current study were checked and once the researcher was satisfied that all 163 questionnaires could be used in the study, the data capturing process commenced. Data were encoded and captured on an excel spread sheet that was prepared in advance by a statistician using the SPSS (Statistical Package for the Social Sciences) version 21.0. Missing data points were identified and were also captured as

such. There were missing data points as participants were required to fill in information that only pertained to their teaching. Information was encoded as prescribed by the statistician and information for the two open ended questions were encoded by the researcher and captured accordingly (Botma *et al*. 2010: 148).

3.4 Data analysis

Quantitative data cannot be reported in raw form. The aim of data analysis is therefore to reduce data into an intelligible form, organize, and give meaning to data or present it in an interpretable form. It allows for relations of research problems to be studied, tested and conclusions drawn (Burns and Grove 2007: 41 and Polit and Beck 2012: 54). Techniques used for data analysis in quantitative research include descriptive and inferential analyses. Data analysis in quantitative research can be seen as the categorization, ordering, manipulating and summarizing of data to obtain answers to research questions (de Vos *et al.* 2005: 218 and Polit and Beck 2012: 743). It is the manipulation of numerical data through statistical procedures for the purpose of describing phenomena or assessing the magnitude and reliability of relationships among them (Polit and Beck 2012: 54).

Burns and Grove (2007: 402) explained in greater depth that quantitative data analysis consists of various stages viz. preparing the data for analysis, describing the sample, testing the reliability of measurement methods, conducting exploratory analysis of the data, conducting confirmatory analysis guided by the hypotheses, questions or objectives; and conducting posthoc analysis. Computers are most frequently used in data analysis; hence a systematic plan is used for the entry of data onto a spreadsheet to reduce the possibility of errors. Once entered the data is checked to ensure accuracy of data. If the data file is of a manageable size then every datum is checked with the original for accuracy. With a large data file data points are randomly checked for accuracy. Errors are corrected; missing data points identified and

if the information can be obtained then it is entered into the data file. In some instances participants have to be excluded from the analysis process, because pertinent data is omitted (Burns and Grove 2007: 403).

Raw data for the current study were reduced and analysed by a professional statistician using the statistical software SPSS version 21.0, with the application of descriptive and inferential statistics (de Vos *et al*. 2005: 218).

3.4.1 Descriptive data

Neuman (1997: 297) explained that descriptive statistics described numerical data. Categorisation takes place by the number of variables involved, which can be univariate, bivariate and multivariate. Initially frequencies of the descriptive variables related to the sample are obtained. Estimates of central tendencies like the mean and dispersion like the standard deviation of variables relevant to the sample are also calculated. Variables that may be relevant to the sample could include age, level of education, gender and ethnicity. At times when the research includes more than one group the researcher may compare the groups in relation to these variables (Burns and Grove 2007: 403). A mean refers to the average i.e. it is the sum of the scores divided by the total number of scores being summed. A standard deviation is the square root of the variance it is the average distance value (Burns and Grove 2007: 418).

A statistician was consulted throughout the current study. Univariate and bivariate analysis were applied for the current study. Data was graphically presented in the form of frequency and cross tabulation tables and various types of graphs.

3.4.2 Cronbach's alpha

When paper and pencil scales are used to collect data, Cronbach's statistical procedure is applied to the scale items to determine that alpha coefficient

value. If the coefficient is below 0.70, then it is unacceptably low, the researcher will then need to reach a decision on whether to analyse the data collected with that particular instrument. The value of 0.70 is considered to be marginally acceptable, however a Cronbach alpha coefficient value of 0.80 to 0.89 is an indication that the measurement is sufficiently reliable to use in the study. If there is a need for test-retest reliability then the t-test or Pearson's Correlation statistics can be used. This step will be followed by exploratory analysis of data (Burns and Grove 2007: 404).

Cronbach's alpha score was used to analyse the ordinal items that constituted the research questionnaire. Questions C11, 13 and 17 produced a score of 0.785, 0.864 and 0.973 respectively. The overall reliability score of each section exceeded the recommended value of 0.70; this indicated a high degree of acceptable and consistent scoring for the research.

3.4.3 Inferential statistical analysis

The final step in statistical analysis is the statistical inference or significance tests, it allows for probability statements concerning the population from which the sample was selected. There are many significance tests such as the univariate, bivariate and multivariate tests.

Chi-analysis and analysis of variance (ANOVA) are statistical analyses that are used to examine for differences in groups of studies that may include two or more groups. These procedures may indicate a significant difference between groups, but do not indicate which groups are different. When significant differences in groups are identified, researchers conduct posthoc analyses after the initial statistical analysis to identify which groups are significantly different (Burns and Grove 2007: 405).

Pearson's Chi-square test was applied to this study, to examine the relationships between the teaching strategies for the different subject areas and the demographic data. It was applied to test-retest reliability between the bivariate variables. Fisher's exact test is a statistical procedure to test the

significance of differences in proportions, when these proportions are from two paired groups and is applicable when the sample size is small (Polit and Beck 2012: 728). The Fisher's exact test was used in the current study to test the significance in proportions of the subjects taught in the R. 425 curriculum to the teaching strategies. The sample size of the participants was small as the participants in the study (n=163) are distributed to teach different subject areas.

Some questions revealed significant findings, as discussed in chapter 4 and 5 and others showed that there was an unequal distribution for some variables.

Spearman's rank-order correlation indicates the magnitude of a relationship between variables measured on an ordinal scale (Polit and Beck 2012: 743). This test was applied to analyse data obtained for questions 35 and 36 as they required the respondents to choose responses from "strongly agree, agree, strongly disagree and disagree".

3.5 Ethical considerations

Ethics are a set of moral principles which provides rules and behavioural expectations about the most correct conduct towards experimental participants and respondents, employers, sponsors, other researchers, assistants and students. Ethical issues arise out of interactions with other humans, animals and the environment so there is always a possibility of conflict of interests (Babbie and Mouton 2001: 520).

Polit and Beck (2012: 165) said that most institutions where research is conducted have institutional review ethics committees or boards that review research proposals, in order to ensure that studies adhere to ethical principles before the researcher actually starts the study. Once these organisations are satisfied that the proposed study meets with the required principles then only will permission be granted for the researcher to proceed with the study (Polit and Beck 2012: 165).

This study commenced after the proposal was approved by the Durban University of Technology's Institutional Research Ethics Committee. Permission was also obtained from the Provincial Research Committee of the KwaZulu Natal Department of Health (Annexure 5), the Principal of the KwaZulu Natal College of Nursing(Annexure 1K), and the principals of each of the ten campuses (Annexure 1A – 1J) in order to ensure that the correct ethical principles were followed.

Neuman (1997: 264) highlighted that a fundamental principle of ethical research, is never forcing an individual to participate in a study; participation must be at the free will of the participant. Participants should sign a written agreement after he/she has received all the necessary information about the study. This is referred to as informed consent (Annexure 3). Statements for informed consent should include the following information: an explanation of the purpose, procedure and duration of the study. Also included are information about any risks associated, any benefits of the study and compensation, anonymity, confidentiality, identification of the researcher and must specify that participation is voluntary and the participant may withdraw at any time during the study without any penalty. A statement that findings of the study would be made available to the participant is also mandatory (Neuman 1997: 264).

To maintain ethical principles in this study, the researcher gave the participant a letter of information (Annexure 3), as well as a letter of information and instruction for the research participant to complete the questionnaire (Annexure 2A). The participants needed to read both these documents then sign annexure 3 if they understood all the requirements of the study and wished to participate.

The following information was included in the letter of information (Annexure 3): the title of the study, the name and contact details of the researcher, the name and contact details of the research supervisor, a brief introduction to the study, purpose of the study, an outline of the procedures that was be

followed, risks or discomforts, duration of time needed to complete the questionnaire, benefits of the study, reasons why the participant may withdraw, remuneration, costs of the study, findings of the study will be disseminated to participants, confidentiality and anonymity, research-related injury and other general information related to the study. A section of a statement to agree to participate in the study was also included. Annexure 2A gave the participants clear guidelines on how to go about completing the questionnaire. Annexure 2A and 3 were separate documents to the questionnaire to further ensure anonymity.

The researcher therefore met with all the requirements for a statement of informed consent as described by Neuman (1997: 450). Completed measuring documents are being stored in a steel safe and will be kept for a period of fifteen years, with the researcher being the only person with access to these documents.

3.6 Conclusion

In this chapter the researcher provides a detailed description of the research design, data collection tool, validity and reliability, data analysis, and the data analysis tests used and ethical considerations. In chapter 4 the researcher will present the data captured and analysed.

CHAPTER 4

DATA ANALYSIS

4.1. INTRODUCTION

This chapter presents the data obtained from the survey. The questionnaire was the primary tool that was used to collect data, and it was distributed to academic staff at the ten campuses of the Kwa Zulu Natal College of Nursing. The data collected from the responses were analysed with the SPSS version 21.0. The results will present the descriptive statistics in the form of graphs, cross tabulations and other figures for the qualitative data that was collected. Inferential techniques include the use of correlations and chi square test values; which are interpreted using *p*-values.

4.2 THE SAMPLE

The sample consisted of 230 lecturers that were employed in the ten campuses of the KwaZulu Natal College of Nursing. One hundred and sixty three, questionnaires were returned which yielded a 70% response rate.

4.3 DATA ANALYSIS

The research instrument consisted of 670 items, with a level of measurement at a nominal and an ordinal level. The lowest level of measurement is referred to as nominal measurement. Characteristics are categorised by assigning them numbers. Gender (e.g. male=1; female=2), and marital status are variables that can be assigned nominal measurement. The numbers assigned do not have any quantitative value; they just signify symbols (Polit and Beck 2012: 379; Botma *et al*. 2010: 132). At an ordinal level attributes are categorised and sorted according to a relative ranking of an attribute. Attributes are further ordered according to some criteria and assigned a number (e.g. severe pain=3, moderate pain =2, mild pain=1). Mathematical calculations for both nominal and ordinal levels take the form of frequency counts, percentage and proportions. Interval ranking are said to be on a

continuum. Attributes are ranked with equivalent distance between them. Interval level data can average data more meaningfully. There is no real zero point. A ratio is a highest level of measurement, which includes a rational zero and an equivalent distance between ranks and ranking attributes. Weight (e.g. 50kg is twice as heavy as 25kg) and age can be measured on a ratio scale. All mathematical operations can be applied (Polit and Beck 2012: 380; Botma *et al*. 2010: 132). The questionnaire was divided into 4 sections which measured different variables.

Section A

4.4 DEMOGRAPHIC DATA

The analysis of demographic data related to the gender, age, ethnicity, educational qualification, education institution where the qualification was obtained, the duration since having obtained the qualification and the position held.

4.4.1 Age

Table 4.1: Age and gender distribution

Age (years)	Gender		Total
	Male	Female	
24-30	0.00% (n=0)	0.60% (n=1)	0.60% (n=1)
31-40	1.30% (n=2)	9.80% (n=16)	11.10% (n=18)
41-50	1.30% (n=2)	37.40% (n=61)	38.70% (n=63)
51-60	1.80% (n=3)	41.70% (n=68)	43.50% (n=71)
61-65	0.00% (n=0)	6.10% (n=10)	6.10% (n=10)
% of total	4.40% (n=7)	95.60% (n=156)	100% (n=163)

Table 4.1 reflects the age and gender composition of the respondents. The age range for the lecturers varied between 24-65 years (n=163). More than 49.00% (n=81) of the respondents were in the age group 51-65 years and about 38.70% (n=63) of the respondents were in the 41-50 age groups. About 12.00% (n=19) were in the 24-40 year age group. A total of 4.40% (n=7) males and 95.60% (n=156) females were included in the sample. The ratio of males to females is approximately 1: 24.

4.4.2 Ethnicity

The majority of respondents (68.10%; n=111) were African, followed by Indian (22.10%; n=36), Coloured (6.10%; n=10) with the smallest group of respondents being White (3.70%; n=6).

4.4.3 Highest educational qualification

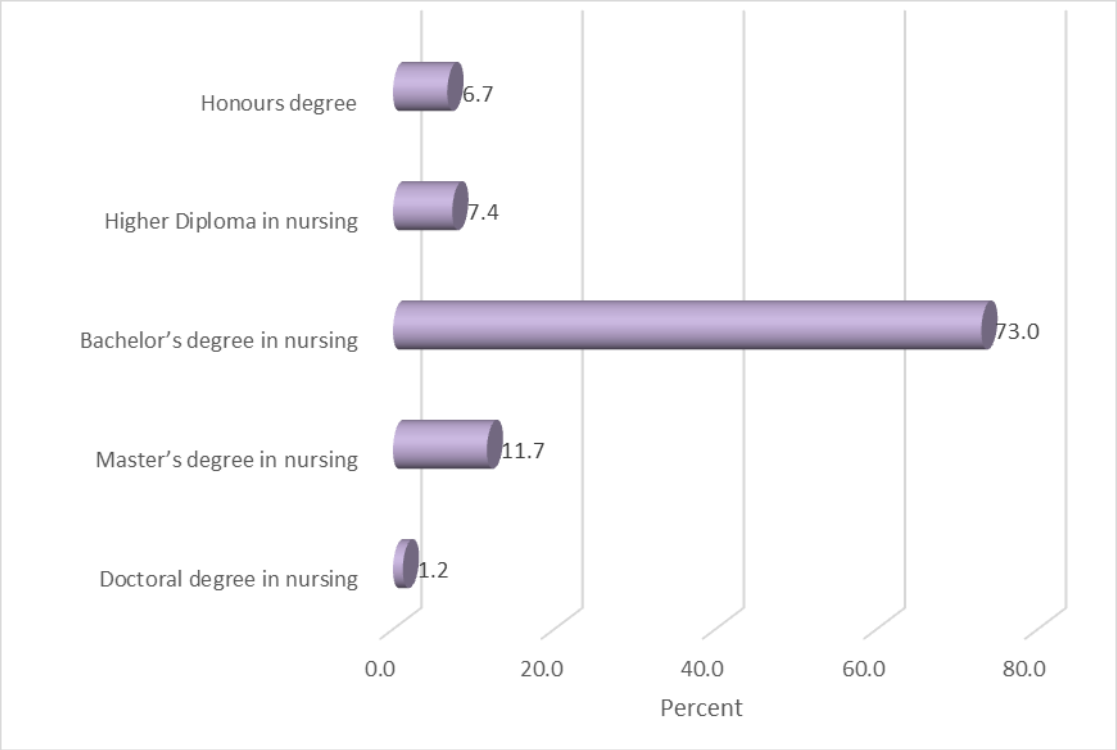


Figure 4.1: Highest educational qualification

Nearly three-quarters (73.00%; n=119) of the respondents have a Bachelor's Degree in nursing; followed by 11.7% (n=19) with a Masters Degree in Nursing, 7.40% (n=12) with a Higher Diploma in Nursing, 6.70% (n=11) with a Honours Degree in Nursing and only 1.20% (n=2) with a Doctoral Degree in Nursing.

4.4.4 Universities at which qualifications were obtained

A large percentage (50.30%; n=82) of lecturers obtained their qualifications from the University of South Africa, followed by Potchefstroom (27.60%; n=45), the University of Zululand (11%; n=18), University of KwaZulu Natal (6.70%; n=11), University of Western Cape (1.30%; n=2), University of Pretoria (1.30%; n=2) and at other universities (1.80%; n=3).

4.4.5 The number of years since obtaining the qualification

About a third of the sample 36.20% (n=59) obtained their qualifications 11-15 years ago, followed by 25.80% (n=42) who obtained it 6-10 years ago. Those who obtained their qualification less than 5 years ago were about 16.00% (n=27); between 16-20 years ago about 13.00% (n=21) and more than 20 years ago were about 9% (n=14).

4.4.6 Positions held by lecturers

About 77.90% (n=127) hold the position of lecturers grade one and two, 20.20% (n=33) were Heads of Department and 1.90% (n=3) were deputy campus principals.

SECTION B

This section presents data on the teaching experience of the sample.

4.5 TEACHING EXPERIENCE

4.5.1 Years of teaching experience

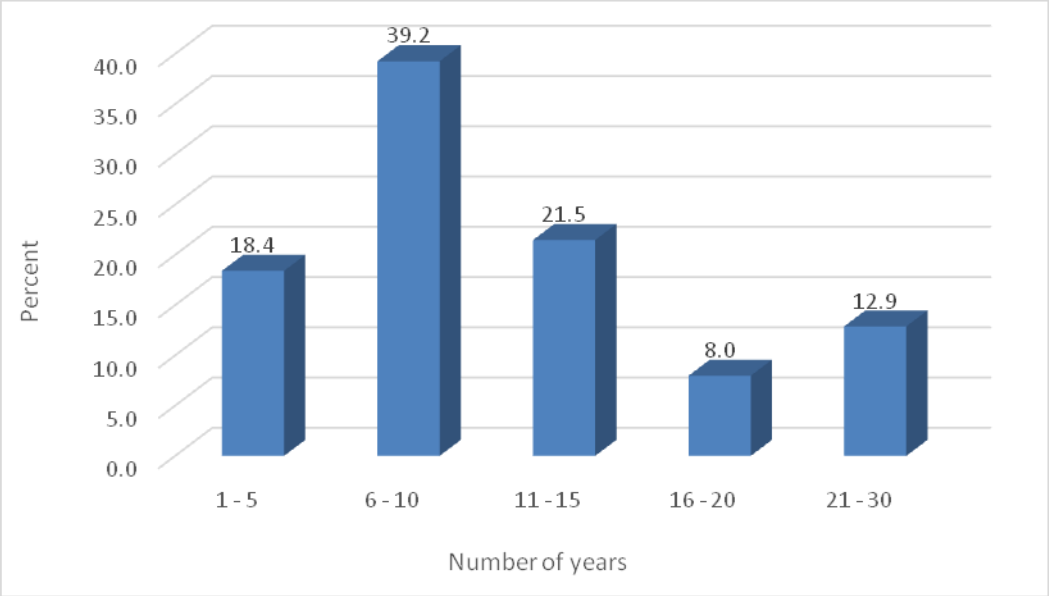


Figure 4.2: Years of teaching experience

More than 80.00% (n=133) of the respondents have been teaching for more than 5 years; about 39.20% (n=64) were teaching for 6-10 years; 21.50% (n=35) for 11-15 years; 8.00% (n=13) of the respondents for 16-20 years and 12.90% (n=21) of the respondents for 21-30 years. The lecturers with the least teaching experience (18.40%; n=30) were teaching for 5 years and less.

4.5.2 NURSING PROGRAMMES

Table 4.2: Nursing Programmes that the lecturers are involved in teaching

Nursing Programmes	Count	Percentage
R425	n=158	96.90%
R2175	n=59	36.19%
R2176	n=11	6.75%
R683	n=63	38.65%
R254	n=38	23.31%
R212	n=5	3.06%
R48	n=2	1.23%

Multiple responses were allowed for this question. About 96.9% (n=158) of the 163 respondents are involved in teaching the R425 programme, 36.19% (n=59) teach the R2175 programme, 6.75% (n=11) teach the R2176 programme and 38.65% (n=63) are in the R683 programme. The R254 nursing programme is taught by 23.31% (n=38) respondents, 3.06% (n=5) are involved in the R212 programme and only 1.23% (n=2) are in teaching the R48 nursing programme. Most of the sample were involved in teaching more than one nursing programme. It was expected that a large percentage of respondents teach in the R425 programme as all the campuses train nurses in this programme but only some campuses teach the other nursing programmes.

4.5.3 LEVEL OF TEACHING

Table 4.3: Level of teaching in the respective nursing programmes

Nursing Programme	Year							
	First		Second		Third		Fourth	
	N	Percent	N	Percent	N	Percent	N	Percent
R 425	98	60.12	88	53.98	88	53.98	55	33.74
R 2175	45	27.60	55	33.74	N/A	N/A	N/A	N/A
R 2176	8	4.90	N/A	N/A	N/A	N/A	N/A	N/A
R 683	60	36.80	48	29.44	N/A	N/A	N/A	N/A
R 254	35	21.47	N/A	N/A	N/A	N/A	N/A	N/A
R 212	4	2.45	N/A	N/A	N/A	N/A	N/A	N/A

Multiple responses were allowed for this question. About 60.12% (n=98) of respondents were teaching first year students in the R425 programme, 53.98% (n=88) taught second year students, 53.98% (n=88) taught third year students and 33.74% (n=55) taught fourth year students. The R2175 programme was taught by 27.60% (n=45) of the respondents in the first year of the programme and 33.74% (n=55) were involved in teaching the second year of this programme. The 2176 programme was taught by 4.90% (n=8) of the respondents. About 36.80% (n=60) of the respondents were involved in teaching the first year students and 29.44% (n=48) taught the second year students in the R683 programme. About 21.47% (n=35) were teaching

students in the R254 programme and a very small percentage, 2.45% (n=4) in the R212 programme.

SECTION C

This section presents data on the teaching strategies used by lecturers in the ten campuses in the KwaZulu Natal College of Nursing.

4.6 TEACHING STRATEGIES

Table 4.4: Teaching strategies used or in use presently

Teaching Strategies	Always		Sometimes		Never	
	Count	Percent	Count	Percent	Count	Percent
Lecture method	n=103	63.20%	n=60	36.80%	n=0	0.00%
Small group discussions	n=36	22.10%	n=125	76.70%	n=2	1.20%
Problem based learning	n=17	10.40%	n=99	60.80%	n=47	28.80%
Case based studies	n=11	6.70%	n=96	58.90%	n=56	34.40%
Role play	n=14	8.60%	n=117	71.80%	n=32	19.60%
Simulation	n=15	9.20%	n=100	61.35%	n=48	29.45%
Narrative styles	n=4	2.50%	n=44	27.00%	n=115	70.50%
Inquiry/Socratic questioning	n=7	4.30%	n=37	22.70%	n=119	73.00%
Portfolios	n=1	0.60%	n=32	19.60%	n=130	79.80%
Reflective thinking/Journals	n=11	6.70%	n=42	25.80%	n=110	67.50%
Web based teaching	n=0	0.00%	n=19	11.70%	n=144	88.30%
Evidence based	n=13	8.00%	n=44	27.00%	n=106	65.00%
Community based	n=10	6.10%	n=57	35.00%	n=96	58.90%
Demonstration	n=49	30.06%	n=108	66.26%	n=6	3.68%

This question allowed the sample to choose multiple responses. Table 4.4 illustrates; that the lecture method of teaching was most favoured by lecturers as 63.20% (n=103) always used the lecture method and 36.80% (n=60) used it sometimes. Demonstration followed next with 30.06% (n=49) always using it; 66.26% (n=108) sometimes and 3.68% (n=6) never using it. Small group discussions were always used by 22.10% (n=36), sometimes by 76.70% (n=125) and never used by 1.20% (n=2) of the sample. The least

used teaching method was web based teaching with 11.70% (n=19) sometimes used this method and 88.30% (n=144) never using it.

4.6.1 Teaching strategies used or currently in use for the R. 425 programme

Table 4.5: Teaching strategies used to teach R. 425 subjects

Teaching Strategy	Frequency of use	Fundamental Nursing Science	Anatomy & Physiology	Social Science	Community Health Nursing	Medical & Surgical Nursing	Ethos Professional Practice	Midwifery	Psychiatry
Lecture method	**Always**	57.58	60.71	68.18	60.00	53.66	50.00	64.52	64.00
	Sometimes	42.42	39.29	27.27	37.14	43.90	50.00	35.48	36.00
	Never	0.00	0.00	4.55	2.86	2.44	0.00	0.00	0.00
Small group discussions	**Always**	15.15	22.22	31.82	28.57	31.71	26.32	25.81	36.00
	Sometimes	84.85	74.08	63.64	68.57	68.29	68.42	74.19	56.00
	Never	0.00	3.70	4.54	2.86	0.00	5.26	0.00	8.00
Problem based learning	**Always**	3.03	3.70	18.18	13.89	7.50	15.79	16.13	16.00
	Sometimes	51.52	37.04	50.00	47.22	50.00	47.37	54.84	44.00
	Never	45.45	59.26	31.82	38.89	42.50	36.84	29.03	40.00
Case based studies	**Always**	0.00	3.57	4.55	8.82	11.90	10.53	16.13	20.83
	Sometimes	51.52	28.57	40.90	47.06	61.91	42.11	58.06	37.50
	Never	48.48	67.86	54.55	44.12	26.19	47.36	25.81	41.67
Role play	**Always**	3.04	0.00	21.74	11.76	0.00	5.27	16.13	24.00
	Sometimes	48.48	25.00	65.22	70.59	60.98	57.89	51.61	52.00
	Never	48.48	75.00	13.04	17.65	39.02	36.84	32.26	24.00
Simulation	**Always**	15.15	3.57	4.54	6.46	6.82	5.00	19.35	12.00
	Sometimes	51.52	32.14	22.73	58.06	52.27	50.00	41.94	36.00
	Never	33.33	64.29	72.73	35.48	40.91	45.00	38.71	52.00
Narrative styles	**Always**	0.00	0.00	8.69	3.03	0.00	0.00	0.00	4.00
	Sometimes	17.65	11.54	26.09	18.18	26.19	38.10	23.33	28.00
	Never	82.35	88.46	65.22	78.79	73.81	61.90	76.67	68.00
Inquiry/ Socratic questioning	**Always**	0.00	3.57	18.18	5.71	14.63	0.00	10.00	12.00
	Sometimes	27.27	10.72	9.09	11.43	19.52	25.00	23.33	12.00
	Never	72.73	85.71	72.73	82.86	65.85	75.00	66.67	76.00

Table 4.5: continued

Teaching Strategy	Frequency of use	Fundamental Nursing Science	Anatomy Physiology	Social Science	Community Health Nursing	Medical & Surgical Nursing	Ethos & Professional Practice	Midwifery	Psychiatry
Portfolios	Always	0.00	0.00	4.54	0.00	2.44	5.00	3.33	0.00
	Sometimes	8.82	11.11	13.64	17.14	12.20	5.00	0.00	12.00
	Never	91.18	88.89	81.82	82.86	85.36	90.00	96.67	88.00
Reflective thinking/ Journals	Always	0.00	0.00	13.64	2.86	10.00	9.52	10.00	8.33
	Sometimes	29.41	14.81	9.09	25.71	27.50	23.81	30.00	16.67
	Never	70.59	85.19	77.27	71.43	62.50	66.67	60.00	75.00
Web based teaching	Always	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sometimes	17.65	7.41	4.35	17.14	9.76	10.00	13.33	20.00
	Never	82.35	92.59	95.65	82.86	90.24	90.00	86.67	80.00
Evidence based	Always	0.00	0.00	9.09	0.00	7.32	5.26	25.81	16.00
	Sometimes	29.41	22.22	13.64	31.43	26.83	31.58	41.94	16.00
	Never	70.59	77.78	77.27	68.57	65.85	63.16	32.25	68.00
Community based	Always	0.00	3.58	9.09	0.00	4.88	0.00	16.13	12.00
	Sometimes	12.12	10.71	18.18	64.71	21.95	15.79	35.48	24.00
	Never	87.88	85.71	72.73	35.29	73.17	84.21	48.39	64.00
Demonstration	Always	35.30	18.52	18.18	18.18	14.29	5.27	34.48	20.00
	Sometimes	61.76	48.15	50.00	81.82	80.95	57.89	65.52	60.00
	Never	2.94	33.33	31.82	0.00	4.76	36.84	0.00	20.00

Multiple responses were allowed for this question. Table 4.5 illustrates the various teaching strategies that have been used and are currently being used to teach the R. 425 programme. A mean value of less than 1 indicates that the teaching strategy was always used and those closer to 2 depicts sometimes in use. The greater than 2 mean value tends towards never in use. The respondents needed to indicate the teaching strategy that was used to teach the discipline and whether it was always, sometimes or never used.

4.6.1.1 Fundamental Nursing Science

This subject was taught with a range of teaching methods. The teaching method most favoured for this area was the lecture method, with the sample

always or sometimes using it (always 57.58%, sometimes 42.42%; *M*=1.42, *SD*=0.50, *p*=0.000). The demonstration was the second most used teaching strategy (always 35.30%, sometimes 61.76%, never 2.94%; *M*=1.68, *SD*=0.54, *p*=0.019). Small group discussion was the next favoured method (always 15.15%, sometimes 84.85%; *M*=1.85, *SD*=0.36). The teaching strategies least used were, Socratic questioning/inquiry (sometimes 27.27%, never 72.73%; *M*=2.73, *SD*=0.45), narrative styles (sometimes 17.65%, never 82.35%; *M*=2.82, *SD*=0.39), web based teaching (sometimes 17.65%, never 82.35%; *M*=2.82, *SD*=0.39), portfolios (sometimes 8.82%, never 91.18%; *M*=2.91,*SD*=0.29) and community based teaching (sometimes 12.12%, never 87.88%; *M*=2.88, *SD*=0.33).

4.6.1.2 Anatomy and Physiology

The teaching strategies most frequently used were the lecture (always 60.71%, sometimes 39.29%; *M*=1.40, *SD*=0.50), small group discussions (always 22.22%, sometimes 74.08%, never 3.70%; *M*=1.82; *SD*=0.48), demonstration (always 18.52%, sometimes 48.15%, never 33.33%; *M*=2.15, *SD*=0.72). The least favoured strategy was reflective thinking/journaling (sometimes 14.81%, never 85.19%; *M*=2.85, *SD*=0.36), narrative styles (sometimes 11.54%, never 88.46%; *M*=2.89, *SD*=0.33), portfolios (sometimes 11.11%, never 88.89%; *M*=2.89, *SD*=0.32) and web based teaching (sometimes 7.41%, never 92.59%; *M*=2.93, *SD*=0.27) to teach this subject.

4.6.1.3 Social Science

The teaching strategies most preferred for social science was the lecture (always 68.18%, sometimes 27.27%, never 4.55%; *M*=1.36, *SD*=0.58, *p*=0.002), small group discussions (always 31.82%, sometimes 63.64%, never 4.54%; *M*=1.73; *SD*=0.55)*;* role play (always 21.74%; sometimes 65.22%; never 13.04%; *M*=1.91, *SD*=0.60). The least favoured teaching methods were case based studies (always 4.55%, sometimes 40.90%, never 54.55%; *M*=2.50, *SD*=0.60), simulation (always 4.54%, sometimes 22.73%,

never 72.73%; *M*=2.68, *SD*=0.57), portfolios (always 4.54%, sometimes 13.64%, never 81.82%; *M*=2.77, *SD*=0.53) and web based teaching (sometimes 4.35%, never 95. 65%; *M*=2.96, *SD*=0.20).

4.6.1.4 Community Health Nursing

The most favoured teaching strategies for CHN was the lecture method (always 60%, sometimes 37.14%, never 2.86%; *M*=1.43, *SD*=0.56, *p*=0.000), small group discussions (always 28.57%, sometimes 68.57%, never 2.86%; *M*=1.74, *SD*=0.51), demonstration (always 18.18%, sometimes 81.82%; *M*=1.82, *SD*=0.39, *p*=0.032). The least favoured strategies were reflective thinking/journals (always 2.86 % %, sometimes 25.71 %, never 71.43%; *M*=2.69, *SD*=0.53, community based teaching (sometimes 64.71%, never 35.29%; *M*=2.35, *SD*=0.49), evidence based teaching (sometimes 31.43%, never 68.57%; *M*=2.69, *SD*=0.47), web based teaching (sometimes 17.14 %, never 82.86%; *M*=2.83, *SD*=0.38) and portfolios (sometimes 17.14%, never 82.86%; *M*=2.83, *SD*=0.38).

4.6.1.5 Medical and Surgical Nursing

For Medical and Surgical Nursing Science, most favoured teaching strategies was the lecture method (always 53.66% sometimes 43.90%, never 2.44%; *M*=1.49, *SD*=0.55, *p*=0.000), small group discussions (always 31.71% sometimes 68.29%; *M*=1.68 *SD*=0.47), Socratic/inquiry questioning (always 14.63% sometimes 19.52%, never 65.85%; *M*=2.51, *SD*=0.75) and demonstration (always 14.29% sometimes 80.95%, never 4.76%; *M*=1.91 *SD*=0.43, *p*=0.046). The least favoured teaching strategies were role play (sometimes 60.98%, never 39.02%; *M*=2.39, *SD*=0.49), narrative styles (sometimes 26.19%, never 73.81%; *M*=2.74, *SD*=0.45) and web based teaching (sometimes 9.76%, never 90.24%; *M*=2.90, *SD*=0.30).

4.6.1.6 Ethos and Professional Practice

Even with Ethos and Professional Practice respondents favoured the lecture method most (always 50%, sometimes 50%; *M*=1.50, *SD*=0.52), small group

discussions (always 26.32% sometimes 68.42%, never 5.26%; *M*=1.79, *SD*=0.54), problem based learning (always 15.79% sometimes 47.37%, never 36.84%; *M*=2.21, *SD*=0.71). The least favoured teaching methods were narrative styles (sometimes 38.10%, never 61.90%; *M*=2.62, *SD*=0.50), Socratic questioning/inquiry (sometimes 25.00%, never 75.00%; *M*=2.75, *SD*=0.44), community based teaching (sometimes 15.79%, never 84.21%; *M*=2.84, *SD*=0.37) and web based teaching (sometimes 10.00%, never 90.00%, *M*=2.90, *SD*=0.31).

4.6.1.7 Midwifery

Again with midwifery, the most favoured teaching strategy was the lecture method (always 64.52% sometimes 35.48%; *M*=1.36, *SD*=0.49, *p*=0.000), demonstration (always 34.48%, sometimes 65.52%; *M*=1.66, *SD*=0.48), small group discussions (always 25.81%, sometimes 74.19%; *M*=1.74, *SD*=0.45), evidence based teaching (always 25.81%, sometimes 41.94%, never 32.25%; *M*=2.10, *SD*=0.77). The least favoured teaching methods used were portfolios (always 3.33%, never 96.67%; *M*=2.93, *SD*=0.37), narrative styles (sometimes 23.33%, never 76.67%; *M*=2.77, *SD*=0.43) and web based teaching (sometimes 13.33%, never 86.67%; *M*=2.87, *SD*=0.35).

4.6.1.8 Psychiatry

In terms of psychiatry the most frequently used strategies to teach psychiatry were the lecture method (always 64.00%, sometimes 36.00%; *M*=1.36, *SD*=0.49, *p*=0.002), small group discussions (always 36.00%, sometimes 56.00%, never 8.00%; *M*=1.72, *SD*=0.61), role play (always 24.00%, sometimes 52.00%, never 24%; *M*=2.00, *SD*=0.71), case based studies (always 20.83%, sometimes 37.50%, never 41.67%; *M*=2.21, *SD*=0.78), demonstration (always 20.00%, sometimes 60.00%, never 20.00%; *M*=2.00, *SD*=0.65). The least used strategies were reflective thinking/journals (always 8.33%, sometimes 16.67%, never 75.00%; *M*=2.67, *SD*=0.64), narrative styles (always 4.00%, sometimes 28.00%, never 68.00%; *M*=2.64, *SD*=0.57),

portfolios (sometimes 12.00%, never 88.00%, *M*=2.88, *SD*=0.33) and web based teaching (sometimes 20.00%, never 80.00%; *M*=2.80, *SD*=0.41).

4.6.2 Teaching strategies for HIV and AIDS and Integrated Management of Childhood Illnesses (IMCI)

Table 4.6: Teaching methods used in teaching the HIV and AIDS and IMCI subjects

Teaching Strategy	Subject	Always	Sometimes	Never	Not Applicable
Lecture method	HIV and AIDS Course	47.30%	50.50%	2.20%	0.00%
	IMCI Course	27.70%	46.80%	21.30%	4.20%
Small group discussions	HIV and AIDS Course	41.10%	55.80%	2.10%	1.00%
	IMCI Course	44.70%	44.70%	4.20%	6.40%
Problem based learning	HIV and AIDS Course	25.30%	54.70%	17.90%	2.10%
	IMCI Course	38.30%	42.60%	17.00%	2.10%
Case based studies	HIV and AIDS Course	18.90%	34.70%	43.20%	3.20%
	IMCI Course	34.00%	34.00%	29.80%	2.20%
Role play	HIV and AIDS Course	30.60%	52.60%	16.80%	0.00%
	IMCI Course	29.80%	42.60%	25.50%	2.10%
Simulation	HIV and AIDS Course	18.90%	38.90%	41.10%	1.10%
	IMCI Course	23.40%	31.90%	42.60%	2.10%
Narrative styles	HIV and AIDS Course	5.30%	23.20%	67.40%	4.10%
	IMCI Course	8.50%	17.00%	70.20%	4.30%
Inquiry/Socratic questioning	HIV and AIDS Course	5.30%	17.90%	71.60%	5.20%
	IMCI Course	6.40%	12.80%	72.30%	8.50%
Portfolios	HIV and AIDS Course	4.20%	9.50%	78.90%	7.40%
	IMCI Course	4.30%	17.00%	63.80%	14.90%
Reflective thinking/Journals	HIV and AIDS Course	6.30%	20.00%	67.40%	6.30%
	IMCI Course	12.80%	19.10%	59.60%	8.50%

Table 4.6: continued

Teaching Strategy	Subject	Always	Sometimes	Never	Not Applicable
Web based teaching	HIV and AIDS Course	1.00%	9.50%	83.20%	6.30%
	IMCI Course	4.20%	6.40%	80.90%	8.50%
Evidence based	HIV and AIDS Course	5.30%	26.30%	65.30%	3.10%
	IMCI Course	8.50%	23.40%	66.00%	2.10%
Community based	HIV and AIDS Course	10.50%	30.50%	54.70%	4.30%
	IMCI Course	17.00%	21.30%	57.40%	4.30%
Demonstration	HIV and AIDS Course	22.10%	64.20%	12.60%	1.10%
	IMCI Course	27.70%	57.40%	12.80%	2.10%

4.6.2.1 HIV and AIDS

Multiple responses were allowed for this question. Only some of the sample (58%; n=95) taught the HIV and AIDS course. The most frequently used teaching strategy was the lecture method (always 47.30%, sometimes 50.50%, never 2.20%; *M*=1.55, *SD*=0.54), small group discussions (always 41.10%, sometimes 55.80%, never 2.10%; *M*=1.63, *SD*=0.58), role play (always 30.60%, sometimes 52.60%, never 16.80%; *M*=1.86, *SD*=0.68), problem based leaning (always 25.30%, sometimes 54.70%, never 17.90%; *M*=1.97, *SD*=0.72) and demonstration (always 22.10%, sometimes 64.20%, never 12.60%, N/A 1.10%; *M*=1.93, *SD*=0.62). The least frequently used teaching strategies were reflective thinking/journals (always 6.30%, sometimes 20.00%, never 67.40%; *M*=2.74, *SD*=0.67), evidence based teaching (always 5.30%, sometimes 26.30%, never 65.30%; *M*=2.66, *SD*=0.63), narrative styles (always 5.30%, sometimes 23.20%, never 67.40%; *M*=2.71 *SD*=0.63), Socratic questioning/inquiry (always 5.30%, sometimes 17.90%, never 71.60%; *M*=2.77, *SD*=0.63), portfolios (always 4.20%, sometimes 9.50%, never 78.90%; *M*=2.89, *SD*=0.57) and web based

teaching (always 1.00%, sometimes 9.50%, never 83.20%; *M*=2.95 *SD*=0.45).

4.6.6.2 IMCI

Multiple responses were allowed for this question. There was a small percentage (29%; n=47) of respondents who taught IMCI. The most used teaching strategies were small groups (always 44.70%, sometimes 44.70%, never 4.20%, N/A 6.40%; *M*=1.72, *SD*=0.83), problem based teaching (always 38.30%, sometimes 42.60%, never 17.00%; *M*=1.83, *SD*=0.79), case based studies (always 34.00%, sometimes 34.00%, never 29.80%; *M*=2.00, *SD*=0.86), role play (always 29.80%, sometimes 42.60%, never 25.50%; *M*=2.00, *SD*=0.81), demonstration (always 27.70%, sometimes 57.40%, never 12.80%; *M*=1.89, *SD*=0.69), the lecture method (always 27.70%, sometimes 46.80%, never 21.30%; *M*=2.02 *SD*=0.82) and simulation (always 23.40%, sometimes 31.90%, never 42.60%; *M*=2.23, *SD*=0.84). The least used teaching strategies were evidence based teaching (always 8.50%, sometimes 23.40%, never 66.00%; *M*=2.62, *SD*=0.68), narrative styles (always 8.50%, sometimes 17.00%, never 70.20%; *M*=2.70 *SD*=0.69), Socratic questioning/inquiry (always 6.40%, sometimes 12.80%, never 72.30%; *M*=2.83, *SD*=0.67), use of portfolios (always 4.30%, sometimes 17.00%, never 63.80%; *M*=2.89, *SD*=0.69) and web based teaching (always 4.20%, sometimes 6.40%, never 80.90%; *M*=2.94, *SD*=0.57).

4.6.6.3 Teaching strategies used to teach R. 2175 and R. 2176 programmes

These two programmes were taught by about 43% (n=70) of the respondents. These programmes are not taught at all ten campuses. Multiple responses were allowed for this question. The teaching strategies most frequently used for all the subject areas was the **lecture method** (always used 38.50% - 81.80%, sometimes used 18.20% - 61.50%; *M*=1.18 – 1.62; *SD*=0.40 – 0.51); **small group discussions** (always 6.30% - 30.80%; sometimes 66.70% - 75.70%; *M*=1.70 – 2.19 *SD*=0.46 – 0.60),

demonstration (always 23.10% - 27.80%, sometimes 37,50% - 66.70%; *M*=1.80 – 2.53 *SD*=0.52 – 0.83) and **problem based learning** (always 8.20% - 22.20%, sometimes 40.00% - 66.70%; *M*=1.89 – 2.6, *SD*= 0.51 - 0.69).

The least used teaching strategies across all subject areas were **case based studies, role play, simulation, narrative styles, socratic questioning/inquiry, portfolios, reflective thinking/journals, web based teaching, evidence based** and **community based teaching** (never 23.01% - 100% *M*= 1.91 – 3.00 *SD*=0.00 -0.82).

4.6.6.4 Teaching strategies used for the R. 683 programme

Multiple responses were allowed for this question. The subject areas taught in this programme were nursing care, anatomy and physiology, social science, community health nursing, medical and surgical nursing, ethos and professional practice and psychology by about 39% (n=63) of respondents.

The most commonly used teaching strategies for most subjects were the **lecture method** (always 37.0% - 66.70%, sometimes 33.30% - 63.00%; *M*=1.33 – 1.80, *SD*=0.49 – 0.84), **small group discussions** (always 11.10% - 44.40%, sometimes 55.6% - 83.30%; *M*=1.56 – 2.17 *SD*=0.39 - 69) and **problem based teaching** (always 6.50% - 22.2%, sometimes 55.60% - 75.0%, never 5.00% -33.3%; *M*=1.85 – 2.33, *SD*=0.49 – 0.75).

The least used strategies were **case based studies, role play, simulation, narrative styles, socratic questioning and enquiry, use of portfolios, reflective thinking/journals, web based teaching, evidence based teaching** and **community based teaching** (never 28.60% - 100%; *M*=2.00 – 3.00, *SD*= 0.25 - 0.81).

4.6.6.5 Teaching strategies used to teach the R. 212 programme

Multiple responses were allowed for this question. The campuses involved in this study only taught two of the post basic courses viz. advanced midwifery and primary health care with only about 3.00% (n=5) of the respondents

teaching these courses. Capita selecta and nursing dynamics were two of the subjects that are common in both these post basic nursing courses.

The **lecture method, small group discussions, problem based learning, case based studies, role play and simulation** were the highly favoured teaching strategies for capita selecta, advanced midwifery, primary health care and nursing dynamics (Always 25.00% - 100%, sometimes 25.0% - 100% *M*= 1.00 – 3.00 *SD 0.50 -0.82*).

The least used teaching strategies were **narrative styles, Socratic questioning/inquiry, portfolios, reflective thinking/journals, web based teaching, evidence based teaching, community based teaching and demonstration** (never 25.00% - 100%; *M*=2.00 – 3.00, *SD*= 0.50 – 0.58).

4.6.6.6 Teaching strategies used to teach the R. 254 programme

Table 4.7: Teaching strategies used to teach the R. 254 programme

Teaching Method	Frequency Taught	ANC %	Labour %	PNC %	NNC %	Admin %	A&P %	G&D %	Immunisation %
Lecture method	Always	61.1	43.8	58.8	64.7	53.3	57.9	46.2	50.0
	Sometimes	38.9	50.0	35.3	35.3	40.0	31.6	46.2	33.3
	Never	0.0	6.2	5.9	0.0	6.7	10.5	7.6	16.7
Small group discussions	Always	27.8	18.7	23.5	29.4	20.0	42.1	30.8	33.3
	Sometimes	72.2	81.3	76.5	70.6	73.3	47.4	69.2	58.3
	Never	0.0	0.0	0.0	0.0	6.7	10.5	0.0	8.4
Problem based learning	Always	27.8	25.0	17.7	29.4	31.3	16.7	23.1	25.0
	Sometimes	55.6	50.0	58.8	52.9	56.3	44.4	61.5	50.0
	Never	16.6	25.0	23.5	17.7	12.4	38.9	15.4	25.0
Case based studies	Always	22.3	6.2	11.8	17.7	20.0	15.8	15.4	25.0
	Sometimes	44.4	75.0	70.6	58.8	60.0	26.3	61.5	50.0
	Never	33.3	18.8	17.6	23.5	20.0	57.9	23.1	25.0
Role play	Always	22.2	12.4	17.7	17.6	13.3	15.7	25.0	15.3
	Sometimes	50.0	43.8	52.9	47.1	46.7	21.1	41.7	38.5
	Never	27.8	43.8	29.4	35.3	40.0	63.2	33.3	46.2
Simulation	Always	33.3	18.8	23.5	29.4	20.0	21.1	23.1	33.3
	Sometimes	50.0	50.0	53.0	47.1	53.3	47.4	53.8	33.3
	Never	16.7	31.2	23.5	23.5	26.7	31.5	23.1	33.4
Narrative styles	Always	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0
	Sometimes	38.9	43.7	41.2	37.5	33.3	21.1	28.6	18.2
	Never	61.1	56.3	58.8	56.3	66.7	78.9	71.4	81.8
Inquiry/ Socratic questioning	Always	22.2	12.5	17.7	17.6	13.3	21.1	15.4	16.6
	Sometimes	27.8	25.0	29.4	41.2	40.0	15.7	23.1	16.7
	Never	50.0	62.5	52.9	41.2	46.7	63.2	61.5	66.7

Key: ANC=Antenatal Care

PNC=Postnatal Care

NNC=Neonatal Care

Admin=Administration

A&P= Anatomy and Physiology

G&D= Growth and Development

Table 4.7: continued

Teaching Method	Frequency Taught	ANC %	Labour %	PNC %	NNC %	Admin %	A&P %	G&D %	Immunisation %
Portfolios	Always	5.5	6.2	0.0	0.0	0.0	0.0	0.0	0.0
	Sometimes	16.7	18.8	23.5	29.4	6.2	10.5	23.1	9.1
	Never	77.8	75.0	76.5	70.6	93.8	89.5	76.9	90.9
Reflective thinking/ Journals	Always	11.1	11.7	11.7	18.7	12.4	21.1	15.3	9.1
	Sometimes	38.9	41.2	47.1	37.5	43.8	21.1	38.5	27.3
	Never	50.0	47.1	41.2	43.8	43.8	57.8	46.2	63.6
Web based teaching	Always	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sometimes	11.1	18.7	11.8	11.8	6.7	10.5	7.7	0.0
	Never	88.9	81.3	88.2	88.2	93.3	89.5	92.3	100.0
Evidence based Evidence based	Always	33.3	12.5	17.6	17.6	13.3	21.1	15.4	16.7
	Sometimes	27.8	50.0	41.2	41.2	26.7	10.5	23.1	25.0
	Never	38.9	37.5	41.2	41.2	60.0	68.4	61.5	58.3
Community based	Always	16.7	0.0	5.9	5.8	0.0	15.7	7.7	8.3
	Sometimes	50.0	43.7	52.9	47.1	40.0	21.1	53.8	41.7
	Never	33.3	56.3	41.2	47.1	60.0	63.2	38.5	50.0
Demonstration	Always	38.9	41.2	23.5	37.5	20.0	31.6	23.1	33.3
	Sometimes	61.1	58.8	64.7	56.3	66.7	57.9	69.2	58.3
	Never	0.0	0.0	11.8	6.2	13.3	10.5	7.7	8.4

Key: ANC=Antenatal Care
PNC=Postnatal Care
NNC=Neonatal Care
Admin=Administration
A&P= Anatomy and Physiology
G&D= Growth and Development

Multiple responses were allowed for this question. This course was taught by about 23.00% (n=38) of respondents. The **lecture method** was the most used strategy to teach most of the areas, neonatal care (always 64.70%, sometimes 35.30%; *M*=1.35 *SD*=0.49), antenatal care (always 61.10%, sometimes 38.90%; *M*=1.39 *SD*=0.50), post natal care (always 58.80%, sometimes 35.30%, never 5.9%; *M*=1.47 *SD*=0.62), anatomy and physiology (always 57.90%, sometimes 31.60%, never 10.5%; *M*=1.53 *SD*=0.69).

Small group discussions was more frequently used as a teaching strategy for anatomy and physiology (always 42.10%, sometimes 47.40%, never

10.50%; *M*=1.68, *SD*=0.67) and immunisation (always 33.30%, sometimes 58.30%, never 8.40%; *M*=1.75, *SD*=0.62). It was least favoured for labour (always 18.70%, sometimes 81.20%; *M*=1.81, *SD*=0.40).

Simulation as a teaching strategy was more often used to teach antenatal care (always 33.30%, sometimes 50.0%, never 16.70%; *M*=1.83, *SD*=0.71) and immunisation (always 33.30%, sometimes 33.30%, never 33.40%; *M*=2.00, *SD*=0.85), and least favoured for labour (always 18.80%, sometimes 50.00%, never 31.20%; *M*=2.13, *SD*=0.72).

Problem based learning was more often used as a teaching strategy for administration (always 31.30%, sometimes 56.30%, never 12.40%; *M*=1.81, *SD*=0.66) and neonatal care (always 29.40%, sometimes 52.90%, never 17.70%; *M*=1.88, *SD*=0.69) and less often for anatomy and physiology (always 16.70%, sometimes 44.40%, never 38.90%; *M*=2.22, *SD*=0.73).

Role play was more often used as a teaching strategy for growth and development (always 25.00%, sometimes 41.70%, never 33.30%; *M*=2.08, *SD*=0.79), antenatal care (always 22.20%, sometimes 50.00%, never 27.80%; *M*=2.06, *SD*=0.73), it was less often used to teach labour (always 12.40%, sometimes 43.80%, never 43.80%; *M*=2.31, *SD*=0.70)

Demonstration was used more often to teach labour (always 41.20%, sometimes 58.80%; *M*=1.59, *SD*=0.51) and antenatal care (always 38.90%, sometimes 61.10%; *M*=1.61, *SD*=0.50), it was least favoured for administration (always 20.00%, sometimes 66.70%, never 13.30%; *M*=1.93, *SD*=0.59).

Evidence based teaching strategy was more often used to teach antenatal care (always 33.30%, sometimes 27.80%, never 38.90%; *M*=2.06, *SD*=0.87) and anatomy and physiology (always 21.10%, sometimes 10.50%, never 68.40%; *M*=2.47, *SD*=0.84). It was less often used for labour (always 12.50%, sometimes 50.00%, never 37.50%; *M*=2.25, *SD*=0.68).

Case based studies was more often used as for teaching immunisation (always 25.00%, sometimes 50.00%, never 25.00%; *M*=2.00, *SD*=0.74) and was less often used to teach labour (always 6.20%, sometimes 75.00%, never 18.80%; *M*=2.13, *SD*=0.50).

Socratic questioning/inquiry was more often used for teaching antenatal care (always 22.20%, sometimes 27.80%, never 50.00%; *M*=2.28, *SD*=0.83) and anatomy and physiology (always 21.1%, sometimes 15.70%, never 63.20%; *M*=2.42, *SD*=0.84). It was not often used to teach administration (always 13.30%, sometimes 40.00%, never 46.70%; *M*=2.33, *SD*=0.72) and labour (always 12.50%, sometimes 25.00%, never 62.50%; *M*=2.50, *SD*=0.73).

Reflective thinking/journals was more often to teach anatomy and physiology (always 21.10%, sometimes 21.10%, never 57.80%; *M*=2.37, *SD*=0.83), and hardly ever used for immunisation (always 9.10%, sometimes 27.30%, never 63.60%; *M*=2.55, *SD*=0.69).

Community based learning, the use of portfolios, narrative styles and web based teaching were least used as a teaching strategy for most of the teaching areas (never 33.30% - 92.3%; *M*=2.17 – 2.92, *SD*= 0.25 – 0.77)

4.6.7 Assessment of level of training, learning styles and availability of tools

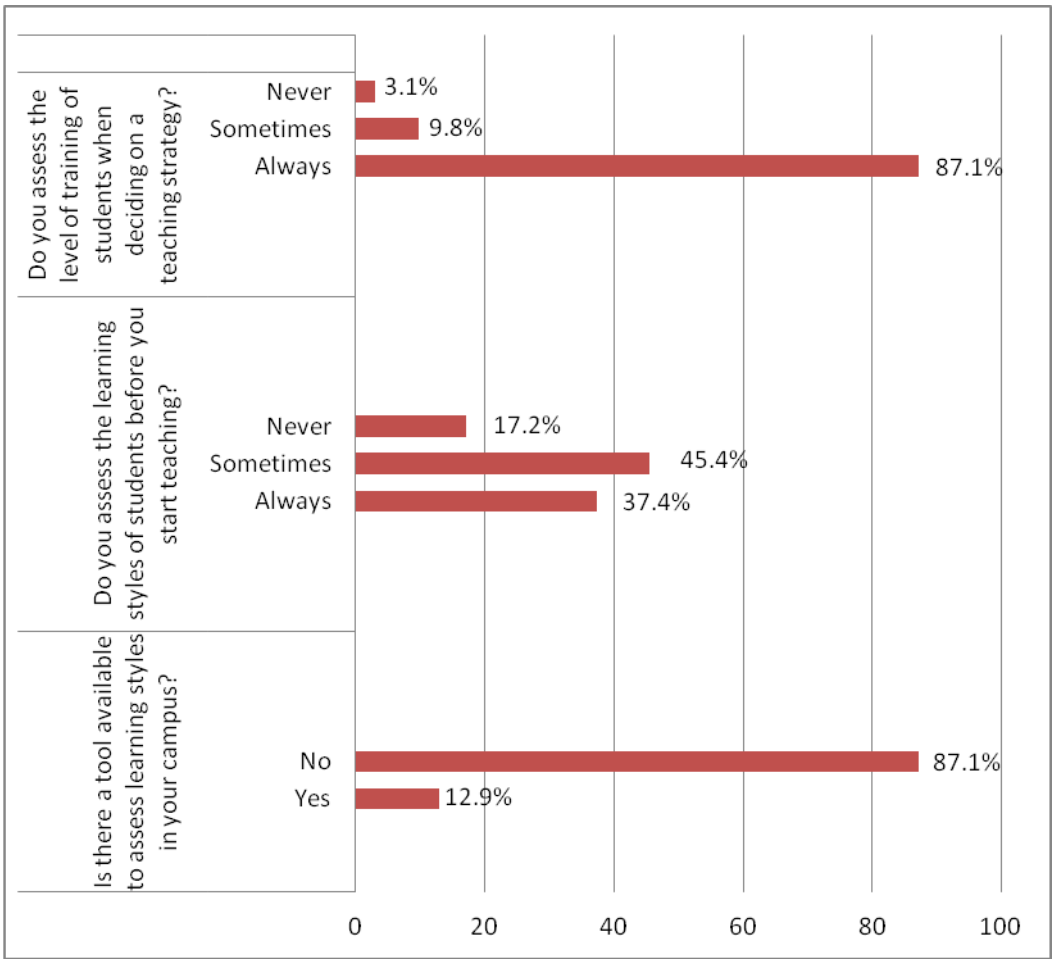


Figure 4.3: Assessment of level of training of students, learning styles of students and availability of an assessment tool

Figure 4.3 above indicates that more than 85% (n=142) of the sample had assessed the level of training of learners when deciding on a teaching strategy; most had assessed the learning styles of learners prior to commencing teaching (always 37.40%; n=61, sometimes 45.40%; n=74) and more than 85% (n=142) indicated that no tools were available to assess learning styles.

4.6.8 Learners role in the learning process

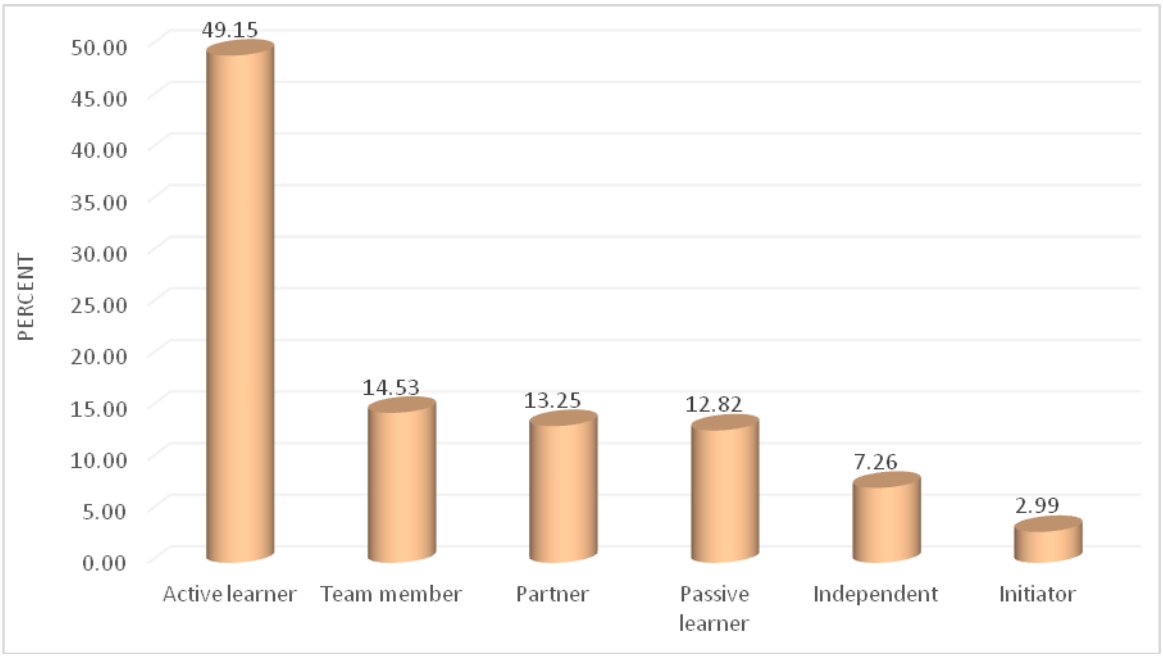


Figure 4.4: Learners role in the learning process

The majority of respondents viewed learners as being an active learner in the learning process (49.15%; n=115), followed by team member (14.53%; n=34), partners (13.25%; n=31), passive learners (12.82%; n=30), independent learner (7.26%; n=17) and initiator (2.99%; n=7).

4.6.9 Evaluation of the effectiveness of lecturers teaching strategies

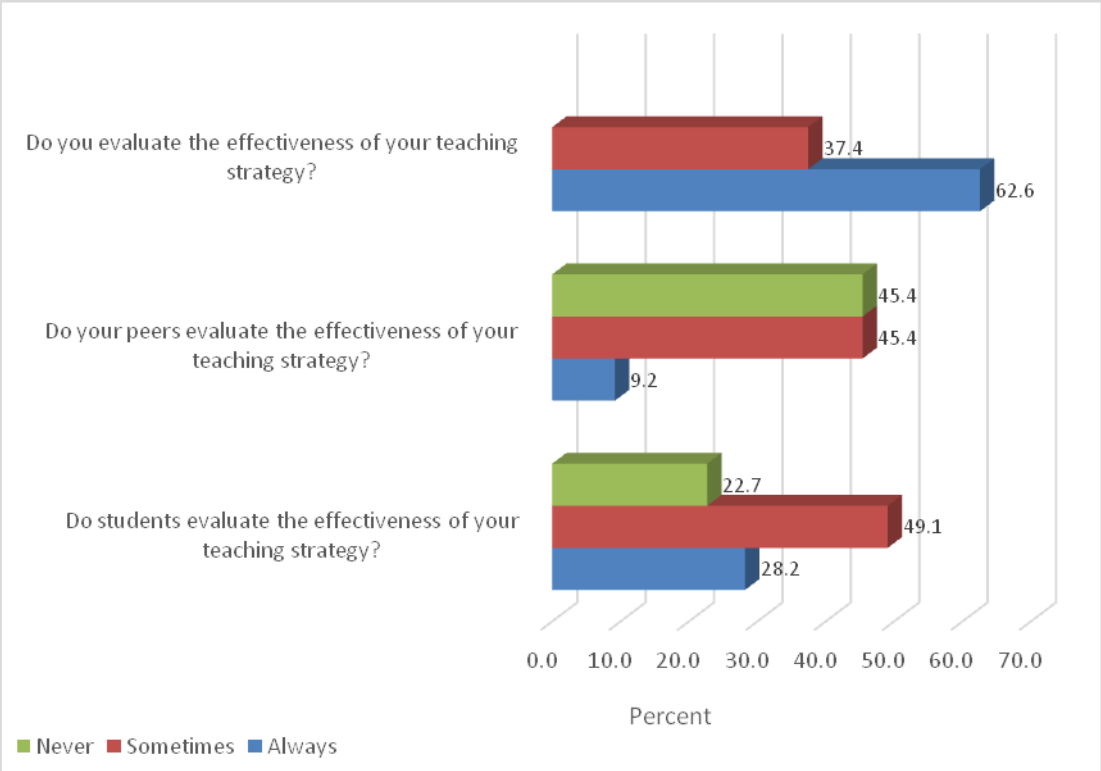


Figure 4.5: Evaluating the effectiveness of lecturers teaching strategies

A high percentage of lecturers in this study evaluated the effectiveness of their own teaching strategies (always 62.60%; n=102, sometimes 37.40%; n=61). Peer evaluation was not a common practice amongst participants in this study (always 9.20%; n=15, sometimes 45.40%; n=74, never 45.40%; n=74). Respondents indicated that students often evaluated lecturers teaching strategies (always 28.20%; n=46, sometimes 49.10%; n=80, never 22.70%; n=37).

4.6.10 Availability of an assessment tool for nurse educators to evaluate their peers

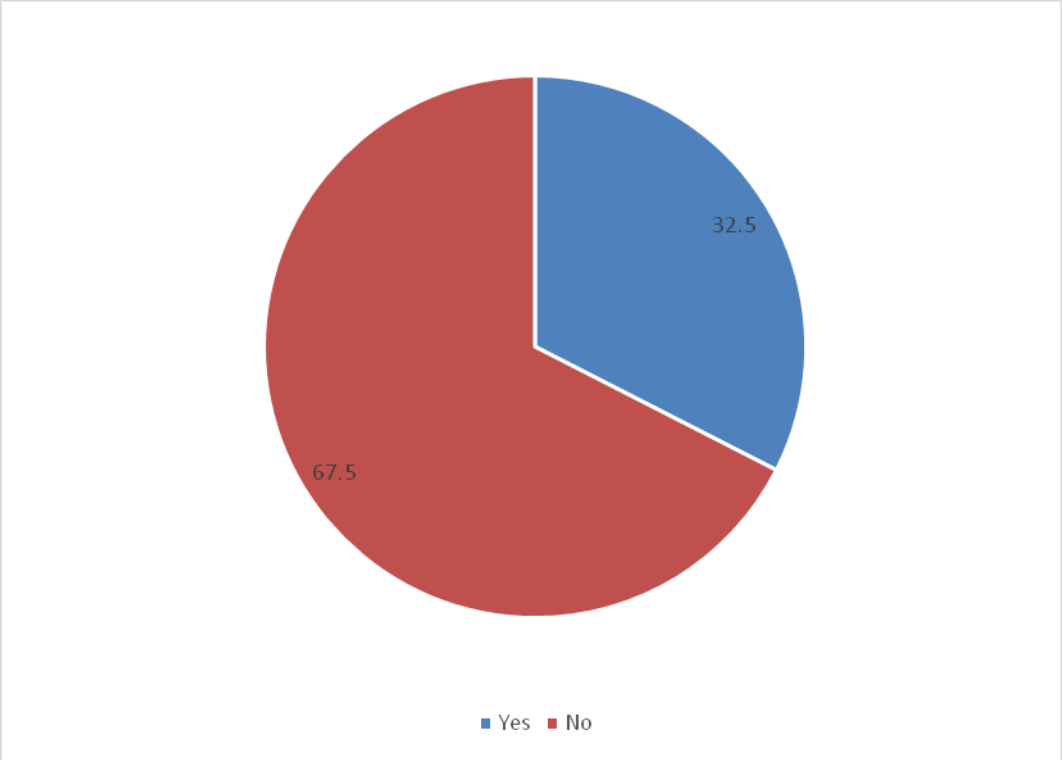


Figure 4.6: Availability of a peer evaluation tool

More than 65% (n=110) of the sample indicated that a tool was not available in their respective institutions to evaluate their peers teaching strategies.

4.6.11 Methods used by lecturers to evaluate their teaching strategies

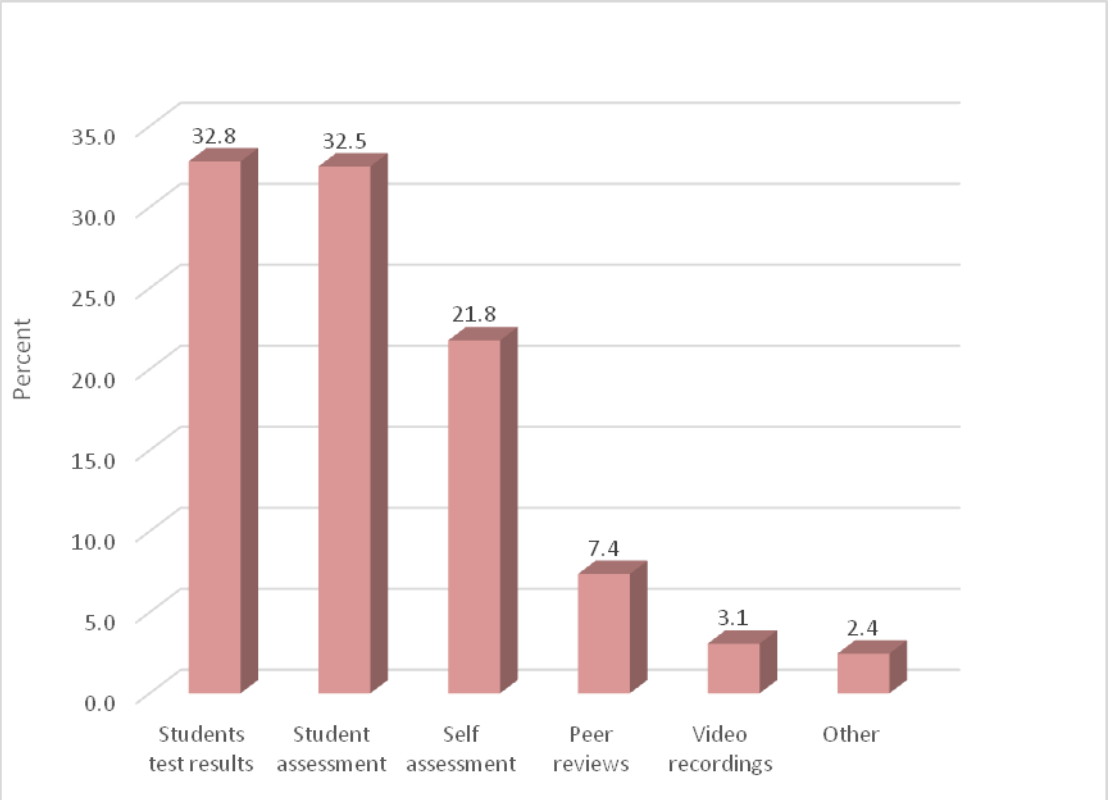


Figure 4.7: Methods used by lecturers to evaluate their teaching strategies

Multiple responses were allowed for this question. Student tests results and student assessments were the most common method lecturers used to evaluate their teaching strategies (student test results 32.8%; n=107, student assessment 32.50%; n=106, self-assessment 21.80%; n=71, peer reviews 7.40%; n=24, video recordings 3.10%, n=10, other 2.40%; n=8).

4.6.12 Characteristics of innovative teaching strategies

This was an open ended question and respondents were allowed to give their own views on the characteristics of an innovative teaching strategy. Respondents primarily identified active participation of students (26.40%; n=43), student involvement in lectures (9.80%; n=16), stimulating critical thinking (8.7%; n=14), using a variety of teaching strategies (6.2%; n=10) and

creative lectures (3.7%; n=6) as innovative teaching strategies. A significant percentage of the sample chose not to answer this question (24.2%; n=39) which suggests that they are so entrenched in the traditional methods that they have not considered innovative teaching strategies.

4.6.13 Barriers to the use of creative teaching strategies

Table 4.8: Barriers to the use of creative teaching strategies

Barrier	Percentage	Frequency
Lack of equipment	67.50	110
Size of class	66.90	109
Time allocated to teach	66.30	108
Content to be taught	62.60	102
Lack of in-service	58.30	95
Preparation time	53.40	87
Knowledge and skills of students	45.40	74
Classroom size	44.78	73
Lack of knowledge and skill of lecturer	42.33	69
Learning styles of student	42.33	69
Lack of support to nurse educators	38.00	62
Lack of experience in nursing education by the lecturer	35.58	58
Seating arrangements of students	28.83	47
Individual teaching styles	26.38	43
Other	0.10	1

With regard to the barriers of creative teaching strategies, respondents could choose more than one response. More than 65% (n=110) identified the lack of equipment, followed by the size of the class (66.9%; n=109), time allocated to teach content (66.30%; n=108), content to be taught (62.60%; n=102), lack of in-service training on the use of teaching methodologies (58.0%; n=95) and preparation time (53.40%; n=87).

4.6.14 Teaching strategies that will add value to the lecturer's teaching

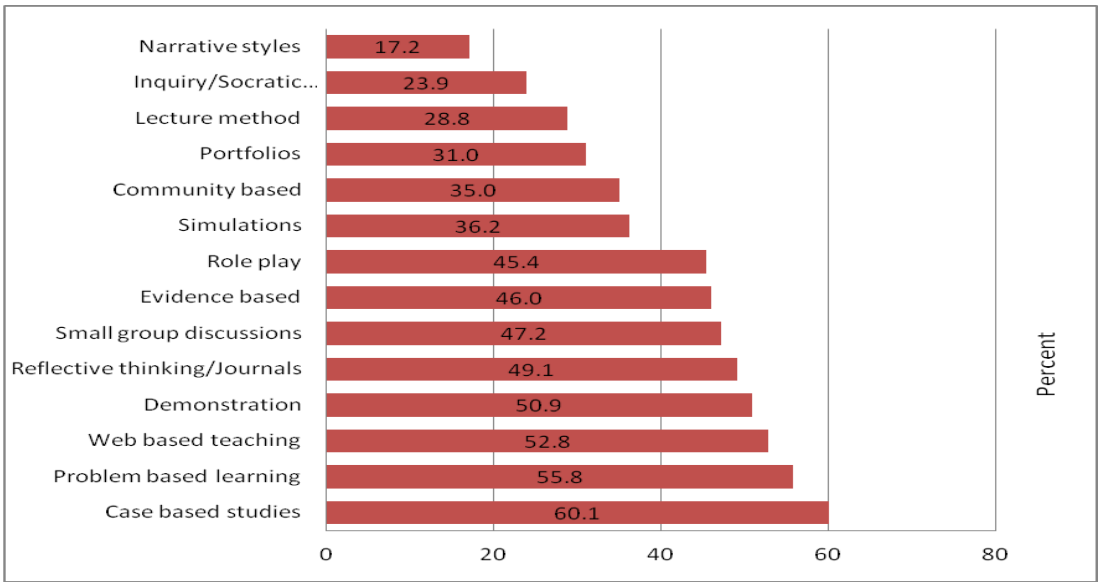


Figure 4.8: Teaching strategies that will add value to teaching

This question allowed for respondents to choose more than one strategy. Respondents chose case based studies most often (60.10%; n=98), followed by problem based learning (55.80%; n=91), web based teaching (52.80%; n=86), demonstration (50.90%; n=83), reflective thinking/journals (49.10%; n=80), small group discussions (47.20%; n=77), evidence based teaching (46.00%; n=75), role play (45.48%; n=74), simulation (36.20%; n=59), community based learning (35.0%; n=57), use of portfolios (31.90%; n=52), the lecture method (28.80%; n=47), socratic questioning/inquiry (23.90%; n=39) and the use of narrative styles (17.20%; n=28).

4.6.15 Teaching strategies where further training is required

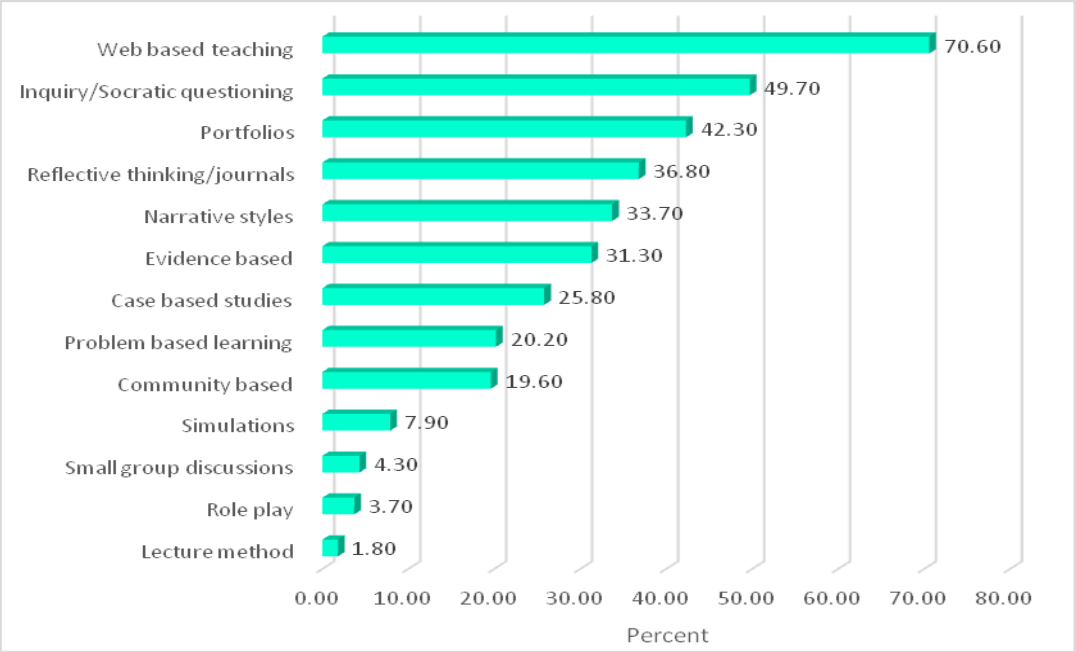


Figure 4.9: Teaching strategies where further training is required

Multiple responses were allowed for this question. As can be seen above between 70.60% (n=115) of respondents indicated a need for further training in web based teaching, 49.70% (n=81) in Socratic questioning and inquiry, 42.30% (n=69) for the use of portfolios and 36.80% (n=60) in reflective thinking/journals. Other teaching strategies identified for training were the use of narrative styles 33.20% (n=55), evidence based teaching 31.30% (n=51), case based studies 25.80% (n=42), use of problem based learning 20.20% (n=33) and the use of community based learning 19.60% (n=32). Less than 10% indicated that they would require training in, simulation (n=13), small group discussions (n=7), role play (n=6) and the lecture method (n=3).

4.6.16 Micro curricular and teaching strategies

Table 4.9: Micro-curriculum and teaching strategies

MICRO-CURRICULUM	YES	UNSURE	NO
Do you have a micro-curriculum for the different subject areas in your institution?	94.5%	4.3%	1.2%
Do the micro-curricula recommend specific teaching strategies for use?	23.9%	20.9%	55.2%
Do you think that it is necessary for teaching strategies to be recommended in the micro-curricula?	69.9%	7.4%	22.7%

The above table illustrates that 94.50% (n=154) of respondents indicated that a micro-curriculum was available for different subjects, 4.30% (n=7) were unsure if it was available and 1.20% (n=2) indicated it was not available.

A large percentage (55.20%; n=90) indicated that the micro-curriculum does not recommend teaching strategies, 23.90% (n=39) indicated it did and 20.90% (n=34) were unsure.

A majority of respondents, 69.90% (n=114) indicated that they thought it necessary for the micro-curriculum to recommend teaching strategies and 7.40% (n=12) were unsure if it should.

4.6.17 Mentoring of new nurse educators

A larger percentage of respondents, 53.40% (n=87) indicated that new nurse educators were sometimes mentored by more experienced lecturers, 31.90% (n=52) indicated that they were always mentored and 14.72% (n=24) indicated that they were never mentored.

4.6.18 Effectiveness of current teaching strategies

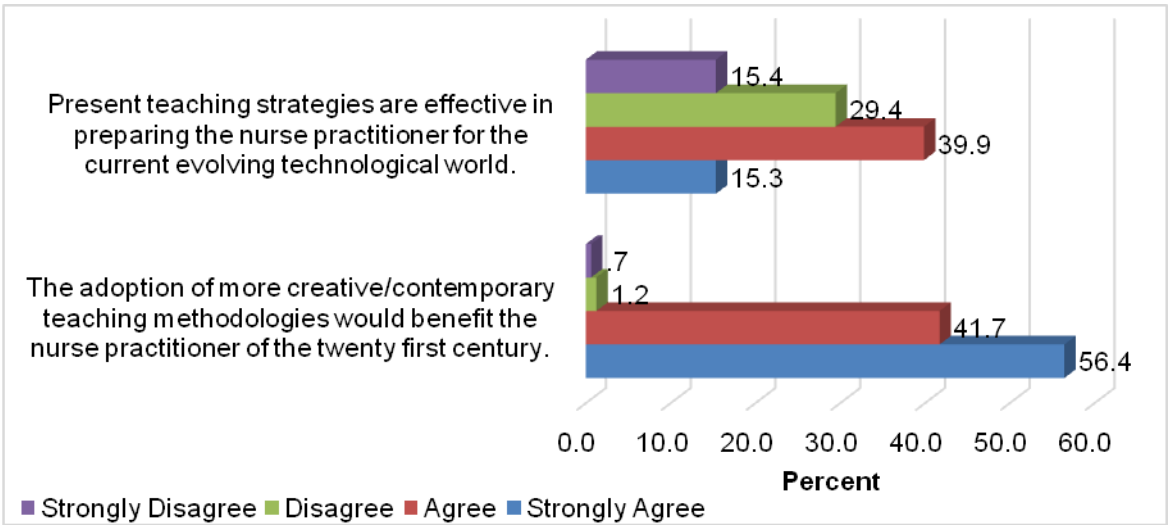


Figure 4.10: The effectiveness of current teaching strategies and the adoption of more creative/contemporary teaching methodologies

The figure above indicates that about half the sample, 55.20% (n= 90), indicated that current teaching strategies were effective in preparing the nurse practioner for the current evolving technological world and 44.80% (n=73) disagreed. A large percentage of respondents, 98.20% (n=160) agreed that more creative/contemporary teaching methodologies would be of benefit to nurse practitioners of the twenty first century; only 1.8% (n=3) disagreed.

4.6.19 Adopting more creative/contemporary teaching strategies

The majority of respondents, 95.70% (n=156) indicated their willingness to adopt more creative or contemporary teaching strategies whilst 4.30% (n=7) were unsure if they would.

4.6.20 Suggestions for adopting more learner centered approaches

Table 4.10: Lecturers suggestions for adopting more learner centered approaches

SUGGESTIONS	Frequency	Percent
In-service and workshops	n=86	52.8
Mentoring	n=10	6.1
Orientation	n=5	3.1
Address challenges	n=4	2.5
Teaching lecturers	n=3	1.8
Provision of appropriate equipment	n=2	1.2
Introduce creativity to lectures	n=2	1.2
Involving lectures in planning of teaching	n=2	1.2
Learner assessment and feedback	n=1	0.7
Review and revise teaching content	n=1	0.6
To keep updated with current information	n=1	0.6
Peer Reviews	n=1	0.6
Nil/No comment	n=45	27.6
Total	n=163	100.0

The above table reflects the suggestions made by respondents to guide lecturers towards adopting a learner centered approach. More than half of the respondents, 52.8% (n=86), suggested in-service training and workshops, 27.60% (n=45) did not comment, 6.10% (n=10) suggested mentoring and 3.10% (n=5) orientation, the other suggestions are detailed in the table above.

4.7 CONCLUSION

Chapter 4 presented the data analysed, the next chapter will discuss the findings with supporting literature where available and describe the limitations and recommendations

CHAPTER 5

INTERPRETATION, SUMMARY AND DISCUSSION OF FINDINGS

5.1 INTRODUCTION

“Teaching is more than imparting knowledge, it is inspiring change. Learning is more than absorbing facts, it is acquiring understanding” William Arthur Ward.

In Chapter 4 the data collected was analysed and presented. In this chapter the data will be critically interpreted and where possible relevant literature will be integrated into the discussion. Recommendations for further research and limitations of this study will also be discussed.

5.2 Demographic findings

5.2.1 Gender

A majority of the total respondents (n=163) were female (95.6%), as compared to males (4.4%). The ratio of males to females in this study was 1:24 which reflected the predominance of females in the sample. The South African population comprises 52.98 million people, with about 27.16 million females (51%) and 25.82 million males (49%) (Statistics South Africa 2013: 2). KwaZulu Natal (KZN) has a population of about 10 456 907 people, compromising 5 482 627 (52%) females and 4 974 281 (48%) males. The percent of females and males within the Province, is almost in line with the national statistics (Statistics South Africa 2013:13). The total number of registered nurses in South Africa registered with the South African Nursing Council in 2013 was 129 015 which included 118 198 females (91.62%) and males 10 817 males (8.38%).

KwaZulu Natal has a registered nurse population of 28 158 which comprises a female registered nurse population of 25 838 (91.76%) and a male registered nurse population of 2 320 (8.24%). The ratio of female to male in KZN is 371:1. The provincial percentage of female to male registered nurses

is in keeping with the national population (SANC 2013). The male registered nurse population in South Africa is much smaller to females. This is also evident in this study where the male respondents were much less than the female respondents. Nursing remains a female dominated profession as indicated by national and international statistics (SANC 2013, Buchan 2007: 3 and Jaslow 2013).

5.2.2 Age

The age of the respondents ranged from 24-65 years. About 80% of the current sample was in the 40-60 age group, 6% over 60 year old and a small percentage (11.7%) was below 40 years old. The age distribution of the nurses registered with the South African Nursing Council (2013), are as follows: 4% were less than 30 years, 48% were 31-50 years, 45% were 51-69 years and 3% were above 69 years old.

Data reflects that there are varied generations of lecturers who are involved in teaching, a diverse age range of student nurses. A large percentage of the respondents (88.3%) are over the age of 40 years, which reflects a mature experienced sample. The South African Nursing Council records, also estimate that 77% of nurses registered are over 40 years old. Theophanides (2010: 13) in her article on “Nursing the Gap” wrote that in 2009 in South Africa, there were 44% of registered nurses who were over the age of 55 and 15% who were over the age of 50 years. This implied that 49% of these nurses would retire in 5-15 years time. This has significant implications for the nursing profession as a whole for both clinical practice and education (Theophanides 2010: 16), as these constitute the intellectual and skilled pillars of the profession.

A study in Kenya (Gross, Rogers, Teplinskiy, Oywer, Wambua, Kamenju, Arudo, Riley, Higgins, Rakuom, Kiriinya and Waudo 2011: 1302) reported that the mean age of the working force was 43 years and it is expected that in 10 years, 25% of Kenya’s nursing working force will be retiring. American

studies also reported on their large population of registered nurses who are over the age of 45 years old, they estimated that by 2010 about 40% of this workforce would be over the age of 55 years (Buerhaus, Staiger; Auerbach 2000: 2953 and Juraschek, Zhang, Ranganathan and Lin 2012: 244).

Australia has a similar scenario as the registered nurse workforce was 35.9% in the 50 and above age group (Graham and Duffield 2010: 45). This implies that the ageing workforce will be retiring soon, thus significantly diminishing the registered nurse population worldwide.

Generation gaps have significant consequences for nursing education, as it is imperative that nurse educators, who are diverse in age, also need to understand and appreciate the varied generations of the students that they teach so as to create a more effective learning environment. The respondents in this study are the Silent Generation (born 1933-1945), Baby Boomers (born 1946-1964), the generation Xers (born 1965-1980) and generation Ys/ Millennials (born 1975- 2000) (Schofield and Beard 2005: 81 and Cekada 2012: 41). Almost half the lecturers working within the KZNCN structure comprise of Baby Boomers (49.6%), Generation Xers 38.7% and Ys 11.7%. The majority of students are in the age groups of 18-30 (Generation Ys) year age group; these are the young school leavers, with a only a small percentage of older students.

The Silent Generation (59-65 years) often struggle with technology, with only about 5% who use their cells phones for calls and 11% for text messaging (Cekada 2012: 42). The Baby boomers (50-58 year) learn via more traditional teaching methodologies, like lectures and workshops and rely on experience as a source of learning. They therefore learn best from discussions, simulations, case studies and problem solving exercises. They benefit from the use of books, manuals and power point presentations. Smaller classes are ideal for them as they will have the opportunity to share their experiences and they want to know the value of learning, should it be in their work or home environments. They are reluctant to use technology to

learn so it is therefore important to make sure that they understand the value of technology before teaching them to use it for learning or work purposes.

The Silent Generation and the Baby Boomers are actively involved in teaching the generation Xers (25-49 years old) and the emerging Generation Ys (24 years and younger) (Cekada 2012: 42; Walker, Martin, White, Elliot, Norwood, Magnum and Haynie 2006: 371).

Generation Xers are driven by their desire for continuous feedback in order to validate what they are doing and are happy to give feedback to others. These students like learning to be fun and thrive in casual, relaxed and comfortable learning environments. It is therefore imperative that the lecturer provides a supportive yet challenging environment. They like being asked questions and enjoy generating and answering questions. They appreciate flexible learning methods like small group discussions and team work as they value stimulating ideas from each other. They welcome the use of technology and therefore are able to use the internet and multimedia with ease (Cekada 2012: 43). This needs to be considered when planning teaching.

Generation Ys are known by many names like the Millennials, the iPod, the me firsts, the internet generation, the echo Boomers, the digital generation, the Nintendo generation, the generation why, generation next, the I generation and the net generation (Cekada 1212: 43; Schofield and Honore' 2010: 26 and Eckleberry-Hunt and Tucciarone 2011: 458).

The generation Ys, learn by discovery and because they are technologically savvy, they will find learning more meaningful, when the lecturer first introduces them to the basic key concepts of the subject content and then allows them to explore and learn through simulation and role play in groups or teams. These learners thrive in social interactive environments and therefore would benefit from the internet, texting, blogs, wikis and other social networking tools. They find working in groups and teams valuable as they can share ideas, but desire immediate feedback about what they are doing right or wrong. A lecture session with this group of learners needs a variety of

teaching methods to be combined, in order to gain and maintain their attention. Frequent break away sessions and the introduction of physical activity is of high importance as their learning styles include listening, seeing and doing (Cekada 1212: 43; Schofield and Honore 2010: 26 and Eckleberry-Hunt *et al*. 2011: 458). It is therefore necessary for this mature generation of lecturers to adapt their teaching strategies that would meet the learning styles of the current generation.

5.2.3 Ethnicity

A large percentage of the respondents were African (68.1%), followed by Indian (22.1%), Coloured (6.1%) and White (3.7%). This reflects the South African population which is made up of 79.8% African, 9% Coloured, 8.7% White and 2.5% Indian people (Statistics South Africa 2013: 3). The Kwa Zulu Natal workforce specifically comprises of Africans, 80.6%, Indians, 11.7%, Whites, 5.6% and Coloureds, 2.1% (Department of Labour 2013: 7). A larger percentage of African in the current sample is in line with the national and provincial statistics and the large percentage of Indian respondents are in line with the provincial demographics. A comparison of international samples, example in America however reflects a greater percentage of White nurses (Seago, Spetz, Chapman, Dyer and Grumbach 2004: 19 and United States Department of Health and Health Resources and Services Administration 2010: 12).

5.2.4 Highest educational qualifications

According to the SANC (2005: 20) nurse educators teaching should have a qualification higher than the students they teach. The ten campuses offer the R425 nursing programme which is a four year nursing diploma, and is the highest basic nursing qualification in the KZNCN structure. It was not surprising then that 73% of the respondents possessed a Bachelor's degree in nursing, 11.7% had a Master's degree, 7.4% had a Higher Diploma in nursing education, 6.7% had an Honours degree and 1.2% had a Doctoral

degree. This profile will change in the future as more lecturers will be obtaining a Master's degree, due to the SANC replacing the four year nursing Diploma with a four year nursing Degree (SANC 2009: 2).

5.2.5 Universities at which respondents obtained their Nursing Education Qualifications

The majority of respondents obtained their nursing education post basic qualifications, from two of the biggest distance learning universities in South Africa. About half the sample (50.3%), obtained their qualification from the University of South Africa and 27.6% from the University of North West (Potchefstroom). Nurses are often forced to turn to distance learning universities, due to the barriers that they experience with attending lectures whilst on duty. Barriers to study include a lack of funding, job responsibilities, family responsibilities, lack of physical and emotional energy and staff shortages that prevents them from going on study leave. Other barriers are lack from support from employers and the distance of universities from their homes and workplaces. Distance learning thus affords nurses the ideal opportunity to develop professionally (Ehlers 2000: 144 and Richards and Potgieter 2010: 45).

SECTION B

5.3 TEACHING EXPERIENCE

Majority of the sample (80%) have been teaching for more than five years, and 12% of this, have between 21-30 years of teaching experience. This implies that most respondents are experienced teachers which lend credibility to the research findings, as responses are from informed sources. Numerous studies support the fact that experienced nurse educators are an asset to the nursing education faculty, as they can orientate and induct neophyte nurse educators into the faculty, mentor and guide them with regards to organisational activities and act as expert role models. Experienced lecturers can also assist new lecturers by participating in peer

reviews, assist with the functional aspects of teaching, guide them on new roles and introduce them to the organisations culture (Lunnenburg 2011: 2; McArthur-Rouse 2008: 405; NLN 2006: 1 and Schoening 2009: 105).

Nurse educators, as reflected by the data, stay in their positions for a long time, thereby leaving little room for a younger generation of nurses to enter nursing education. Nurse educators age similarly to the nurses in the clinical work environment and often retire in these positions rather than move to the clinical area (Buerhaus, Staiger and Auerbach 2000: 2593).

5.3.1 Nursing programmes taught by respondents

The majority of respondents (96.9%, n=158) were involved in teaching the R. 425 curriculum which is a four year Diploma (SANC 1985: 1) course that leads to registration with the South African Nursing Council, as a general nurse with additional qualifications in midwifery, community and psychiatric nursing. This course is also offered at Higher Education Universities and the graduate obtains a degree in nursing, with the same additional qualifications. It therefore makes sense that a nurse of this calibre, should be taught to be a critical thinking nurse. All ten campuses studied offer the R. 425 curriculum but some campuses also offer other nursing programmes, which are two year or one year courses. Lecturers may be involved in teaching in more than one nursing programme.

5.3.2 Level of teaching in the nursing programmes.

Of the respondents (96.9%, n=158) who were involved in teaching in the R. 425 curriculum, 60.12% (n=98) were involved in teaching first years, 53.98% (n=88) were teaching second year students, 53.98% (n=88) were teaching third year nurses and fourth year student nurses were taught by 33.74% (n=55) of the respondents. Lecturers are involved in teaching more than one level of teaching across the curriculum (KZNCN 2005: 7). Fundamental Nursing Science (theory and clinical), Anatomy and Physiology, Social Sciences and Community Nursing (theory and clinical) are taught in the first

year of training. The second year of training includes General Nursing Science 1 (theory and clinical), Social Science and Community Nursing Science (theory and clinical). Subject areas in the third year of learning includes General Nursing Science 11 (theory and clinical), Social Science, Community Nursing Science (theory and clinical) and Ethos and Professional Practice (theory and clinical). The fourth year of the curriculum which is the senior level of training is divided into two modules; the first semester is the Midwifery semester which involves a theoretical and clinical component. The last six months of the course comprises the Psychiatric Nursing module, which also includes a theoretical and a clinical component (KZNCN 2005: 8). The R. 425 curriculum is taught in all ten campuses thus this discussion is focusing on this programme.

It is imperative that lecturers understand the requirements of different levels, in order to assess students understanding and ensure that the most effective teaching strategies are used. The teaching strategies and learning styles for junior nurses may differ from seniors. Meehan-Andrews (2009: 28) in her study of first year nursing students concluded, that a large percentage (70.9%) of students preferred to be introduced to new information through the lecture method and an even greater percentage (85.85%), felt that the lecture should be followed by kinesthetic learning opportunities. They liked to practice what they were taught so that their learning would be more meaningful. Teaching strategies that suited these kinesthetic and visual learners are the lecture, demonstration, simulation, case study, homework and computer simulation methods (Meehan-Andrews 2009: 31 and Lauver, West, Campbell, Herrold and Wood 2009: 134). These junior students may therefore be in the active experimental cycle of Kolb's learning style model and learn best from lectures, films, and demonstration. They like to work with practical applications (Salehi and Shahnooshi 2007: 155 and Frankel 2009: 4).

As students' progress to second, third and fourth year of nursing, they gain more knowledge, clinical experience and are better critical thinkers and therefore their needs and learning styles may become more independent. They are in the abstract conceptualisation cycle of Kolb's learning style theory, they are able to work through problems in teams and interpret information. Senior students benefit from research projects, evidence based teaching and journaling (Salehi and Shahnooshi 2007: 155).

Section C

5.3.3 Teaching strategies used or in use presently

The lecture, a didactic teaching method, is the most favoured teaching strategy (always used by 63.20%, sometimes used by 36.80%) amongst lecturers in the KZNCN campuses. Every respondent was found to have some experience with the lecture method. Although it is a teacher centered method, it is used frequently by a large percent of lecturers, thus making it imperative that educators shift towards a more student centered approach to teaching present health issues (Jabbari, Bakhshian, Alizadeh, Alikhah and Behzad 2012: 31; Zhang 2014: 2; Hassanzadeh, Vasili and Zare 2010: 8 and Lisko and O'Dell 2010: 106). Demonstration followed next and was always used by 30.06% (n=49) and sometimes used by 66.26% (n=108) of the sample. Thus it would appear that the current generation of student nurses (generation Xers and the Millennials) are being taught by Baby Boomers, who themselves were taught by the traditional lecture method (Cekada 2012: 42 and Mangold 2007: 21).

Between 6.7% - 22.1% of the sample always used small group teaching, problem based learning, simulation, role play, evidence based learning, and cased based learning, reflective thinking/journaling and community based learning. Below 5% of the sample always used Socratic/inquiry questioning, narrative styles and portfolios. Web based teaching has never been used by 88.30%. Hence it would appear that the latter contemporary methodologies

are used most infrequently by the current sample. The Generation Ys, the technologically savvy generation, is thus deprived of web based teaching methods that best suit their learning needs and styles. Many other studies have found that nurse educators still use, the lecture to teach students (Mangold 2007:22 and Chan 2012: 21). Walker *et al*. (2006: 373) found no significant changes in learning between generation Xers and Ys, hence it is imperative that the present Baby Boomer lecturers meet the needs of this new generation of students.

5.3.4 Teaching strategies used or currently in use to teach the R. 425 curriculum

The mean (*M*) values have been used to describe the frequency of use of each teaching strategy in relation to the subject content. A value of less than 1, tend towards always in use, greater than 1 tend towards sometimes in use and a value greater than 2 tend towards never in use.

The R. 425 curriculum is inclusive of many subjects that are also taught in other nursing programmes and will thus be discussed in detail as opposed to the other programmes.

5.3.4.1 Fundamental Nursing Science

Nurse educators are constantly encouraged to make a paradigm shift from didactic to student-centered innovative teaching strategies. Didactic teaching involves imparting knowledge to the students, based on lectures and teaching activities that are prepared in advance by lecturers. Many lecturers still adopt the lecture and demonstration method to teach cognitive, psychomotor and affective nursing skills, as part of fundamental nursing science. There is however a need to change to more innovative teaching methodologies (Razak and Hua 2013: 44; Martins, Mazzo, Baptista, Coutinho, de Godoy, Mendes and Trevizan 2012: 619; Xi-wen, Chun-ping, Rui, Xiu-chuan and Cheng 2007: 380 and Potgieter 2012: 4). The data revealed that lecturers relied on didactic teaching methods: lecture (always

used by 57.58%, sometimes used by 42.42%, SD=0.50, *M*=1.42, *p*=0.00) and demonstration (always used by 35.30%, sometimes used by 61.76%, never used by 2.94%, SD=0.54, *M*=1.68) to teach fundamental nursing. Cooper (1982: 45) advocated for the use of demonstration as it gives students the opportunity to practice skills. Lecturers must take cognisance of the fact that researchers have found demonstration effective, three decades ago. Technology has since advanced and writers such as Jeggels *et al*. (2010: 52) said that the lecture-demonstration does not stimulate critical thinking in the learner.

A qualitative study with a content analysis and observation technique was conducted by Razak *et al*. (2013: 46) with first year nursing students at a Malaysian University. A web-based course was developed and students were introduced to it. The researchers concluded that web-based teaching developed cognitive and psychomotor nursing skills, uniformity in the performance of procedures, promoted self regulated learning, encouraged peer group teaching, improved the retention of information and facilitated the recall of embedded knowledge (Razak *et al*. 2013: 52). Although research shows that web based teaching is effective, the current study revealed that web based teaching is never used by a large percentage of the respondents (82.35%; SD=0.39; *M*=2.82).

This is true not only for Fundamental Nursing Science but across all the other subjects as well. Lecturers need to explore web based teaching as they are teaching a technologically savvy generation and should match the learning styles with the choice of appropriate teaching strategies. Razak and Hua (2013: 46) supported the use of web based teaching with first year students, whilst Sung *et al*. (2008: 951) supported the use of a blended approach of the lecture and web based teaching strategy. They taught the administration of medication using this approach.

A historical social study in Brazil and Portugal which investigated the value of simulation for nursing students, found that teaching nurses clinical skills from

rudimentary practices like injecting a pillow to practicing on actual patients and other student nurses, has evolved to the use of simulators. It documented that 10-20% of adverse events that affected patients were due to mistakes on the part of health care workers. Patient safety is thus an integral part of quality nursing care and the ethical and legal rights of all individuals need to be upheld. It is therefore important to move away from nurses practicing procedures, on each other and on patients (Martins *et al*. 2012: 622).

Technology has resulted in the availability of simulators, which nurses can practice on before performing procedures on patients. Low fidelity simulators can be used to practice nasogastric intubation, medium fidelity simulators can be used to identify a respiratory arrest and commence artificial ventilation and high fidelity simulators can be used to identify peripheral and central cyanosis and manage appropriately. Simulation is highly effective when nurse educators design and combine case studies with simulated learning experiences. The use of simulation to teach basic nursing care, therefore enhances the consolidation of knowledge, bridges the theory clinical gap, critical thinking and decision making skills. It is a best practice in nursing education, that ensures the safety of patients and investing in simulators should be taken into consideration (Martins *et al*. 2012: 624). The present study found that simulation is infrequently used (SD=0.68, *M*=2.18) by the participants. It is a teaching strategy that should be used more often as it gives novice nurses the opportunity to practice procedures on manikins thereby ensuring the safety of the patients (Martins *et al*. 2012: 622).

In an endeavour to produce critical thinking nurses, educators at a Chinese nursing institution, created an innovative teaching programme aimed to include the comprehensive aspects of fundamental nursing, with the advantage of ensuring a combination of teaching strategies. A combination of problem based learning, case based study, simulated teaching and role play

were all adopted to teach nursing care to ensure the cultivation of a critical thinking nurse (Xi-wen *et al*. 2007: 39).

Potgieter (2012: 5) advocated for the use of case studies, clinical post conferencing that involves collaborative learning, concept mapping, and dialectical critique by interrogating clinical decisions and peer coaching as part of developing critical thinking amongst nurses in South Africa. The present study revealed that learner centered teaching strategies such as small group discussion (SD=0.36, *M*=1.85), problem based learning (SD=0.56, *M*=2.42), role play (SD=0.56, *M*=2.46) and case studies (SD=0.51, *M*=2.49) are used to a minimum (only always used by 3.03 – 15.15%) amongst the sample.

It can therefore be deduced that there is greater room to increase the use of these student-centered teaching strategies for Fundamental Nursing Science. Simulation is a teaching strategy that can replace the demonstration that is viewed as a didactic teaching method. The use of case studies, problem based learning and small group discussion, are also supported by other national and international studies as they are student centered teaching approaches that stimulate critical thinking (Le Roux and Khanyile 2012: 1 and Horne *et al*. 2007: 107).

Craft (2005: 55) advocated the use of reflective writing, as a means of preparing the nurse for practice. She recommended that this be applied early in a student nurse's training. Reflective writing/thinking was found to be never used by 70.59% (SD=0.46, *M*=2.71) of the sample. It is a strategy that lecturers can consider with their first year students, in order to develop the students' writing skills. Whitely (2006: 67) said that Socratic questioning can be used to facilitate learning of at different levels of training. Bloom's Taxonomy of Learning can be applied to ensure that the correct level of questioning is being used for the level of students. Inquiry/Socratic questioning was never used by 72.73% (SD=0.45, *M*=2.73) of the lecturers teaching Fundamental Nursing Science. During the teaching of Fundamental

Nursing Science, lecturers can prepare and ask knowledge, comprehension and a few application questions, as these are the lower levels of questioning (Cranton 2006 cited in Nickitas 2012: 106).

The other student-centered approaches that the respondents of this study rarely used but should be considered are evidence based studies (SD=0.46, *M*=2.71), narrative styles (SD=0.39, *M*=2.82), community based learning (SD=0.33, *M*=2.88) and portfolios (SD=0.29, *M*=2.91).

5.3.4.2 Anatomy and physiology

In a paper on "Multiple Approaches to Teaching Anatomy" Edgell (2011: 1) identified some of the methods, used by lecturers worldwide to teach this subject area. She felt that although the lecture method was most used, to teach Anatomy, it should be taught by using a variety of teaching strategies, to accommodate the varied learning styles of the learners, as anatomy classes generally have a large number of students. Chang (2010 cited by Edgell 2011: 1) advocated for demonstration as a supplementary teaching method to the lecture method, to teach anatomy. Chase and Geldenhuys (2001 cited in Edgell 2011: 1) wrote that bilingual take home assignments (English and Afrikaans) and small group discussions improved the end of term marks of anatomy students. Kerby, Shukur and Shalhoub (2010 cited in Edgell 2011: 1) found that radiology pictures, computer assisted learning, didactic teaching and the use of models were effective teaching methods. They highlighted that the lecture may therefore not be the most effective method to teach anatomy. They suggested that a multi-modal approach be used to teach anatomy. Sturges, Maurer and Cole (2009 cited in Edgell 2011: 2) concluded that role play was an effective teaching method in anatomy, as it was an interactive teaching method.

Brown (2010: 151) wrote that Process-orientated guided-inquiry learning (POGIL) was introduced to teaching anatomy and physiology in many courses, including nursing, at King's College in Tennessee. The course for

anatomy and physiology was redesigned to replace 50% of lectures with POGIL, which required that students work in small groups. Each member of the group was assigned a role viz. the manager, the scribe, the spokesperson and the librarian. Activities to stimulate critical thinking were included in this teaching strategy and they included flowcharts, feedback diagrams, and illustrations from textbooks, simulated patient charts and graphs. The researcher found that participants who were exposed to POGIL had improved their examination marks as opposed to students who were taught by lectures only. He did agree that some of the anatomy and physiology content is very factual and still needs to be taught by the lecture method (Brown 2010: 154).

Munns (2009: 2) explained that problem based learning, small group work, podcasting, and the use of support learning material such as lecture notes and practical guides posted online will make the learning of anatomy and physiology more interactive. The learning material, would take into consideration the learning styles (audio, visual and kinesthetic) of all the students. The use of these teaching strategies increased the retention of students in this course (Munns 2009: 3).

The present study however found that the most used teaching methods for anatomy and physiology were the didatic lecture (SD=0.50, *M*=1.40), small group discussions (SD=0.48, *M*=1.82), demonstrations (SD=0.72, *M*=2.15) and problem based learning (SD=0.58, *M*=2.56). Student centered teaching strategies that were never used (59.26% - 92.59%), to teach anatomy and physiology, included role play, web based teaching, case based, simulation, evidence based teaching, reflective thinking/journals, Socratic questioning, community based teaching, narrative and portfolios. Their mean values ranged from 2.61 – 2.93.

Although the respondents are using some the student centered teaching strategies, they are in limited use whilst the lecture remains the predominant teaching method. Cliff and Wright (1996: 20) recommended directed case

studies as an effective teaching method to teach junior nurses anatomy and physiology. Respondents should therefore consider shifting the paradigm by increasing the use of the student centered approaches and using a combined approach of teaching strategies to meet the learning styles of a variety of students.

The use of student centered teaching strategies that included problem based learning, role play inquiry learning, group discussions, directed case studies, web based teaching strategies to teach anatomy and physiology were strongly supported by various researchers (Chang 2010; Chase *et al*. 2001; Sturges *et al*. 2009 cited in Edgell 2011: 1; Brown 2010: 154 and Munns 2009: 2). They should therefore be increased in use by the lecturers as it would be valuable in the retention of students.

5.3.4.3 Social Science

Hudacek (2008: 125) explored the collection of stories from 200 registered nurses from the United States, Slovakia, Tokyo, Tekrit, Argentina, Australia and Cuba. Seven dimensions that guide nursing practice emerged from their study of caring practices viz. caring, compassion, spirituality, community outreach, providing comfort, crisis intervention and going the extra distance. Academic scholars suggested that educators use narratives to teach students (Hudacek 2008: 129 and Brown *et al*. 2008: 283). Davidhizar and Lonser (2003: 217) supported the use of narrative pedagogy, to teach other aspects such as culture sensitivity and communication skills. Narrative styles were hardly ever used (SD 0.66, *M*=2.56) in the current study, although it is an effective teaching strategy for social science. The use of narratives should be increased as there are a wide range of newspapers, television programmes, movies and personal experiences of lecturers that can be used to teach certain social science aspects and make learning realistic.

Farrell, Cubit, Bobrowski and Salmon (2007: 429) explained that there are limitations to teaching communication skills, with traditional skills based

models. Some of the limitations of the traditional methods are that nurses communicate poorly with patients as they fail to see patients as unique individuals or may distance themselves emotionally from patients. Nurses learn generic communication skills and cannot adapt them to individual patients and these teaching methodologies can suppress the students' individuality. A web-based learning unit was designed to teach student nurses communication skills online. A large number of students found this teaching method beneficial, relevant, interesting, fun, informative and flexible as they could work at their own pace. Students worked individually, whilst others worked in groups. Challenges that were experienced included the lack of internet access, lack of computers and some students missed the face- to-face contact of lecturers (Farrell *et al*. 2007: 434).

Respondents of the current study rarely used web based teaching (never used by 95.65%, SD=0.20, *M*=2.96) to teach social science. This may be due to a lack of computer resources for both the lecturers and the students, but is an area that needs to be addressed. Although didactic teaching methods were most used, it has been found to be ineffective in teaching social science (Farrell *et al*. 2007: 429). Lecturers should therefore increase the use of web based learning or combine the use of lectures with web based learning in order to meet the generation Y learning styles.

Stephens and Hennefer (2013: 174) introduced Skype, to allow international students to share their experiences regarding the cultural and social differences of the communities that they were serving, with their peers at home. It also allowed face-to-face contact with their lecturers. Ballestas and Roller (2013: 128) conducted a study to investigate the value of placing undergraduate nursing students internationally, to learn transcultural nursing. They concluded that placing students away from their homes, out of the traditional classroom was beneficial in developing their cultural proficiency (Stephens and Hennefer 2013: 132 and Ballestas and Roller 2013: 128).

Van Doren and Vander Werf (2012:48) supported the use of community based learning, as students were exposed to and better appreciated the poverty stricken backgrounds of the clients they nursed. Despite this community based teaching is rarely used by the current sample (never used by 72.73%, SD=0.66, *M*=2.63) to teach social science. This teaching strategy should be increased due to the fact that the students would obtain a more natural view of how community members live and work. It is possible that factors such as limited resources e.g. buses to transport students, accommodation for the students and the geographical location of some of the campuses that may hinder the use of this teaching strategy.

The use of Socratic/inquiry questioning to teach human rights violations were supported by Sorvatzioti (2012: 65). Socratic/inquiry questioning however was never used by 72.73% (SD=0.80, *M*=2.55) of the current sample. This is an economical teaching strategy that does not require equipment and physical resources, it only requires the lecturers to plan questions in advance, based on Bloom's Taxonomy. Lecturers may probably need training in the application of Socratic questioning to facilitate teaching of this subject area.

Shearer and Davidhizar (2003: 73) also recommended the use of role play to teach students communication skills and cultural sensitivity. The sample are using role play to teach social science, extensively (about 87%), (SD=0.60 *M*=1.91). The use of this learner centered approach should be continued and its frequency increased.

Although the didactic lecture was used by a large percentage of the sample (95.45%, SD=0.58, *M*=1.36, *p*=0.00) it has been found to be ineffective, in teaching aspects of social science. Other favoured methods to teach students social science, was small group discussions (SD=0.55, *M*=1.73), problem based learning and demonstration (SD=0.71, *M*=2.14). The teaching methods less favoured were reflective thinking/journals (SD=0.73, *M*=2.63) and evidence based teaching (SD=0.65, *M*=2.68). The least favoured

teaching methods to teach social science, was the case studies (SD=0.60, *M*=2.50), simulation (SD=0.57, *M*=2.68) and portfolios (SD=0.53, *M*=2.77). These are however student centered strategies that would promote critical thinking in students and should therefore be increased.

5.3.4.4 Community Health Nursing

Community based teaching was found to be used less frequently (sometimes used by 64.71%, SD=0.49, *M*=2.35), to teach community health nursing. Hunt (1998 cited in Van Ort and Townsend 2000: 351) stated that community nursing involved caring for individuals, groups and families as they use various health care settings and hence community based teaching is important. Community nursing can take place in home health agencies, schools, cancer centres, maternity clinics, rural health centres, parish nursing, clinics, hospices and outpatient clinics. Community based education can thus assist students to gain knowledge on teenage pregnancy, school health nursing and geriatric care (Van Ort and Townsend 2000: 334; Van Doren and Vander Werf 2012: 46 and Wade and Skinner 2001: 15). Parish nursing enhances the nursing students' knowledge of health promotion and to perform physical, developmental and environmental assessments. This community based placement can also give students the opportunity to conduct research projects and thus learn the research process (Lashley 2006: 234). It therefore should be strengthened in its use in nursing education.

Luthy, Beckstrand, Callister (2013: 12) stated that nursing care requires a paradigm shift, from caring for acutely ill patients in hospitals to caring for large communities in primary health care centres. It therefore makes sense to place student nurses in the community nursing clinical environments, to get experience and skills to provide quality care to community members. Students in Utah were placed to work in rural schools to facilitate the learning process. During this placement they had to conduct a family and a community assessment, identify the needs from each of these assessments,

plan the necessary intervention, implement them and then evaluate the effectiveness of the interventions. On returning to class they shared their experiences with each other. Reflective writing was incorporated into this community based teaching strategy. This took the form of written assignments in which students responded to multiple prompts, which allowed them to later reflect on their experiences. (Luthy *et al*. 2013: 18). Despite this community based learning is used minimally amongst the current sample. There is a need for the students of the KZNCN campuses to be placed in non-traditional settings and be involved in caring for people in their communities. Managers at the KZNCN and campus levels need to forge partnerships with external stakeholders to provide for these learning opportunities.

Craft (2005: 53) advocated for the use of reflective writing to teach student nurses as she herself used it to write about her experiences following her involvement in the care of casualties of a disaster. Reflective thinking/journaling however was never used by 71.43% (SD=0.53, *M*=2.69) although it should be, as it allows the students an opportunity to reflect on their learning experiences. The limited use could be due to limited time for lecturers to examine each student's journal and guide the student to reflect on his/her experiences e.g. their experiences during a disaster or nursing a young child with AIDS.

Simulation is another effective teaching method that ensures patient safety and quality nursing care. It can be implemented to teach history taking, physical examination, data collection and synthesis skills. Disaster nursing can also be taught by simulating disaster situations and allowing students to practice their disaster management skills (Bond, Lammers, Spillane, Smith-Coggins, Fernandez, Reznek, Vozenilek and Gordon 2007: 358). The present sample also used simulation (64.51%) as a medium to teach this subject area, although it is valued it should be increased in use as it allows students to practice procedures safely without harming the patient, especially

performing procedures with children e.g. the administration of immunisation (Billings and Halstead 2009: 160 and Wilford and Doyle 2006:604).

Web based teaching was rarely used (never used by 82.86%, SD=0.38, *M*=2.83) to teach community health nursing, the current study. Lancaster, Mauldin, Gilbertson, Darden and Kittredge (2005: 683) designed a web based course to teach their learners about childhood and adolescent immunisation. This teaching strategy allowed lecturers access a larger number of students and gave students the opportunity to gain access to this learning material anytime and anywhere. This was an interactive course that allowed the students to learn by doing. The teaching content was combined with two other teaching studies that included a combination of clinical case studies and questioning, to allow for the stimulation of critical thinking (Lancaster *et al*. 2005: 683). Steed, Howe, Pruitt and Sherrill (2004: 364) also advocated for the use of web based teaching, problem based learning and table top exercises to teach community health nursing content in groups. The combination of teaching strategies adds value to nursing education and accommodates a variety of learning styles. Web based learning should be integrated as part of a new approach to teach community health nursing, especially as subject content changes rapidly. It can be used as a medium to filter changes to students immediately. Closed discussion groups on face book is one of the social networking sites that lecturers can use to gain easy access to students who are in clinical placements away from the campus.

The current study found that about half of the sample (44.12%, SD=0.65 .*M*=2.35) have never used the case study, to teach community health nursing. It is imperative that lecturers increase its use to produce more critical thinking nurses (Santiprasitkul *et al*. 2007: 1 and Kaddoura 2011: 12). Socratic/inquiry questioning was never used (82.86%, SD=0.55, *M*=2.77) by the sample. It is however a teaching method that also stimulates critical thinking and should ,be used to teach community health nursing from first to third year provided that the lecturer applies Bloom’s Taxonomy of Learning

when preparing questions (Whitely 2006: 67; Billings and Halstead 2009: 253 and Sorvatzioti 2012: 61).

Group work to teach community health nursing, was also recommended by Yang *et al*. (2011: 75). Small group discussions were used by a large percentage of participants in the current study (about 97%, SD= 0.51, *M*=1.74). Lecturers may be more aware of its advantages and perhaps comfortable with it which accounts for its use.

In the United Kingdom there is a move away from didactic lectures to problem based learning (Horne *et al.* 2007: 107). Problem based learning is being used by more than 60% of the current sample, although it is not frequent (SD=0.69, *M*=2.25). Lecturers need to align their teaching strategies with PBL as it is embedded in the KZNCN curriculum (KZNCN 2005: 4).

Callister *et al*. (2005: 59) wrote that students have a negative attitude to learning research. Based on this the academics have changed their teaching strategies, from traditional methods to evidence based approaches. Pugsley and Clayton (2003: 523) added that the lecture method is not suitable to teach research to students. Despite such arguments the current study found that the lecture method was still the most used for community health nursing (97%, SD=0.56, *M*=1.43, *p*=0.00). It would appear then that lecturers are continuing to teach the way they were taught.

Evidence based teaching (never used by 68.57%, SD=0.47, *M*=2.69) was used minimally by the sample. Kirkpatrick *et al*. (2004 cited in Brown *et al*. 2008: 284), however, advocated for the use of narrative pedagogy to teach geriatric nursing care. A teaching method that is never used by a large percent of the sample (never used by 78.79%, SD=0.50, *M*=2.76). This however is a teaching strategy that is cost effective and should definitely be included in the teaching of community health nursing.

Demonstration was used by more than 90% (SD=0.39, *M*=1.82) and role play was used by more than 80% (SD=0.55, *M*=2.06) of the sample. The teaching

method least used to teach this subject area was the portfolios (sometimes used by 17.14%, never used by 82.86%, SD=0.38, *M*=2.83). The reason for the increased use of demonstrations may be due to the lack of simulation manikins and laboratories in campuses. The lack of use of portfolios may be attributed to time constraints to develop tools for marking portfolios, as well as limited time to mark portfolios. It also suggests that there may be a need for capacity building for lecturers on this strategy.

5.3.4.5 Medical and Surgical Nursing

Stone *et al*. (2013: 1) described classroom lecture learning, as a passive teaching strategy. Baghcheghi *et al*. (2011: 5) found in their study that those who were exposed to the traditional classroom lecture, were silent listeners who play an inactive role in the learning process and advocated for nurse lecturers to adopt a more learner centered teaching approach. In contrast the current sample, had a high preference for the didactic lecture method (SD=0.55, *M*=1.49, *p*=0.00) even with medical and surgical nursing. Researchers who support the value of lectures, do so on condition that the lecture is made interactive by including other teaching strategies (Morris 2009: 67; Brawer *et al*. 2009: 1 and Kumar 2003: 20).

A comparative study conducted at Emroy University in Atlanta investigated the advantages of PBL as opposed to the lecture method of teaching. The sample consisted of senior undergraduate nursing students who were divided into a traditional group (n=78) who received instruction on diabetes mellitus and renal insufficiency via the didactic lecture and a PBL group (n=91) who were divided into smaller groups and were taught the same diseases using a PBL approach. On completion of the instruction, the students all wrote an identical test, consisting of questions that covered both medical conditions and the questions were based on Bloom's taxonomy (Zhang 2014: 2).

The study revealed that the PBL group answered 3.19 questions on diabetes incorrectly and the traditional group answered 4.76 questions incorrectly. The

questions on renal insufficiency that was missed by the PBL group was 4.54 and those missed by the traditional group were 2.94. The researcher concluded that both groups answered the questions on diabetes, better than the renal impairment questions and attributed it to the fact that all the students nursed more patients with diabetes and therefore had more knowledge on this disease. PBL thus stimulated the application of knowledge.

Zhang (2014: 4) recommended that more didactic methods such as the lecture and case studies, be used to teach subjects that require fundamental knowledge. The more common and less complicated diseases should be taught with a PBL approach, as it required the application of information. PBL is an effective teaching strategy in teaching students in acute nursing care units as it allowed the students to bridge that gap between theory and practice (Ehrenberg and Haggblom 2007: 72; Hwang and Kim 2006: 318 and Niemer *et al*. 2010: 73).

Chan (2012: 21) adapted her PBL classroom to include role play as she was of the view that role play took into consideration the visual, auditory, read/write and kinesthetic (VARK) learning styles of her students. The researcher drew up PBL scenarios that were related to medical conditions and required the application of fundamental nursing science, emergency care and medical and surgical nursing. The participants of the study worked in small groups as they achieved their allocated tasks. The students developed their role plays, by taking into consideration the socio-cultural aspects of the patients that they nursed. The researcher concluded that this combined teaching methodology promoted critical thinking and creativity (Chan 2012: 21).

PBL however was never used by 42.5% (SD=0.62, *M*=2.35) of the current sample. It can stimulate critical thinking, afford the students the opportunity to bridge the gap between theory and practice, enhance their ability to make nursing diagnoses rather than use the doctor’s diagnosis and improves their

problem solving skills (Billings and Halstead 2005: 252; Badeau 2010: 252 and Niemer *et al*. 2010: 70). It is therefore a teaching approach that should be used more often by lecturers both in this study and in other nursing education institutions. Although role play was less frequently used to teach medical and surgical nursing (sometimes used by 60.98%, SD=0.49, *M*=2.39), it helps build the students' confidence, improves assertiveness and the expression of feelings and should be strengthened as a teaching method (Shearer *et al*. 2003: 273).

Swanson, Nicholson, Boese, Cram, Stineman and Tew (2010: 1) conducted a comparative study of three teaching strategies viz. case based learning, simulation and simulation with narrative pedagogy to teach second student nurses (n=144) the care of a patient with cardiac disease. The aim was to evaluate their effectiveness with regards the retention of knowledge amongst the three groups. Initially all students received instruction via a didactic lecture and had to complete the contents of a study guide. The case based learning group then worked in small groups on a case scenario of a patient, with a myocardial infarction. The second group of participants was exposed to simulation with the use of high-fidelity manikins, that imitated the clinical signs and symptoms of a patient with a myocardial infarction and the students practiced specific nursing care on these manikins. Simulation with narrative pedagogy was used to teach the last group of participants, which included mutual communication between the lecturers and students, whilst the students practiced on the manikins (Swanson *et al*. 2010: 4).

The researchers concluded that all three groups of students demonstrated an improvement of performance of nursing interventions and an improvement in the retention of information. The students in the simulation with narrative pedagogy scored a higher mean (*M*=71.48), followed by the case study (*M*=67.43) and the simulation group (*M*=67.66) groups. All the teaching strategies are interactive in nature with high fidelity manikins thus engaging the students actively in learning (Swanson *et al*. 2010: 8). This suggests the

importance of utilising blended teaching methodologies to teach medical and surgical nursing.

In spite of the value of case based studies the current sample hardly use it (SD-0.61, *M*=2.14). There are lecturers who have never used this teaching strategy. Simulation is a strategy that is interactive in nature and engages students actively in learning, but is used less often in this discipline (never used 40.91%, SD=0.61, *M*=2.34). Simulation as well, is a teaching strategy that allows students to develop critical thinking and practice psychomotor skills in a safe learning environment without jeopardising patient safety (Billings and Halstead 2009: 160; Wilford and Doyle 2006: 605; Alinier, Hunt, Gordon and Harwood 2006: 16; Howard *et al*. 2010: 43 and Swanson *et al*. 2010: 3). It should therefore be adopted more often, by lecturers teaching medical and surgical nursing. The lack of use of this teaching methodology may be attributed to a lack of resources such as high fidelity simulation manikins.

Mathibe (2006: 247) adopted an innovative and creative teaching strategy, to teach cytotoxic drugs as she felt that the lecture method was too tedious and boring. She used an autobiography by the world renowned cyclist Lance Armstrong to teach third year Bachelor on Nursing students (n=25) about cytotoxic drugs. The autobiography inspired their interest in cancer drugs and 84% agreed/strongly agreed that this teaching strategy enhanced their knowledge of these drugs. The researcher concluded that lectures, teamwork and seminars were not popular for teaching this subject area (Mathibe 2006: 252).

Narrative styles are least used to teach medical and surgical nursing in the current study, (never used by 73.81%, SD=0.45, *M*=2.74). It should be considered more often, as it allows for the sharing of experiences, by lecturers, students and clinicians, encourages critical thinking and improves reflexive thinking skills (Billings and Halstead 2009: 218; Brown *et al*. 2008: 283 and Kawashima 2005: 168).

E-learning or web based teaching as in other subjects was found to be the least favoured teaching strategy for this subject (never used by 90.24%, SD=0.30, *M*=2.90). It however would enable learners, who are placed in clinical placement areas away from campuses to readily access information that may have previously been downloaded. Abdelaziz (*et* al. 2011: 53) advocated for the use of e-learning to teach student nurses medicine and surgery, as it had allowed participants of their study to gain a deeper knowledge of cardiac disease. Portfolios are very rarely used in teaching medical and surgical nursing in the current sample (never used by 85.36%, SD=0.44, *M*=2.83). Portfolios in the written or electronic formats however should be increased in teaching medical and surgical nursing, as it would prepare students for evidence based practice and encourage them towards self-directed learning (McMullan 2006: 337).

Hanson and Renaldi Carpenter (2011: 272) documented that cooperative learning in groups enriches the students' learning process, due to the diversity of the group members. This teaching strategy is important as it addresses the learning styles of the millennial student. Stone *et al*. (2013: 70) found that peer learning in groups, promoted the effective utilization of limited resources and the social interaction and collaboration between students improved the learning curve, thereby allowing students to gain more knowledge than they would have on their own. The current study found that small group discussion was most used (always used 31.71%, sometimes used 68.29%, SD=0.47, *M*=1.68). There should be a continuous use of this method for the reasons stated above.

Adib-Hajbaghery and Aghajani (2011: 4) in his study noted that the inclusion of Socratic questioning in medical and surgical nursing lectures, improved students' satisfaction and involvement in the learning process. Socratic/inquiry questioning however was being used by less than 50% of the lecturers, teaching medical and surgical nursing in the current sample (SD=0.75, *M*=2.51).

Demonstration (SD=0.43, *M*=1.91) was used more often to teach medical and surgical nursing as opposed to the student centered teaching strategies of reflective thinking/journals (SD=0.68, *M*=2.53), evidence based (SD=0.63, *M*=2.59), and community based learning (SD=0.57, *M*=2.68). The demonstration is viewed as a didactic teacher centered approach that promotes rote learning by the students (Jeggels *et al*. 2010: 52). The trend across the subjects with the use of the demonstration could be due to the lecturers' familiarity with this teaching strategy as well as a lack of resources to implement simulations. Demonstrations could be replaced with video casts that have a recorded version of the lecturer performing procedures. This would give the students an opportunity to watch the procedure several times and they may even pause it and rewind it. The lecturer may even convert this video cast to web based teaching by downloading this content on You Tube. Student centered teaching strategies that are effective in teaching medical and surgical nursing as discussed above are problem based learning, small group discussions, role play, case based learning, simulation, narrative pedagogy and web based learning.

5.3.4.6 Ethos and Professional Practice

The present sample also favoured the use of the lecture method to teach ethos and professional practice (SD=0.52, *M*=1.50). Ethos and professional practice prepares the nurse to function, as an independent practitioner that requires her to make sound decisions. It is therefore imperative that at this level of training, students are exposed to more self-directed learning centered teaching approaches that would better prepare them for practice.

Gropelli (2010: 104) explained that nurses are faced with issues daily, which require them to make critical decisions whilst having limited resources at their disposal. In an endeavour to teach student nurses ethical decision making, the researcher applied active simulation with a focus on role play. A mock ethics committee, was formed and students were divided into two groups. One group served as committee members and the second group served as

family members, patients and doctors. A scenario involving an ethical issue was given to the ethics committee to review the issue at hand and apply an ethical decision-making model. The second group had unscripted roles and became emotional. This teaching strategy assisted the students to think about ethical issues, apply ethical-decision making models and improved communication (Gropelli 2010: 105). Simulation is a valuable teaching strategy in the teaching of ethos and professional practice, as it promotes the development of clinical decision-making (Howard *et al*. 2010: 43 and Parsh 2010: 569). The discussion above suggests that group work, simulation, role play and problem based learning are important ways to teach ethics in nursing.

Whitehair and O'Reilly (2010: 1059) also supported the use of problem based group learning and role play to improve critical thinking in nurses. Students worked in groups in simulation laboratories, to solve comprehensive patient problems that were presented to them in scenarios. During the role play one team member played the role of the registered nurse, who was responsible for the execution of patient care, perform technical skills, assess and keep records. Group work was important as professional nursing practice, requires that nurses work within a multidisciplinary team. The students felt that this teaching strategy, prepared them for professional practice and it helped them develop the confidence to solve problems in a safe environment (Whitehair and O'Reilly 2010: 1065). Teaching small groups of learners various aspects of ethics was also recommended by other researchers (Stoner *et al*. 2013: 7 and Hanson and Renaldi Carpenter2011: 272).

It was important then to note that the current sample are also using learner centered teaching strategies such as small group discussion (SD=0.54, *M*=1.79), problem based learning (SD 0.71, *M*=2.21), role play (SD=0.58, *M*=2.32) and simulation (SD= 0.60, *M*=2.40). Although less frequently used than the lecture it must be increased, ethos and professional practice content is taught in the third year of nursing and therefore these are senior students

who have cumulative knowledge and have developed certain nursing skills and are in a position to apply information.

Epp (2008: 1380) also advocated for the use of reflective journaling bridging the theory practice gap. Riley-Doucet and Wilson (1997 cited in Epp 2008: 1385) used reflective writing as a teaching strategy, to get students to analyse critical incidents. Jasper (1999 cited in Epp 2008: 1386) found that reflective writing was valuable in helping students to develop their confidence and decision making skills. Pierson (1998: 169) explained that reflective writing provides an opportunity for students to think about their actions in clinical practice and consider the consequences. In so doing students would be able to look at their actions from a different perspective and gain renewed respect for their patients. Reflective thinking/journals are hardly used by the current sample (SD=0.68, M=2.57). Although time consuming is a method that educators must adopt to teach students to reflect on their practices and to be accountable for their acts and omissions. The student at this level is preparing for professional practice and thus reflective journaling will assist him/her with making sound decisions based on best practice and also assist in the development of problem solving skills.

Dinc and Gorgulu (2002: 261) conducted a study at a University in Turkey to investigate case based learning, as a method of teaching basic ethics and to improve ethical decision making in second year student nurses. Students were taught with formal lectures, question and answer sessions and case studies, which they worked on in small groups. Students themselves compiled the case studies with ethical problems. They then presented their cases to the class and a discussion followed. The researchers concluded that case studies were valuable in teaching ethics; it made it easier for students to understand theories underpinning nursing ethics and improved the ethical decision making skills of the students (Dinc and Gorgulu 2002: 263). Malesela (2009: 37) a South African scholar, added that case studies assist students to work within a multidisciplinary team. Le Roux and Khanyile (2012:

8) went on to say that traditional teaching methods do not sufficiently prepare the nurse, for professional practice and therefore advocated for the use of case based learning. Case based studies are however used moderately (SD=0.68, *M*=2.37) by the current sample. Nurse educators should therefore implement case studies for the benefits mentioned in the above discussion.

Evidence based teaching is rarely used (SD=0.61, *M*=2.58), by the current sample in spite of the fact, that the third year student nurses should be encouraged to base their practice on evidence. International studies support the use of the learner centered teaching strategies, discussed above for ethos and professional practice (Gropelli 2010: 104; Whitehair and O'Reilly 2010: 1059; Epp 2008: 1380; Sorvatzioti 2012: 65; Nickitas 2012: 107; Callister *et al* and Dinc and Gorgulu 2002: 263). As in the other subjects the lecture is the predominant teaching strategy to teach senior students ethos and professional practice. Although lecturers are using some of these teaching strategies, a large percentage of them have never used these methods in the teaching of ethos and professional practice. More lecturers should consider using them as they are interactive teaching strategies that help bridge the theory practice gap and they should also explore the use of other student centered teaching methods (Woods 2004: 9).

5.3.4.7 Midwifery

The current study found that lecture the method is a highly favoured teaching method to teach fourth year midwifery students (SD=0.49, *M*=1.36). This teaching strategy encourages the student to be a passive listener which contradicts the requirements of critical thinking. Critical and creative independent nurse practitioners, working with women and children are a fundamental requirement if South Africa is to achieve MDG 4 and 5. A study by Ghafourifard *et* al. (2013: 12) found that the lecture teaching method was not as effective as other methods in teaching midwifery content. Lubeck *et al*. (2013: 112) supported this and affirmed that the didactic lecture was being

replaced by more student centered evidence based teaching strategies to teach midwifery.

Mehrdad, Zolfaghari, Bahrani and Eybpoosh (2011: 297) conducted a study to compare the effect of lectures and e-learning on Iranian third year (n=32) maternal and child nursing students. The students were first given lectures for four weeks and were allowed to have discussions with the lecturer and fellow students during class sessions. The students then spent the next four weeks learning through e-learning programmes. There were no significant differences in the test scores for content taught by lectures and that which was learnt through e-learning. The researchers found that students developed a deeper understanding of subject content learnt through e-learning and their independence also improved as they took responsibility for their own learning. They however reported a higher preference for the traditional lecture as a better method of teaching and learning activity. The researchers attributed this to the fact, that students were new to e-learning and had received all previous learning through the traditional lecture (Mehrdad *et al*. 2011: 299). It is important to note that Iran is a developing country and so the lesson can be applied to South Africa.

In contrast to the lecture, web based teaching is the least used teaching strategy, (never used by 86.67%, SD=0.35, *M*=2.87) to teach midwifery in the present study. This is despite the fact that it does have value in the teaching of midwifery, as it would encourage students to gain a deeper understanding of the subject content and allow them to work independently. If e-learning is introduced early in the nursing programme, it may be better accepted by student nurses as students become indoctrinated, by the lecture if is the prominent teaching method from the first year of training (Mehrdad *et al*. 2011: 299).

The Catholic University in Ruzomberok requires their obstetric students be critical, flexible and creative thinkers, who will be capable of independent decision making (Kaducakova 2007: 11). In order to achieve this, lecturers

need to use problem solving teaching, group teaching and problem solving group teaching. Problem based teaching/learning would assist students to have long term retention of information. Solving problems in groups encourages them to share ideas, opinions and solutions. Problem solving group teaching has therefore been described as one of the modern elements in the process of teaching. These teaching methods can lead midwifery students to independence, creativity, respect, self-discipline, responsibility and the sense of duty and be able to bridge the theory practice gap (Kaducakova 2007: 17 and Rowan *et al*. 2007: 137). Despite the value of problem based learning it was rarely used (SD=0.67, *M*=2.13) by the current sample and should be more strongly utilised as a teaching approach to teach midwifery. It is recommended that lecturers form working groups with clinical specialists to design problem scenarios for teaching midwifery. A lack of training and the availability of clinical scenarios may be hindering the increased use of problem based learning.

The current study also found that small group discussions was used to teach midwifery, even though some lecturers may be using it less frequently (SD=0.45, M=1.74). Lubeck *et al*. (2013: 114) also supported the use of group discussions to teach midwifery.

Simulation was used by some lecturers, to teach midwifery (never used by 38.71%, SD=0.75, *M*=2.19). The use of this teaching method was supported in a pilot study, conducted at an Australian University. Thirty two students participated and were divided into a control group who were taught with didactic lectures and an experimental group, who used simulation based learning with case studies. Both the groups were taught normal labour and physiological jaundice of the newborn. A post test was used to evaluate the effectiveness of both these teaching strategies, in the development of decision making skills by the participants. The researchers concluded that the respondents exposed to simulation were able to reach clinical decisions faster and had a higher degree of competence than the control group (Cioffi,

Purcal and Arundell 2005: 133). Birch *et al*. (2007: 920) also found the use of simulation effective, in the teaching of the management of obstetrical emergencies. A lack of the appropriate equipment and simulation laboratories may hinder the use of simulation. It is therefore required that lecturers be creative and use equipment at their disposal to simulate learning experiences for midwifery students.

The current study found that case based studies were used by more than 60% of the participants (SD=0.65, *M*=2.10) to teach midwifery. It is however important to note that about 25.81% have never used case studies to teach midwifery despite it being a potentially creative way to teach the subject. The use of cases to teach midwifery was also supported by Ghafourifard *et al* (2013: 10), lecturers should therefore benchmark with other campuses, institutions and colleagues in clinical practice and design effective cases as a means to increase the frequency of this learner centered teaching strategy.

Fullerton, Johnson, Thompson and Vivio (2010: 20) conducted a mixed qualitative and quantitative assessment in Ethiopia, Ghana and Malawi to evaluate quality considerations in midwifery pre-service education. These three countries offer midwifery training programmes, which are similar to that of South Africa and experience similar problems with regards to limited clinical placement areas for midwifery students. In order to accomplish the millennium development goals to reduce maternal and child morbidity and mortality rates these countries needed to strengthen their midwifery training programmes. Teaching strategies used were the traditional lecture, limited group work and module-based self study. It was recommended that to improve the quality of the midwife, more innovative teaching strategies needed to be adopted. The teaching strategies recommended were web based teaching, evidence based learning, seminars, debates, and problem based learning. It was also recommended that the management of obstetrical emergencies should be demonstrated to students and they should be

allowed to practice these skills on simulation manikins (Fullerton *et al*. 2010: 5).

The present study revealed that the respondents see the value of evidence based teaching (SD=0.77, *M*=2.10), as some of them have adopted this teaching strategy to teach midwifery. There is however room to improve the frequency of its use. Capacity building of lecturers may be necessary in order to ensure that lecturers become comfortable and creative with new methodologies.

Other teaching strategies that were used by the respondents of the current study are the demonstration method (SD=0.48, *M*=1.66), role play (SD=0.69, *M*=2.16) and community based learning (SD=0.75, *M*=2.32). The least used teaching methods were reflective thinking/journaling (never used by 60%, SD=0.68, *M*=2.50), Socratic/inquiry questioning (never used by 66.67%, SD=0.68, *M*=2.57), narrative styles (never used by 76.67%, SD=0.43, *M*=2.77) and portfolios (never used by 96.67%, SD=0.37, *M*=2.93). Some of the learner centered teaching strategies are being minimally used by the current sample and should be explored to produce critical thinking midwives. Raisler, O'Grady and Lori (2003: 402) advocated for the following learner centered teaching strategies that stimulate critical thinking such as community based teaching, reflection journaling and evidence based practice. These are teaching strategies that can be aligned to teaching midwifery and therefore should be given more consideration by lecturers teaching midwifery.

5.3.4.8 Psychiatry

Bhui, Warfa, Edonya, Mckenzie and Bhugra (2007: 1) reviewed literature on cultural competency training, as a means to improve mental health care for the various ethnic groups. Most studies reviewed took place in North America and identified case studies, conferences, narratives, interactive lectures, small group discussions and role play as teaching strategies, that were most

effective to teach health care workers how to care for patients from culturally diverse backgrounds, in mental health care institutions (Frusti, Niesen and Campion 2003; Kim-Godwin, Clarke and Barton 2001 and Hadwiger 1999 cited in Bhui *et al*. 2007: 4). They concluded that the lecture method allows for a large amount of information to be taught in a cost effective manner and case studies allows for interaction and the sharing of information. Role plays helped the students reveal attitudes and behaviours that may be concealed with other teaching/learning methods. Videos also provide the opportunity for feedback and to create awareness of non-verbal communication (Bhui *et al*. 2007: 8).

The current sample was found to be using most of the teaching strategies mentioned above. Small group discussions seem to be a favoured teaching strategy (SD=0.61, *M*=1.72) followed by case based studies (SD=0.78, *M*=2.21), and narrative styles (SD=0.57, *M*=2.64). Narrative styles could be a cost effective method of teaching as the lecturer can use her own clinical experience, to teach students how to manage certain conditions in the mental health care user.

Horne *et al*. (2007: 103) studied the effectiveness of problem based learning in small groups, in various nursing disciplines that included mental health care. They concluded that although PBL is more effective than the lecture method, the lecture can be used at intervals with PBL to benefit the students who cannot grasp the information from PBL scenarios. Although the participants of the current study are using problem based learning (*M*=2.24, SD=0.72) to teach psychiatric nursing, there is room for greater improvement of its use in nursing education.

A study by Dawood (2013: 38), at Menofyia University in Egypt, supported the use of role play to teach student nurses (n=139) psychiatric nursing. She found that 74.8% of respondents' chose movie/video as their most favoured teaching method, role play (69.1%) was the second teaching method of choice, followed by the lecture method (57.6%) and demonstration (51.1%).

The participants felt that role play assisted them to develop self confidence, improved their psychiatric knowledge, their attention span and communication skills. Dawood (2013: 46) concluded that role play was an effective teaching strategy for psychiatric nursing, as it stimulated critical thinking, improved communication skills and prepared the students for clinical practice. The participants had a preference for the learner centered teaching approaches, as opposed to the didactic teaching strategies such as the lecture and demonstration (Dawood 2013: 46). Christoffersen, Barron, Lynch and Harlene (2010: 576) concurred saying that role play encouraged active learning and stimulated the students to think critically in real time. They added that role play through workshops, allowed students to take chances in a safe environment and addressed generational gaps between students and lecturers. The current sample saw the value of role play, as it has been used by more than 70% (M=2.00, SD=0.71). It would appear then that nurse educators are on par with their counterparts abroad with regard to certain teaching methodologies.

Sleeper and Thompson (2008: 3) used a high fidelity simulation manikin, with a vocal function to teach student nurses how to communicate with a patient who is depressed and suicidal. The researchers designed a scenario algorithm and recorded it, so that the inputted responses of the “patient” are vocalized by the simulation manikin. As soon as the nurse gave three incorrect responses, the manikin would automatically switch off. This teaching method was tested on two lecturers and two student nurses. The first lecturer did not have any experience in nursing psychiatric patients and the second had extensive nursing experience nursing mentally ill patients. The researchers supported the use of simulation, as respondents felt that the simulated experience was very “real”, it allowed the students to apply the skills that they learnt in the classroom and the simulation laboratory to clinical practice and it allowed for immediate feedback. This teaching method also assisted in reducing the anxiety levels of the students and the students could also learn from each other by observing their peers practice (Sleeper and

Thompson 2008: 10). Despite these benefits as with other subjects was less frequently used by the current sample (*M*=2.40, SD=0.71) and this could be due to a lack of the appropriate simulation models. This could be attributed to a lack of the appropriate simulation models and suggests the need for appropriate training to prepare educators to use diverse methodologies.

The current study found that 100% of the sample (*M*=1.36, SD=0.49) had used the lecture method at some time to teach psychiatric nursing content. The use of the lecture is supported by Bhui *et al*. (2007: 8) to teach a large amount of information. Horne *et al*. (2007: 103) supports the intermittent use of the lecture and Dawood (2013: 46) found that the lecture and demonstration were the least favoured teaching strategies by the students who participated in her study. The participants of the present study are also using the demonstration (*M*=2.00, SD=0.65).Lecturers must shift the paradigm from these rigid instructional teaching strategies to more interactive teaching strategies in psychiatric nursing.

Other teaching strategies that are being used by the respondents, of the current study, to teach psychiatric nursing, although to a lesser degree, are evidence based learning (*M*=2.52, SD=0.77), community based learning (*M*=2.52, SD=0.71), Socratic/inquiry questioning (SD=0.70, *M*=2.64), portfolios (*M*=2.88, SD=0.33) and web based teaching (*M*=2.80, SD=0.41) as with other subjects it was found that these student centered strategies are not well used by the lecturers. These findings indicate that there are lecturers who are using learner centered teaching approaches minimally and with support from each other there can be an increase in the use of these methodologies.

5.3.4.9 Teaching strategies used to teach HIV and AIDS

The study found that the lecture method again (*M*=1.55, SD=0.54) was the most frequently used method to teach the HIV/AIDS course. As has been articulated by Alexander *et al.* (2002 cited in Kamath and Udayakiran 2014:

18) the lecture method of teaching encourages students to be passive recipients of information and prevents them from thinking critically. Kamath and Udayakiran (2014: 19) investigated the effectiveness of participatory learning activity cum lecture method to teach students HIV/AIDS subject matter at an Indian University. The researchers included group discussions, timeline, concept mapping, role play and then the lecture method during teaching sessions. They concluded that the participatory learning activity was an effective method of teaching as students produced better outcomes which is imperative in outcomes based education for nursing. The lecture could be made a highly effective teaching method if it also included participatory learning activities (Kamath and Udayakiran 2014: 21). This is perhaps where the current sample can extend the lecture method to become more creative with this subject.

The present study revealed that small group discussions (*M*=1.63, SD=0.58), role play (*M*=1.86, SD=0.68), problem based learning (*M*=1.97, SD=0.72), demonstrations (*M*=1.93, SD=0.62) and case based learning (*M*=2.31, SD=0.81) were also using teaching methods that were also used by the current sample. The use of these teaching strategies was also supported by Knebel, Puttkammer, Demes, Devirois and Prismy (2008: 1) who advocated for the use of large group discussions, case study and role play to teach HIV/AIDS subject content to nursing students in Haiti. Davhana-Maselesele, Tjallinks and Norval (2001: 4) also recommended the use of a problem based curriculum with teaching strategies such as problem based learning, small group discussions, role play and case presentations to teach subject content such as HIV/AIDS that is included in the community health nursing discipline.

Other teaching strategies adopted by the spondents of this study to teach HIV/AIDS but to a lesser degree are simulation (*M*=2.24, SD=0.77), community based learning (*M*=2.53, SD=0.74), reflective thinking/journals (*M*=2.74, SD=0.67), and narrative styles (*M*=2.71, SD=0.63). The use of community based placements was supported by Knebel *et al*. (2008: 5) and

Davhana-Maselesele *et al* (2001: 7). Capacity building of lecturers in these teaching strategies would assist them to apply these strategies to this subject discipline.

Learner centered teaching strategies that were used minimally by the current sample are evidence based learning (*M*=2.66, SD=0.63), Socratic/inquiry questioning (*M*=2.77, SD=0.63), portfolios (*M*=2.89, SD=0.57) and web based learning (*M*=2.95, SD=0.45). Although the lecturers in the KZNCN campuses are using learner centered approaches to teach the HIV/AIDS subject content, they are using them to a very minimum as is evidenced by the mean values for each of the teaching strategies.

5.3.4.10 Teaching strategies used to teach the Integrated Management of Childhood Illnesses (IMCI)

Lecturers (n=47) teaching IMCI in the KZNCN campuses adopt a variety of teaching strategies to teach this subject, they include small group discussions (*M*=1.72, SD=0.83), problem based learning (*M*=1.83, SD=0.79), case based studies (*M*=2.00, SD=0.86), role play (*M*=2.00, SD=0.81), simulation (*M*=2.23, SD=0.84), demonstration (*M*=1.89, SD=0.69) and the lecture method (*M*=2.02, SD=0.82).

The use of the above teaching strategies by the participants of this study, is aligned with the World Health Organisation's (2001: 59) recommendations that problem based learning, case studies, role play and simulation be adopted to teach the IMCI course content, although it appears to be used to a lesser degree. Fujimori, Higuchi, Cursino, De La O' Ramallo Verissimo, Borges, de Mello, Nascimento, Behn and Wilson (2013: 657) in a Brazilian study found that the active teaching method of case studies was being used to teach IMCI. They also however found that the didactic lecture method of teaching, was the predominant teaching strategy. The use of the lecture to teach IMCI is not a common practice by the participants of the current study. Another study by Harrison, Montenegro, Malvares, Astudillo, Behn,

Bertolozzi, Chiesa, Espinoza, Fujimori, Harper, Orellana, Saenz, Sigaud and De La O' Ramallo Verissimo (2008: 3) found that faculty members in Brazil designed laboratory simulation activities to teach IMCI content. A South African study by Horwood, Voce, Vermaak, Rollins and Qazi (2009: 4) deduced that practicing nurses found case study presentations, by the facilitators, group discussions and role play effective teaching methods for IMCI.

Other teaching strategies that were used by the sample to teach IMCI are community based learning (*M*=2.49, SD=0.83), reflective thinking/ journals (*M*=2.64, SD=0.82), evidence based learning (*M*=2.62, SD=0.68) and narrative style (*M*=2.70, SD=0.69), Socratic/inquiry questioning (*M*=2.83, SD=0.67), portfolios (*M*=2.89, SD=0.69) and web based teaching (*M*=2.94, SD=0.57). The use of community based learning, evidence based learning and web based learning to teach IMCI was also supported by other researchers (Fujimori *et al*. 2013: 658 and Harrison *et al*. 2008: 3). These researchers found that placing students in clinics, day care centres, and schools, home based clinical sites and kindergartens provided invaluable learning experiences for student nurses. They also felt that the use of videos, CD-ROMS and the introduction of IMCI Computerised Adaptation and Training Tool (ICATT) would make IMCI teaching more learner centered.

Although IMCI lecturers in KZNCN are using some innovative teaching strategies to teach, there is still room for improvement in the use of these strategies. As the mean values for these teaching strategies range from 1.72 - 1.89, which tend towards "sometimes" used and the mean values of most of the strategies range from 2.00 - 2.94 which tend towards "never" used.

5.3.4.11 Conclusions drawn about teaching strategies used to teach subjects in the R. 425 programme

From the discussions above the researcher can thus conclude that more than half of the sample, of this study, highly favour the use of the lecture method

of teaching, to teach all the subject areas of the R. 425 curriculum as indicated by the mean values (1.36 - 1.50). Followed by small group discussions (1.68 - 1.85), the demonstration (1.66 - 2.32) and role play (1.91 - 2.75). The researcher also noted that some lecturers are adopting some learner centered teaching approaches to teach certain subjects and therefore has deduced that creative lecturers would be able to apply all learner centered teaching strategies across all subject areas. As the majority of lecturers are a mature sample it is noted that they prefer using the lecture to teach across all subjects, it is therefore important they include other activities in the lecture to make it more interactive.

5.3.4.12 Teaching strategies used to teach the R 2175, R 2176 programmes

The R 2175 and R 2176 nursing programmes will not be discussed in detail, as there are fewer lecturers involved in teaching these courses and all ten campuses are not involved in the training of nurses regarding these programmes. In campuses that offer these nursing programmes, lecturers are often involved in teaching in more than one programme.

The subjects that are taught in these two nursing programmes include nursing care, anatomy and physiology, social science, comprehensive health care, medical and surgical nursing and ward organisation. These subjects are also taught in the R 425 curriculum but in more detail than the R 2175 and R 2176 curricula. The lecture method (*M*=1.18 - 1.62, SD=0.40- 0.51) of teaching is highly favoured for these subject areas and is followed by small group discussions (*M*=1.70 - 2.19, SD=0.46 - 0.60,), demonstration (*M*=1.80 - 2.53, SD=0.53 - 0.83) and role play (SD=0.41 - 0.71, *M*=1.91 -2.80).

The least used teaching strategies for these two nursing programmes are simulation (SD=0.48 - 0.83, *M*=2.19 - 2.63), Socratic/inquiry questioning (*M*=2.36 - 2.92, SD=0.28 -0.92), reflective thinking/journals (*M*=2.45 - 3.00,

SD=0.00 - 0.93) and problem based learning (*M*=1.89 - 2.60, SD=0.51 - 0.69).

Teaching strategies that are rarely used to teach these two nursing programmes are portfolios (*M*=2.64 - 3.00, SD=0.00 - 0.81), community based learning (*M*=2.45 - 2.94, SD=0.25 - 0.82), narrative styles (*M*=2.81 - 3.00, SD=0.00% - 0.65%), case based studies (*M*=2.29 - 2.75, SD=0.45 - 0.65,) and web based teaching (*M*=2.87 - 3.00, SD=0.00-0.35).

These nursing courses allow the nurses to obtain a certificate in nursing as opposed to the R 425 programme whereby the students obtain a Diploma in Nursing (SANC 1985: 1). Mkhwanazi, Potgieter and Durrheim (2007: 110) in a South African study concurred with the findings of the current study that the didactic lecture and small group teaching are the predominant teaching methods used to teach content for the R 2175 curriculum. She found that case studies are used minimally as per the current study. She recommended that case studies be increased in use as it stimulates critical thinking and it will allow the nurses to progress from complete dependence to independence. It is evident that all the other innovative teaching strategies are rarely used by the participants of the current study as the mean values of most of these teaching strategies are greater than 2, which tend towards “never” used. The researcher therefore recommends that the lecturers apply and adapt similar teaching strategies that they use to teach the R 425 students.

5.3.4.13 The R 683, R 212 and R 254 nursing programmes

The above 3 programmes will not be discussed as less than 45% of the total number (n=163) of respondents are involved in teaching these programmes. The majority of these subject areas are included in the R 425 curriculum. A comparison of the teaching strategies used between all the nursing programmes is out of the scope of this study.

5.4 Assessment of the level of training of students and the assessment of learning styles

More than 85% of the 163 respondents assessed the level of training of their students before they chose a teaching strategy and more than 80% assessed the teaching styles of their students at some stage (either always or sometimes). Kolb and Kolb (2005: 19); Mashaba and Brink (1994: 151); Svinicki and Dixon (1987: 141); Yildrim *et al*. (2011: 129) and Salehi and Shahnooshi (2007: 86) support the assessment of the level of training and learning styles before choosing a teaching strategy, as one would be able to have an insight into the cumulative knowledge and the experience that the students' have. The lecturer would also be able to match her teaching style to the learning styles of the students. In spite of a large percentage of respondents assessing the level of training and learning styles of the students the lecture method was still the most favoured of all the teaching strategies for all the subject areas. Cercone (2008: 140) argued that the assessment of learning styles is important as it allows the educator to see how the learner approaches a learning task and it would motivate students to learn if they understood their own learning style.

5.5 Availability of a tool to assess the learning styles of students

The majority of the respondents (87.1%) stated that there was no tool available to assess the learning styles of the students. In order to choose the appropriate teaching strategies, it is imperative to know the learning styles of the students (Salehi and Shahnooshi 2007: 86). Meehan-Andrews (2009: 24) strongly recommended that nurse educators adopt and design tools to assess learning styles of their students, as that would assist the lecturers choose the appropriate teaching strategies. There is a need for a standardised learning style assessment tool to be introduced to the lecturers of the KZNCN campuses, so that once the lecturers assess the learning styles of the students, innovative teaching strategies can be adopted and the there can be a paradigm shift away from the lecture method.

5.6 Learners' role in the majority of teacher/learner experience

Active learner (49.15%), team member (14.53%), partner (13.25%), independent (7.26%) and initiator (2.99%) are all characteristics of the adult learner who is also part of a learner centered teaching experience (or an outcome based teaching curriculum) and would produce a critical thinker (Malan 2000: 23; Maree and Fraser 2008: 28 and Cercone 2008: 143). Although more than 80% of the total participants (n=163) in the current study felt that the learners' role included these characteristics, the predominant teaching methods were the lecture and the demonstration. About 12.82% of the respondents felt that the learner was a passive learner in the teacher/learner experience. Lecturers who continue to dominate the class with didactic instruction by the method create barriers to critical thinking as they produce passive learners (Lombard *et al*. 2008: 572). Lecturers should therefore change their mindsets with this regard, and once their mindsets are changed they would be able to adopt more innovative teaching strategies.

5.7 Evaluation of the lecturers teaching strategies

5.7.1 Evaluation of the effectiveness of own teaching strategy

"A critically reflective teacher can stand outside his/her practice and see what he/she does from a wider perspective" Stephen Brookfield.

Evaluation is about improving the students' learning, not about whether one is a good teacher or not (University of Brighton 2013:4). About 90% of the current samples have evaluated their own teaching strategies. Clynes (2009: 22) supported the evaluation of one's own teaching strategy, as she was of the view that it would assist the lecturer improve her choice in teaching methodology and allow him/her to choose more learner centered teaching approaches.

5.7.2 Evaluation of teaching strategies by peers

About 54.60% of the total respondents (n=163) have had their peers evaluate their teaching strategies; however 45.40% have never had their peers evaluate their teaching strategies. Cashin (1989: cited in Paulsen 2002: 10) stated that peers are in an informed position, to evaluate their colleagues as they have the appropriate expertise for meaningful evaluation. This is a practice that should be increased by lecturers in order to ensure quality nurse training.

5.7.3 Evaluation of teaching strategies by students

About 77.30% of the sample has at some time had their teaching strategies evaluated by the students. Faculty at the University of Brighton (2013: 7) supported student evaluations of teaching, as they stated that students are the central focus of teaching and as the aim is to improve their learning, their evaluations are important**.** Cashin (1999 cited in Paulsen 2002: 8) noted that the evaluation of teaching by students has been a common practice.

5.7.4 Availability of an assessment tool for nurse educators to evaluate their peers

Only 32.50% of the respondents have a tool available for the assessment of their teaching strategies by their peers. . Peer evaluations are important especially for the neophyte nurse educator and are increasing in popularity, as it is a powerful tool to improve teaching (University of Brighton 2013: 6). A well designed peer review tool with well established guidelines, criteria and standards for observation will ensure objectivity in evaluation (Chism 1999 cited in Paulsen 2002: 11).

5.7.5 Evaluation of teaching strategies through students test results

About 65.6% (n=107) of the respondents in the current study, used student test results to evaluate their teaching strategies. Analysing the performance of students continuously forms a vital part of a lecturers self evaluation. If the

lecturer finds that the students' tests demonstrate a similar weakness or errors then one would need to explore how to make the subject content more understandable for the students. This process would involve a relook at the choice of teaching and learning activities (University of Brighton 2013: 7).

5.7.6 Characteristics of an innovative teaching strategy

The current sample also identified student involvement (9.80%; n=16), active participation (26.40%; n=43), stimulation of critical thinking (8.60%; n=14), creative lectures (3.7%; n=6) and the use of a variety of teaching strategies (6.20%; n=10), as the characteristics of an innovative teaching strategy. These were the main characteristics identified. About 24% (n=39) respondents opted not to provide a comment for this open ended question. The characteristics of innovative teaching strategies, identified by the participants, are also supported by various academic scholars (Horsfall *et al*. 2012: 932; Youngblood *et al*. 2001: 39; O' Neil and McMahon 2005: 1; Russel *et al*. 2007:1; Kaddoura 2011:14; Malesela 2009: 35; Le Roux and Khanyile 2012: 8; Brown *et al*. 2008: 284; Kumar 2003: 24 and Reime *et al*. 2008: 806). The findings of the current study are an indication, that lecturers do have the theoretical awareness of the elements of a creative teaching strategy however, are not applying this theoretical knowledge to the choice of their teaching practice probably due to barriers that they encounter.

5.7.7 Barriers to the use of creative teaching strategies

The main barriers to the use of creative teaching strategies that were identified by the current sample were a lack of equipment (67.50%; n=110), size of the class (66.90%; n=109); time allocated to teach the content (66.30%; n=108), content to be taught (62.60%; n=102), lack of in-service training (58.00%; n=95), preparation time (53.40%; n=87). Other barriers that were identified, but to a lesser degree are the knowledge and skills of the students, classroom size, lack of knowledge and skill by the lecturer regarding the use of creative teaching strategies, learning styles of students,

lack of support given to new nursing educators, lack of experience in nursing education by the lecturer and individual teaching styles. Similar barriers to the adoption of creative teaching strategies have also been identified in other studies (Smith Stoner and Molle 2010: 317; National League of Nursing 2005; Van Wyngaarden: 2008: 95; Jeggels *et al*. 2010: 57; Rowan *et al*. 2007: 134; and Johnson, List-Ivankovic, Eboh, Ireland, Adams, Mowatt and Martindale 2010: 47.

5.7.8 Teaching strategies that would add value to the teaching of lecturers

The current sample felt that case based studies (60.10%; n=98), problem based learning (55.8%; n=91), web based teaching (52.80%; n=86), demonstration (50.90%; n=83), reflective thinking/journals (49.10%; n=80), small group discussions (47.2%; n=77), role play (45.40%; n=74) and evidence based teaching (46.00%; n=75) will add value to their teaching. The other teaching strategies that followed were simulations (36.20%; n=59), community based learning (35%; n=57), portfolios (31.90%; n=52), Socratic/inquiry questioning (23.90%; n=39), lecture method (28.80%; n=47) and narrative styles (17.20%; n=28). It is therefore evident that the respondents of this study do see that lectures provide the least value to their teaching and are open to adopting more innovative/creative teaching strategies. This links up with the overall findings where didactic methods have been used predominantly to teach. The expressed need for training in these methodologies indicates that lecturers may not have proficiency or have received training in using diverse teaching methodologies. This lack of preparedness may be the reason as to why they have continued to use didactic methods. The study however did find that lecturers believed that lectures and demonstration was valuable in terms of teaching first year student nurses who have limited experience in the clinical field and the nurse who may have an assimilator/converger style of learning as per Kolb's Learning Style Theory (Mashaba and Brink 1994: 157).

5.7.9 Teaching strategies for which lecturers need training

Respondents requested further training in web based teaching (70.60%; n=115), Socratic/inquiry questioning (49.70%; n=81), portfolios (42.30%; n=69), reflective thinking/journals (36.80%; n=60), narrative styles (33.70%; n=55), evidence based teaching (31.30%; n=51,), case studies (25.80%; n=42) and problem based learning (20.20%; n=33). The extent to which the respondents required training in, the other teaching strategies was minimal. Training of lecturers who wish to adopt innovative teaching strategies is salient (Jeggels *et al*. 2010: 54 and Furst 2011: 101) especially amongst educators in the current sample who appear to lack proficiency in the aforementioned strategies. As technology advances it is critical then that there is greater innovation in teaching methodology as well. The age of the sample reflects a mature sample, many of whom have been schooled into didactic approaches themselves and hence favour its approach. Given that many will remain in education for a further 10-15 years strengthen arguments for in-service training regarding innovation in pedagogical strategies.

5.7.10 Stipulation of teaching strategies in micro-curricula

Only a small percentage of the respondents (23.90%; n=39) stated “yes”, that micro-curricula do stipulate teaching strategies and 69.90% (n=114) answered “yes” that it is necessary for micro-curricula to recommend teaching strategies. Quinn (1988: 255) supported the inclusion of a variety of recommended teaching strategies for the subject area as a guide, for both lecturers and students on the teaching learning process.

5.7.11 Effectiveness of teaching strategies

Despite 55.20% (n=90) of respondents agreeing that present teaching strategies prepared the nurse practitioner for the current evolving technological world, most of the respondents, 98.20% (n=160), believed that more modern teaching methodologies would benefit the nurse practitioner for the future. This finding lends further support for the notion that educators may

not be using innovative strategies, not because of resistance but due to the fact that they may not have received further training on the use of certain teaching strategies related to certain specific subjects. As the literature has shown, different strategies are best suited for different nursing content. An awareness then on which strategy or strategies are best suited for the related subjects is vital. Di Vito (2005 cited in Badeau 2010: 15) and other researchers concurred with the view that modern/creative teaching strategies would benefit the nurse for professional practice (National League of Nursing in America 2005: 1; Russel *et al*. 2007: 1 and Kaddoura 2011: 1).

5.7.12 Willingness to adopt more creative/contemporary teaching strategies

A large percentage (95.70%; n=156) of the respondents were willing to adopt more creative/ contemporary teaching strategies. This again reinforces the fact that educators have embedded their current teaching strategies in the didactic mode purely because of a lack of training or awareness of how to use diverse pedagogical methods. In line with this Jeggels *et al*. (2010: 55) supported the need for lecturers to be trained, before they can implement contemporary teaching strategies.

5.7.13 Suggestions regarding the adoption of more learner centered teaching approaches

The 3 common strategies identified by respondents of the current study to assist lecturers to adopt more learner centered teaching approaches were in-service training and workshops (52.80%; n=86), mentoring (6.10%; n=10) and orientation (3.10%; n=5). The preparation of nurses to adopt more learner centered approaches was supported in other studies (Masango-Mtetwa 2013: 183 and Rakhudu 2011: 87) and suggests that the Principals of campuses must not only update educators on new knowledge in nursing education, but more importantly empower them with contemporary teaching methodologies.

5.8 Conclusion

The research study found that respondents were most comfortable with and were predominantly using didactic teaching methods viz. the lecture method and demonstration to teach across all subject areas. Innovative teaching strategies were minimally used, by a small percentage of participants, for just a few subjects only. It is however important to note that respondents were willing to adopt more creative/contemporary teaching strategies, suggesting both interest in them and a potential lack of preparedness in knowledge and skill to utilize them.

The research findings also found that all the learner centered teaching approaches, can be applied to all nursing subjects. The lecture method is still needed to teach certain aspects of nursing, at a certain stage of student training. Lecturers however need to be creative and transform didactic lectures, into more interactive student centered teaching approaches. A paradigm shift from traditional teaching strategies, to contemporary teaching strategies amongst current nursing educators, is necessary to meet the evolving technological world, the learning needs of the present and future generation of student nurses and produce creative and critical thinking nurse practitioners (National League of Nursing Board of Governors 2003: 2; Youngblood *et al.* 2001: 41; Kok and Chabeli 2002: 42; Distler 2007: 55; Kaddoura 2011: 1 and Malesela 2009: 35). Kolb's Experiential Learning theory supported the use of a variety of teaching strategies to accommodate the varying learning styles of the students. It is imperative that nurse educators guide student nurses through the different maturation stages and encourage them to progress from a stage of concrete to abstract conceptualisation (Kolb and Kolb 2005: 19).

Respondents of the study must take cognisance of the fact that current nursing students are the younger generation of nurses and must adapt and match their teaching style to meet their learning needs as they are the practitioners, who have to be given sufficient educational preparedness, to

meet the challenges of the disease burden of the country (Cekada 1212: 43; Schofield and Honore 2010: 27; Eckleberry-Hunt and Tucciarone 2011: 459 and Mayosi *et al*. 2009: 11). Nursing content is complex and abstract and demands creativity not only in providing knowledge but the hands on practical skills to deal with varied life challenges when caring for the ill.

5.9 Implications for future studies

- This study has unearthed many areas for future potential research. This was one of very few studies with a large sample of nurse lecturers working at public nursing campuses in Kwa Zulu Natal. A study assessing teaching strategies across varied subject areas, involving a larger sample from all the provinces in South Africa will yield results that could be generalised nationally and internationally.

- Creative, innovative and critical thinking are the “buzz” words used in nursing education, however there are limited studies that actually assess the extent to which current pedagogical strategies facilitate critical thinking in student nurses. Nurse educators can conduct research using creative teaching methodologies with certain cohorts to explore the impact of certain teaching methods on certain subject content.

- Studies involving both lecturers and students would add value to nursing education, as data collected from both groups of participants can be compared and verified.

- Classroom action research can be conducted by lecturers, to investigate the effectiveness of their teaching strategies so that they can base the choice of their strategies on evidence based practice (Clynes 2009: 24).

5.10 Limitations of the study

- The data collection process took 5 months as lecturers were not always available on campus due to their work responsibilities at clinical placement sites, marking responsibilities at the KZNCN offices in Pietermaritzburg and the December holidays.

5.11 Recommendations

- All subject syllabi/micro-curricula should include recommended teaching strategies that nurse educators, especially neophyte educators can use as a guideline when compiling lesson plans.

- Journal clubs at campuses should be revitalised or should be established, to serve as part of in-service programmes.

- Nurse educators should apply evidence based practice, in their choice of teaching strategies, for subject content.

- The use of peer and student evaluation of teaching strategies should be increased, as a means to improving the use of learner centered teaching strategies.

- Classroom action research at campus level should be increased in order to identify best practices.

- Master trainers at campuses should be identified and should be available to attend training and cascade this training to all campus lecturers. Written agreements and training programmes should be available in all campuses (i.e. engage in train the trainer course).

- Mentorship programmes should be designed and implemented at campus level, with written agreements between the mentor and the mentee.

- Nurse educators should assess and understand their own teaching styles, so that they can adapt them to meet the learning styles of the students.

- Peer evaluation and student evaluation instruments should be designed, piloted and implemented to ensure standardisation of these tools at all campuses.

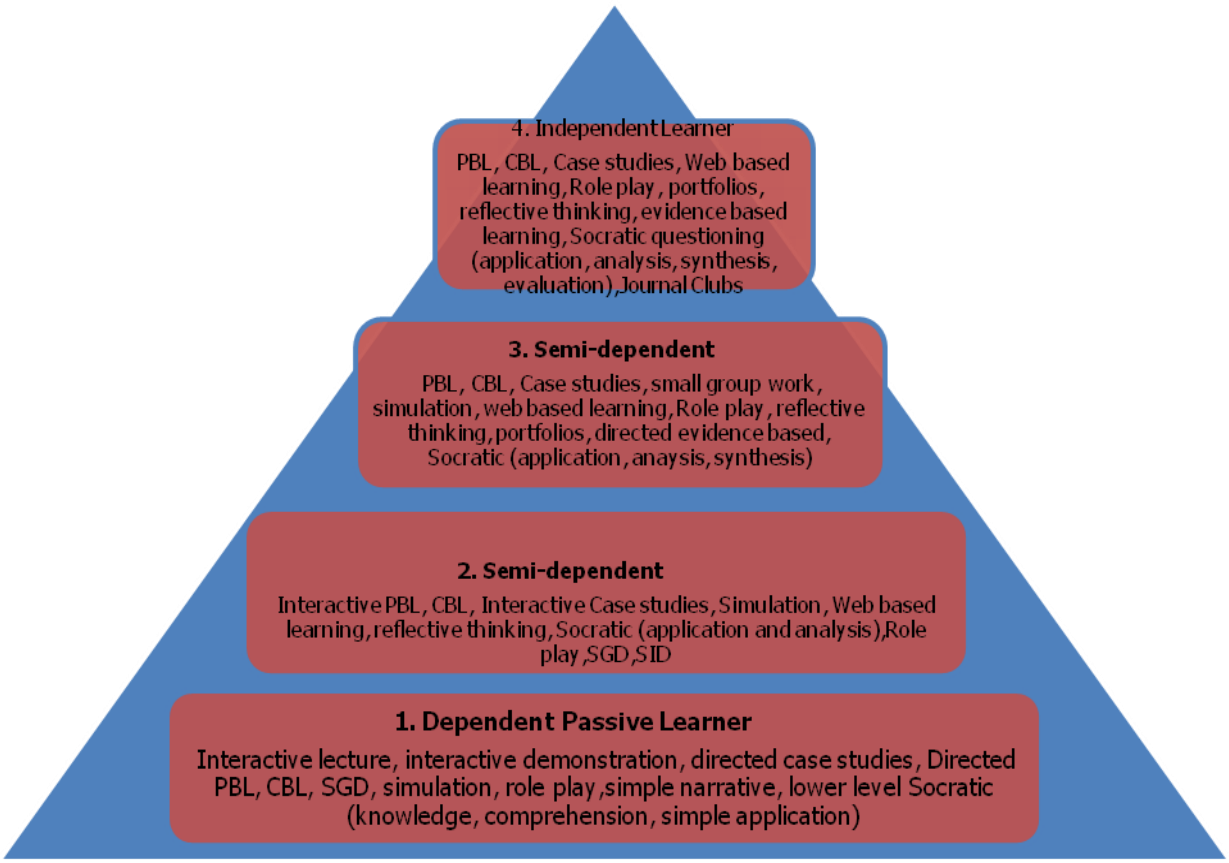
- A user friendly tool to assess the learning styles of students, should be designed, piloted and implemented at all campuses. This is important in nursing education; so as to assist the lecturers choose teaching methods to match the learning styles of students.

- A culture of research at campus level, should be created, i.e. by participating in the research studies of colleagues, supervising student research projects and lecturers to conduct research in their own field to improve teaching practice.

- Benchmarking with higher education institutions and other nursing campuses to identify best practices and implement these best practices.

- Market nursing education as an attractive stream of nursing to increase the recruitment of a younger cadre of nursing educators who can be trained in the use of innovative teaching strategies and will therefore be well prepared to train the nurse of the future.

The pyramid below demonstrates the novice student's progress from dependence on the lecturer to an independent learner



Teaching strategies that assist the student to decrease his/her dependence on the lecturer

"Teach with a renewed appreciation of its consequences and you will never cease to realise the infinite possibilities within your reach"

Robert John Meehan

5.11.1 Recommended innovative teaching strategies based on evidence from research studies for nursing subjects

SUBJECT	SUGGESTED TEACHING STRATEGIES
Fundamental Nursing Science	Interactive lectures
	Simulations
	Directed case studies
	Interactive demonstrations
	Role play
	Directed/guided problem based learning
	Small group discussions
	Simple narratives
	Socratic questioning (knowledge, comprehension, simple application)
	Web based - podcasts
Anatomy and Physiology	Interactive lectures
	Simulations
	Directed case studies
	Interactive demonstrations
	Role play
	Directed/ guided problem based learning
	Small group discussions
	Socratic questioning (knowledge, comprehension, simple application)
	Web based learning – podcasts, video casts, You tube

SUBJECT	SUGGESTED TEACHING STRATEGIES
Community Health Nursing **Social Science**	Interactive lectures – first year
	Simulations
	Directed case based learning – first year and interactive case studies - second year
	Case based learning – third year
	Student involved demonstrations
	Role play
	Directed/guided problem based learning – first year
	Problem based learning
	Small group discussions
	Reflective thinking writing – second and third year
	Journal clubs – third year
	Socratic questioning (knowledge, comprehension, simple application) first year
	Socratic questioning (Application, analysis) second year
	Socratic questioning (Application, analysis, synthesis and evaluation) third year
	Evidence based learning – second and third year
	Web based learning – podcasts and video casts, You Tube – first, second year, third year
	Community based learning
	Narratives
	Portfolio of evidence – second and third year
Medical and Surgical Nursing	Interactive lectures
	Simulations
	Case based learning – second and third year
	Student involved demonstrations
	Role play
	Problem based learning

SUBJECT	SUGGESTED TEACHING STRATEGIES
Medical and Surgical Nursing	Small group discussions
	Reflective thinking/writing
	Journal clubs – third year
	Socratic questioning (Application, analysis) second year
	Socratic questioning (Application, analysis, synthesis and evaluation) third year
	Evidence based learning – second and third year
	Web based learning – podcasts and video casts, You Tube – second year, third year
	Community based learning
	Narratives
	Portfolio of evidence – second and third year
Ethos and Professional Practice **Midwifery** **Psychiatric Nursing**	Interactive lectures
	Simulations
	Case based learning
	Student involved demonstrations
	Role play
	Problem based learning
	Small group discussions
	Reflective thinking/writing
	Journal clubs – third and fourth year
	Socratic questioning (Application, analysis, synthesis and evaluation)
	Evidence based learning
	Web based learning – podcasts and video casts, You Tube
	Community based learning
	Narratives
	Portfolio of evidence – (e-portfolios and paper based portfolios)

6. REFERENCES

Abdelaziz, M., Kamel, S.S., Karam, O. and Abdelrahman, A. 2011. Evaluation of E-learning program versus traditional lecture instruction for undergraduate nursing students in a faculty of nursing. *Teaching and Learning in Nursing* (online), 6(2): 50-58. Available: http://www.sciencedirect.com/science/article/pii (Accessed 10 November 2013).

Adib-Hajbaghery, M. and Aghajani, M. 2011. Traditional Lectures, Socratic Method and Student Lectures: Which One do the Students Prefer? (online). Available: http://www.webmedcentral.com/article_view/1746 (Accessed 8 November 2013).

Allery, L. 2009. Teaching practical skills. Education for Primary Care, 20(1): 58-69.

Alinier, G., Hunt, B., Gordon, R. and Harwood, C. 2006. Effectiveness of intermediate-fidelity simulation training technology in undergraduate nursing education. *Journal of Advanced Nursing*. 54(3): 359-369. (online). Available: http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2648.2006.03810.x/full (Accessed 16 April 2012).

Anema, M.G. and McCoy, J. 2010. Competency-Based Nursing Education: Guide to Achieving Outstanding Learner Outcomes. New York: Springer Publishing.

Babbie, E. and Mouton, J. 2001. The practice of social research. Southern Africa. University Press.

Badeau, K.A. 2010. Problem-Based Learning: An Educational Method for Nurses in Clinical Practice. Journal For Nurses in Staff Development, 26(6): 244-249.

Baghcheghi, N., Koohestani, H.M. and Rezaei, K. 2011. A comparison of the cooperative learning and traditional methods in theory classes on nursing

students' communication skill with patients at clinical settings. *Nurse Education Today*. Elsevier (online). 1-6. Available: http://www.elsevier.com/locate (Accessed 18 April 2011).

Ballestas, H.C., and Roller, M.C. 2013. The effectiveness of a study abroad program for increasing students' cultural competence. *Journal of Nursing Education and Practice* (online), 3(6): 125-133. Available: http://www.sciedu.ca/journal/index.php/jnep/article/view/1839 (Accessed 29 April 2013).

Bhui, K., Warfa, N., Edonya, P. Mckenzie, K., and Bhugra, D. 2007. Cultural competence in mental health care: a review of model evaluations. *BMC Health Services Research* (online), 7: 1-10. Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1800843/ (Accessed 15 December 2013).

Billings, D.M. and Halstead, J.A. 2009. Teaching in Nursing A Guide for Faculty. 3rd ed. United States of America. Saunders. Elsevier.

Bimray, P.B., Roux, L.Z. and Fakude, L.P. 2013. Innovative education strategies implemented for large numbers of undergraduate nursing students: The Case of on South African university nursing department. *Journal of Nursing Education and Practice* (online), 3(11): 116-120. Available: http://www.sciedu.ca/journal/index.php/jhep/artice/download/1929/1589 (Accessed 29 November 2013).

Birch, L., Jones, N., Doyle, P.M., Green, P., McLaughlin, A., Champney, C., Williams, D., Gibbon, K.T. and Taylor, K. 2007. Obstetric skills drills: Evaluation of teaching methods. *Nurse Education Today* (online) 27(8): 915-922. Available: http://www.sciencedirect.com/science/article/pii/S0260691707000184 (Accessed 28 March 2013).

Birnbaumer, D. 2011. Teaching procedures: improving 'see one, do one, teach one". Journal of the Canadian Association of Emergency Physicians, 14(6): 390-394

Bond, W.F., Lammers, R.L., Spillane, L.L., Smith-Coggins., R., Fernandez, R., Reznek, M.A., Vozenilek, J.A. and Gordon, J.A., 2007. The use of simulation in Emergency Medicine: A Research Agenda. *Academic Emergency Medicine* (online),14(4):353-363.Available: http://onlinelibrary.wiley.com/doi/10.1197/j.aem.2006.11.021/abstract (Accessed 29 November 2013).

Botma, Y., Greef, M., Mulaudzi, F.M. and Wright, S.C.D. 2010. *Research in Health Science*. 1st ed. Cape Town: Nozuko Makhuvha.

Brawer, J.R., Lener, M. and Chalk, C. 2009. Student Perspectives on the Value of Lectures. *Medical Science Educator* (online), 19(3): 1-4. Available: http://www.iamse.org/artman/publish/article/_459.shtml (Accessed 8 November 2013).

Brookfield, S. 1995. The Getting of Wisdom: What Critically Reflective Teaching is and Why It's Important (online), 1-28. Available: http://web.ics.purdue.edu/~reid21/CDM/supporting/Brookfield%20Critically%20Reflective%20Teaching.pdf (Accessed 15 January 2014).

Brown, P.J.P. 2010. Process-orientated guided-inquiry learning in an introductory anatomy and physiology course with diverse student population. *Advances in Physiology Education* (online) 24(1): 150-155. Available: http://advan.physiology.org/content/34/3/150.short (Accessed 14 April 2013).

Brown, S.T., Kirkpatrick, M.K., Greer. A., Mathias, A.D. and Swanson, M.S. 2009. The Use of Innovative Pedagogies in Nursing Education: An International Perspective. Nursing Education Perspective, 30(5): 153-158.

Brown, S.T., Kirkpatrick, M.K., Mangum, D. and Avery, J. 2008. A Review of Narrative Paedagogy Strategies TO Transform Nursing Education. Educational Innovations, 47(6): 283-286.

Buchan, J. 2007. International Recruitment of Nurses: Policy and Practice in the United Kindom. *Health Services Research* (online), 42(3): 1321-1335. Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1955378 (Accessed: 21 January 2014).

Buerhaus, P.I., Staiger, D.O., and Auerbach, D.I. 2000. Implications of an Aging Registered Nurse Workforce. *Journal of the American Medical Association* (online) 283(22): 2948-2954. Available: http://jama.jamanetwork.com/article.aspx?articleid=192782 (Accessed 15 June 2012).

Burch, V.C., and Seggie, J.L. 2008. Use of structured interview to assess portfolio-based learning. *Medical Education* (online), 42(9): 894:900. Available: http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2923.2008.03128.x/abstract;jsessionid=547B47CF57BB84021A36986AEB0AAD18.f01t02?deniedAccessCustomisedMessage=&userIsAuthenticated=false (Accessed 19 June 2012).

Burns, N. and Grove, S. 2007. Understanding Nursing Research. Building An Evidence - Based Practice. 4th ed. United States. Elsevier.

Callister, L.M., Matsumura, G., Lookinland S., Mangum S. and Loucks, C. 2005. Inquiry in Baccalaureate Nursing Education: Fostering Evidence-Based Practice. *Journal of Nursing Education*, 44(2): 59-64.

Cekada, T.L. 2012. *Training a Multigenerational Workforce. Understanding Key Needs and Learning Styles* (online). Available: http://www.asse.org/professionalsafety/pastissues/057/03/040_044_F1Cekada_0312.pdf (Accessed 20 March 2013).

Cercone, K. 2008. Characteristics of Adult Learners with Implications for Online Learning Design. *ACCE Journal* (online), 16(2): 137-159. Available: http://s3.amazonaws.com/editlib-files/Cercone_2008Apr17_final.pdf?AWSAccessKeyId=AKIAI3MXM2AGIO4TKABQ&Expires=1403536435&Signature=k9xvoaGukW%2BdqiTtxlTUQfzPch8%3D (Accessed 3 January 2014).

Chabeli, M.M. 2010. Concept-mapping as a teaching method to facilitate critical thinking in nursing education: A review of the literature. Health S.A. Gesondheid: *Journal of Interdisciplinary Health Sciences (online)*, 15(1): 432-441. Available: http://www.hsag.co.za/index.php/HSAG/article/view/432/481 (Accessed 29 November 2013).

Chambers, R. 2008. Developing your Teaching style and techniques. In: Mohanna, K., Chambers, R. and Wall, D. Your Teaching Style: A Practical Guide to Understanding, Developing and Improving. United Kingdom. Radcliffe Publishing Ltd. Available: http://www.scribd.com/doc/9861784/Developing-Your-Teaching-Style-and-Technique (Accessed: 20 May 2012).

Chan, Z.C.Y. 2012. Role-playing in the problem-based learning class. *Nurse Education in Practice* (online). 12(1): 21-27. Available: http://www.nurseeducationinpractice.com/article/S1471-5953(11)00094-1/pdf (Available 19 December 2013).

Chapman, H. 2006. Towards effective group-work in nursing education. Nurse Education Today, 26: 298-303.

Chauvet, S. and Hofmeyer, A. 2007. Humour as a facilitative style in problem-based learning environments for students. Nursing Education Today, 27: 286-292.

Chitra, R. 2012. Active Lecture. *Nursing Journal of India* (online), 103(2): 95-96. Available: http://dutlib.dut.ac.za:2057/docview/1030265066 (Accessed 8 November 2013).

Christoffersen, J., Barron, A.M., Lynch, M., and Harlene, C. 2010. Intergrating Psychosocial Skills into a Medical-Surgical Curriculum in a Baccalaureate Nursing Program. *Journal of Nursing Education* (online), 49(10): 573-576. Available: http://europepmc.org/abstract/MED/20669875 (Accessed 1 March 2014).

Cioffi, J., Purcal, N., and Arundell, F. 2005. A Pilot Study to Investigate the Effects of a Simulation Strategy on the Clinical Decision Making of Midwifery Students. *Journal of Nursing Education* (online), 44(3): 131-134. Available: http://scholar.google.co.za/scholar?hl=en&q=A+Pilot+Study+to+Investigate+the+Effects+of+a+Simulation+Strategy+on+the+Clinical+Decision+Making+of+Midwifery+Students.&btnG=&as_sdt=1%2C5&as_sdtp (Accessed 12 November 2012).

Cliff, W.H. and Wright, A.W. 1996. Directed case study method for teaching human anatomy and physiology. *Advances in Physiology Education* (online), 15(1): 19-28. Available: http://www.the-aps.org/publications/ajpadvan (Accessed 14 April 2013).

Clynes, M.P. 2009. A novice teacher's reflections on lecturing as a teaching strategy: Covering the content or uncovering the meaning. *Nurse Education in Practice* (online), 9(1): 22-27. Available: http://www.ncbi.nlm.nih.gov/pubmed/18487088 (Accessed 29 November 2013).

Cooke, M., Watson, B., Blacklock, E., Mansah, M., Howard, M., Johnston, A., Tower, M. and Murfield, J. 2012. Lecture Capture: first year student nurses' experiences of a web-based lecture technology. *Australian Journal of Advanced Nursing* (online), 29(3): 14-21. Available: http://dutlib.dut.ac.za:2062/ehost/detail/?sid=bf186 (Accessed 8 November 20130.

Cooper, .S.S. 1982. Methods of Teaching-Revisited The Demonstration. *The Journal of Continuing Education in Nursing*, 13(3): 44-45.

Craft, M. 2005. Reflective Writing and Nursing Education. Journal of Nursing Education, 44(2): 53-57.

Csibra, G. and Gergely, G. 2006. *Social learning and social cognition: The case for pedagogy* (online). Available: http://www.cbcd.bbk.ac.uk/people/scientificstaff/gergo/pub/index.html/pub/csibra_gergely.2006.pdf (Accessed 12 February 20130.

Cullinan, K. 2004. KwaZulu-Natal struggling to keep up (online). Available: http://www.health-e.org.za/news/article.php?uid=20030999 (Accessed 24 September 2012).

Davhana-Maselesele, M., Tjallinks, J.E., and Norval, M.S. 2001. Theory-practice integration in selected clinical situations. *Curationis* (online),24(4): 4-9. Available: http://www.curationis.org.za/index.php/curationis/article/view/867 (Accessed 15 December 2013).

Davidhizar, R. A. And Lonser, G. 2003. Storytelling as a Teaching Technique. Nurse Educator, 28(5): 217-221.

Dawood, E. 2013. Nursing Students' Perspective about Role – Play as a Teaching Strategy in Psychiatric Nursing. *Journal of Education and Practice* (online), 4(4): 38-48.

Available: http://www.iiste.org/Journals/index.php/JEP/article/view/4515/0 (Accessed 28 March 2014).

DeCola, P., Benton, D., Peterson, C. and Matebeni, D. 2012. Nurses' potential to lead in non-communicable disease global crisis*. International Nursing Review* (online): 1-10. Available: http://www.ncbi.nlm.nih.gov/pubmed.22897182 (Accessed 30 November 2013).

Department of Labour, Rebublic of South Africa. 2013. *Commission for Employment Equity Annual Report, 2012-2013.* South Africa: Department of Labour

de Vos, A.S., Strydom, H., Fouche, J.B. and Delport, C.S.L. 2005. Research at grassroots. For Social Sciences and Human Service Professions. 2nd ed. Pretoria: Van Schaik Publishers.

Dinc, L. and Gorgulu, R.S. 2002. Teaching Ethics in Nursing. *Nursing Ethics* (online), 9(3): 259-268. Available: http://nej.sagepub.com/content/9/3/259.short (Accessed 28 August 2013).

Distler, J.W. 2007. Critical thinking and clinical competence: Results of the implementation of student-centered teaching strategies in an advanced practice nurse curriculum. Nurse Education in Practice, 7: 53-59.

Dolan, G., Fairban, G., and Harris, S. 2004. Is our student portfolio valued?. *Nurse Education Today* (online), 24(1): 4-13. Available: http://www.sciencedirect.com/science/article/pii/S0260691703001345 (Accessed 17 January 2013).

Eckleberry-Hunt, J., and Tucciarone, J. 2011. The Challenges and Opportunities of Teaching “Generation Y”. *Journal of Graduate Medical Education* (online), 3(4): 458-461. Available: http://dx.doi.org/10.4300/JGME-03-04-15 Accessed (19 January 2014).

Edgell, H. 2011. Teaching Anatomy with Multiple Techniques. *Teaching Innovation Projects* (online), 1(1): 1-5. Available: http://ir.lib.uwo.ca/tips/vol1/iss1/3/ (Accessed 15 December 2013).

Ehlers, V.J. 2000. Distance education Doctoral program for nurses as offered by the University of South Africa (UNISA) (online). *Curationis* (online), 23(4): 144-146. Available: http://www.curationis.org.za/index.php/curationis/article/view/776 (Accessed 12 April 2012).

Ehrenberg, A.C., and Haggblom, M. 2007. Problem-based learning in clinical education: Integrating theory and practice. *Nurse Education in Practice* (online), 7(1): 67-74. Available: https://gupea.ub.gu.se/bitstream/2077/18089/1/gupea_2077_18089_1.pdf (Accessed 9 August 2013).

Epp, S. 2008. The value of reflective journaling in undergraduate nursing education: A literature review. *International Journal of Nursing Studies* (online) 45(1): 1379-1388. Available: http://www.sciencedirect.com/science/article/pii/S0020748908000266 (Accessed 27 January 2012).

Farrell, G.A., Cubit, K.A, Bobrowski, C.L., and Salmon, P. 2007. Using the WWW to teach undergraduate nurses clinical communication. *Nurse Education Today* (online), 27(5): 427-435. Available: http://www.nurseeducationtoday.com/article/S0260-6917(06)00097-9/pdf (Accessed 28 November 2012).

Frankel, A. 2009. Nurses' learning styles:promoting better intergration of theory into practice. *Nursing Times* (online) 105(2): 24-27. Available: http://www.nursingtimes.net/nursing-practice/clinical-zones/educators/nurses-learning-styles-promoting-better-integration-of-theory-into-practice/1970593.article (Accessed 6 March 2014).

Fujimori, E., Higuchi, C.H., Cursino, E.G., De La O Ramallo Verissimo, M., Borges, A.L.V., Falleiros de Mello, D., Nascimento, L.C., Behn, V., and Wilson, L.L. 2013. Teaching of the Integrated Management of Child Illness strategy in undergraduate nursing programs. *Latin American Journal of Nursing* (online), 21(3): 665-662. Available: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-11692013000300655 (Accessed 6 January 2014).

Fullerton, J.T., Johnson, P.G., Thompson, J.B., and Vivio, D. 2010. Quality considerations in midwifery pre-service education. Exemplars from Africa.

Midwifery (online), 27(3) 308-315. Available: http://www.midwiferyjournal.com/article/S0266-6138(10)00172-5/abstract (Accessed 22 February 2014).

Furse, C. 2011. Lecture-Free Engineering Education. Institute for Electrical and Electronic Engineers Antennas and Propagation Magazine (online), 53(5): 176-179. Available: http://dutlib.dut.ac.za:2181/xpls/abs_all.jsp.?arnumber (Accessed 8 November 2013).

Furst, L.N. 2011. The effect of teaching methods used as experienced and perceived by student nurses at a nursing college in the Western Cape province (online). M.Tech, Stellenbosch University. Available: https://scholar.sun.ac.za/handle/10019.1/17812 (Accessed 12 October 2013).

Gerkin, K.L., Taylor, T.H. and Weatherby, F.M. 2009. The Perception of Learning and Satisfaction of Nurses in the Online Environment. *Journal For Nurses In Staff Development* (online), 25(1): 8-13. Available: http://www.nursingcentre.com/Inc/journalarticle (Accessed 29 November 2013).

Ghafourifard, M., Haririan, H.R. and Aghajanloo. 2013. The opinion of nursing student about case-based teaching method and comparison with lecture*. Future of Medical Education Journal* (online), 3(1): 8-12. Available: http://fmej.mums.ac.ir/article_516_121.html (Accessed 30 October 2013).

Government sets a target for community nursing placements (online). 2013. Available: http://dutlib.dut.ac.za:2057/docview/1409197088/ful (Accessed 9 November 203).

Graham, E.M., and Duffield, C. 2010. An ageing nursing workforce. *Australian Health Review* (online), 34(1): 44-48. Available: http://www.publish.csiro.au/paper/AH09684 (Accessed 16 April 2013).

Grasha, A. 1996. *Teaching with Style*. Pittsburgh. Alliance Publishers.

Gropelli, M. 2010. Using Active Simulation to Enhance Learning of Nursing Ethics. *The Journal of Continued Education in Nursing* (online), 41(3): 104-105. Available: http://journals.tbzmed.ac.ir/RDME/Manuscript/RDME-1-31.pdf (Accessed 10 May 2013).

Gross, J.M., Rogers, M.F., Teplinsky, I., Oywer, E., Wambua, D., Kamenju, A., Arudo, J., Riley, P.L., Higgins, M., Rakuom, C., Kiriinya, R., and Waudo, A. 2011. The Impact of Out-Migration on the Nursing Workforce in Kenya. *Health Services Research* (online), 46(4): 1300-1318. Available: http://www.unfpa.org/sowmy/resources/docs/library/R194_Gross_etal_2010_Kenya_NurseWorkforceMigration.pdf (Accessed 12 April 2013).

Hanson, M.J. and Rinaldi Carpenter, D.R. 2011. Incorporating Cooperate Learning into Classroom Testing: Implications for Nursing Education and Practice. Nursing Education Perspectives, 32(4): 270-273.

Harrison, L., Montenegro, G., Malvares, S., Astudillo, M., Behn, V., Bertolozzi, M.R., Chiesa, A.M., Espinoza, M., Fujimori, E., Harper, D., Orellana, A., Saenz, K., Siguad, C.H.S., De La O' Ramallo Verissimo, M. 2008. The Network for Nursing in Child Health. *Continued Nursing Education Series* (online), 34(2) 113-117. Available: http://www.enfermeriainfantil.es/R-ENSI/Publicaciones/HarrisonCNE_MA08.pdf (Accessed 29 December 2013).

Hassanzadeh, A., Vasili, A. and Zare, Z. 2010. Effects of two educational method of lecturing and role playing on knowledge and performance of high school students in first aid and emergency scene. Iranian Journal of Nursing and Midwifery Research (online), 15(1): 8-13. Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093028/ (Accessed 1 December 2013).

Herrman, J.W. 2002. The 60-second nurse educator: creative strategies to inspire learning. *Nursing Education Perspectives* (online).1-3. Available:

http://findarticles.com/p/articles/mi_hb3317/is_5_23/ai_n28947075 (Accessed 16 April 2012).

Horne, M., Woodhead, K., Morgan, L., Smithies, L., Megson D. and Lyte, G. 2007. Using enquiry in learning: From vision to reality in higher education. *Nursing Education Today*. (online) 27: 103-112. Available: http://www.ncbi.nlm.nih.gov/pubmed/16766092 (Accessed 18 May 2012).

Horsfall, J., Cleary, M. and Hunt, G. 2012. Developing a pedagogy for nursing teaching-learning. *Nurse Education Today* (online), 32(8): 930-933. Available: http://www.ncbi.nlm.nih.gov/pubmed/22100421 (Accessed 29 November 2013).

Horwood, C., Voce, A., Vermaak, K., Rollins, N., and Qazi, S. 2009. *Experiences of training and implementation of integrated management of childhood illness (IMCI) in South Africa: a qualitative evaluation of the IMCI case management training course* (online). Available: http://www.biomedcentral.com/1471-2431/9/62/ (Accessed 3 January 2014).

Howard, V.M., Ross, C., Mitchell, A.M. and Nelson, G.M. 2010. Human Patient Simulators and Interactive Case Studies: A Comparative Analysis of Learning Outcomes and Student Perceptions. Computer, Informatics, Nursing, 28(1): 42-48.

Hudacek, S.S. 2008. Dimensions of Caring: A Qualitative Analysis of Nurses Stories. *Journal of Nursing Education* (online), 47(3): 124-129. Available: http://www.ncbi.nlm.nih.gov/pubmed/18380266 (Accessed 15 May 2013).

Hwang, S.Y. and Kim, M. J. 2006. A comparison of problem-based learning and lecture-based learning in an adult health nursing course. Nurse Education Today, 26: 315-321.

Ironside, P.M. 2004. “Covering Content” and Teaching Thinking: Deconstructing the Additive Curriculum. Journal of Nursing Education, 43(1): 5-12.

Jabbari, H., Bakhshian, F., Alizadeh, M., Alikhah, H., and Behzad, M.N. 2012. Lecture-based Versus Problem-Based L earning Methods in Public Health Course for Medical Students. *Research Development in Medical Education* (online), 1(2): 31-35. Available: http://journals.tbzmed.ac.ir/RDME/Manuscript/RDME-1-31.pdf (Accessed 9 August 2013).

Jaslow, R. 2013. Number of male U.S. nurses triple since 1970 (online). Available: http://www.cbsnews.com/news/number-of-male-us-nurses-triple-since-1970/ (Accessed 18 February 2014).

Jeggels, J.D., Traut, A. and Kwast, M. 2010. Revitalisation of clinical skills training at the University of the Western Cape. *Journal of the Democratic Nursing Organisation of South Africa*, 33(2): 51-59.

Johnson, N., List-Ivankovic, J., Eboh, W.O., Ireland, J., Adams, D., Mowatt, E., and Martindale, S. 2010. Research and evidence based practice: Using a blended approach to teaching and learning in undergraduate nurse education. *Nurse Education in Practice* (online), 10(1): 43-47. Available: http://www.sciencedirect.com/science/article/pii/S1471595309000596 (Accessed 21 July 2012).

Juraschek, S.P., Zhang, X., Ranganathan, V.K., and Lin, V.W. 2012. United States Registered Nurse Workforce Report Card and Shortage Forecast. *American Journal of Medical Quality* (online), 27(3): 241-249. Available: http://ajm.sagepub.com/content/27/3/241.full.pdf+html (Accessed 1 July 2013).

Kaddoura, M.A. 2011. Critical Thinking Skills of Nursing Students in Lecture-Based Teaching and Case-Based Learning. *International Journal for the Scholarship of Teaching and Learning* (online), 5(2):1-8. Available: http://www.georgiasouthern.edu/ijsoti (Accessed 16 April 2012).

Kaducakova, H. 2007. *Using Effective Methods of Education in Nursing* (online). Available: http://www.ujk.edu.pl/studiamedyczne/doc/SM_29_1 (Accessed 30 April 2012).

Kamath, N. and Udayakiran, N. 2014. Effectiveness of participatory learning activity (PLA) cum lecture method on knowledge of nursing students in HIV/AIDS. *Journal of Nursing and Health Science* (online), 3(2): 18-21. Available: http://iosrjournals.org/iosr-jnhs/papers/vol3-issue2/Version-5/D03251821.pdf (Accessed 9 June 2014)

Kawashima, A. 2005. The Implementation of Narrative Paedagogy into Nursing Education in Japan. Nursing Education Perspective, 26(3): 168-171.

Kim, H.S. 2012. Outcomes-based Curriculum Development and Student Evaluation in Nursing Education. *J Koreann Acad Nurs* (online), 42 (7): 917-927. Available: http://dx.doi.org/10.4040/jkan.2012.42.7.917 (Accessed 1 December 2010).

Knebel, E., Puttkammer, N., Demes, A., Devirois., and Prismy, M. 2008. Developing a competency-based curriculum in HIV for nursing schools in Haiti (online). Available: http://www.human-resources-health.com/content/6/1/17 (Accessed 4 December 2013).

Kok, J. and Chabeli, M.M. 2002. Reflective journal writing: How it promotes reflective thinking in clinical nursing education: A students' perspective. *Curationis* (online), 20(3): 35-42. Available: http://curationis.org.za/index.php/curationis/article/viewFile/784/721 (Accessed 13 January 2013).

Kolb, A.Y. and Kolb D.A. The Kolb learning Styles Inventory-Version 3.1 (online). 2005. Available: http://www.businessballs.com/kolblearningstyles.htm (Accessed 24 August 2012).

Kumar, S. 2003. An innovative method to enhance interaction during lecture sessions. *Advances in Physiology Education* (online), 27(1): 20-25. Available: http://www.the-aps.org/publications/ajpadvan (Accessed 17 May 2012).

KwaZulu – Natal College of Nursing, 2005. Learner Information Guide and Rules.

Lancaster, C.J., Maulden, M.P., Gilbertson, B.O., Darden, P.M. and Kittredge, D. 2005. How we changed from paper to online education: Teaching Immunization Delivery and Evaluation. Medical Teacher (online), 27(8): 682-685. Available: http://informahealthcare.com/doi/abs/10.1080/01421590500271191 (Accessed 17 April 2012).

Lashley, M. 2006. Teaching community based nursing in a parish nurse faculty practice. *Nurse Education in Practice* (online), 6(4): 232-236. Available: http://www.sciencedirect.com/science/article/pii/S1471595306000187 (Accessed 1 June 2013).

Lauver, L.S., West, M.M., Cambell, T.B., Herrold, J., and Wood, G.C. 2009. Towards evidence-based teaching: evaluating the effectiveness of two teaching strategies in an associate degree nursing program. *Teaching and Learning in Nursing* (online), 4(): 133-138. Available: http://www.jtln.org/article/S1557-3087(09)00036-5/fulltext (Accessed 23 February 2014).

Le Roux, L. and Khanyile, T.D. 2012. A cross-sectional survey to compare the competence of learners registered for the Baccalaureus Curationis programme using different learning approaches at the University of the Western Cape. Curationis: *Journal of the Democratic Nursing Organisation of South Africa* (online), 34(1): 1-11. Available: http://www.curationis.org.za/index.php/curationis/article/view/53/28 (Accessed 27 April 2012).

Lisko, S.A., and O'Dell V. 2010. Integration of Theory and Practice: Experiential Learning Theory and Nursing Education. *Nursing Education Perspectives* (online), 31(2): 106-108. Available: http://www.ncbi.nih.gov/pubmed/20455368 (Accessed 28 January 2013).

Lombard, K. and Grosser, M. 2008. Critical thinking: are the ideals of OBE failing us or are we failing the ideals of OBE? *South African Journal of Education* (online), 28(4): 561-579). Available: http://wwwscielo.org.za/scielo.php%3Fpid%3D0256-010020080004%26script%3Dsci_issuetoc (Accessed 30 November 2013).

Lubeck, P., Tschetter, L. and Mennenga, H. 2013. Team-Based Learning: An Innovative Approach to Teaching Maternal-Newborn Nursing Care. *Journal of Nursing Education* (online), 52(2): 112-115. Available http://www.ncbi.nlm.nih.gov/pubmed/23330666 (Accessed 7 November 2013).

Lunenburg, F.C. 2011. Orientation and Induction of the Beginning Teacher. *National Forum of Educational Administration and Supervision Journal* (online), 28(4): 1-5. Available: http://www.nationalforum.com/Electronic%20Journal%20Volumes/Lunenburg,%20Fred%20C.%20Orientation%20and%20Induction%20of%20the%20Beginning%20Teacher%20NFEAS%20V28%20N4%2011.pdf (Accessed 19 February 2013).

Luthy, K.E., Beckstrand, R.L. and Callister, L.C. 2013. Improving the community nursing experience of nursing students. *Journal of Nursing Education and Practice* (online), 3(4): 12-20. Available: http://www.sciedu.ca/journal/index.php/jnep/article/view/1125 (Accessed 20 November 2013).

Malan, S.P.T. 2000. The 'new paradigm' of outcomes-based education in perspective. *Journal of Family Ecology and Consumer Sciences* (online), 28: 22-28. Available:

http://www.ajol.info/index.php/jfecs/article/download/52788/41390 (Accessed 30 November 2013).

Malesela, J.M.L. 2009. Case study as a learning opportunity among nursing students in a university. Health SA Gesondheid, 14(1): 33-38.

Mangold. K. 21007. Educating a New Generation Teaching Baby Boomer Faculty About Millennial Students. *Nurse Educator* (online), 32(1): 21-23. Available: http://oaae.wsu.edu/Teaching_Resources/teaching_millennial_students/Millennial-nursing-students-2007.pdf (Accessed 15 January 2013).

Maree, J.G. and Fraser, W.J. 2008. Outcomes-based Assessment. 2nd ed. South Africa: Heinemann Publishers.

Martins, J.C.A., Mazzo, A., Baptista, R.C.N., Coutinho, V.R.D., de Godoy, S., Mendes, I.A.C., and Trevizan, A. 2012. The simulated clinical experience in nursing education: a historical review. *Acta Paul Enferm* (online), 25(4): 619-625. Available: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002012000400022&lng=en&nrm=iso&tlng=en (Accessed 15 September 2013).

Mashaba, T.G. and Brink, H.I. 1994. Nursing Education: An International Perspective. South Africa. The Rustica Press.

Masongo-Mtetwa, T. 2002. The Role of the Nurse Educator within the Dynamics of Educational Change in South Africa. D.Litt et Phil. Degree, University of Zululand.

Mathibe, L.J. 2006. Perceptions of student nurses regarding the use of a popular autobiography as a teaching tool. *Nurse Education Today* (online), 27(3): 247-255. Available: http://www.nurseeducationtoday.com/article/S0260-6917(06)00067-0/pdf (Accessed 1 March 2013).

Mayosi. B.M., Flisher, A.J., Lalloo, U.G, Sitas, F., Tollman, S.M. and Bradshaw, D. 2009. Health in South Africa 4: The burden of non-communicable diseases in South Africa (online). Available: http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)61087-4/abstract (Accessed 30 November 2013).

McArthur-Rouse, F.J. 2008. From expert to novice: An exploration of the experiences of new academic staff to a department of adult nursing studies. *Nurse Education Today* (online), 28(4): 401-408. Available: http://www.aiiuq.qc.ca/images/articles/8.pdf (Accessed 29 May 2013).

McCallum, J. 2007. The debate in favour of using stimulation education in pre-registration adult nursing. Nursing Education Today, 27: 825-831.

McDonald, L. 2010.Nursing in Health Care. Conference on The Nightingale System of Training. Online. America. 14 September 201. Windsor. 1-7.

McLoughlin, M. and Darvill, A. 2007. Peeling back the layers of learning: A classroom model for problem-based learning. Nurse Education Today. 27: 271-277.

McMullan, M. 2006. Students perceptions on the use of portfolios in pre-registration nursing education: A questionnaire survey. *International Journal of Nursing Studies* (online), 43(3): 333-343. Available: http://www.journalofnursingstudies.com/article/S0020-7489(05)00097-0/fulltext (Accessed 11 November 2012).

Meehan-Andrews, T.A. 2009. Teaching mode efficiency and learning preferences of first year nursing students. *Nurse Education Today* (online) 29(1): 24-32. Available: http://www.ncbi.nlm.nih.gov/pubmed/18757118 (Accessed 12 May 2012).

Mehrdad, N., Zolfaghari, M., Bahrani, N., and Eybpoosh, S. 2011. Learning Outcomes in Two Different Teaching Approach in Nursing Education in Iran: E-Learning versus Lecture. *Acta Medica Iranica* (online), 49(5): 296-299.

Available: http://acta.tums.ac.ir/index.php/acta/article/view/4341 (Accessed 1 December 2012).

Mennenga, H.A. and Smyler, T. 2010. A Model for Easily Incorporating Team-Based Learning into Nursing Education. *International Journal of Nursing Education Scholarship* (online), 7(1): 1-14. Available: http://www.ncbi.nlm.nih.gov/pubmed/20196763 (Accessed 20 November 2013).

Mkhwanazi, I.S., Potigieter, E. and Durrheim, M. 2007. The Role of the Nurse Educator in Supporting Pupil Nurses. M.Tech, University of South Africa.

Mokoka, E., Oosthuizen, M.J. and Ehlers, V.J. 2010. Retaining professional nurses in South Africa: Nurse managers perspectives. *Health S.A. Gesondheid. Journal of Interdisciplinary Health Issues* (online), 15(1): 1-14. Available: http://www.hsag.co.za/index.php/HSAG/article/view/484/531 (Accessed 30 November 2013).

Montello, L. and Bonnel, W. 2009. The versatile question: Diverse uses of questioning in online and traditional learning. Teaching and learning in Nursing, 4: 71-75.

Morris, L.V. 2009. Little Lectures? *Innovative Higher Education*, (online), 34(2): 67-68. Available: http://dutlib.dut.ac.za:2057/docview/212417419 (Accessed 8 November 2013).

Mtshali, N.G.2005. Developing an outcomes-based curriculum. In: Uys, L.R., and Gwele, N.S. ed. *Curriculum Development in Nursing: Process and Innovation*. United Kindom: Routledge, 176-194.

Munns, S. 2009. *For developing effective curricular which motivates student performance and improve student satisfaction and retention in large, diverse foundation Anatomy and Physiology classes* (online). Available: http://www.jcu.edu.au/learnandteach/public/groups/everyone/documents/advice/jcuprd_050561.pdf (Accessed 19 June 2013).

Narayanan, S.N, Kumar, R.S. and Nayak, S. 2011. Student-Involved Demonstration Approach to Teach the Physiology of Vestibular Apparatus for Undergraduate Medical Students. *Teaching and Learning in Medicine: An International Journal* (online), 23(3): 269-277. Available: http://www,tandonline.com/loi/htlm20 (Accessed 19 October 2013).

National League for Nursing in America. Board of Governors. 2003. Innovation in Nursing Education: A Call to Reform (online). Available: http://www.nln.org/aboutnln/position/innovation082203.pdf (Accessed 22 August 2012).

National League for Nursing in America. Board of Governors. 2005. Position Statement: Transforming Nursing Education (online). Available: http://www.nln.org/aboutnln/positionstatements/transforming052005.pdf (Accessed: 24 August 2012).

National League for Nursing in America. Board of Governors. 2006. Position Statement: Mentoring of Nurse Faculty (online). Available: http://www.nln.org/aboutnln/positionstatements/mentoring_3_21_06.pdf (Accessed: 24 August 2012).

Neenan, M. 2009. Using Socratic Questioning in Coaching. Journal of Rational-Emotive & Cognitive-Behaviour Therapy, 27(4): 249-264.

Nesi, H. 2012. Laughter in university lectures. *Journal of English for Academic Purposes* (online), 11(2): 79-89. Available: http://dutlib.dut.ac.za:2056/science/article/pii/5147 (Accessed 8 November 2013).

Neuman, W.L. 1997. Social Research Methods. Qualitative and Quantitative Approaches. 3rd ed. United States of America. A Viacom Company.

Nicholl, H.M. and Tracey, C.A.B. 2007. Questioning a tool in the nurse educator's kit. Nurse Education in Practice, 7: 285-292.

Nickitas, D.M. 2012. Asking Questions and Appreciating Inquiry: A Winning Strategy for the Nurse Educator and Professional Nurse Learner. *The Journal of Continuing Education in Nursing*, 43(3): 106-111.

Niemer, L., Pfendt, K. And Gers, M. 2010. Problem-Based Learning IN Nursing Education A Process for Scenario Development. Nurse Educator, 35(2): 69-73.

Nkosi, Z., Pillay, P. and Nokes, K.M. 2013. Implementing case-based teaching strategies in decentralised nursing management programme in South Africa. *Curationis* (online), 36(1): 130-135. Available: http://www.curationis.org.za/index.php/curationis/article/view/130/1229 (Accessed 29 November 2013).

Oermann, M.H. 1997. Evaluating Critical Thinking in Clinical Practice. Nurse Educator, 22(5): 25-28.

O' Neill, G. and McMahon. 2005. Student-Centered Learning: What Does It Mean For Students And Lecturers? (online). Available: www.aishe.org/readings/2005-1/oneill-macmahon_Tues_19th_SCL.html. (Accessed 13 April 2013).

Oxford Paperback Dictionary. 2000. 4th ed. Cape Town. Oxford University Press.

Parsh, B. 2010. Characteristics of Effective Simulated Clinical Experience Instructors: Interviews with Undergraduate Nursing Students. Journal of Nursing Education, 49(10): 568-572.

Paulsen, M.B., 2002. Evaluating Teaching Performance. New Directions for Institutional Research, 114: 5-18 (online). Available: http://onlinelibrary.wiley.com/doi/10.1002/ir.42/abstract (Accessed 15 April 2013).

Pierson, W. 1998. Reflection and nursing education. *Journal of Advanced Nursing* (online), 27(1):165-170. Available:

http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2648.1998.00509.x/abstract;jsessionid=23EDEAB55020118EF91175634DC6B1AA.f04t01?deniedAccessCustomisedMessage=&userIsAuthenticated=false (Accessed 25 February 2014).

Polit, D.F. and Beck, C.T. 2012. Nursing Research: Generating and Assessing Evidence for Nursing Practice. 9th ed. Philadelphia. Lippincott Williams and Wilkins.

Potgieter, E. 2012. Clinical teachings: developing critical thinking in student nurses. *Professional Nursing Today* (online), 16(2): Available: http://reference.sabinet.co.za/sa_epublication_article/mp_pnt_v16_n2_a2 (Accessed 1 November 2013)

Pugsley, K.E. and Clayton, L.H. 2003. Traditional Lecture or Experiential Learning: Changing Student Attitudes. *Journal of Nursing Education* (online), 42(11): 520-524. Available: http://www.ydae.purdue.edu/lct/hbcu.documents/T (Accessed 8 November 2013).

Quinn, F.M. 1991. The Principles and Practice of Nurse Education. 2nd ed. Great Britain. St. Edmundsbury Press Ltd.

Raisler, J., O'Grady, M., and Lori, J. 2003. Clinical Teaching and Learning in Midwifery and Women's Health. *Journal of Midwifery and Women's Health* (online), 48(6): 398-406. Available: http://faculty.ksu.edu.sa/hisham/Documents/Medical%20Education/English/Nursing%20Education/120.pdf (Accessed 12 February 2014).

Rakhudu, M.A.. 2011. Experiences of North-West University students in Problem Based Learning (PBL). *Journal of Social Science* (online), 29(1):81-89. Available: http://www.krepublishers.com/02-Journals/JSS/JSS-29-0-000-11-Web/JSS-29-1-000-2011-Abst-PDF/JSS-29-1-081-11-1317-Rakhudu-M-A/JSS-29-1-081-11-1317-Rakhudu-M-A-Tt.pdf (Accessed 15 June 2013).

Razak, R.A., and Hua, K.B. 2013. Self Regulated Learning for Developing Nursing Skills Via Web-based. *The Malaysian Online Journal of Educational Science* (online), 1(1): 43-54. Available: http://moj-es.net/volume/mojes-volume01-i01.pdf#page=50 (Accessed 3 January 2014).

Reime, M.G., Harris, A., Aksnes, J. and Mikkelsen, J. 2008. The most successful method in teaching nursing students infection control – E-learning or lecture? Nurse Education Today, 28(7): 798-806.

Richards, L., and Potgieter, E. 2010. Perceptions of registered nurses in four state health institutions on continuing formal education. *Curationis* (online), 33(2): 41-50. Available: http://www.ncbi.nlm.nih.gov/pubmed/21469515 (Accessed 19 October 2012).

Rondganger, L. 2013. SA needs 14 351 doctors, 44 780 nurses. Daily News, 22 January: 1.

Rowan, C.J., McCourt, C., Bick, D. and Beake, S. 2007. Problem based learning in midwifery – The teachers' perspective. Nursing Education Today, 27: 131-138.

Russel, A.M., Commelo, R.J. and Wright, D.L. 2007. Teaching Strategies Promoting Active Learning in Healthcare Education. Journal of Education and Human Development, 1(1): 1-8.

Russom, B., Andemariam, M. and Haile, T. 2006. History And Trends Of Nursing In Eritrea. In: Pavoni Social Centre Library. Ed. 50th Golden Jubilee Anniversary Celebration. Eritrea, July 2006. Erina: 1- 40.

Salehi, S.H., Shahnooshi, E. 2007. Nursing Student's Preferred Learning Styles. *Iranian Journal of Nursing and Midwifery*, 11(3): 85-89. Available: http://scholar.google.co.za/scholar?q=+Nursing+Student%E2%80%99s+Preferred+Learning+Styles.+&btnG=&hl=en&as_sdt=0%2C5 (Accessed 26 January 2013).

Sand-Jecklin, K. 2007. The impact of active/cooperative instruction on beginning nursing student learning strategy preference. Nurse Education Today.27: 474-480.

Santiprasitkul, S., Sithivong, K. and Polnuengma, O. 2007. Problem Based Learning on Nurse Students Achievement and Critical Thinking Skill (online). Available: http://www.pbltt2011.mfu.ac.th/download/full_paper/G3_Somporn%20Santiprasitkul_Full%20Paper.pdf (Accessed 17 April 2013).

Schoening, A.M. 2009. The Journey from Bedside to Classroom: Making the Transition from Nurse to Nurse Educator. Ph.D Nursing, The University of Nebraska-Lincoln.

Schofield, C.P. and Honoroe, S. 2009. Generation “Y” and learning. *The Ashridge Journal* (online), Winter: 26-32. Available: https://www.ashridge.org.uk/Website/IC.nsf/0/a526cd28b741e166802575d000535beb?OpenDocument&Click (Accessed 14 January 2014).

Schofield, D.J., and Beard, J. 2005. Baby boomer doctors and nurses: demographic change and transitions to retirement. *Medical Journal of Australia* (online), 183(2):80-83. Available: https://mjainsight.com.au/system/files/issues/183_02_180705/sch10269_fm.pdf (Accessed 10 April 2013).

Seago, J.A., Spetz, J., Chapman, S., Dyer and W., Grumbach, K. 2004. Supply, Demand, and Use of Licensed Practical Nurses (online). Available: http://www.credenticdwatch.org/report/1pn.pdf (Accessed 1 May 2014).

Searle, C., Human, S. and Mogotlane, S.M. 2009. Professional Practice A Southern African Nursing Perspective. 5th ed. South Africa: Heinemann Publishers.

Shearer, R. and Davidhizar, R. 2003. Using Role Play to Develop Cultural Competence. Educational Innovations, 42(36): 273-276.

Shisana, O., Hall, E.J., Maluleke, R., Chauveau, J. and Schwabe, C. 2004. HIV/AIDS prevalence among South African health workers. South African Medical Journal, 94(10): 846-850.

Sleeper, J.A., and Thompson, C. 2008. The use of HI Fidelity Simulation to Enhance Nursing Students' Therapeutic Communication Skills. *International Journal of Nursing Education Scholarship* (online), 5(1): 1:12, Available: http://www.degruyter.com/view/j/ijnes.2008.5issue-1/ijnes.2008.5.1.155.xml (Accessed 3 January 2014).

Smith-Stoner, M. and Molle, M.E. 2010. Collaborative Action Research: Implementation of Cooperative Learning. Journal of Nursing Education, 49(6): 312-318.

Sorvatzioti, D. Fr. 2012. The Socratic Method of Teaching In A Multidisciplinary Educational Setting. International Journal of Arts and Sciences, 5(5): 61-71.

South African Nursing Council. 1975. Regulations for the course for the Diploma in Midwifery for Registration as a Midwife (online). Available: http://www.sanc.co.za/regulat/Reg-mid.html (Accessed 12 February 2014).

South African Nursing Council. 1985. Regulations relating to the Approval of and the Minimum Requirements for the Education and Training of a Nurse (General, Psychiatric and Community) and Midwife Leading to Registration (online). Available: http://www.sanc.co.za/regulat/Reg-4yr.html (Accessed 12 February2014).

South African Nursing Council. 1989. Regulations relating to the Minimum Requirements for a Bridging Course for Enrolled Nurses Leading to Registration as a General Nurse or Psychiatric Nurse (online). Available: http://www.sanc.co.za/regulat/Reg-brg.html (Accessed 2 January 2014).

South African Nursing Council. 1992. Standards for Nursing Practice, Policy Statements. Pretoria: Government Printer.

South African Nursing Council. 1993a. Regulations relating to the Course in Clinical Nursing Science Leading to Registration of an Additional Qualification (online). Available: http://www.sanc.co.za/regulat/Reg-cln.html (Accessed 1 August 2012).

South African Nursing Council. 1993b. Regulations relating to the course Leading to Enrolment as a nurse (online). Available: http://www.sanc.co.za/regulat/Reg-nen.html (Accessed 12 February 2014).

South African Nursing Council. 1993c. Regulations relating to the Course Leading to Enrolment as a Nursing Auxiliary (online). Available: http://www.sanc.co.za/regulat/Reg-nna.html (Accessed 2 January 2014).

South African Nursing Council. 2009. Circular 3/2009 (online). Available: http://www.sanc.co.za/archive/archive2009/news (Accessed 5 May 2014).

South African Nursing Council. 2013. SANC Geographical Distribution 2013 (online). Available: http://www.sanc.co.za/stats/stat2013/Distribution%202013.htm (Accessed 21 April 2014).

South African Nursing Council. 2005. Nursing Act No. 33 of 2005 (online). Available: http://www.sanc.co.za/publications.htm (Accessed 21 August 2012).

South Africa. Statistics South Africa. 2010. Republic of South Africa Millennium Development Goals Country's Report. Pretoria. Government Printer.

Statistics South Africa. 2013. Mid -year Population estimates 2013 (online). South Africa: Statistics South Africa. Available: http://beta2.statssa.gov.za/?page_id=1854&PPN=P0302&SCH=5500 (Accessed 15 May 2014).

Steed, C.J., Howe, L.A., Pruitt, R.H. and Sherrill, W.W. 2004. Integrating Bioterrorism Education into Nursing School Curricula. *Journal of Nursing*

Education (online), 43(8): 362-367. Available: http://europepmc.org/abstract/MED/15344372 (Accessed 1 May 2013).

Stephens, M., and Hennefer, D. 2013. Internationalising the nursing curriculum using a Community of Inquiry Framework and blended learning. Nurse Education in Practice (online), 13(1): 170-175. Available: http://www.ncbi.nlm.nih.gov/pubmed/23069695 (Accessed 3 January 2014). http://www.ncbi.nlm.nih.gov/pubmed/23069695

Stone, R., Cooper, S. and Cant, R. 2013. The Value of Peer Learning in Undergraduate Nursing Education: A Systemic Review. ISRN *Nursing, Hindawi* (online),2013(2013):1-10.Available: http://www.hindawi.com/journals/isrn.nursing/2013/930901/ (Accessed 7 November 2013).

Sullivan, R.L. and McIntosh, N. 1996. Delivering Effective Lectures (online). Available: http://xa.yimg.com/kg/groups/20636343/14551742/name/Delivering%BEffective%2bspeech.pdf (Accessed 8 November 2010).

Sung, Y.E., Gak Kwon, I. And Ryu, E. 2008. Blended learning on medication administration for new nurses: Integration of e-learning and face-to-face instruction in the classroom. Nurse Education Today, 28(8): 943-952.

Svinicki, D., and Dixon, N.M. 1987. The Kolb Model Modified for Classroom Activities. *College Teaching* (online), 35(4): 141-146. Available: http://www.researchgate.net/publication/254338739_The_Kolb_Model_Modified_for_Classroom_Activities (Accessed 25 July 2013).

Swanson, A.S., Nicholson, A.C., Boese, T.A., Cram, E., Stineman, A.M., and Tew, K. 2010. Comparison of Selected Teaching Incorporating Simulation and Student Outcomes. *Clinical Simulation in Nursing* (online), 7(3):81-90. Available: http://www.nursingsimulation.org/article/S1876-1399(09)00582-9/abstract (Accessed 16 March 2013).

Theophanides, A.2 010. *Shaping SA's Workforce-Nursing the Gap* (online). Available: http://www.adcorp.co.za/Industry/Documents/Adcorp%20Employment%20Booklet%20web%20(2).pdf (Accessed 10 December 2013).

United Nations. 2000. Millennium Development Goals (online). Available: http://www.unmillenniumproject.org/goals (Accessed 30 November 2013).

University of Brighton. 2013. *Evaluating your teaching* (online). Available: http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CBsQFjAA&url=http%3A%2F%2Fabout.brighton.ac.uk%2Fclt%2Findex.php%2Fdownload_file%2Fview%2F242%2F144%2F&ei=2oGpU9OVJcOY0AXl6YHADw&usg=AFQjCNHWyWCXVrTpr_wfBBnFyYgi8BAQ6Q&bvm=bv.69620078,d.ZWU (Accessed 26 February 2014).

United States Department of Health - Health Resource and Services Administration. 2010. The Registered Nurse Population: Initial Findings from the 2008 National Sample Survey of Registered Nurses (online). Available: http://bhpr.hrsa.gov/healthworkforce/rnsurveys/rnsurveyfinal.pdf (Accessed 1 November 2012).

Van Dijk, L.A. and Jochems, W.M.G. 2002. Changing a Traditional Lecturing Approach into an Interactive Approach: Effects of Interrupting the Monologue in Lectures. *International Journal of Engineering Education* (online), 18(3): 275-285. Available: http://wwwijee.ie/articles/udi18-3/IJEE1300.pdf (Accessed 8 November 2013).

Van Doren, E.S. and Vander Werf, M. 2012. Developing Non-traditional Community Health Placements. Journal of Nursing Education, 51(1): 46-49.

Van Ort, S and Townsend, J. 2000. Community-based nursing education and nursing accreditation by the commission on collegiate nursing education. Journal of Professional Nursing (online), 16(6): 330-335. Available:

http://www.sciencedirect.com/science/article/pii/S8755722300228949 (Accessed 3 August 2013).

Van Wyngaarden. A. 2008. Teaching Strategies For Theory Content in an Outcome – and Problem – Based Nursing Education Programme. Masters Degree in Nursing in Advanced Nursing Education. University of Pretoria.

Wade, S. and Skinner, A. 2001. Student placement in nursing homes. Nursing Older People (online), 13(2): 14-17. Available: http://dutlib.dut.ac.za:2057/docniew/218612711/ful (Accessed 9 November 2013).

Walker, J.T., Martin, T., White, J., Elliot, R., Norwood, A., Mangum, C., and Haynie, L. 2006. Generational (Age) Differences in Nursing Students' Preferences for Teaching Methods. *Journal of Nursing Education* (online), 45(9): 371-374. Available: http://www.ncbi.nlm.nih.gov/pubmed/17002084 (Accessed 11 January 2013).

Walker, S.E. 2003. Active Learning Strategies to Promote Critical Thinking. *Journal of Athletic Training* (online), 38(3): 263-267. Available: http://www.ncbi.nlm.gov/pmc/articles/PMC233182 (Accessed 29 November 2013).

Whitehair, L., and O'Reilly, M. 2010. *Media supported problem-based learning and role-play in clinical nurse education* (online). Available: http://epubs.scu.edu.au/tlc_pubs/186/ (Accessed 10 January 2013).

Whiteley, T.K. 2006. Using The Socratic Method And Bloom's Taxonomy Of The Cognitive Domain To Enhance Online Discussion, Critical Thinking, and Student Learning. Developments in Business Stimulation and Experiential Learning, 33: 65-70.

Wildschut, A. and Mgqolozana, T. 2007. Nursing in a new era (online). Available:

http://www.pan.org.za/sites/default/files/publicationdocuments/Nursing_in_a_new_era_HSRC_November09_4.pdf (Accessed 30 November 2013).

Wilford, A. and Doyle, T.J. 2006. Integrating simulation training into the nursing curriculum. British Journal of Nursing, 15 (11): 604-607.

Woods, M. 2004. Nursing Ethics Education: Are we really delivering the Good(s)?. *Nursing Ethics* (online), 12(1): 5-18. Available: http://www.ncbi.nlm.nih.gov/pubmed/15685964 (Accessed 26 May 2012).

World Health Organisation. 2001. Integrated Management of Childhood Illness (IMCI): Planning, Implementing and Evaluating Pre-Service Training. Geneva.

World Health Organisation. 2007. International action needed to increase health workforce. Geneva. Available: www.who.int/mediacentre/news/releases/2007/pr05/en/ (Accessed 20 April 2013)

World Health Organisation. 2009. Global Standards for the Initial Education of Professional Nurses and Midwives. Geneva.

World Health Organisation. 2010. A Framework for Community Health Nursing Education. India. Regional WHO office for South East Asia.

Yang, K., Woomer, G. R. and Matthews, J.T. 2011. Collaborative learning among undergraduate students in community health nursing. Nurse Education in Practice, 12 (2): 72-76.

Yang, Y.C., Newby, T.M. and Bill, R.L. 2005. Using Socratic Questioning to Promote Critical Thinking Skills Through Asynchronous Discussion Forums in Distance Learning Environments. American Journal of Distance Education, 19(3): 163-181.

Yildirim, B., Ozkahraman, S. and Karabudak, S.S. 2011. The Critical Thinking Teaching Methods In Nursing Students. International Journal of Business and Social Science, 2 (24): 174-182.

Young , A., van Niekerk, C.Y. and Mogotlane, S. 2003. *Juta's Manual of Nursing*. 1st ed. South Africa: Juta and Co. Ltd.

Youngblood, N. and Beitz, J.M. 2001. Developing Critical Thinking with Active Learning Strategies. *Nurse Educator* (online), 26(1): 39-42. Available: http://w3.uniroma1.it/nursing/wp/LM/nurse%2520educator%252026.doc (Accessed 29 November 2013).

Xi-wen, L., Chun-ping, N., Rui, Y., Xiu-chaun, L., and Cheng, C. 2OO7. Teaching design of cultivating nursing students creative thinking. *U.S-China Education Review* (online), 4(7): 38-41. Available: http://www.airitilibrary.com/Publication/alDetailedMesh?docid=15486613-200707-4-7-38-41-a (Accessed 1 May 2014).

Zhang, W. 2014. Problem Based Learning in Nursing Education. *Advances in Nursing*(online), 2014(1): 1-5. Available: http://www.hindawi.com/journals/anurs/2014/125707/cta/ (Accessed 1 April 2014).

Annexure 1A

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 August 2013

The Principal

Mrs. M. Sissing

Addington Campus

P.O. Box 977

Durban

4000

Dear Mrs. Sissing

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the KwaZulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.

I would please request that lecturers each take their own questionnaire from an envelope that will contain all questionnaires and smaller return envelopes. On completion return them to the prepared box to maintain confidentiality.

I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.
The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.
Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 99 38

Annexure 1A

Good morning Mrs. Subhan
Your letter requesting to conduct your research at this campus has reference. Permission is granted. Please remember to adhere to all policies and procedures as prescribed by the Department of Health.
Good Luck.

Kind Regards

Mrs. Maria A. Sissing
Principal
Addington Campus
Tel: 031 - 327 2057
Fax: 031 - 327 2756
Email: maria.sissing@kznhealth.gov.za

Annexure 1B

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 August 2013

The Principal

Dr. Matsane

Ngwelezana Campus

Private Bag X20021

Empangeni

3800

Dear DR. Matsane

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.

All costs will be borne by the researcher i.e. delivery and stationary costs.

I would please request that lecturers each take their own questionnaire from an envelope that will contain all questionnaires and smaller return envelopes. On completion return them to the prepared box to maintain confidentiality.

I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.
The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.

Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 99 38

Annexure 1C

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 August 2013

The Principal

Mrs. B.S. Simelane

Charles Johnson Memorial Campus

Private Bag X5503

Nqutu

3135

Dear Mrs. Simelane

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the KwaZulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.

I would please request that lecturers each take their own questionnaire from an envelope that will contain all questionnaires and smaller return envelopes.
On completion return them to the prepared box to maintain confidentiality.
I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.

The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.
Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 99 38

Annexure 1C

health

Department:
Health
PROVINCE OF KWAZULU-NATAL

DDEPARTMENT OF HEALTH KWAZULU- NATAL
COLLEGE

CCHARLES JOHNSON MEMORIAL
NURSING CAMPUS
Lot No. 92, Hlubi
Street, Nquthu, 3135
Private Bag X 5555,
Nquthu, 3135
Tel: 034 271 6529;
Fax: 034 271 0094

www.kznhealth.gov.za

22.08. 2013

Mrs. M.S.Subhan

C/O Durban University of Technology

Dear Madam.

PERMISSION TO CONDUCT A STUDY

A permission is hereby granted to you for conducting a study on Current pedagogical teaching strategies used by educators at the KZNCN across varied subjects and their views regarding innovative methodologies.

We wish you good luck in your study.

Mrs. B.S.Simelane

Acting Campus Principal

Annexure 1D

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 August 2013

The Principal

Mrs. Majola

Edendale Campus

Private Bag X 509

Plessislaer

4060

Dear Mrs. Majola

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.

I would please request that lecturers each take their own questionnaire from an envelope that will contain all the questionnaires and smaller return envelopes.
On completion return them to the prepared box to maintain confidentiality.

I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.
The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.

Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching.

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 9938

Annexure 1D

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

KWAZULU NATAL COLLEGE OF NURSING
EDENDALE NURSING CAMPUS S 2013
Private Bag X 9099.Pietermaritzburg .3200
29 Havelock Road.Pietermaritzburg .3201
Tel.:0333459477 Fax 033-3459477/0867735264
Email.:ntombizakhona.majola@kznhealth.gov.za
www.kznhealth.gov.za

07 October 2013

Mrs. M. Subhan

RE-REQUEST TO CONDUCT RESEARCH AT EDENDALE NURSING CAMPUS

Protocol: "Current Pedagogical Teaching Strategies Being used by Educators at the KZNCN Campuses a Cross-varied Subjects and their views Regarding Innovative Methodologies."

Your e-mail dated 01.10.13 refers.

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

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

Thank you
Yours sincerely

[redacted]

Dr N.V. Mkhize
(Chairperson Research committee)

[redacted]

Mrs N.C. Majola
(Campus principal)

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

Annexure 1E

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 September 2013

The Principal

MS. E.N. Hlongwa

Grey's Campus

Private Bag X9001

Pietermaritzburg

3200

Dear Ms. Hlongwa

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.
I would please request that lecturers each take their own questionnaire from an envelope that will contain all the questionnaires and smaller return envelopes.
On completion return them to the prepared box to maintain confidentiality.
I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.
The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.

All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.

Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj and the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 99 38

Annexure 1E

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

KWAZULU NATAL COLLEGE OF NURSING
GREY'S CAMPUS
Private Bag X 9001, Pietermaritzburg, 3200
25 Townbush Road, Montrose, Pietermaritzburg, 3201
Tel.:033 897 3503,
Fax.: 033 897 3500
Email.:esther.hlongwa@kznhealth.gov.za
www.kznhealth.gov.za

18th September 2013

Grey's Campus
Head of Department - CNS

Dear Mrs. M.S. Subhan

Re: Request to Conduct Research

Your letter dated 15th September 2013 refers,

Please be advised that permission has been granted for you to conduct research at the Campus.

Thank you

Yours faithfully

[redacted]

E.N. Hlongwa (Miss)
Campus Principal

Annexure 1F

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 August 2013

The Principal

Mrs. J. Hadebe

Madadeni Campus

Private Bag X6642

Newcastle

2940

Dear Mrs. J. Hadebe

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.

I would please request that lecturers each take their own questionnaire from an envelope that will contain all questionnaires and smaller return envelopes. On completion return them to the prepared box to maintain confidentiality.

I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.
The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.
Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 99 38

Annexure 1F

health

Department:
Health
PROVINCE OF KWAZULU-NATAL

KWAZULU-NATAL COLLEGE OF NURSING
MADADENI CAMPUS
Private Bag X6642, NEWCASTLE, 2940
Dr. Nelson Mandela Rd, Section 2, Majuba FET College CPD
MADADENI, 2951
Tel.:034-3144431/48/55/45/35/617, Fax 034-3144618/ 3143327
Email.: lucky.sithole@kznhealth.gov.za
www.kznhealth.gov.za

Enquires: Mrs. S.V Hlatshwayo

Telephone: 034- 3144431

Date: 22 August 2013

Dear Mrs. MS Subhan

Re: Permission to conduct a Research Study at Madadeni Campus

I have pleasure in informing you that the permission to conduct research at this Campus has been granted. The title of your project is: "**Current Pedagogical Teaching Strategies used by educators at the KwaZulu Natal College of Nursing Campuses across varied subjects and their views regarding innovative methodologies"**

Please make sure that you:

- Adhere to the Department of Health policies, procedures and guidelines
- Do not disturb the functioning of the Campus or academic activities when collecting data
- Make prior arrangements with the relevant staff members, class teachers and student.

The Campus wishes you all the best of luck in your studies. We will appreciate greatly that you share the findings or provide feedback on your findings.

Thank you.

Yours faithful

S.V HLATSHWAYO (Mrs.)

CAMPUS PRINCIPAL

Annexure 1G

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 August 2013

The Principal

Mrs. J. Reddy

R.K. Khan Campus

Private Bag X004

Chatsworth

4030

Dear Mrs. J. Reddy

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.

I would please request that lecturers each take their own questionnaire from an envelope that will contain all the questionnaires smaller return envelopes.
On completion return them to the prepared box to maintain confidentiality.
I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.

The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.

Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

Javi1@telkomsa.net

084 555 99 38

Annexure 1G

Department:
Health
PROVINCE OF KWAZULU-NATAL

KZN COLLEGE OF NURSING
R.K. KHAN CAMPUS
PRIVATE BAG X004
CHATSWORTH
4030
Tel.:031-4596187
Fax.:031-4015229
Email.:jaya.reddy@kznhealth.gov.za

24 April 2014

Mary Subhan

PERMISSION GRANTED TO CONDUCT RESEARCH

Permission had been granted to you via e-mail, to conduct research at the above institution.

[redacted]
Mrs J. Reddy
Campus Principal

24/04/2014
Date

Annexure 1H

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

5 August 2013

The Principal

Mr. N.B. Gwala

Portshepstone Campus

Private Bag X719

Portshepstone

4240

Dear Mr. Gwala

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.
I would please request that lecturers each take their own questionnaire from an envelope that will contain all questionnaires and smaller return envelopes.
On completion return them to the prepared box to maintain confidentiality.

I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.
The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.

All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.

Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 99 38

Annexure 1H

health

Department:
Health
PROVINCE OF KWAZULU-NATAL

PORT SHEPSTONE NURSING CAMPUS
Postal Address: Private bag x719
Port Shepstone 4240
Physical Address: Lot 107 Marine drive
Shelly Beach 4265
Tel.:039 315 5322/3, Fax: 039 315 5325

Date: 16 August 2013

Attention: Mrs. M.S. Subhan

149 Brixham Road
Orient Heights
PIETERMARITZBURG
3201

Dear Mrs. Subhan

RE: REQUEST FOR PERMISSION TO CONDUCT STUDY

Your letter dated 05 August 2013 is hereby acknowledged and refers:

Permission is hereby granted for you to conduct your study at Port Shepstone Nursing Campus. Please take note of the conditions as stated by the Kwa-Zulu Natal College of Nursing. Please note that it may not be always possible to have all educators as they are committed on timetables and clinical facilitation. Please make arrangements well in advance to avoid disappointment.

Best wishes

[redacted]

MR N.B. GWALA
CAMPUS PRINCIPAL
PORT SHEPSTONE NURSING CAMPUS

Annexure 1I

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 August 2013

The Principal

Dr. S.Z. Mthembu

Prince Mshiyeni Campus

Private Bag X07

Mobeni

4060

Dear Dr. S.Z. Mthembu

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.

All costs will be borne by the researcher i.e. delivery and stationary costs.
I would please request that lecturers each take their own questionnaire from an envelope that will contain all the questionnaire and the smaller return envelopes.
On completion return them to the prepared box to maintain confidentiality.

I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.
The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.

Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 99 38

Annexure 1J

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

15 August 2013

The Principal

Mrs. M. Zibani

Benedictine Campus

Private Bag X5002

Nongoma

3950

Dear Mrs. Zibani

Re: Permission to conduct a research study at your campus

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013

Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.

I would please request that lecturers each take their own questionnaire from an envelope that contain all the questionnaires and smaller return envelopes. On completion return them to the prepared box to maintain confidentiality.
I request that these boxes be kept in the office of the deputy principal to prevent unauthorised access to the questionnaires.

The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Questionnaires will be collected two weeks from delivery date.

Participants: All heads of departments and all lecturers involved in clinical and theoretical teaching

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university, from Mrs. Maharaj (KZNCN) and from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research
  findings and recommendations once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

Javi1@telkomsa.net

084 555 99 38

Annexure 1K

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

5 August 2013

The Acting Principal

Ms. J.T. Makhathini

Kwazulu Natal College of Nursing (KZNCN)

333 Pietermaritz Street

Pietermaritzburg

3201

Dear Ms. Makhathini

Re: Permission to conduct a research study at ten campuses (excluding King Edward).

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing; I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Topic: Current pedagogical teaching strategies being used amongst by educators in the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative teaching methodologies.

Proposed date for dissemination of questionnaires: October 2013
Questionnaires will be delivered to the campus and collected from the campus.
All costs will be borne by the researcher i.e. delivery and stationary costs.

I would please request that lecturers each take their own questionnaire from an envelope that will contain all questionnaires and smaller return envelopes.
On completion return them to the prepared box to maintain confidentiality.
I request that these boxes be kept in the office of the deputy principal.
The questionnaire will take approximately twenty minutes to complete.
Questionnaires will be numbered to maintain confidentiality.
All campuses will be encoded, so that the name of the campus is anonymous.
Participants: All heads of departments and all lecturers involved in both clinical and theoretical teaching.

Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the Durban University of Technology, I have also received ethical clearance from the Provincial Research Ethics Committee. (Please find attached supporting documents).

The strictest ethical standards will be abided by.

Research supervisor: Dr. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

- My research is motivated by evidence that there is a need for nurse educators globally to change their teaching methodologies.
- This study will be of great value to educators working in these campuses and for KZNCN as a whole.
- It will also assist in producing nurses that are prepared to work as safe practitioners within the current and future work force.
- All participants, KZN Department of Health and KZNCN will be informed of the research findings once all the necessary permission has been obtained.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

Javi1@telkomsa.net

084 555 99 38

Annexure 1K

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

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

Enquiries: Mrs. S. Maharaj
Telephone: 033 – 264 7806
Date: 06 August 2013

Principal Investigator:
Mrs MS Subhan
C/O Durban University of Technology

Dear Madam

RE: PERMISSION TO CONDUCT RESEARCH AT THE KZN COLLEGE OF NURSING

TITLE: **CURRENT PEDAGOGICAL TEACHING STRATEGIES BEING USED BY EDUCATORS AT THE KWAZULU-NATAL COLLEGE OF NURSING CAMPUSES ACROSS VARIED SUBJECTS AND THEIR VIEWS REGARDING INNOVATIVE METHODOLOGIES**

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

Data Collection sites:

Campuse(s)		
Prince Mshiyeni Memorial	Addington	Charles Johnson Memorial
Greys	Portshepstone	Benedictine
Ngwelezana	Edendale	
Madadeni	RK Khan	

Please note the following:

1.1 Please ensure that you adhere to all policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
1.2 This Research will only commence once this office has received confirmation of approval from the Provincial Health Research Committee in the KZN Department of Health.
1.3 Please ensure this office is informed before you commence your research.
1.3.1 Permission is therefore granted for you to conduct this research at all the KZN College of Nursing Campuses
1.4 The KwaZulu-Natal College and its NEI's will not provide any resources for this research.
1.5 You will be expected to provide feedback on your findings to the Principal of the KwaZulu-Natal College of Nursing.

Thanking You

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

Annexure 2A

Letter of information and instructions for research participant to complete questionnaire

Dear Participant

Warm greetings to you and thank you for agreeing to participate in my study. My name is Mrs. Mary Shamane Subhan; I am currently employed at Grey's Nursing Campus as a lecturer and am a Masters of Technology student at the Durban University of Technology. My study is titled "Current pedagogical teaching strategies being used by educators at the Kwazulu Natal College of Nursing Campuses across varied subjects and their views regarding innovative methodologies". Please take some time to read the information presented hereunder, which will explain the details of the study and how to complete the questionnaire. It is important that you fully understand the process of this study and how you will be involved. Your participation is voluntary. Please read this letter in conjunction with the attached letter of information and proceed once you have signed the consent form.

A survey is being undertaken to investigate the various teaching strategies used and presently in use to teach the various subject areas in the nursing curricula offered at the campuses. It will also assess the lecturers' readiness, preparation and willingness to adopt contemporary teaching strategies. It will also highlight areas requiring in - service training by lecturers as well as resources needed in campuses.

You are requested to kindly fill in a self administered questionnaire which should take you approximately twenty minutes to complete. The questionnaire is structured as follows:

Section A: serves to collect demographic data. Please make a cross [X] in the relevant box provided. This data will be used for statistical purposes only.

Section B: serves to collect information about teaching experience. Please make a cross [X] in the relevant box provided. It is important that this information is accurate.

Section C: involves collecting information about teaching strategies. Please mark a cross [X] in the box provided. Please note that it is vital that this information is completed correctly and honestly in the tables presented in order to ensure a reliable and accurate study.

NB: If you are not involved in teaching a programme e.g. the R425 programme please write not applicable (N/A) in the box provided.

N/A

If you have marked the above box with N/A it means that you are not involved in teaching this programme , so you will then proceed to the next question.

If you are involved in teaching this programme you will continue to complete the information below. Please note the example below.

Subject Areas		Industrial psychology			Public health			Financial management			Transcultural Nursing			Financial Management			Human resource management			Social development			Health Systems		
Frequency of use		**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**
10.1	Lecture method		X					X																	
10.2	Small group discussions		X						X																
10.3	Problem based learning			X						X															
10.4	Case based studies			X				X																	
10.5	Role play			X					X																
10.6	Simulation		X							X															
10.7	Narrative styles	X								X															
10.8	Inquiry/ Socratic questioning			X						X															

NB: The above will mean that the **lecturer is involved in teaching industrial psychology** she uses the teaching strategies as follows:

Lecture method – sometimes, small group discussions – sometimes, problem based learning – never, case study – never, role play never, simulation – sometimes, narrative styles – always, Socratic questioning never. Each of the subject area is assessed against each teaching area.

If you are involved in teaching more than one subject area, it is then important for you to fill in the teaching strategy for each of the subject areas, as the example above. The lecturer is only involved in teaching industrial psychology and financial management. Only complete teaching strategies for the subjects that you are involved in teaching. Leave those that you are not involved in teaching blank.

Please note that you cannot mark always, sometimes and never for one teaching strategy e.g. the lecture method. If you make a mistake please strike off neatly and initial your mistake.

Section D: involves the evaluation of teaching.

Once you have completed filling in your questionnaire, please post it in the box provided in your deputy campus principal's office.

Kindly note that all the necessary permission for this study has been granted as per the letter of information that you have received together with this letter, the questionnaire and the consent form.

Please feel free to contact me or my supervisor should you have any concerns.

Thank you for your willingness to participate.

Yours Sincerely

_____

Mrs. M.S. Subhan

Annexure 2B

QUESTIONNAIRE

Please cross[X] next to the most appropriate answer in the box provided.

SECTION A

DEMOGRAPHIC DETAILS

1. Gender M F

2. Age

24 -30 years

31 – 40 years

41 – 50 years

51 – 60 years

61 – 65 years

3. Ethnicity

African Coloured Indian White Other [Specify]

4. Highest educational qualification.

Doctoral degree in nursing

Masters degree in nursing

Bachelor's degree in nursing

Higher Diploma in nursing

Other: Please specify

5. State at which university you obtained your qualification in nursing education

University	Mark with an X
University of Kwazulu Natal	
University of Western Cape	
University of South Africa	
University of Zululand	
University of Pretoria	
University of Potchefstroom	
Specify other:	

6. When was the above qualification obtained?

Mark the appropriate box with an X

< 5 years ago	
6 – 10 years ago	
11 – 15 years ago	
16 – 20 years ago	
>20 years ago	

7. Please specify your position

Head of department ☐

Lecturer grade 1 ☐

Lecturer grade 11 ☐

Other: specify ☐

SECTION B

TEACHING EXPERIENCE

8. How many years are you teaching?

1 – 5 years ☐

6 – 10 years ☐

11 – 15 years ☐

16 – 20 years ☐

21 – 30 years ☐

31 – 35 years ☐

9. Which programmes are you involved in teaching?

R425 ☐

R2175 ☐

R2176 ☐

R683 ☐

R254 ☐

R 212 ☐

Other: Please specify ☐

10. Which level of nursing are you teaching and have taught for each of the programmes? [You may choose more than 1 option]

COURSE	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
R425				
R2175				
R2176				
R683				
R254				
R212				
OTHER				

Post Basic Course: Specify course

SECTION C

TEACHING STRATEGIES

11. Choose the teaching strategies that you currently use or have used in the past. [You may choose more than 1 strategy]

	TEACHING STRATEGIES	ALWAYS	SOMETIMES	NEVER
11.1	Lecture method			
11.2	Small group discussions			
11.3	Problem based learning			
11.4	Case based studies			
11.5	Role play			
11.6	Simulation			
11.7	Narrative styles			
11.8	Inquiry/Socratic questioning			
11.9	Portfolios			
11.10	Reflective thinking/Journals			
11.11	Web based teaching			
11.12	Evidence based			
11.13	Community based			
11.14	Demonstration			

12. Select the teaching strategies used or currently being used to teach the following content for the R425 curriculum. (You may choose more than one teaching strategy per subject area.)

NB: If you are not involved in teaching the R425 programme please write not applicable (N/A) in the box provided.

Subject Areas		**Fundamental Nursing Science**			**Anatomy & Physiology**			**Social Science**			**Community Health Nursing**			**Medical & Surgical Nursing**			**Ethos & Professional Practice**			**Midwifery**			**Psychiatry**		
Frequency of use		**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**
12.1	Lecture method																								
12.2	Small group discussions																								
12.3	Problem based learning																								
12.4	Case based studies																								
12.5	Role play																								
12.6	Simulation																								
12.7	Narrative styles																								
12.8	Inquiry/ Socratic questioning																								
12.9	Portfolios																								
12.10	Reflective thinking/ Journals																								
12.11	Web based teaching																								
12.12	Evidence based																								
12.13	Community based																								
12.14	Demonstration																								

13. Select the teaching strategies used or currently being used to teach the following content for the R425 curriculum. (You may choose more than one teaching strategy per subject area.)

Subject Areas		**HIV and AIDS Course**				**IMCI Course**			
Frequency of use		**Always**	**Sometimes**	**Never**	**Not Applicable**	**Always**	**Sometimes**	**Never**	**Not Applicable**
13.1	Lecture method								
13.2	Small group discussions								
13.3	Problem based learning								
13.4	Case based studies								
13.5	Role play								
13.6	Simulation								
13.7	Narrative styles								
13.8	Inquiry/Socratic questioning								
13.9	Portfolios								
13.10	Reflective thinking/Journals								
13.11	Web based teaching								
13.12	Evidence based								
13.13	Community based								
13.14	Demonstration								

14. Select the teaching strategy used or currently in use for teaching students in the R2175 and R2176 programmes. (You may select more than one strategy).

NB: If you are not involved in teaching the R2175 or R2176 programme please write not applicable (N/A) in the box provided.

Subject Areas		**Nursing Care**			**Anatomy & Physiology**			**Social Science**			**Comprehensive Health Care**			**Medical & Surgical Nursing**			**Ward Organisation**		
Frequency of use		**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**
14.1	Lecture method																		
14.2	Small group discussions																		
14.3	Problem based learning																		
14.4	Case based studies																		
14.5	Role play																		
14.6	Simulation																		
14.7	Narrative styles																		
14.8	Inquiry/Socratic questioning																		
14.9	Portfolios																		
14.10	Reflective thinking/Journals																		
14.11	Web based teaching																		
14.12	Evidence based																		
14.13	Community based																		
14.14	Demonstration																		

15. Select the teaching strategy used or currently in use for teaching R683 programme. (You may choose more than one strategy)

NB: If you are not involved in teaching the R683 programme please write not applicable (N/A) in the box provided.

Subject Areas		**Nursing Care**			**Anatomy & Physiology**			**Social Science**			**Community Health Nursing**			**Medical & Surgical Nursing**			**Ethos & Professional Practice**			**Psychology**		
Frequency of use		**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**
15.1	Lecture method																					
15.2	Small group discussions																					
15.3	Problem based learning																					
15.4	Case based studies																					
15.5	Role play																					
15.6	Simulation																					
15.7	Narrative styles																					
15.8	Inquiry/Socratic questioning																					
15.9	Portfolios																					
15.10	Reflective thinking/Journals																					
15.11	Web based teaching																					
15.12	Evidence based																					
15.13	Community based																					
15.14	Demonstration																					

16. Select the teaching strategy used or currently being used to teach post basic R212 programmes. (You may choose more than one strategy)

NB: If you are not involved in teaching the R212 programme please write not applicable (N/A) in the box provided.

	Subject Areas	**Capita Selecta**			**Nursing Dynamics**			**Orthopeadics**			**Advanced Midwifery**			**Critical Care Nursing**			**Child Care Nursing**			**Primary Health Care**			**Theatre Nursing**		
	Frequency of use	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**
16.1	Lecture method																								
16.2	Small group discussions																								
16.3	Problem based learning																								
16.4	Case based studies																								
16.5	Role play																								
16.6	Simulation																								
16.7	Narrative styles																								
16.8	Inquiry/ Socratic questioning																								
16.9	Portfolios																								
16.10	Reflective thinking/Journals																								
16.11	Web based teaching																								
16.12	Evidence based																								
16.13	Community based																								
16.14	Demonstration																								

17. Select the teaching strategy used or currently being used to teach the R254 programme. (You may choose more than one strategy)

NB: If you are not involved in teaching the R254 programme please write not applicable (N/A) in the box provided.

Subject Areas		**Antenatal care**			**Labour**			**Post natal care**			**Neonatal care**			**Administration**			**Anatomy and physiology**			**Growth and development**			**Immunisation**		
Frequency of use		**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**	**Always**	**Sometimes**	**Never**
17.1	Lecture method																								
17.2	Small group discussions																								
17.3	Problem based learning																								
17.4	Case based studies																								
17.5	Role play																								
17.6	Simulation																								
17.7	Narrative styles																								
17.8	Inquiry/ Socratic questioning																								
17.9	Portfolios																								
17.10	Reflective thinking/ Journals																								
17.11	Web based teaching																								
17.12	Evidence based																								
17.13	Community based																								
17.14	Demonstration																								

18. Do you assess the level of training of students when deciding on a teaching strategy?

Always | Sometimes | Never

19. Do you assess the learning styles of students before you start teaching?

Always | Sometimes | Never

20. Is there a tool available to assess learning styles in your campus?

Yes | No

21. How would you describe your learner's role in the majority of your teacher/learner experience?

21.1 Partner ☐

21.2 Independent ☐

21.3 Active learner ☐

21.4 Passive learner ☐

21.5 Initiator ☐

21.6 Team member ☐

SECTION D

EVALUATION OF TEACHING STRATEGIES

22. Do you evaluate the effectiveness of your teaching strategy?

Always | Sometimes | Never

23. Do your peers evaluate the effectiveness of your teaching strategy?

Always | Sometimes | Never

24. Do students evaluate the effectiveness of your teaching strategy?

Always | Sometimes | Never

25. Does a tool exist in your institution to evaluate teaching strategies used by nurse educators?

Yes | No

26. If you evaluate your teaching strategies, specify how you do so.

26.1 Self-assessment ☐

26.2 Student assessment ☐

26.3 Peer reviews ☐

26.4 Video recordings ☐

26.5 Students test results ☐

26.6 Other: Specify

27. In your view what makes a teaching strategy innovative.

_____
_____

28. Select the factors that may produce challenges or barriers to the use of creative teaching strategies. (You may choose more than one response).

28.1 Preparation time

28.2 Size of the class

28.3 Individual teaching styles

28.4 Content to be taught

28.5 Learning styles of students

28.6 Times allocated to teach content

28.7 Knowledge and skills of students

28.8 Seating arrangement of students

28.9 Classroom size

28.10 Lack of equipment

28.11 Lack of experience in nursing education by the lecturer

28.12 Lack of support given to new nursing educators

28.13 Lack of knowledge and skill by the lecturer regarding the use of creative strategies

28.14 lack of in-service training on the use of teaching methodologies

28.15 Other: Specify _____

29. Select the teaching strategies that you think will add value to your teaching.

29.1 Lecture method

29.2 Small group discussions

29.3 Problem based learning

29.4 Case based studies

29.5 Role play

29.6 Simulations

29.7 Narrative styles

29.8 Inquiry/Socratic questioning

29.9 Portfolios

29.10 Reflective thinking/Journals

29.11 Web based teaching

29.12 Evidence based

29.13 Community based

29.14 Demonstration

30. Select the teaching strategy that you will need further training in.

30.1 Lecture method

30.2 Small group discussions

30.3 Problem based learning

30.4 Case based studies

30.5 Role play

30.6 Simulations

30.7 Narrative styles

30.8 Inquiry/Socratic questioning

30.9 Portfolios

30.10 Reflective thinking/journals

30. 11 Web based teaching

30.12 Evidence based

30.13 Community based

31. Do you have a micro-curriculum for the different subject areas in your institution?

Yes | Unsure | No

32. Do the micro-curricula recommend specific teaching strategies for use?

Yes | Unsure | No

33. Do you think that it is necessary for teaching strategies to be recommended in the micro-curricula?

Yes | Unsure | No

34. Do new nurse educators receive mentoring from more experienced lecturers?

Always | Sometimes | Never

35. Present teaching strategies are effective in preparing the nurse practitioner for the current evolving technological world.

Strongly agree	Agree	Strongly disagree	Disagree

36. The adoption of more creative/contemporary teaching methodologies would benefit the nurse practitioner of the twenty first century.

Strongly agree	Agree	Strongly disagree	Disagree

37. Are you willing to adopt more creative/contemporary teaching strategies?

Yes	Unsure	No

38. Do you have any suggestions on how lecturers who are not using learner centered teaching approaches can be guided towards adopting these methods?

_____

_____

Thank you for your participation

Annexure 2C

Mary

Thank you for your positive remarks re my dissertation.

I have no problem if you use my questionnaire and adapt it to suit your situation, you are more than welcome to do so.

I would like to read your dissertation when you are done. Nursing Education remains my passion and speciality!!!

Good luck with your study!!

Kind regards
Angeline
Sent via my BlackBerry from Vodacom - let your email find you!

-----Original Message-----
From: ismail subhan <javi1@telkomsa.net>
Date: Mon, 21 May 2012 20:30:17
To: <angelinewyn@hotmail.com>
Subject: Request to use research questionnaire

Dear Angeline

My name is Mary Subhan, I am a student at the Durban University of Technology. My research topic is "Current pedagogical methodologies used by nurse educators in the Kwazulu Natal College of Nursing and their views to adopting more innovative teaching strategies".
I have read your dissertation and found it of a very high quality and very interesting. My study is based on similar lines but not identical. I would like to kindly request permission to utilize your questionnaire. I will not be able to utilize it as it but will modify it to suit my study.
I will abide by all ethical principles and will acknowledge your contribution in my study.

I would greatly appreciate it if you allow me to use your questionnaire as a guide to draw up my own.

Many thanks in advance for your assistance.

Regards
Mary Subhan

Annexure 3

LETTER OF INFORMATION

LETTER OF INFORMATION

Dear Participant

Warm greetings to you. You are invited to participate in my research study. Details of the study are contained below.

Title of the Research Study:

Current pedagogical teaching strategies being used by educators at the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative methodologies.

Principal Investigator/s/researcher: Mrs. Mary Shamane Subhan

Bachelor of Curationis

Co-Investigator/s/supervisor/s: Dr. R. Bhagwan (Supervisor)

Doctoral Degree

Brief Introduction

Global and national studies have revealed that although technology has advanced at such a rapid rate and the student nurse of the twenty first century has also evolved, nurse educators continue to use didactic teaching methods (NLN Board of Governor's 2003). The World Health Organisation (2009) advocated that curricula designs "encompass classroom and clinical learning that delivers knowledge and skills required to meet the needs of their respective populations, that nursing institutions demonstrate the use of recognized approaches to teaching and learning in their programmes, including but not limited to, adult education, self-directed learning, e-learning and clinical simulation, learning based on established competencies and

grounded in the most current , reliable evidence, and learning that enables the development of clinical reasoning, problem solving and critical and analytical thinking".

Purpose of the Study

The purpose of the study is to investigate the current pedagogical teaching methodologies that are being used by lecturers, at the ten campuses of the Kwazulu Natal College of Nursing and to establish their views with regard to the integration of contemporary creative methodologies in relation to specific areas of teaching content.

Outline of the Procedures

- Thank you for participating in this study.
- You have been invited to participate as you are a specialist in nursing education and your expert and accurate input will be of great value to this study.
- You are requested to kindly complete a survey questionnaire which will take you twenty (20) minutes.
- Please complete the questionnaire independent of your colleagues.
- The questionnaire has mostly closed ended questions which require you to mark an "X" in the correct box.
- There is no right or wrong answer.
- Each questionnaire will have a unique number with the envelope having a corresponding number.
- Each campus will be encoded; therefore you identity will be protected.
- The questionnaires will be delivered to your campus and collected one month from date of delivery.
- You may complete the questionnaire at your place of work at your convenience.
- On completion of the study and once all the relevant permission has been obtained, you will be informed of the findings of the study and recommendations.

Risks or Discomforts to the Participant

- There will be no risks or discomforts.
- The participant however is expected to dedicate twenty minutes of his/her time to complete the questionnaire.

Benefits

The study will assist in identifying the current teaching strategies being used by lecturers.
To make recommendations for the introduction of more contemporary teaching methodologies that would assist nurse educators to adopt more creative teaching methodologies.
To make recommendations for in-service training of lecturers.
To educate and train nurses who will be better equipped to care for patients in this advancing technological world.
It would assist the researcher to gather accurate data and complete the study and gain her qualification.
Where possible to develop guidelines for the use of contemporary teaching methodologies

Reason/s why the Participant May Be Withdrawn from the Study

- The researcher foresees no reason for withdrawing the participant.
- Participation is voluntary, so the participant may withdraw at any point that she wishes.
- A participant who is ill in any way and is unable to complete the questionnaire may withdraw from the study.

Remuneration: None

Costs of the Study: All costs of the study will be incurred by the researcher. There are no costs that participants will have to endure.

Confidentiality:

- Will be maintained as there will be no use of individual lecturers' names, neither will there be names of campuses noted.
- All data will be kept in a secure place; no unauthorized persons will have access to this information.
- The return box will be designed in such a manner that no unauthorised persons will have access to it.
- Questionnaires will be stored in a metal safe for a period of fifteen years.

Research-related Injury

- This is a non-experimental study; so there will be no physical harm to participants.
- Confidentiality would be maintained, psychological harm will be prevented.

- There will be an instruction sheet attached to the questionnaire to assist lecturers and therefore reduce enquiries but should there be enquiries my contact details will be given to all campuses and will be handled speedily to prevent any inconvenience to the participant.

Persons to Contact in the Event of Any Problems or Queries

- Should there be any enquiry please contact the researcher: Mrs. M.S. Subhan – 084 555 9938
  e-mail: javi1@telkomsa.net
- Should you still not be satisfied please contact my supervisor: Dr. Bhagwan – 031 3173219
  e-mail:bhagwanr@dut.ac.za
- Should you require any further information please contact the Institutional Research Ethics administrator: 031 373 2900.
- Should you have any complaints, kindly contact the IREC administrator: Ms. L. Deonarain – 031 373 290
  e-mail: lavishad@dut.ac.za.

General

- There will be 230 lecturers and subject heads of all ten campuses within KZNCN; who are all involved in teaching theoretical as well as clinical nursing; participating in the study.
- I would appreciate it greatly if you participated in my study, although participation is strictly voluntary.
- All consent forms and questionnaires distributed will be in English, as the official medium of teaching within the Kwazulu Natal College of Nursing is English.
- Lecturers have a good command of English as they all have studied at tertiary institutions and obtained basic and post basic degrees, so the researcher is of the view that presenting tools in Zulu to lecturers may insult them and they may then refrain from participating in the study.

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Mrs Mary Shamane Subhan (name of researcher), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: REC 34/13,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____ _____ _____

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

I, Mrs. Mary Subhan herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Mrs. M.S. Subhan

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

_____	_____	_____
Full Name of Witness	**Date**	**Signature**

(If applicable)

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

Please note the following:

Research details must be provided in a clear, simple and culturally appropriate manner and prospective participants should be helped to arrive at an informed decision by use of appropriate language (grade 10 level - use Flesch Reading Ease Scores on Microsoft Word), selecting of a non-threatening environment for interaction and the availability of peer counseling (Department of Health, 2004)

If the potential participant is unable to read/illiterate, then a right thumb print is required and an impartial witness, who is literate and knows the participant e.g. parent, sibling, friend, pastor, etc. should verify in writing, duly signed that informed verbal consent was obtained (Department of Health, 2004).

If anyone makes a mistake completing this document e.g. wrong date or spelling mistake a new document has to be completed. The incomplete original document has to be kept in the participant file and not thrown away and copies thereof must be issued to the participant.

References:

Department of Health: 2004. *Ethics in Health Research: Principles, Structures and Processes*
http://www.doh.gov.za/docs/factsheets/guidelines/ethnics/

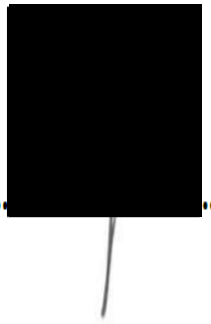
Department of Health. 2006. *South African Good Clinical Practice Guidelines*. 2nd Ed. Available at: http://www.nhrec.org.za/?page_id=14

Annexure 4

STATISTICIAN DECLARATION FOR CONSULTATION:

I, Deepak Singh have read Mary Subhan's M.Tech proposal

(student no:) and given her appropriate recommendations.

Signed.....  ..... **Date** 20 August 2012

Annexure 5A

149 Brixham Road

Orient Heights

Pietermaritzburg

3201

23 July 2013

Dr. Elizabeth Lutge/ Mr. Xaba

Human Research and

Management Secretariat

Private Bag X9052

Pietermaritzburg

3200

Dear Dr. Lutge/ Mr. Xab

Re: Permission to conduct a research study within ten campuses of the Kwazulu Natal College of Nursing.

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department for Community Health Nursing would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Masters of Technology in Nursing

Date of registration: 17 January 2012

Topic: Current pedagogical teaching strategies being used by educators at the Kwazulu Natal College of Nursing campuses across varied subjects and their views regarding innovative methodologies

Proposed date for dissemination of questionnaires: September 2013.

Questionnaires will be delivered to the campus and fetched from the campuses. The cost will be borne by me.

Participants: All heads of departments and all lecturers involved in both clinical and theoretical teaching in the campus. Ethical clearance: My proposal has been passed and I have received ethical clearance from the Higher Education Research Committee, at the university. The strictest ethical standards will be abided by.

All questionnaires will be numbered and campuses encoded to maintain confidentiality.

(Please find attached my proposal with all supporting documents).

Research supervisor: Prof. R. Bhagwan

Contact details: bhagwanr@dut.ac.za , telephone – 031 3732197

My research is motivated by scientific evidence that there is a need for nurse educators globally to change their teaching methodologies. This study will be of great value to educators working in these campuses and for KZNCN as a whole. The study will assist in improving the quality of nurse practitioner, thereby improving the quality of patient care rendered to the population of KZN and the country as a whole. All participants, KZN Department of Health and KZNCN will be informed of the research findings.

Your kind consideration would be greatly appreciated.

Yours Faithfully

_____

Mrs. M.S. Subhan

javi1@telkomsa.net

084 555 99 38

Annexure 5B

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

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

Reference : HRKM 225/13
Enquiries : Mr X Xaba
Tel : 033 – 395 2805

Dear Mrs MS. Subhan

Subject: Approval of a Research Proposal

1. The research proposal titled **'Current pedagogical teaching strategies being used by educators at the KZN College of Nursing campuses across varied subjects and their views regarding innovative methodologies'** was reviewed by the KwaZulu-Natal Department of Health.

   The proposal is hereby **approved** for research to be undertaken at the following nursing campuses Addington, Benedictine, Charles Johnson Memorial, Edendale, Grey's, Madadeni, Ngwelezane, Prince Mshiyeni Memorial, Port Shepstone and RK Khan.

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

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

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

Yours Sincerely

[redacted]

Dr E Lutge
Chairperson, Health Research Committee
Date: 09/07/2013

Annexure 6A

DURBAN UNIVERSITY of TECHNOLOGY

INSTITUTIONAL RESEARCH ETHICS COMMITTEE (IREC)

15 May 2013

IREC Reference Number: **REC 34/13**

Mrs M S Subhan
149 Brixham Road
Orient Heights
Pietermaritzburg
3201

Dear Mrs Subhan

Current pedagogical teaching strategies being used by educators at the KwaZulu Natal College of Nursing campuses across varied subjects and their views regarding innovative methodologies

I am pleased to inform you that Full Approval has been granted to your proposal REC 34/13

The Proposal has been allocated the following Ethical Clearance number IREC 039/13. Please use this number in all communication with this office.

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

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

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

Please note that you may continue with validity testing and piloting of the questionnaire. Research on the proposed project may not proceed until IREC reviews and approves the final questionnaire.

Yours Sincerely

[redacted]

Dr D F Naude
Chairperson: IREC

Annexure 6B

Institutional Research Ethics Committee
Faculty of Health Sciences
Room MS 49, Mansfield School Site
Gate 8, Ritson Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2900
Fax: 031 373 2407
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

19 November 2013

IREC Reference Number: REC 34/13

Mrs M S Subhan
149 Brixham Road
Orient Heights
Pietermaritzburg
3201

Dear Mrs Subhan

Current pedagogical teaching strategies being used by educators at the KwaZulu Natal College of Nursing campuses across varied subjects and their views regarding innovative methodologies

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

Please note that you may now proceed with research on the proposed project.

Yours Sincerely,

[redacted]

Prof J K Adam
Chairperson: IREC

Annexure 7

Statistical Analysis

Fundamental Nursing Science - Lecture Method

Cross tab

			C12.1 Fundamental Nursing Science		Total
			Always	Sometimes	
Lecture method	Always	Count	18	2	20
		% of Total	54.5%	6.1%	60.6%
	Sometimes	Count	1	12	13
		% of Total	3.0%	36.4%	39.4%
Total		Count	19	14	33
		% of Total	57.6%	42.4%	100.0%

Chi-Square Tests

	Value	*df*	*Asymp. Sig. (2-sided)*	*Exact Sig. (2-sided)*	*Exact Sig. (1-sided)*	*Point Probability*
Pearson Chi-Square	21.852[a]	1	.000	.000	.000	
Continuity Correction[b]	18.612	1	.000			
Likelihood Ratio	24.933	1	.000	.000	.000	
Fisher's Exact Test				.000	.000	
Linear-by-Linear Association	21.190[c]	1	.000	.000	.000	.000
N of Valid Cases	33					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.52.

b. Computed only for a 2x2 table

c. The standardized statistic is 4.603.

Lecture method - Anatomy Physiology

Crosstab

			C12.1 Anatomy Physiology		Total
			Always	Sometimes	
Lecture method	Always	Count	13	4	17
		% of Total	46.4%	14.3%	60.7%
	Sometimes	Count	4	7	11
		% of Total	14.3%	25.0%	39.3%
Total		Count	17	11	28
		% of Total	60.7%	39.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	4.504[a]	1	.034	.053	.042	
Continuity Correction[b]	2.979	1	.084			
Likelihood Ratio	4.550	1	.033	.053	.042	
Fisher's Exact Test				**.053**	.042	
Linear-by-Linear Association	4.343[c]	1	.037	.053	.042	.037
N of Valid Cases	28					

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.32.

b. Computed only for a 2x2 table

c. The standardized statistic is 2.084.

Lecture method - Social Science

Crosstab

			C12.1 Social Science			Total
			Always	Sometimes	Never	
Lecture method	Always	Count	13	1	0	14
		% of Total	59.1%	4.5%	0.0%	63.6%
	Sometimes	Count	2	5	1	8
		% of Total	9.1%	22.7%	4.5%	36.4%
Total		Count	15	6	1	22
		% of Total	68.2%	27.3%	4.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	10.908[a]	2	.004	.002		
Likelihood Ratio	11.654	2	.003	.002		
Fisher's Exact Test	10.302			.002		
Linear-by-Linear Association	9.736[b]	1	.002	.002	.002	.002
N of Valid Cases	22					

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .36.

b. The standardized statistic is 3.120.

Lecture method - Community Health Nursing

Crosstab

			C12.1 Community Health Nursing			Total
			Always	Sometimes	Never	
Lecture method	Always	Count	21	1	0	22
		% of Total	60.0%	2.9%	0.0%	62.9%
	Sometimes	Count	0	12	1	13
		% of Total	0.0%	34.3%	2.9%	37.1%
Total		Count	21	13	1	35
		% of Total	60.0%	37.1%	2.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	31.046[a]	2	.000	.000		
Likelihood Ratio	39.129	2	.000	.000		
Fisher's Exact Test	34.275			.000		
Linear-by-Linear Association	27.961[b]	1	.000	.000	.000	.000
N of Valid Cases	35					

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .37.

b. The standardized statistic is 5.288.

Lecture method - Medical Surgical Nursing

Crosstab

			C12.1 Medical Surgical Nursing			Total
			Always	Sometimes	Never	
Lecture method	Always	Count	20	5	0	25
		% of Total	48.8%	12.2%	0.0%	61.0%
	Sometimes	Count	2	13	1	16
		% of Total	4.9%	31.7%	2.4%	39.0%
Total		Count	22	18	1	41
		% of Total	53.7%	43.9%	2.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	18.183[a]	2	.000	.000		
Likelihood Ratio	20.172	2	.000	.000		
Fisher's Exact Test	18.649			.000		
Linear-by-Linear Association	17.336[b]	1	.000	.000	.000	.000
N of Valid Cases	41					

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .39.

b. The standardized statistic is 4.164.

Lecture method * C12.1 Ethos Professional Practice

Crosstab

			C12.1 Ethos Professional Practice		Total
			Always	Sometimes	
Lecture method	Always	Count	7	2	9
		% of Total	38.9%	11.1%	50.0%
	Sometimes	Count	2	7	9
		% of Total	11.1%	38.9%	50.0%
Total		Count	9	9	18
		% of Total	50.0%	50.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5.556[a]	1	.018	.057	.028	
Continuity Correction[b]	3.556	1	.059			
Likelihood Ratio	5.884	1	.015	.057	.028	
Fisher's Exact Test				.057	.028	
Linear-by-Linear Association	5.247[c]	1	.022	.057	.028	.027
N of Valid Cases	18					

a. 4 cells (100.0%) have expected count less than 5. The minimum expected count is 4.50.

b. Computed only for a 2x2 table

c. The standardized statistic is 2.291.

Lecture method - Midwifery

Crosstab

			C12.1 Midwifery		Total
			Always	Sometimes	
Lecture method	Always	Count	18	1	19
		% of Total	58.1%	3.2%	61.3%
	Sometimes	Count	2	10	12
		% of Total	6.5%	32.3%	38.7%
Total		Count	20	11	31
		% of Total	64.5%	35.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	19.581[a]	1	.000	.000	.000	
Continuity Correction[b]	16.320	1	.000			
Likelihood Ratio	21.675	1	.000	.000	.000	
Fisher's Exact Test				.000	.000	
Linear-by-Linear Association	18.950[c]	1	.000	.000	.000	.000
N of Valid Cases	31					

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.26.

b. Computed only for a 2x2 table

c. The standardized statistic is 4.353.

Lecture method - Psychiatry

Crosstab

			C12.1 Psychiatry		Total
			Always	Sometimes	
Lecture method	Always	Count	14	2	16
		% of Total	56.0%	8.0%	64.0%
	Sometimes	Count	2	7	9
		% of Total	8.0%	28.0%	36.0%
Total		Count	16	9	25
		% of Total	64.0%	36.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	10.653[a]	1	.001	.002	.002	
Continuity Correction[b]	8.008	1	.005			
Likelihood Ratio	11.080	1	.001	.002	.002	
Fisher's Exact Test				.002	.002	
Linear-by-Linear Association	10.227[c]	1	.001	.002	.002	.002
N of Valid Cases	25					

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.24.

b. Computed only for a 2x2 table

c. The standardized statistic is 3.198.

Mean and Standard Deviation for teaching methods for the various disciplines of the R. 425 programme

		Fundamental Nursing Science	Anatomy Physiology	Social Science	Community Health Nursing	Medical Surgical Nursing	Ethos Professional Practice	Midwifery	Psychiatry
Lecture method	N	33	28	22	35	41	18	31	25
	Mean	1.42	1.40	1.36	1.43	1.49	1.50	1.36	1.36
	Std. Deviation	.50	.50	.58	.56	.55	.52	.49	.49
Small group discussions	N	33	27	22	35	41	19	31	25
	Mean	1.85	1.82	1.73	1.74	1.68	1.79	1.74	1.72
	Std. Deviation	.36	.48	.55	.51	.47	.54	.45	.61
Problem based learning	N	33	27	22	36	40	19	31	25
	Mean	2.42	2.56	2.14	2.25	2.35	2.21	2.13	2.24
	Std. Deviation	.56	.58	.71	.69	.62	.71	.67	.72
Case based studies	N	33	28	22	34	42	19	31	24
	Mean	2.49	2.64	2.50	2.35	2.14	2.37	2.10	2.21
	Std. Deviation	.51	.56	.60	.65	.61	.68	.65	.78
Role play	N	33	28	23	34	41	19	31	25
	Mean	2.46	2.75	1.91	2.06	2.39	2.32	2.16	2.00
	Std. Deviation	.56	.44	.60	.55	.49	.58	.69	.71
Simulation	N	33	28	22	31	44	20	31	25
	Mean	2.18	2.61	2.68	2.29	2.34	2.40	2.19	2.40
	Std. Deviation	.68	.57	.57	.59	.61	.60	.75	.71

Mean and Standard Deviation for teaching methods for the various disciplines of the R. 425 programme (continued)

		Fundamental Nursing Science	Anatomy Physiology	Social Science	Community Health Nursing	Medical Surgical Nursing	Ethos Professional Practice	Midwifery	Psychiatry
Narrative styles	N	34	26	23	33	42	21	30	25
	Mean	2.82	2.89	2.56	2.76	2.74	2.62	2.77	2.64
	Std. Deviation	.39	.33	.66	.50	.45	.50	.43	.57
Inquiry/Socratic questioning	N	33	28	22	35	41	20	30	25
	Mean	2.73	2.82	2.55	2.77	2.51	2.75	2.57	2.64
	Std. Deviation	.45	.48	.80	.55	.75	.44	.68	.70
Portfolios	N	34	27	22	35	41	20	30	25
	Mean	2.91	2.89	2.77	2.83	2.83	2.85	2.93	2.88
	Std. Deviation	.29	.32	.53	.38	.44	.49	.37	.33
Reflective thinking/Journals	N	34	27	22	35	40	21	30	24
	Mean	2.71	2.85	2.63	2.69	2.53	2.57	2.50	2.67
	Std. Deviation	.46	.36	.73	.53	.68	.68	.68	.64
Web based teaching	N	34	27	23	35	41	20	30	25
	Mean	2.82	2.93	2.96	2.83	2.90	2.90	2.87	2.80
	Std. Deviation	.39	.27	.20	.38	.30	.31	.35	.41
Evidence based	N	34	27	22	35	41	19	31	25
	Mean	2.71	2.78	2.68	2.69	2.59	2.58	2.10	2.52
	Std. Deviation	.46	.42	.65	.47	.63	.61	.77	.77
Community based	N	33	28	22	34	41	19	31	25
	Mean	2.88	2.82	2.63	2.35	2.68	2.84	2.32	2.52
	Std. Deviation	.33	.48	.66	.49	.57	.37	.75	.71
Demonstration	N	34	27	22	33	42	19	29	25
	Mean	1.68	2.15	2.14	1.82	1.91	2.32	1.66	2.00
	Std. Deviation	.54	.72	.71	.39	.43	.58	.48	.65

Mean and Standard Deviation for teaching methods for the R. 425 programme- HIV and AIDS and IMCI subjects

		N		Mean	Std. Deviation
		Valid	Missing		
Lecture method	HIV and AIDS Course	91	72	1.55	.54
	IMCI Course	47	116	2.02	.82
Small group discussions	HIV and AIDS Course	95	68	1.63	.58
	IMCI Course	47	116	1.72	.83
Problem based learning	HIV and AIDS Course	95	68	1.97	.72
	IMCI Course	47	116	1.83	.79
Case based studies	HIV and AIDS Course	95	68	2.31	.81
	IMCI Course	47	116	2.00	.86
Role play	HIV and AIDS Course	95	68	1.86	.68
	IMCI Course	47	116	2.00	.81
Simulation	HIV and AIDS Course	95	68	2.24	.77
	IMCI Course	47	116	2.23	.84
Narrative styles	HIV and AIDS Course	95	68	2.71	.63
	IMCI Course	47	116	2.70	.69
Inquiry/Socratic questioning	HIV and AIDS Course	95	68	2.77	.63
	IMCI Course	47	116	2.83	.67
Portfolios	HIV and AIDS Course	95	68	2.89	.57
	IMCI Course	47	116	2.89	.69
Reflective thinking/Journals	HIV and AIDS Course	95	68	2.74	.67
	IMCI Course	47	116	2.64	.82
Web based teaching	HIV and AIDS Course	95	68	2.95	.45
	IMCI Course	47	116	2.94	.57
Evidence based	HIV and AIDS Course	95	68	2.66	.63
	IMCI Course	47	116	2.62	.68
Community based	HIV and AIDS Course	95	68	2.53	.74
	IMCI Course	47	116	2.49	.83
Demonstration	HIV and AIDS Course	95	68	1.93	.62
	IMCI Course	47	116	1.89	.69

Mean and Standard Deviation for teaching methods for the R. 2175 and R. 2176 programmes

		Nursing Care	Anatomy & Physiology	Social Science	Comprehensive Health Care	Medical & Surgical Nursing	Ward Organisation
Case based studies	N	37	16	11	14	24	10
	Mean	2.59	2.75	2.36	2.57	2.29	2.60
	Std. Deviation	.49	.45	.51	.65	.62	.52
Role play	N	38	15	11	13	26	9
	Mean	2.26	2.80	1.91	2.15	2.58	2.33
	Std. Deviation	.69	.41	.70	.56	.58	.71
Simulation	N	37	16	11	13	26	9
	Mean	2.19	2.63	2.45	2.31	2.23	2.22
	Std. Deviation	.66	.62	.69	.48	.59	.83
Narrative styles	N	37	15	11	13	26	9
	Mean	2.86	3.00	2.73	2.92	2.81	2.89
	Std. Deviation	.35	0.00	.65	.28	.49	.33
Inquiry/Socratic questioning	N	37	16	11	13	26	9
	Mean	2.7	2.81	2.36	2.92	2.58	2.44
	Std. Deviation	.59	.40	.92	.28	.64	.53
Portfolios	N	37	16	11	13	26	9
	Mean	2.95	3.00	2.64	2.92	2.85	3.00
	Std. Deviation	.33	0.00	.81	.28	.46	0.00
Reflective thinking/Journals	N	37	16	11	13	26	9
	Mean	2.76	3.00	2.45	2.85	2.54	2.56
	Std. Deviation	.55	0.00	.93	.38	.76	.53
Web based teaching	N	37	15	11	13	26	9
	Mean	2.87	2.93	2.91	3.00	2.88	2.89
	Std. Deviation	.35	.26	.30	0.00	.33	.33
Evidence based	N	37	16	11	13	26	9
	Mean	2.70	2.94	2.63	2.92	2.58	2.78
	Std. Deviation	.52	.25	.67	.28	.58	.44
Community based	N	37	16	11	13	26	10
	Mean	2.62	2.94	2.45	2.77	2.65	2.90
	Std. Deviation	.64	.25	.82	.44	.63	.32
Demonstration	N	36	15	11	13	26	8
	Mean	1.80	2.53	1.91	1.92	1.96	2.13
	Std. Deviation	.54	.52	.70	.64	.72	.83

Mean and Standard Deviation for teaching methods for the R. 2175 and R. 2176 programmes (Continued)

		Nursing Care	Anatomy & Physiology	Social Science	Comprehensive Health Care	Medical & Surgical Nursing	Ward Organisation
Lecture method	N	37	16	11	13	26	9
	Mean	1.32	1.25	1.18	1.62	1.19	1.33
	Std. Deviation	.47	.45	.40	.51	.40	.50
Small group discussions	N	37	16	11	13	26	9
	Mean	1.81	2.19	1.91	1.70	1.77	1.89
	Std. Deviation	.46	.54	.54	.48	.51	.60
Problem based learning	N	37	15	12	13	26	9
	Mean	2.4	2.6	2.08	2.15	2.19	1.89
	Std. Deviation	.63	.51	.67	.69	.69	.60

Mean and Standard Deviation for teaching methods for the R. 683 programme

		Nursing Care	Anatomy Physiology	Social Science	Community Health Nursing	Medical Surgical Nursing	Ethos Professional Practice	Psychology
Lecture method	N	20	6	8	12	27	9	5
	Mean	1.35	1.33	1.63	1.50	1.63	1.67	1.80
	Std. Deviation	.49	.52	.74	.67	.49	.71	.84
Small group discussions	N	20	8	9	12	31	9	7
	Mean	1.75	2.00	2.00	2.17	1.87	1.56	1.86
	Std. Deviation	.44	.53	.50	.39	.56	.53	.69
Problem based learning	N	20	8	9	12	31	9	6
	Mean	1.85	2.12	2.22	2.33	2.16	1.89	2.17
	Std. Deviation	.49	.64	.67	.49	.52	.60	.75
Case based studies	N	21	7	9	12	31	10	6
	Mean	2.19	2.71	2.44	2.50	2.42	2.10	2.17
	Std. Deviation	.60	.49	.53	.67	.50	.74	.75
Role play	N	21	7	9	12	31	10	6
	Mean	2.33	2.86	2.33	2.33	2.51	2.50	2.00
	Std. Deviation	.58	.38	.50	.49	.57	.71	.63
Simulation	N	21	7	9	13	30	10	6
	Mean	2.48	2.71	2.67	2.38	2.33	2.30	2.83
	Std. Deviation	.60	.49	.50	.65	.66	.82	.41
Narrative styles	N	21	7	9	13	30	10	6
	Mean	2.90	2.86	2.67	2.85	2.83	2.70	2.83
	Std. Deviation	.30	.38	.50	.38	.38	.48	.41

Mean and Standard Deviation for teaching methods for the R. 683 programme (Continued)

		Nursing Care	Anatomy Physiology	Social Science	Community Health Nursing	Medical Surgical Nursing	Ethos Professional Practice	Psychology
Inquiry/Socratic questioning	N	21	7	9	13	30	10	6
	Mean	2.62	2.57	2.44	2.69	2.57	2.70	2.33
	Std. Deviation	.59	.79	.73	.63	.63	.48	1.03
Portfolios	N	21	7	9	13	30	10	6
	Mean	2.95	3.00	2.98	2.77	2.93	3.00	3.00
	Std. Deviation	.22	0.00	.33	.59	.25	0.00	0.00
Reflective thinking/Journals	N	21	7	9	13	30	10	6
	Mean	2.52	2.9	2.67	2.77	2.60	2.70	2.33
	Std. Deviation	.68	.38	.71	.59	.67	.48	1.03
Web based teaching	N	21	7	9	14	29	10	6
	Mean	3.00	2.86	3.00	2.86	2.93	2.90	3.00
	Std. Deviation	0.00	.38	0.00	.36	.26	.32	0.00
Evidence based	N	21	7	9	13	30	10	6
	Mean	2.71	3.00	2.78	2.85	2.67	2.50	2.83
	Std. Deviation	.56	0.00	.67	.38	.61	.53	.41
Community based	N	21	7	9	13	30	10	6
	Mean	2.43	3.00	2.89	2.46	2.63	2.70	2.50
	Std. Deviation	.81	0.00	.33	.66	.61	.67	.84
Demonstration	N	20	7	9	12	30	10	6
	Mean	1.75	2.00	2.44	2.00	2.07	2.30	2.00
	Std. Deviation	.55	.58	.53	.60	.58	.67	.63

Mean and Standard Deviation for teaching methods for the R. 212 programme

		Capita Selecta	Nursing Dynamics	Advanced Midwifery	Primary Health Care
Lecture method	N	1	4	1	1
	Mean	1.0000	1.2500	1.0000	1.0000
	Std. Deviation		.50000		
Small group discussions	N	1	4	1	1
	Mean	2.0000	2.0000	1.0000	2.0000
	Std. Deviation		0.00000		
Problem based learning	N	1	4	1	1
	Mean	1.0000	2.0000	1.0000	3.0000
	Std. Deviation		.81650		
Case based studies	N	1	4	1	1
	Mean	1.0000	2.5000	1.0000	3.0000
	Std. Deviation		.57735		
Role play	N	1	4	1	1
	Mean	3.0000	2.7500	2.0000	3.0000
	Std. Deviation		.50000		
Simulation	N	1	4	1	1
	Mean	2.0000	2.7500	2.0000	3.0000
	Std. Deviation		.50000		

Mean and Standard Deviation for teaching methods for the R. 212 programme (Continued)

		Capita Selecta	Nursing Dynamics	Advanced Midwifery	Primary Health Care
Narrative styles	N	1	4	1	1
	Mean	3.0000	3.0000	2.0000	3.0000
	Std. Deviation		0.00000		
Inquiry/Socratic questioning	N	1	4	1	1
	Mean	3.0000	3.0000	2.0000	3.0000
	Std. Deviation		0.00000		
Portfolios	N	1	4	1	1
	Mean	3.0000	2.7500	3.0000	3.0000
	Std. Deviation		.50000		
Reflective thinking/Journals	N	1	4	1	1
	Mean	3.0000	2.5000	3.0000	3.0000
	Std. Deviation		.57735		
Web based teaching	N	1	4	1	1
	Mean	2.0000	3.0000	3.0000	3.0000
	Std. Deviation		0.00000		
Evidence based	N	1	4	1	1
	Mean	2.0000	2.2500	3.0000	2.0000
	Std. Deviation		.50000		
Community based	N	1	4	1	1
	Mean	3.0000	2.5000	3.0000	2.0000
	Std. Deviation		.57735		
Demonstration	N	1	4	1	1
	Mean	1.0000	2.2500	1.0000	2.0000
	Std. Deviation		.50000		

Mean and Standard Deviation for teaching methods for the R. 254 programme (Midwifery)

		ANC	Labour	PNC	NNC	ADMIN	A&P	G&D	Immunisation
Lecture method	N	18	16	17	17	15	19	13	12
	Mean	1.39	1.63	1.47	1.35	1.53	1.53	1.62	1.67
	Std. Deviation	.50	.62	.62	.49	.64	.69	.65	.79
Small group discussions	N	18	16	17	17	15	19	13	12
	Mean	1.72	1.81	1.76	1.71	1.87	1.68	1.69	1.75
	Std. Deviation	.46	.40	.44	.47	.52	.67	.48	.62
Problem based learning	N	18	16	17	17	16	18	13	12
	Mean	1.89	2.00	2.06	1.88	1.81	2.22	1.92	2.00
	Std. Deviation	.68	.73	.66	.69	.66	.73	.64	.74
Case based studies	N	18	16	17	17	15	19	13	12
	Mean	2.11	2.13	2.06	2.06	2.00	2.42	2.08	2.00
	Std. Deviation	.76	.50	.56	.66	.65	.77	.64	.74
Role play	N	18	16	17	17	15	19	12	13
	Mean	2.06	2.31	2.12	2.18	2.27	2.47	2.08	2.31
	Std. Deviation	.73	.70	.69	.73	.70	.77	.79	.75
Simulation	N	18	16	17	17	15	19	13	12
	Mean	1.83	2.13	2.00	1.94	2.07	2.11	2.00	2.00
	Std. Deviation	.71	.72	.71	.75	.70	.74	.71	.85
Narrative styles	N	18	16	17	16	15	19	14	11
	Mean	2.61	2.56	2.59	2.50	2.67	2.79	2.71	2.81
	Std. Deviation	.50	.51	.51	.63	.49	.42	.47	.40

Key: ANC=Antenatal Care

PNC=Postnatal Care

NNC=Neonatal Nursing Care

ADMIN= Administration

A&P= Anatomy and Physiology

G&D=Growth and Development

Mean and Standard Deviation for teaching methods for the R. 254 programme (Midwifery -Continued)

		ANC	Labour	PNC	NNC	ADMIN	A&P	G&D	Immunisation
Inquiry/Socratic questioning	N	18	16	17	17	15	19	13	12
	Mean	2.28	2.50	2.35	2.24	2.33	2.42	2.46	2.50
	Std. Deviation	.83	.73	.79	.75	.72	.84	.78	.79
Portfolios	N	18	16	17	17	16	19	13	11
	Mean	2.72	2.69	2.76	2.71	2.94	2.89	2.77	2.91
	Std. Deviation	.57	.60	.44	.47	.25	.32	.44	.30
Reflective thinking/Journals	N	18	17	17	16	16	19	13	11
	Mean	2.39	2.35	2.29	2.25	2.31	2.37	2.31	2.55
	Std. Deviation	.70	.70	.69	.77	.70	.83	.75	.69
Web based teaching	N	18	16	17	17	15	19	13	12
	Mean	2.89	2.81	2.88	2.88	2.93	2.89	2.92	3.00
	Std. Deviation	.32	.40	.33	.33	.26	.32	.28	0.00
Evidence based	N	18	16	17	17	15	19	13	12
	Mean	2.06	2.25	2.24	2.24	2.47	2.47	2.46	2.42
	Std. Deviation	.87	.68	.75	.75	.74	.84	.78	.79
Community based	N	18	16	17	17	15	19	13	12
	Mean	2.17	2.56	2.35	2.41	2.60	2.47	2.31	2.42
	Std. Deviation	.71	.51	.61	.62	.51	.77	.63	.67
Demonstration	N	18	17	17	16	15	19	13	12
	Mean	1.61	1.59	1.88	1.69	1.93	1.79	1.85	1.75
	Std. Deviation	.50	.51	.60	.60	.59	.63	.55	.62

Key: ANC=Antenatal Care

PNC=Postnatal Care

NNC=Neonatal Nursing Care

ADMIN= Administration

A&P= Anatomy and Physiology

G&D=Growth and Development