PERCEPTIONS OF NURSING STUDENTS, NURSE EDUCATORS AND CLINICIANS OF THE CLINICAL LEARNING ENVIRONMENT AT SELECTED INSTITUTIONS IN NORTHERN GHANA

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# DECLARATION

I, Atuut Abugri, student number 214585495, declare that

i.      The research reported in this dissertation, except where otherwise indicated, is my original research.

ii.     This dissertation has not been submitted for any degree or examination at UKZN or any other university.

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

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Discipline of Nursing, School of Nursing and Public Health, College of Health Sciences, University of KwaZulu-Natal South Africa

Date: 28 November 2016

**DEDICATION**

I dedicate this work to my family; parents, wife, children and siblings for their love and motivation.

## ACKNOWLEDGEMENT

## ABSTRACT

## Aim

The aim of the study was to describe the perceptions of nursing students, nurse educators and clinicians of the clinical learning environment at selected institutions in northern Ghana, as a way of assisting to address clinical teaching and learning challenges.

## Methods

A non-experimental quantitative research of the descriptive type was used. A convenient sampling technique was used for the college and the hospital, and stratified random sampling used for the nursing students. There was no sampling for the nurse educators and clinicians and all participated.

A scale developed by Chuan & Barnett (2012:194) on student, tutor and staff nurse perceptions of the clinical learning environment was utilised on the respondents (n=215). Section A consisted of three questions on the category of the respondents. Section B consisted of 34 items on the perceptions of the clinical learning environment and section C consisted of two open-ended questions that required respondents to list the factors they believed contributed to student learning in the ward, and the factors they believed hindered students' learning in the ward.

The data obtained was entered onto the computer and analysed using the Statistical Package for Social Science (SPSS), version 23, for descriptive statistics, comparisons using one-way analysis of variance (ANOVA) and reliability.

## Results

A response rate of 96.8 % was obtained from the respondents (n=215) who were representative of the student and nurse educator populations at the selected college. It was however, not representative of the clinicians and not generalisable to other colleges in the country.

The mean of the perception score was 103.81(SD=13.97). The range of scores was 72 and 150, out of a possible score of 170. The skewness value was 1.83

The majority of the respondents perceived the clinical learning environment to have shortcomings in the areas of clinical supervision, satisfaction, learning tensions and the translation of learning into clinical practice. Learner friendliness and peer support were positively perceived. Analysis of variance (ANOVA) revealed statistically significant differences between the respondents' perceptions of five areas of interest in the clinical learning environment, however, there was no statistical difference found for peer support. A Post-hoc test using LSD comparison revealed the specific groups that differed. Cronbach's alpha coefficient was 0.76

**Conclusions and recommendations**

There were challenges within the clinical learning environment in the areas of supervision, satisfaction, learning tensions and the translation of learning into clinical practice. Learner friendliness and peer support was positively perceived.

In order to assist in addressing the challenges, recommendations were made which focused on strengthening guidance and supervision of the students, motivation of clinical instructors and staff nurses, periodic in-service training of staff regarding attributes of professionalism, reviewing and redefining the scheduling of students, collaboration between academic and clinical institutions and the promotion of peer support.

## ABBREVIATIONS

HSSREC      Humanities and Social Sciences Research Ethics Committee

NMC      Nursing and Midwifery Council

RGN      Registered General Nursing

SANC      South African Nursing Council

SPSS      Statistical Package for the Social Sciences

TRREE      Training and Resources in Research Ethics Evaluation.

UKZN      University of KwaZulu-Natal

WHO      World Health Organisation

**CONTENTS**

**APPENDICES**

**LIST OF TABLES**

## LIST OF FIGURES

# CHAPTER 1. INTRODUCTION AND BACKGROUND

## 1.1 INTRODUCTION

Quality clinical teaching to facilitate learning by nursing students in the clinical setting is an integral part of nursing education (Newton et al., 2012: 2338; Kaphagawani & Useh, 2013:181; Zakaria & Gheith, 2015:41). Defining quality clinical teaching, Melender, Jonsén and Hilli (2014:305) refer to it as the type of clinical teaching that offers nursing students the best learning opportunities and experiences possible in the clinical setting. Jette, Lee and Ellen (2014:7) described these opportunities and strategies as the structures and processes that determine the quality of clinical teaching. The structures include the types of settings, personnel, students, curriculum, equipment and finances supporting clinical education, and the processes include engagement in effective educational activities such as student supervision, establishing good relationships with students, evaluation mechanisms and administrative procedures. According to Chuan and Barnett (2012:192), it is the interactive network of these structures and processes that constitutes a conducive learning environment, attracting students to learn in order to acquire the knowledge, skills, attitudes, and values needed for best practices as professionals in the field of nursing after their training period (Courtney-Pratt et al., 2012:1381; Killam & Heerschap, 2013:684; Anarado, Agu & Nwonu, 2016:140).

A myriad of challenges and difficulties in accessing quality clinical teaching and learning have, however, been reported by various researchers (Löfmark et al., 2012:165; Forber et al., 2015:1114). These challenges and difficulties are related to the structures and processes of the clinical setting (Dale, Leland & Dale, 2013:6), leading to the inability of the students to achieve learning outcomes. This ultimately results in a lack of interest and negative attitudes towards clinical practice, incompetence, poor academic performance, and poor quality of nursing care, among others (Algoso & Peters, 2012; Sundler et al., 2014:662; Tiwaken, Caranto & David, 2015:67).

Addressing the challenges and difficulties requires information from the nursing students, nurse educators and clinicians from the clinical learning environment. This information will help

improve and create a conducive environment for quality teaching and the students will, in turn, develop interest and a positive attitude towards clinical learning (Dadgaran, Parvizy & Peyrovi, 2012:1716).

## 1.2 BACKGROUND

Globally, clinical teaching and learning are an integral part of nursing education, report Halcomb et al., (2012:224); D'Souza et al. (2013:25); Kaphagawani and Useh (2013:181) and Dimitriadou et al. (2015:236). They enrich nursing students' clinical competencies and academic success, and create the pathway for them to become professional nurses, capable of providing safe and competent patient care, add Dimitriadou et al. (2015:236) and Tiwaken, Caranto and David, (2015:69). Chuan and Barnett (2012:192) assert that the appropriate conditions need to be met before quality clinical teaching and learning can be achieved. These conditions are described as an interactive network of forces within the clinical setting that influence the students' learning outcomes (Chuan & Barnett, 2012:192; D'Souza et al., 2013:32; Tomietto et al., 2014:43; Ranjbar, 2015). They are also described by Jette, Lee and Ellen (2014:7) as the structures and processes that ensure quality clinical teaching and learning.

To ensure quality clinical teaching and learning, various studies have been conducted to determine the quality of the clinical learning environment needed, in terms of the conditions or the structures and processes for the achievement of the required learning outcomes (Huybrecht et al., 2011; Killam & Heerschap, 2013:687; Lawal et al., 2015:32). These authors stated that proper translation of theory into practice in the clinical setting requires the availability of enough trained personnel in the clinical setting, responsible for guidance and supervision of the students during learning (Dadgaran, Parvizy & Peyrovi, 2012:1715; Kaphagawani & Useh, 2013:182; Tiwaken, Caranto & David, 2015:70). Through guidance and supervision, students are offered expert advice, role modelled, and engaged in identifying their learning needs. Henderson (2011:141); Stayt and Merriman (2013:429) and Ali, Banan and Al Seraty (2015:1) add that student nurses are assessed and given the opportunity to demonstrate their skills, are questioned to determine their level of knowledge, are encouraged to learn by reflection, and are offered feedback.

It was stated by Henderson (2011:141) and Stayt and Merriman (2013:429) that supervision should not be carried out by unskilled persons, but rather by skilled persons with up-to-date knowledge, who have a recognised educational role within the practice context to guide and supervise nursing students during learning. Based on this, clinical educators, facilitators, mentors, preceptors and clinical guides were identified to fulfil this role in the clinical learning environment, according to these authors. Despite this, a study by Löfmark et al. (2012:165) to assess the level of satisfaction with the supervision given during clinical practice reported that there were clinical learning environments that proved challenging to learning. These areas were characterised by a lack of supervisors or qualified educators, and inexperienced nurses and preceptors, all of which lead to the inability of the students to achieve their learning outcomes. Similarly, ward nurses and educators who could be supportive in teaching students were said to have refused to guide and supervise students in clinical settings and described it as a dual function of rendering service to patients and educating students (Kristofferzon et al., 2013:1252). Contributing to finding solutions to these challenges, Stayt and Merriman (2013:429) and Rikhotso, Williams and De Wet (2014:1) recommended that health training institutions and the clinical area should see clinical education as a joint and equal responsibility by collaborating and partnering, allowing college tutors and clinical professional nurses to ensure adequate guidance and support of nursing students during placements.

Again, to augment clinical teaching, peer support was revealed as a vital element of the clinical learning environment that facilitates learning by Chuan and Barnett (2012:193) and Kaphagawani and Useh (2013:184). The authors stated that students achieve better learning outcomes if they have support from their peers. An additional significance of peer support is the avoidance of conflicts, tensions and unnecessary competitions for learning opportunities that can negatively affect learning, add Kaphagawani and Useh (2013:184). Peer support is also beneficial in that it reduces the burden of clinical staff in this era of global nursing shortages, who may be overburdened with heavy workloads and cannot attend to the needs of the students.

Furthermore, relationships between learners and staff in the clinical setting play a crucial role in the achievement of learning outcomes (Nerwton et al., 2012:2338; Zakaria & Gheith, 2015:43). Whereas positive relationships between students and staff characterised by interactions through

open communication, mutual trust and respect have been stated as enhancing the learning process of students (Nerwton et al., 2012:2338; Zakaria & Gheith, 2015:43), bad relationships hinder learning. In line with this, Nabolsi et al. (2012:5854) and Kaphagawani and Useh (2013:184) stated in their studies that the characteristics of a clinical educator found to facilitate student learning were those of conveying a positive, enthusiastic attitude about teaching and learning, and providing immediate feedback. They argued that poor relationships can only lead to demoralisation that inhibits the acquisition of clinical skills. According to O'Mara et al. (2014:212), students value a sense of belonging, and listening and attending to how relationships impact their learning contributes to creating a positive clinical learning environment. That, in turn, leads to the development of interest and a positive attitude towards clinical learning.

It is also interesting to note that the quality and suitability of the clinical learning environment to support learning is influenced by whether or not there is sufficient equipment available, as Sundler et al. (2014:662) assert. Chuan and Barnett (2012:193) also stated that sufficient equipment to perform procedures is as an important aspect in the clinical setting, in their study on the perceptions of the clinical learning environment. Other authors support this by their findings that inadequate or a lack of equipment was a common problem that negatively impacted on student learning in the clinical setting (Msiska, Smith & Fawcett, 2014:39; Rikhotso, Williams & De Wet, 2014:4; Anarado, Agu & Nwonu, 2016:144).

The type of curriculum also influences the quality of clinical teaching and learning as it prescribes the plan of teaching and learning experiences. As a standard for teaching and learning, its development is based on certain philosophical principles, aimed at maximising the students' engagement in the learning environment for the acquisition of knowledge, skills and attitudes essential for competent and safe practice (D'Souza et al., 2013:30).

Access to placement settings and the type of setting determines the quality of clinical teaching and learning, assert Skaalvik, Normann and Henriksen (2011:2301). In their study to measure nursing students' experiences and satisfaction with their clinical learning environments, they reported that students were more satisfied with hospitals than nursing homes, suggesting that nursing homes should be improved as learning settings.

Amidst the challenges associated with providing quality clinical education to facilitate nursing students' learning, training institutions in Africa continue to aspire for quality clinical education and learning. This is manifested in the various studies by authors, centred on clinical education and learning. Examples of such studies are; the factors hindering clinical education (Anarado, Agu & Nwonu, 2016:140), the perceptions of guidance and support by Rikhotso, Williams and De Wet (2014:1) and the challenge of learning in a resource poor clinical setting by Msiska, Smith, and Fawcett (2014:35). In these studies, challenges were identified and recommendations made to address these challenges and improve the quality of clinical teaching and learning. Those studies were in line with a recommendation by Dadgaran, Parvizy and Peyrovi (2012:1716) that training institutions should be aware of the factors that positively or negatively influence quality clinical teaching and learning in the clinical setting, and be supportive by creating conducive learning environments for the students.

## 1.3 CONTEXT OF THE STUDY

Similar to most countries within and outside of Africa, nursing education in Ghana is offered in both public and private nursing training colleges and universities. The training colleges offer diploma programmes and the universities offer degree programmes, masters' degrees and doctorates. Most nurses are trained at the training colleges. The purpose of nursing education is to enable the nursing student to obtain a qualification which provides eligibility for admission to the General Nursing register kept by the Nursing and Midwifery Council of Ghana, and prepares them to assume the responsibilities and accountabilities that nursing registration imposes.

The diploma programme, also known as registered general nursing (RGN), applicable in this study, is a three-year training programme based on the semester system. After graduation, the nurses become staff nurses. The curriculum for training is developed by the Nursing and Midwifery Council (NMC), based on the philosophy that health is 'a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity' (WHO, 1948). It is a relative state which is determined by several factors such as personal values, physical, biological, economic, psychological, cultural, spiritual and political factors within the individual environment. It is also a fundamental right of all. The Council believes that nursing is a dynamic

interpersonal process which seeks to promote, maintain and restore health. It is a unique enterprise, whose practitioners are skilled in the assessment, planning, implementation and evaluation of health outcomes. The special training that a nurse receives places them in a position to adapt to the roles of a counsellor, leader, resource person, teacher, researcher, manager and care giver, in the health care delivery system.

The curriculum is competency-based and regards theoretical and clinical teaching and learning as equally important. To allow for close correlation between theory and practice, clinical practice is expected to be student-centred. Classroom teaching and learning takes 16 weeks, including examinations, and clinical learning takes six weeks in the clinical settings. Placements for clinical learning occur at the end of each semester. Affiliated hospitals are the sites for clinical learning and are often congested with large numbers of students. Due to this, non-affiliated hospitals are also used. In the clinical settings, students are required to practice for six hours daily, excluding weekends. The aim is to expose them to a real clinical setting, to interact and learn using the available resources while under guidance and supervision, to enable them to acquire the knowledge, skills and good attitudes required.

Despite this requirement and the significance of clinical teaching and learning, nursing students in some practice settings have been reported to have bad attitudes towards clinical practice. These attitudes include being absent from work without permission, lateness for work, disrespect to patients, busying themselves with mobile phones and not showing commitment to their clinical work. According to these authors, the attitudes exhibited by the students affected the relationship between the students and the nursing staff, as well as other staff in the clinical setting (Awuah-Peasah, Sarfo & Asamoah, 2013:22).

Bam, Oppong and Ibitoye (2015:57) reported that some nursing students experienced stress during clinical practice that resulted mainly from clinical staff ignoring them and providing clinical instruction that differed from what they were taught in the classroom. The experience of stress can lead to negative attitudes towards clinical practice and will also affect relationships in the work area.

Although, the curriculum prescribes the preceptorship model as a clinical teaching model, there are arguments about the lack of its implementation at clinical sites (Awuah-Peasah, Sarfo & Asamoah, 2013:22), with others contending that its approach does not reflect preceptorship due to the large number of students currently being trained (Asirifi et al., 2013:168) and that it deprives students of the opportunities to develop critical thinking for improved performance (Atakro & Gross, 2016).

The negative attitudes, the experience of stress and arguments about the existence and usefulness of the preceptorship model are all linked to whether or not the learning environment is conducive for teaching and learning. Algoso and Peters (2012) stated in their study that a learning environment that does not offer students the best clinical learning opportunities and experiences possible leads to negative attitudes of the students in the clinical setting.

## 1.4 PROBLEM STATEMENT

Despite the integral part that teaching and learning in the clinical setting play in quality nursing education (Newton et al., 2012:2338; Kaphagawani & Useh, 2013:181; Zakaria & Gheith, 2015:41), challenges and difficulties in accessing quality teaching and learning have been reported by various researchers (Löfmark et al., 2012:165; Forber et al., 2015:1114). These challenges and difficulties are related to the structures and processes of the clinical setting, according to Dale, Leland and Dale (2013:6). Jette, Lee and Ellen (2014:7) explain that the structures include the type of settings, personnel, students, curriculum, equipment and finances supporting clinical education. The processes include engagement in effective educational activities such as student supervision, with good inter-personal relationships, evaluation mechanisms and administrative procedures.

In the context of Ghana, nursing education aims at producing clinically competent nurses, however, there are a number of issues that have been reported in relation to clinical teaching and learning. These includes students' bad attitudes towards clinical practice in the form of absenteeism from clinical practice without permission, lateness to practice settings, disrespect to patients, preoccupation with mobile phones and a lack of commitment to clinical work, according to Awuah-Peasah, Sarfo & Asamoah (2013:22).

The students' bad attitudes may, however, develop in part because of conditions in the clinical areas: The preceptorship model established by the Nursing and Midwifery Council (NMC) of Ghana for the clinical supervision of students has been criticised by researchers such as Awuah-Peasah, Sarfo & Asamoah (2013:22) for the lack of its full implementation at clinical sites, with others contending that the teaching approach does not reflect preceptorship due to the large number of students currently being trained (Asirifi et al., 2013:168) and that even where it is implemented, it deprives students of the opportunities to develop critical thinking for improved performance (Atakro & Gross, 2016). Additionally, Bam, Oppong and Ibitoye, (2015:57) reported that nursing students were stressed during clinical practice, mainly because they were ignored by the clinical staff and felt unwelcome. In addition to this, when they were provided with clinical instruction, the information taught often conflicted with what they had been taught in the classroom. The literature indicates that a learning environment that does not offer students good clinical learning opportunities and experiences leads to the students developing negative attitudes towards their clinical practice. They become incompetent, perform poorly academically and provide poor quality nursing care, among others (Algoso & Peters, 2012; Sundler et al., 2014:662; Tiwaken, Caranto & David, 2015:67).

According to Bigdeli et al. (2015:1), any differences perceived between the actual and the expected clinical learning environment decreases the students' interest in clinical learning and negatively correlates with their clinical performance. Thus this study aims to investigate the perceptions of the nursing students, nurse educators and clinicians of the clinical learning environment in selected institutions in northern Ghana, so as to assist in addressing the obstacles to clinical teaching and learning.

## 1.5 PURPOSE OF THE STUDY
The purpose of the study is to describe the perceptions of the nursing students, nurse educators and clinicians of the clinical learning environment at selected institutions in northern Ghana.

## 1.6 RESEARCH OBJECTIVES, QUESTIONS AND HYPOTHESES
There are four research objectives and four research questions. Each objective is followed by a question, as stated below for easy reading.

### 1.6.1 Research objective one

To identify and describe nursing students, nurse educators and clinicians' perceptions of the clinical learning environment.

#### *1.6.1.1 Research question one*

What are the perceptions of the nursing students, nurse educators and clinicians of the clinical learning environment?

### 1.6.2 Research objective two

To compare the nursing students, nurse educators and clinicians' perceptions of the clinical learning environment.

#### *1.6.2.1 Research question two*

What are the differences in the perceptions of the nursing students, the nurse educators and the clinicians of the clinical learning environment?

### 1.6.3 Research objective three

To compare the perceptions of the clinical learning environment between the first, second and third year nursing students.

#### *1.6.3.1 Research question three*

What are the differences in the perceptions of the clinical learning environment between first year, second year and third year nursing students?

### 1.6.4 Research objective four

To identify the challenges affecting nursing students' learning in the clinical setting.

#### *1.6.4.1 Research question four*

What are the challenges affecting the nursing students' learning in the clinical setting?

### 1.6.5 Hypothesis

There is no significant difference in the perceptions of the nursing students, nurse educators and clinicians of the clinical learning environment.

**1.7 SIGNIFICANCE OF THE STUDY**

**1.7.1    Policy development**

A report of the study's findings could be utilised by the Ministry of Health in Ghana; the Nursing and Midwifery Council of Ghana, participating nursing college management as well as the management in the clinical settings in developing and implementing clinical teaching and learning strategies and policies. This could possibly address any current shortfalls in clinical teaching and learning, to enable access to quality learning by nursing students.

**1.7.2    Nursing practice**

The study findings, when utilised, will contribute to the production of professionals with the required knowledge, skills, attitudes, and values needed for best practice in the field of nursing. It will help foster active collaboration between the health training institutions and the clinical settings regarding students' support and guidance during practice, thereby reducing the workload of the clinical staff.

**1.7.3    Nursing education**

Quality clinical teaching and learning, which is an important component of nursing education, will be promoted. The study findings could hopefully inform the authorities about the state of the clinical learning environment, so that they can ensure that there are opportunities available for quality clinical teaching to promote effective learning. Application of theory into practice will also be closely monitored and supervised through active involvement of the health training institutions in the practice area. The knowledge and skills of the supervisors in the clinical setting will be updated through in-service training. Furthermore, utilisation of the study findings could also lead to revision of the curriculum, to capture the important clinical learning needs of the students for better correlation of theory and practice.

**1.7.4   Nursing research**
The study findings and recommendations may serve as a baseline for prospective researchers in nursing education to further conduct studies for the promotion of quality clinical teaching and learning.

## 1.8 OPERATIONAL DEFINITIONS

The researcher seeks to clarify and define key terms being used in the study. This will have the advantage of communicating exactly what the terms mean in the study for those who may read it. The following terms have been operationalised for this study:

### 1.8.1 Clinician

A health professional, such as a physician, psychologist, or nurse, who is directly involved in patient care, as distinguished from one who does only research or administrative work (Oxford Advanced Learners Dictionary, 2010:265) In this study, a clinician is a registered nurse who is directly involved in patient care and also assists in supervising nursing students during their clinical practice.

### 1.8.2 Clinical learning

In this study, it shall mean learning by nursing students that occurs in the clinical setting with the purpose of enabling them to acquire knowledge, skills and attitudes, through practicing using the available resources, while under the guidance and supervision of experienced clinical personnel.

### 1.8.3 Clinical learning environment

According to Tomietto et al. (2014:43), it is defined as an interactive network of forces within the clinical setting that influence the students' learning outcomes. In this study, it means the resources, opportunities and strategies available in the clinical setting that makes it easy for clinical teaching and learning to occur.

### 1.8.4 Clinical setting

According to Dadgaran, Parvizy and Peyrovi (2012:1713), it includes clinical wards, facilities, staff, patients and nursing instructors. It is also defined as an authentic workplace, venue or practice environment for students' clinical education in nursing, and includes the hospitals, health centres, community service, and clients or patients' own homes (Jokelainen, 2013). In this study, it refers to the affiliated hospital where nursing students are usually placed for clinical learning.

### 1.8.5 Clinical supervision

According to Franklin, Leathwick and Phillips (2013:135), it is defined as the process of guiding and assessing the personal, professional and educational development of nursing students; and providing them with feedback in the context of their learning to enable them to provide safe, appropriate and high quality patient care. In this study, it shall mean the assistance and guidance provided by a trained and experienced person in the clinical setting to nursing students, to enable them to gain knowledge and skills and to develop good attitudes.

### 1.8.6 Clinical supervisor

A clinical supervisor is someone in the clinical setting who supervises and demonstrates how theoretical knowledge can be integrated into practice for students to acquire knowledge, skills and good attitudes (Löfmark et al., 2012:165). For the purpose of this study, it shall mean any person with the knowledge and skills in the clinical setting responsible for providing assistance and guidance to nursing students during their clinical practice.

### 1.8.7 Nurse educator

In the South African context, a nurse educator is a professional nurse with an additional qualification in nursing education and who is registered as such with the South African Nursing Council (SANC, 2005). In this study, a nurse educator is someone with a degree relevant in nursing and employed to teach nursing students studying towards the registered general nursing programme (Diploma) in a nursing training college in Ghana.

### 1.8.8 Nursing student

A nursing student is a learner nurse registered as such in terms of section 32 of the *Nursing Act* (SANC, 2005) in the republic of South Africa. A nursing student can also be defined as a person who is studying nursing at a university or college (Oxford advanced learner's dictionary, 2005). For the purpose of this study, a nursing student is a student studying in the three year registered general nursing (Diploma) programme in Ghana.

### 1.8.9 Perceptions

According to Hughes and Quinn (2013:57), a perception can be defined as an "organised process in which the individual selects cues from the environment and draws inferences from these, in

order to make sense of his or her experience". It is also defined as the sensory experience of the world around the person, using the five senses (smell, sight, hearing, touch and taste) that influence the way that person thinks and behaves by Rikhotso, Williams and De Wet (2014). In this study, it shall mean nursing students, nurse educators and clinicians' impressions about the clinical learning environment.

### 1.8.10 Preceptorship

This can be defined as a teaching and learning strategy whereby an experienced nurse, midwife or a specialist community public health nurse within a practice setting acts as a role model and resource for a student who is attached to them for a specific timespan or experience (Hughes & Quinn, 2013:375). In this study, it means a professional who is selected to supervise nursing students during clinical practice, as prescribed by the curriculum for the registered general nursing (Diploma) programme.

### 1.8.11 Quality clinical teaching

According to Melender, Jonsén and Hilli (2014:305), it refers to clinical education that offers the students as good a learning experience as possible. In this study, it shall mean the same.

## 1.9 CONCEPTUAL FRAMEWORK

### 1.9.1    Introduction

This study will be framed within Avedis Donabedian's tripartite model of quality of care (Donabedian, 1988:1745). The model is made up of three parts; structure, process and outcome standards. According to the model, structure standards denote the attributes of the setting where care occurs. These attributes include material resources such as facilities, equipment and money; human resources such as numbers and qualification of personnel; and organisational structure such as medical staff, organised methods of peer review and methods of reimbursement.

Process standards, according to Donabedian (1988:1745), refers to what is actually done in giving and receiving care. It includes the patient's activities in seeking care and carrying it out, as well as the practitioner's activities in making a diagnosis and recommending or implementing treatment.

The last aspect of the model which is outcome standards denotes the effect of care on the health status of the patient and population, such as an improvement in knowledge and salutary changes in behaviour (Donabedian, 1988:1745).

According to the model, the three-part approach to quality assessment is possible because strong structure standards increase the likelihood of efficient process standards, and efficient process standards increase the likelihood of effective outcome standards (Donabedian, 1988:1745). It is therefore, necessary to have established such a relationship before any particular component of structure, process or outcome standards can be used to assess quality. Refer to Figure1.

| STRUCTURE STANDARDS | PROCESS STANDARDS | OUTCOME STANDARDS |
|---|---|---|
| Material resources<br><br>Human resources<br><br>Organisational structure | Activities needed to render care | The quality of care that was rendered or the effect of care on the individual |
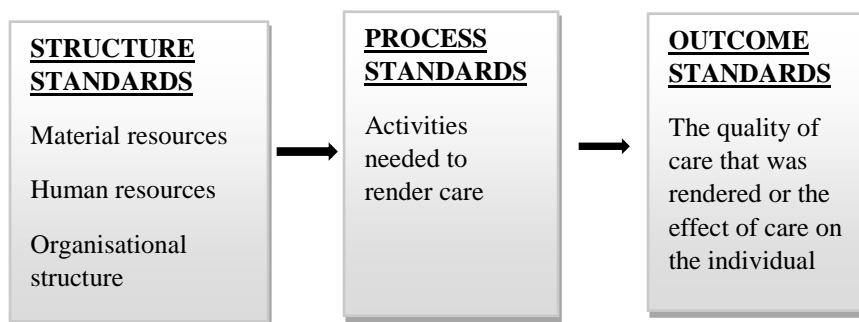
Figure 1:Avedis Donabedian's model of quality of care
Source: Donabedian (1988)

### 1.9.2 Unfolding the Donabedian's model of quality of care within this study

To promote quality in clinical teaching and learning in the clinical settings, this study will concentrate mainly on two parts of the model; structure standards and process standards, as shown in Figure 2.

The structure standards aspect of the model is selected because human resources are required in the clinical setting to guide and supervise the nursing students in their learning to gain competencies (Dadgaran, Parvizy & Peyrovi, 2012:1715; Franklin, Leathwick & Phillips, 2013:135). In this study, the human resource of the structure standards includes clinical educators, facilitators, mentors, preceptors, clinical guides and nurse educators, otherwise known as clinical supervisors in this study, who have the expertise to engage students in activities that will lead to the fulfilment of their learning outcomes (Henderson, 2011:141; Stayt & Merriman, 2013:429). Again, the availability of equipment as a material resource of the structure standard of the model is very significant in clinical teaching and learning, as reported by Chuan and

Barnett (2012:193) and Sundler et al. (2014:662). All these resources are essential for strong process standards to occur.

The process standards aspect is selected because it entails the activities of the human resources, using the available opportunities or the material resources to assist nursing students to achieve their learning outcomes. Henderson (2011:141) and Stayt and Merriman (2013:429) state that these activities include guiding, direct role-modelling, demonstrating, engaging with the learner to identify their learning needs, assessment of skills, questioning, encouraging reflection and offering feedback.  It also includes good relationships between learners and staff during teaching and learning in the clinical setting, as this is reported to have a crucial role in the achievement of learning outcomes (Nerwton et al., 2012:2338; Zakaria & Gheith, 2015:43). In addition to this, peer support is considered vital as it augments the activities of the clinical staff and helps to reduce their burden of having to care for patients and educate students simultaneously (Chuan & Barnett, 2012:193; Kaphagawani & Useh, 2013:184).

The outcome standards component of the model relies on the structure and process standards aspects of the model. Favourable outcomes such as enriched clinical competence, academic success and quality of nursing care will strongly depend on good structures and processes that constitute the clinical learning environment, attest Dimitriadou et al. (2015:236) and Tiwaken, Caranto and David (2015:69). Likewise, unfavourable outcomes such as incompetence, failure of students and poor quality of nursing care result from poor structure and process standards (Sundler et al., 2014:662; Tiwaken, Caranto & David, 2015:67). Figure 2 below shows the application of Avedis Donabedian's model of quality of care to this study.

| STRUCTURE STANDARDS | PROCESS STANDARDS | OUTCOME STANDARDS |
|---|---|---|
| • Skilled clinical staff<br>• Supervisors<br>• Nurse educators<br>• Teaching and learning materials<br>• Nursing curriculum containing theory and practice aspects<br>• Clients<br>• Nursing students | • Guidance and supervision methods<br>• Relationships between learners and supervisors during teaching and learning<br>• Collaboration and partnership<br>• Peer support<br>• Provision of feedback | • Clinical competence<br>• Academic success<br>• Quality of care<br>• Incompetence<br>• Failure<br>• Poor quality of care |

Figure 2: Application of Avedis Donabedian's model of quality of care to this study
Source: Donabedian (1988)

## 1.10 SUMMARY OF CHAPTER

This chapter provides the introduction and background of the study and focuses on the global demand for quality clinical teaching and learning in nursing education. It briefly describes the clinical learning environment as having an influence on the quality of clinical learning, by reviewing the supporting conditions of the clinical learning environment. Challenges and difficulties in accessing quality clinical teaching and learning are stated and linked to the structures and processes of the clinical learning environment. The problem statement introduces some of the problems that exist in the Ghanaian context in relation to clinical learning. As a way of solving the problems, the study purpose seeks to describe the perceptions of the major stakeholders involved in the clinical learning environment with three research objectives and questions. Key terms have been operationally defined. The chapter also states the specific areas in which the study will be significant, and contains the selected framework that will guide the study.

**CHAPTER 2: LITERATURE REVIEW**

**2.1  INTRODUCTION**

A review of literature, according to Sekaran and Bougie (2013:50), is a step-by-step process that involves the identification of published and unpublished work from secondary data sources on the topic of interest. Polit & Beck (2010:192) also defined it as a written summary of the state of evidence on a research problem. Brink, van der Walt & van Rensburg (2012:71) defined it as finding, reading, understanding and forming conclusions about published research and theory, as well as presenting it in an organised manner. For most quantitative studies, a thorough literature review is a crucial early task that helps contribute to the argument about the need for a study. It helps the researcher to identify gaps in the existing body of research, shape research questions and suggest appropriate methods and conceptual or theoretical frameworks to be used (Polit & Beck, 2010:170; Brink, van der Walt & van Rensburg, 2012:71).

This chapter presents available, precise and relevant literature that relates to the research topic, the problem statement and the objectives under the following headings: global demand for quality clinical teaching and learning; the clinical learning environment; models of clinical teaching and learning; factors that hinder student learning in the clinical setting; and clinical teaching and learning in the Ghanaian context. The purpose is to present an in-depth view of what is already known on the subject, in order to position the study relative to such a body of knowledge.

**2.2  SEARCH STRATEGIES AND SOURCES OF LITERATURE**

Various strategies were adopted to review the literature. Firstly, major bibliographic databases were searched: Google Scholar, PubMed, EBSCO Host and Science Direct. The key words/ phrases used are listed below. Search results for the key words/phrases were drawn from nursing and midwifery journals, as well as some from the social and behavioural sciences. The journal articles used for the literature were mainly from countries in Europe, the Middle East, Asia, Saudi Arabia, America and Africa. It was noted that only a few such journal articles for African and especially Ghanaian studies in relation to the key words were available. To obtain quality

information, all titles and abstracts of journal articles found were read for their relevance to the topic and thereafter, the relevant articles were retrieved.

**Key words: Clinical learning environment, clinical learning, clinical environment, clinical education, clinical supervision, clinical placements, models of clinical teaching, clinical learning in Ghana.**

## 2.3    GLOBAL DEMAND FOR QUALITY CLINICAL TEACHING AND LEARNING

Globally, clinical teaching and learning is an important aspect of nursing education, evidenced by the studies of Kaphagawani & Useh (2013:181) and Khan, Shafi and Akhtar (2015:293). It affords nursing students the opportunity to put the theoretical knowledge acquired in the classroom into practice in the clinical setting (Killam & Heerschap, 2013:684; Tiwaken, Caranto, & David, 2015:66; Nepal et al., 2016:181). This teaching and learning usually occurs in the clinical setting through placements during the course of the semesters, and offers students the opportunity to get direct access to patients and clients, and to experience the world of real nursing. This enables them to reflect and critically evaluate their learning, motivating them to acquire essential skills (NMBI, 2015). The main goal is to produce professionals with the right knowledge, skills, attitudes and values needed for best practices in the field of nursing after their training period, assert Courtney-Pratt et al. (2012:1381); Killam and Heerschap (2013:684) and Anarado, Agu and Nwonu (2016:140).

Teaching and learning in this setting has habitually been valued and described as a cornerstone of nursing training (Rush et al., 2012:225; D'Souza, et al., 2013:25), with the achievement of clinical teaching and learning goals greatly depending on the quality of the teaching and learning done (Dale, Leland & Dale, 2013:7).

Quality teaching, in this context, was described by Melender, Jonsén and Hilli (2014:305), as teaching that offers nursing students the best learning opportunities in a clinical environment. Students are exposed to as many nursing scenarios or cases as possible, so that they can put into practice the theoretical knowledge and skills that they have already learned during lectures and skills laboratories. With the proper support, supervision and feedback from their clinical

educators, students experience quality learning (Kaphagawani & Useh, 2013:181) and become competent and confident in the execution of their nursing duties. In order to ensure that this takes place, McInnes et al. (2015:437) stated that clinical teaching and learning should go beyond the act of simply placing students in clinical settings for learning as a curriculum requirement. Instead, the educators responsible for the placements should ensure that the quality of the teaching and learning is such that students are able to acquire the necessary skills for them to meet their learning objectives. Dobrowolska et al. (2015:37) are of the view that quality clinical teaching and learning can be ensured if, despite the complex clinical placement settings within the institutional and social structures, the various players involved are committed, have a collective vision of what needs to be achieved and communicate effectively to establish and support conducive clinical learning environments.

## 2.4    THE CLINICAL LEARNING ENVIRONMENT

According to Chuan and Barnett (2012:192) the clinical learning environment is defined as an interactive network of forces that influences learning outcomes in the clinical setting. This network of forces is described as learning opportunities and experiences available in the clinical setting for students by Melender, Jonsén & Hilli (2014:305). Exposing students to these learning opportunities enables them to form opinions of their professional careers and clinical practice prospects as they come into contact with the realities of their functions as nurses (Papathanasiou, Tsaras & Sarafis, 2014:57). Based on this, the clinical learning environment must provide these opportunities and experiences commensurate with meeting the students' learning outcomes (Henderson et al., 2011:201; NMBI, 2015). Assessment and evaluation of the learning environment is therefore very essential as it equips stakeholders with knowledge of the conditions, attributes or antecedents for a supportive learning environment so that quality clinical teaching and learning can be guaranteed (Bergjan & Hertel, 2013:1393; Stayt & Merriman, 2013:425; Papastavrou, 2016:1). The concept of a supportive learning environment is complex and seems somewhat subjective, as what constitutes a supportive learning environment in the perspective of a clinical educator might vary from that of the nursing student (Lawrence, 2014:270), and the expectation of the stakeholders is the provision of quality clinical experiences for every student (Cunningham, Wright & Baird, 2015:264). This cannot be achieved without considering the pre-existing conditions, structures, and processes for quality learning (Bergjan &

Hertel, 2013:1397). Available rich literature pertaining to these factors has been discussed by previous researchers.

**2.4.1 Availability of clinical instructors**
According to Khan, Shafi, and Akhtar (2015:293), the availability of clinical instructors to guide and supervise students is very necessary for providing optimum learning. Chuan and Barnett (2012:196) and Dadgaran, Parvizy and Peyrovi (2012:1715) stated that the clinical instructor's presence in the learning environment offers students the opportunity to carry out clinical tasks by applying their prior knowledge under guidance, leading to the development of competencies. Clinical instructors have been described by other authors in similar studies as clinical educators, facilitators, mentors, preceptors and clinical guides (Henderson, 2011:141; Stayt & Merriman, 2013:429).

According to AlHaqwi and Taha (2015:97), clinical instructors were said to have an extremely essential role in the quality of clinical teaching and learning, by supporting the students, encouraging reflection and providing them with constructive feedback. Henderson and Tyler (2011:292), in their study on facilitating learning in clinical practice, were of the view that the presence of clinical instructors in the clinical settings adds value by assisting registered nurses, who may be willing to assist students but have limited knowledge in clinical teaching, to be able to do so, thereby optimising learning opportunities for the students during clinical practice.

Nabolsi et al. (2012:5855) stated that clinical instructors shape the learning environment to meet the learning needs of students through empowering student learning, helping them to focus and offering them the opportunities to translate theory into real clinical practice by appropriate placement selection. For students and educators, the most positive aspect of the clinical learning environment is guidance and supervision by clinical instructors, further adding importance to their presence in the learning environment (Chuan & Barnett, 2012:192). Melender, Jonsén andHilli (2014:297) also stated that undergraduate nursing students not only found the availability of clinical instructors a positive experience; they were encouraged and stimulated by the way in which these instructors carried out their supervisory roles. According to Rikhotso, Williams and De Wet (2014:1), if nursing students are not guided and supported professionally

during clinical learning, it can lead to high turnover, absenteeism and the refusal to be allocated to certain clinical settings for learning.

### 2.4.2 Knowledge and experience of clinical instructors

Though the presence and roles of clinical instructors are very essential, their level of knowledge, experience and skills determines how confident and competent they are in their teaching roles, attest Killam and Heerschap (2013:687). Previous studies stated that the knowledge of the clinical instructors influences their ability to offer expert advice to the students, their ability to engage the students in their clinical learning needs, their ability to demonstrate skills and encourage students to learn by reflection, and their ability to provide prompt feedback (Henderson, 2011:141; Stayt & Merriman, 2013:429; Ali, Banan & Al Seraty, 2015:1).

According to Sabog, Caranto and David (2015:16), clinical instructors need to be knowledgeable to be able to provide students with the right answers at any given time when asked. The authors were of the opinion that students become motivated when learning under instructors with the knowledge and skills regarding clinical teaching and learning. In a study on the perception of an effective clinical instructor, Madhavanprabhakaran et al. (2013:38) stated that a clinical instructor who has the opportunity to influence the students' learning must possess characteristics such as professional knowledge, clinical competence, and role-modelling with effective communication skills to facilitate learning. Knowledge about the curriculum, clinical setting, supervision strategies, as well as the needs of the learner, is essential to create their self-awareness and motivation (Killam & Heerschap, 2013:687; AlHaqwi & Taha, 2015:99).

### 2.4.3 Supervisory relationship

In a study on nursing students' satisfaction with the clinical learning environment, the supervisory relationship between clinical instructors and students was found to be the most influential factor that determines their satisfaction with learning (Sundler et al., 2014:661; Papastavrou et al., 2016:1). Students with personal clinical instructors were found to be more satisfied with their supervisory relationship than those who were attached to many preceptors (Sundler et al., 2014:665). A supervisory relationship characterised by open communication, mutual trust and respect, an enthusiastic attitude, good listening skills, and attending to how the relationships impact the students' learning was found to be very instrumental in promoting

learning (Kaphagawani & Useh, 2013:184; O'Mara et al., 2014:212). Furthermore, Sabog, Caranto and David (2015:16) reported that being approachable, considerate and understanding were characteristics identified by students as having an impact on their studies and leading to the development of confidence. In a related study, Cremonini et al. (2016:202) found that students' overall satisfaction with the clinical learning environment depended on the supervisory relationship, in relation to how well it was organised and the strength of the involvement of the clinical instructors. Killam and Heerschap (2013:6 and 89) Damodaran (2015) suggest that these characteristics of a good supervisory relationship ought to be exhibited by clinical instructors as an ethical obligation.

### 2.4.4 Positive role models

Okoronkwo et al. (2013:68) added that clinical instructors need to serve as positive role models for students. The authors are of the opinion that good role models enjoy assisting students, are prepared and ready to share their knowledge and stimulate the students' interest to learn. According to Aktaş and Karabulut (2016:124), students described these characteristics as constituents of a good clinical learning environment which made them feel welcomed, appreciated and valued in the clinical setting. As students learn through observation and imitation, Jochemsen-van der Leeuw et al. (2013:33) were of the view that the qualities of the clinical instructor should be that of admiration, inspiration, having empathy for clients, and interacting positively with patients and their families, with their co-workers and with the students. Dale, Leland and Dale (2013:1) stated that these qualities of the instructor are important in improving the students' motivation, self-confidence and self-respect in the learning environment. Nasrin, Soroor and Soodabeh (2012:1) expanded further, stating that it was not only clinical instructors who should serve as role models. Rather, every nurse is also a role model for students in the clinical settings, with a significant role to play in motivating students and, as such, should also possess the qualities of a positive role model.

### 2.4.5 Feedback

Feedback has been stated to have an influence on the educational process of nursing students in the clinical learning environment (Ramani & Krackov, 2012:787; Plakht et al., 2013:1264; Matua et al., 2014:24). Plakht et al. (2013:1264) defined feedback in clinical education in their literature as "specific information about the comparison between a trainee's observed

performance and a standard, given with the intent to improve the trainee's performance". Matua et al. (2014:24) stated that feedback is an essential element in the clinical teaching of students. It provides the supervisors with the opportunity to discuss the learners' performance with them, with respect to the areas of their performance that they have to work on and improve, as well as the skills which they are performing well.

Feedback is also valuable in providing learners with the opportunity to critically reflect and evaluate their own performance, rating themselves in a realistic manner, in order to make amendments for improvement. Plakht et al. (2013:1267) stated that the provision of feedback should normally include both positive and negative feedback, and be provided in such a way that the students feel both supported and challenged at the same time; with the purpose of closing the gap between their current level of performance and the standard level of performance expected. According to the authors, high quality positive feedback is related to higher achievement of the student's learning outcomes, and is indicative of a higher level of contribution towards the clinical practice of the student. It also encourages the students to self-evaluate their performance to a greater extent. On the other hand, beneficial and accurate negative feedback is related to a more accurate self-evaluation of their performance by the student.

Ramani and Krackov (2012:787) stated that the ways in which feedback can be given effectively in the learning environment are to firstly establish a respectful learning environment, to communicate the goals and objectives of the feedback; to make the feedback sessions timely and regular; to base the feedback on direct observation rather than second-hand reporting; to begin the learning session with the learner's self-assessment; to reinforce and correct observed behaviours; to use specific, neutral language to focus on performance and confirm the learner's understanding; and lastly to facilitate acceptance of the feedback.

Matua et al. (2014:24) stated similar strategies expected to be provided by preceptors during preceptorship. Due to the immense importance of providing feedback, Ramani and Krackov (2012:790) stated that institutional leaders should make it part of their institution's culture, regularly providing feedback to trainees on their performance, for the purposes of improvement.

## 2.4.6 Positive attitudes of students towards learning

The role of students as learners also contributes to a supportive learning environment. Students' attitudes, efforts, level of engagement, expectations and readiness to learn during clinical practice are essential (Dale, Leland & Dale, 2013:4). According to Ha (2015:738), students' attitudes towards clinical practice vary and affect their learning outcomes, and qualities such as experience, motivation, self-confidence and interest were identified as essential for optimal learning by Dadgaran, Parvizy & Peyrovi (2012:1715). As students, they also have a role to play by ensuring that they get the best out of the learning environment and educators should engage them to obtain optimal learning outcomes (Ha, 2015:738).

## 2.4.7 Link between theory and practice

Apart from the above, emphasis on stronger links between theory and practice has been identified to be the core condition of the supportive learning environment by Okoronkwo et al. (2013:1715). As a practice based profession, the authors stated that students will only be able to fully understand and appreciate the theoretical aspect of nursing by observing and performing the practical procedures themselves. Khan, Shafi and Akhtar (2015:293) agree with this, stating that learning occurs when students are able to apply what they have learned in the classroom and skills laboratory into real life nursing scenarios. Various approaches should be explored by education and practice professionals to close any gaps that exist between theory and practice (Tiwaken, Caranto & David, 2015:72). Manninen et al. (2015:7) stated that supporting students to link their theoretical knowledge, practical knowledge and skills is facilitated in a learning environment where there is a balance between patient care and the supervision of students. In this environment, supervisors schedule nursing care tasks for students, while simultaneously creating learning plans for students, and ensure that the students are supervised while rendering the patient care.

## 2.4.8 Collaboration

Collaboration between the training institutions and the clinical settings also influences teaching and learning (Price, 2011:780; Chuan & Barnett, 2012:192). According to Price (2011:780), students appreciate nurse educators visiting them during clinical practice to facilitate a student-instructor relationship and offer assistance. Collaboration ensures adequate guidance and support for students, add Rikhotso, Williams & De Wet (2014:1). Stayt and Merriman (2013:429) stated

that strong collaboration leads to clarification of the different views and understanding of the nature and reason for clinical placement, including the expectation of the partners involved with regards to the guidance and supervision of students. Franklin, Leathwick and Phillips (2013:140) stated that strong relationships between the training institution and the clinical setting are crucial in addressing clinical placement capacity and capability, in order to offer the students a safe, supportive and appropriately resourced learning environment. According to Nursing Education Stakeholders (2012), it was stated that though collaboration is essential, it is always complex, especially when many nursing education institutions and clinical settings are involved. The group proposed that collaboration can work smoothly if an effective and efficient organisational structure can be put in place.

### 2.4.9 Peer support

Peer support is considered a vital element of the clinical learning environment. Chuan and Barnett, (2012:193) stated that when students network, they are able to support one another by sharing and learning from their experiences. In peer support, the senior students with more experience usually guide and supervise the junior students. According to Gidman (2011:354), peer support has been highly valued by students, who described their peers as being enthusiastic and motivated in their practice and attitudes, approachable and willing to make time for them. Kaphagawani and Useh (2013:183) found that students' performance, both academically and clinically, is better if they have support from their peers. Ravanipour, Bahreini and Ravanipour (2015) also stated that it improves the students' in-depth learning, with less stress involved, and that it leads to satisfaction with their learning output. Stenberg and Carlson (2015:1) found that peer teaching as an educational model is essential in complementing other teaching models in clinical practice. Students' learning experiences with peer teaching were found to be positive regarding feelings of safety, increased learning and a sense of independence. Henderson et al. (2011:201) stated that in clinical settings where there is a partnership between clinical staff and students to demonstrate and role model, encouraging conversation about nursing practice and providing feedback, the students develop professionally. Peer support is thus considered valuable in clinical settings where there are not enough clinical instructors and nurses to guide and supervise students (Potgieter, 2012:7).

**2.4.10 Access to clinical learning sites**

Access to clinical learning sites is one of the conditions for optimum clinical learning. These are the authentic workplaces, venues or practice environments for students' clinical teaching and learning and include the hospitals, clinics, health centres, community service centres and clients' or patients' own homes (Nabolsi et al., 2012:5849; Jokelainen, 2013). Having access to these settings where patients are cared for, families and communities are supported and skills practiced in a real situation, is important for the development of students' competencies (Bourgeois, Drayton & Brown, 2011:114; Nursing Education Stakeholders, 2012). According to AlHaqwi and Taha (2015:100), all clinical sites or facilities have strengths and weaknesses. The authors stated that while secondary and tertiary hospitals have more learning opportunities such as advanced clinical cases for learning; ambulatory and family sites lack those learning opportunities. In line with this, Skaalvik, Normann and Henriksen (2011:2301) found that students were more satisfied with hospitals than nursing homes during their placements. According to the group of Nursing Education Stakeholders (2012), it will be impossible to prepare competent nurses if there is no variety of clinical facilities where quality nursing care is provided and students are able to practice their roles fully. Following on from this, Nabolsi et al. (2012:5851) stated that it is important to select an appropriate or positive clinical site where students will achieve their learning outcomes. Hakimzadeh et al. (2013:182) recommended the use of educational hospitals as the main environments for clinical learning by nursing students.

**2.4.11 Sufficient equipment and materials**

Sufficient clinical equipment and materials for patient care and student use have been stated by various authors as an important resource that enhances clinical learning (Chuan & Barnett, 2012:192; Rikhotso, Williams & De Wet, 2014:5; Anarado, Agu & Nwonu, 2016:144). Tiwaken, Caranto and David (2015:71) stated that it offers students the opportunity to use them to perform actual procedures that reflect what they have learnt in the classroom. Hakimzadeh et al. (2013:182) also recognised that the availability of enough equipment and materials for clinical teaching is a prerequisite for development of the students' clinical competencies.

**2.4.12 Curriculum**

The type of curriculum is also a factor that determines the quality of clinical teaching and learning, assert D'Souza et al. (2013:25); Tomietto et al. (2014:43) and Papastavrou et al.

(2016:1). According to the authors, the quality of student engagement, learning, and the development of competencies in the clinical learning environment reflects the quality of the curriculum structure. A study by Hakimzadeh et al. (2013:181) found a significant correlation between the curriculum and the clinical learning environment, with a high correlation coefficient of the curriculum and clinical competence. The authors indicated that students had a positive view of the curriculum as it considered their opinions about the content, teaching methods and assessment methods. According to the summit held by the group of Nursing Education Stakeholders in 2011, it was stated that the curriculum, as a plan for teaching and learning, should specifically make clear the position of clinical teaching and learning in the overall programme of education (Nursing Education Stakeholders, 2012). A curriculum that specifies clearly the expectations of students and instructors in terms of the acquisition of knowledge, skills and attitudes; with a content that offer students the ability to link theory to practice is essential, as it enables students to be more engaged in inter-professional learning and the achievement of learning goals (Di Prospero & Bhimji-Hewitt, 2011:64; Rafiee, 2014:41).

## 2.5    MODELS OF CLINICAL TEACHING AND LEARNING

Clinical placements and quality clinical supervision for nursing students remains a global demand, according to Franklin, Leathwick and Phillips (2013:134). This has led to the development of clinical supervision models, used in the clinical learning environment (Franklin, Leathwick & Phillips, 2013:140; Hall-Lord, Theander & Athlin, 2013:507; Stayt & Merriman, 2013:429. The commonly used models include the preceptor model; the facilitator model; the preceptor-facilitator model; the mentor model; and the dedicated education model, state Newton et al. (2012:2331) and Franklin, Leathwick & Phillips (2013:135). Franklin, Leathwick and Phillips, (2013:134) and Rahnavard, Hosseini and Hosseini (2013:176) further explain that these models provide high quality clinical supervision to nursing students, as well as offer supervisors a supportive environment and professional development opportunities.

### 2.5.1 The preceptor model

According to Franklin, Leathwick and Phillips (2013:134), it is a model for clinical supervision or teaching, where one nursing student is assigned to one registered nurse, who is known as the 'preceptor' in the practice setting.  The student works with and is supervised by the preceptor on

a day-to-day basis. Jeggels, Traut and Africa (2013:1) defined a preceptor as a competent practitioner who provides professional guidance to students in the clinical setting. Preceptors were also described as clinic-based nurses who have the competencies, abilities, and who agree to work with nursing students to provide them with opportunities to reinforce their knowledge of clinical practice (Nabolsi et al., 2012:5849).

In the preceptor model, registered nurses are responsible for supervising and supporting the students during their clinical learning period (Walker et al., 2013:530). The period of individualised support under the guidance of an experienced registered nurse, for students to apply their knowledge and skills in performing procedures in the clinical setting, is known as preceptorship (Jeggels, Traut & Africa, 2013:1).

As registered nurses, preceptors serve a dual role as a practitioner and a supervisor or educator. They are very instrumental in assisting nursing students in the clinical setting, as well as rendering patient care (Franklin, Leathwick and Phillips, 2013: 136). Sedgwick and Harris (2012:1) stated that the preceptorship model is a cornerstone of undergraduate nursing students' clinical education, and that nursing programmes depend heavily on registered nurses' availability and willingness to take up preceptor roles. Newton et al. (2012: 2331) found that the model is increasing in popularity and is a strategy used to maximise the collaboration between training institutions and the practice settings, to enhance clinical teaching and learning.

A study by Sundler et al. (2014: 666) found that nursing students were more satisfied with the clinical learning environment due to the mode of organisation of the supervision, their relationship with their preceptors and the number of preceptors available. In line with this, preceptors with clinical experience and leadership skills, confidence, respect and good communication skills were some of the characteristics stated as influential in clinical teaching and learning by Batiha (2015:65). Koy (2015:1608) stated similar characteristics but added that formative evaluation, giving suggestions and correcting mistakes without demeaning the students was essential.

Unfortunately, the effectiveness of the preceptorship model is undermined by certain challenges, such as shortages of nurses and inadequate training of the preceptors (Sedgwick & Harris, 2012:1; Atakro & Gross, 2016). Due to these challenges, Jeggels, Traut and Africa (2013:1)

recommended that nursing education leaders should critically reflect on the models for clinical teaching, and extensively embark on evaluation in order to develop and implement contextually relevant clinical teaching models. Another factor that determines the effectiveness of preceptors is whether they are formally trained to fulfil this role or not. O'Brien et al. (2014:23) found that, formally trained preceptors were more willing to supervise students than those who were not formally trained. Batiha (2015:64) further found that the effectiveness of the supervision was influenced by whether selection as preceptors was voluntary. The author stated that registered nurses who willingly accepted the role to precept found their role satisfying, while those who were assigned to precept students without their willingness were not ready to combine their roles as care givers and supervisors. Interestingly, Atakro and Gross (2016:4) are of the view that there is no evidence to support the notion that preceptorship assists students to develop critical thinking and improve their performance in the clinical setting.

According to Newton et al. (2012:2331), it is important to develop and use sustainable approaches to enhance the clinical learning environment experiences for nursing students. The authors stated that the degree of availability of preceptors, and student centeredness in the learning environment is effective in enhancing learning. Again, a study by Löfmark et al. (2012: 168) found a model of supervision, where the efforts of the preceptors were complemented by collaboration with nurse educators from the training institution, positive and beneficial to students.

### 2.5.2 Mentor model

According to Franklin, Leathwick and Phillips (2013:135), the mentor model is similar to the preceptor model, but the supervision involves a long term relationship between the student and the registered nurse and is more often than not, indirect. Though less commonly used in undergraduate clinical education, it is one of the key mechanisms for facilitating learning for students during clinical placements. Shellenbarger and Robb (2016:64) defined mentorship as a reciprocal relationship between an experienced person and a novice, that involves guiding, supporting, counselling, sharing knowledge and role modelling.

The core role of a clinical mentor is to supervise, guide, assess performance and provide constructive feedback to students for them to learn new skills, adopt new behaviours and acquire new attitudes (Huybrecht et al., 2011:274; Stayt & Merriman, 2013:429; Shellenbarger & Robb, 2016:64). Clinical mentorship has been introduced in nursing as a means of helping students to develop competencies, gain confidence, get socialised and network to develop their career opportunities. Clinically based nurses are used to supervise students in the mentor model (Forber et al., 2015:1115) and it has been shown to maximise clinical learning, enhance satisfaction and promote professional growth (Shellenbarger & Robb, 2016:64).

Strategies used by mentors to enhance learning include appropriate communication, which helps the learner gain confidence, motivates them and boosts their self-esteem in the clinical setting (Shellenbarger & Robb, 2016:64). Allowing learners to ask questions, discuss concerns and share ideas, with the mentor actively listening and paying attention to the students, helps them to reflect on their performance and consider alternatives in order to improve. Another important strategy used in mentoring is questioning learners, which leads to critical thinking, reflection on their performance, and causes them to challenge previously held assumptions, add Shellenbarger and Robb (2016:64).

Many students enter the clinical setting with high expectations; such as the expectation to learn the necessary skills through the application of their prior knowledge; and the expectation of feeling that they are taking on the role of a real nurse (Jonsén, Melender & Hilli, 2013:298). Based on that, the presence of enthusiastic, experienced mentors with positive attitudes to inspire and support the students has been stated to be essential for successful learning and teaching (Huybrecht et al., 2011:274). Bawadi, Norrie and Debbie (2014:249) state that a functioning relationship between mentors and students is an important resource for students' learning and their professional development. Students' proactive attitudes, willingness to learn, and their acceptance of correction and advice were stated to have a positive influence on the mentoring relationship (Huybrecht et al., 2011:276).

Despite the essential roles of a mentor in the clinical setting, Veeramah (2011:13) stated that a lack of time and conflict between mentoring and rendering patient care undermines its

effectiveness. According to the author, mentors experienced insufficient time in supporting students due to other competing work demands in the clinical setting. They also lack support from the ward mangers in their mentoring roles. Notwithstanding the workload, a lack of time and drawbacks regarding their roles, the benefits of mentoring still overweigh the drawbacks (Huybrecht et al., 2011:276).

### 2.5.3 The facilitator model

According to Franklin, Leathwick and Phillips (2013:135), the facilitator model is a model where a registered nurse directly or indirectly supervises a group of students, usually in a ratio of one facilitator to six or eight students. The role of the clinical facilitator is unique and focuses less on content expertise but more on the ability to guide students through a constructive learning process involving sharing and exploring knowledge, and asking questions that stimulate students to link theoretical knowledge into practice (Di Prospero & Bhimji-Hewitt, 2011:61). The facilitator supports and facilitates students during learning, sometimes assisting to relieve the workload of the preceptors (Franklin, Leathwick & Phillips, 2013:13). The facilitator helps to create a supportive environment for learning (Di Prospero & Bhimji-Hewitt, 2011:61), enabling students to feel connected to and accepted in the clinical setting, working as part of the health team to enhance their learning experiences (Walker et al., 2014:98). Quality communication, flexible one-on-one contact and time for learning between the students and the facilitator is considered supportive (Walker et al., 2014:98).

In comparison with the preceptor and preceptor-facilitator models, the facilitator model was found to have a more positive influence on student learning by Franklin, Leathwick and Phillips (2013:138). The authors highlighted specific satisfactory areas, such as the fact that 94 % of the students experienced a respectful relationship with their clinical facilitators, 96 % of the students stated that the facilitator was able to support their learning objectives by coordinating with the ward staff, and 98 % stated that their facilitators were able to integrate theoretical knowledge into everyday clinical practice (Franklin, Leathwick & Phillips, 2013:138). Facilitators were described by the students as being encouraging, assisting to extend their knowledge and promoting their academic growth (Franklin, Leathwick & Phillips, 2013:138). It was further found that students supervised within the facilitator model had quality support and were

statistically more likely to be challenged to reflect, think, build on existing skills and knowledge, and to problem-solve issues (Walker et al., 2013:530).

Clinical facilitators themselves perceive the model to be favourable because they are able to focus solely on only student's learning, unlike in other models such as the preceptor model, where the focus is on both patient care and student supervision. The facilitation of students also provides the facilitators with the opportunity for further professional development (Franklin, Leathwick & Phillips, 2013:138).

### 2.5.4 The preceptor-facilitator model

This is a model where there is a combination of the roles of the preceptor and the clinical facilitator in supervising, supporting, nurturing and fostering a positive clinical learning environment for nursing students (Franklin, Leathwick & Phillips, 2013:136). It has been described as an excellent supervision framework that aims not only to offer students high quality clinical supervision, but also to offer nurses who precept students a supportive environment and professional development opportunities through clinical facilitation (Franklin, Leathwick & Phillips, 2013:134).

### 2.5.5 Dedicated education model

According to Rhodes, Meyers and Underhill (2012:224), the dedicated education model entails developing a client unit into an optimal teaching and learning environment through the collaborative efforts of nurses, management and faculty. It was also defined by Franklin, Leathwick and Phillips (2013:135) as a combined model of the preceptor and facilitator models, with a partnership between the clinical setting and the health training institution, involving a clinical liaison nurse or a nurse serving as a link between the two institutions.

In a study on lessons learnt from the implementation of the dedicated education model pilot project involving pre-licensure nursing students, Polvado, Sportsman and Bradshaw (2015:15) stated that the model creates a closer partnership between clinicians and academics, recognises mutuality, respect and trust among those involved in the teaching and learning, provides a more supportive clinical learning environment than other models, and maximises student learning outcomes. As a model that emphasises partnership, clinical nurses and faculty work together and

that provides students the opportunity to learn from their diverse expertise (Rhodes, Meyers & Underhill, 2012:224). According to Polvado, Sportsman and Bradshaw (2015:15), the consistency of the venue and the preceptors and facilitators for the clinical teaching, throughout the duration of the students' learning experiences, gives the model an advantage over other models where students are frequently rotated from one unit to the other.

## 2.6    FACTORS THAT HINDER CLINICAL LEARNING

According to Papathanasiou, Tsaras and Sarafis (2014:57), the views and perceptions of students revealed that there is a significant gap between the expectations of teaching and learning in the practice environment and what really exists; implying that the students wished for a much better, more supportive leaning environment than they experienced. Though the learning environment is an area for professional nursing practice, expected to offer support for students to develop professionally, it can limit or impede the students' learning (Hakimzadeh et al., 2013:175). Tiwaken, Caranto and David (2015:72) thus called for the rethinking of clinical teaching and learning in nursing education.

Described as having a greater influence on the cognitive, affective and psychomotor skills development of the nursing student, various researchers argued that the views of the students contribute to the enhancement of the clinical learning environment (Chuan & Barnett, 2012; Nabolsi et al., 2012:5850; Papastavrou et al., 2016:57). Hakimzadeh et al. (2013:175) also argued that the perceptions of the students have an influence on the way they engage in learning than what the learning environment actually offers. The authors added that students who perceived the learning environment to be positive were evaluated higher in terms of their clinical competence than those who perceived it otherwise. Ali, Banan and Al Seraty (2015:1) stated that assessing perceptions involving individuals from both the academic and practice institutions is essential in contributing to a quality clinical learning environment.

In line with the above, positive and negative perceptions regarding the clinical learning environment have been reported by various researchers, namely Kaphagawani and Useh (2013:181); Rikhotso, Williams and De Wet (2014:1); Sundler et al. (2014:661). Whereas the positive perceptions were linked to a supportive clinical learning environment that offers

students learning opportunities in a real life situation to acquire knowledge, skills and professional socialisation (Chuan & Barnett, 2012:192; Nabolsi et al., 2012:5855), the negative experiences were as a result of an unsupportive clinical learning environment that lacked learning opportunities for students to learn and achieve their learning goals (Killam & Heerschap, 2013:690; O'Mara et al., 2014:208).

In a study on clinical learning challenges of nursing students, Baraz, Memarian and Vanaki (2015) stated that clinical teaching and learning experiences can be challenging, stressful and unpredictable, time and energy wasting, and compromises the quality of teaching and learning. Ironside, McNelis and Ebright (2014:185) stated that current clinical practice is time and resource intensive, and that little is known of whether or not it really contributes to the achievement of the learning goals of students. Their study findings suggested that the focus of clinical instructors and students is on the completion of tasks, which overshadows the more important and complex parts of nursing practice, and which can possibly lead to graduating low skilled staff who will not be able to practice safely and competently.

With regards to the challenges in the learning environment, Algoso and Peters (2012:197) stated that the current clinical learning environment is characterised by shortages of staff, heavy workloads and inadequate resources, which negatively affects the clinical practice of nursing students during placements. Similarly, Msiska, Smith and Fawcett (2014:35) found that instead of allowing student nurses who were on placement in the clinical wards to practice under the guidance and supervision of clinical instructors, they were rather being used to work as ward nurses, unassisted as a result of a shortage of staff. Botma, Hurter and Kotze (2013:808) also found that the shortage of staff resulted in an increased workload for the few available staff, who found it difficult combining rendering care to patients and supervising students. The heavy workload also caused an unwillingness and lack of interest to teach the students (Msiska, Smith & Fawcett, 2014:35).

Further, the knowledge and experiences of the clinical instructors and staff nurses were also stated by previous studies as a critical issue affecting clinical teaching and learning (Msiska, Smith & Fawcett, 2014:35; Dobrowolska et al., 2015:37). Nurse educators, ward nurses and

preceptors were found to be inexperienced and ineffective in adequately teaching, supervising, guiding and assessing students during their clinical practice (Eta et al., 2011; Löfmark et al., 2012:165; Msiska, Smith & Fawcett, 2014:35). Baraz, Memarian and Vanaki (2015) found that clinical instructors used inappropriate teaching strategies and exhibited limited clinical skills, as well as limited knowledge on theory and practice. Walker et al. (2014:99) stated in their study that registered nurses showed limited understanding and interest in helping nursing students to develop competencies, attributing the reasons for this as a lack of the registered nurses' knowledge of their roles in the clinical ward and of the students' learning needs and goals. According to Salamonson et al. (2015:210), clinical facilitators do not often have adequate training on their roles and that makes them ineffective in teaching students.

Also, the non-availability and lack of devotion of time by clinical instructors to teach students during practice was reported by Anarado, Agu and Nwonu (2016:140), which made it difficult for students to translate theory into practice. Similarly, Baraz, Memarian and Vanaki (2015) reported students being abandoned in clinical settings, without supervision due to the insufficient presence of clinical instructors in the wards.

In addition to the challenges, negative attitudes and behaviours of clinical staff towards students were found during students' clinical practice in selected rural hospitals (Rikhotso, Williams & De Wet, 2014:1), including being hostile, authoritative, using abusive and demeaning language and causing unhappiness in the students. Killam and Heerschap (2013:687) found similar attitudes and behaviours of clinical instructors and stated that it created feelings of humiliation and intimidation in the students and made it difficult for them to ask questions on areas they did not understand during learning, thus inhibiting their acquisition of skills. Rikhotso, Williams and De Wet (2014:3) also reported that the negative behaviours and attitudes reduced the respect and trust students had towards staff, which also affected the supervisory relationship. Baraz, Memarian and Vanaki (2015) reported that due to the distrust and lack of cooperation between staff and students, students were in most cases not given the opportunity to experience and perform procedures in the ward.

Another challenge reported by researchers was overcrowded clinical wards where students were either competing for procedures, not assigned to any task at all or could not be monitored and provided with feedback by clinical instructors (Jamshidi, 2012:3335; Killam, & Heerschap, 2013:688; Stayt & Merriman, 2013:429). In a related study, Chuan and Barnett (2012:196) found such overcrowded wards and reported that students were either given menial tasks that were not sufficiently challenging or were assigned to non-nursing duties such as running errands for nursing and non-nursing staff. Eta et al. (2011) reported that nurse educators were dissatisfied with the overcrowded nature of the wards and suggested that the number of students during placements be moderated to allow for optimal supervision and guidance. In attempting to address such overcrowded wards, Madhavanprabhakaran et al. (2013:43) found that the majority of the students preferred having four students to a teacher which, according to them, was the best ratio.

The lack of equipment and materials for performing procedures was stated as a challenge to learning and led to students resorting to improvising other equipment and materials for carrying out procedures (Msiska, Smith & Fawcett 2014:35; Anarado, Agu & Nwonu, 2016:140). According to Hakimzadeh et al. (2013:182), if students are to have a successful clinical experience, then there should be enough equipment and materials for students to practice with.

Based on the above negative experiences or challenges, Dadgaran, Parvizy and Peyrovi (2012:1716) stated that organisational administrators should be concerned and be supportive of the clinical learning needs of the students by creating positive learning environment. Msiska, Smith and Fawcett (2014:41) suggested that creating a positive learning environment needs concerted efforts by both training institutions and health care organisations. In line with this, AlHaqwi and Taha (2015:97) stated that the experience of those involved in the clinical teaching and learning environment should be considered, to enable monitoring and planning for appropriate interventions. Further to the creation of a supportive learning environment for students, Kaphagawani and Useh (2013:184) stated that due to differences in cultural, socio-economic and political factors, as well as the curricula and how clinical teaching and learning is organised, research should to be conducted across cultures in different countries on the clinical learning experiences of nursing students.

## 2.7    CLINICAL TEACHING AND LEARNING IN THE CONTEXT OF GHANA

Clinical teaching and learning is an important component of nursing education. The Health Professions Regulatory Bodies Act (Act 857) mandates the Nursing and Midwifery Council (NMC) to secure, in the public interest, the highest standard of training in order to produce well trained professionals to render competent, safe, prompt and efficient service for clients (NMC, Act 857,2013). To achieve this, the curriculum for training the registered general nursing students requires that students be placed in the clinical setting for a period of six weeks, to practice for six hours daily excluding weekends, at the end of each semester. The clinical settings which include both public and private hospitals and clinics are used mainly because most clinical skills laboratories in the training institutions are poorly supplied or have very old equipment for teaching (Donkor & Andrews, 2011:20). In a stakeholders' workshop organised to discuss strategies for effective clinical placements (Nursing Education Stakeholders, 2016), it was stated that clinical facilities had in excess of 120 students in one ward, with one nursing officer guiding them.

Guidance and supervision of students during clinical practice is the joint responsibility of nurse educators, clinicians and preceptors, and is expected to be student-centred in order to allow for close correlation between theory and practice.  However, the recognised and widely used model for clinical teaching is preceptorship, aimed at facilitating a link between education and practice; reinforcing clinical teaching after the traditional model of teaching (Asirifi et al., 2013:168; Atakro & Gross, 2016:1). The role of preceptors, both trained and sometimes untrained, is to collaborate with the training institutions in order to guide and supervise students. Clinical settings alone do not play an active role in students' supervision (Asirifi et al., 2013:168).

In a study to explore the perceptions of nurse educators, nursing students and preceptors on preceptorship, it was found that preceptorship was not well established as a teaching model and that the teaching approach used was different from preceptorship (Asirifi et al., 2013:168). According to Atakro and Gross (2016:1), there is a lack of understanding between training institutions and health service regarding the implementation of the preceptorship model. These findings suggest that that there are still training institutions that are using the traditional model of clinical teaching, where charge and staff nurses partially involve themselves and provide little

37

guidance and supervision to students. It was also stated by Atakro and Gross (2016:1) that even where the model is being used, there is still inconclusive evidence as to whether it promotes the development of students' competencies.

In a study to determine the perspective of practicing nurses on students' attitude toward clinical work, Awuah-Peasah, Sarfo and Asamoah, (2013:21) found that nursing students showed negative attitudes, including late reporting to work, absenting form work without seeking permission, disrespecting staff and patients and a lack of commitment to clinical work. This is against the NMC's stance of not condoning any attitude of nurses and student nurses that will bring the nursing profession into disrepute. The attitudes of the students could be linked to the learning environment not being supportive enough to actively engage them. Awuah-Peasah, Sarfo and Asamoah (2013:26) suggested that nursing training institutions, clinical settings and student nurses must ensure that clinical learning is optimised.

## 2.8    SUMMARY OF THE CHAPTER

Quality clinical teaching and learning in nursing education is a global demand (Kaphagawani & Useh, 2013:181; Khan, Shafi & Akhtar, 2015:293); so too in Ghana (NMC, Act 857,2013), with the aim of producing nursing professionals with the right knowledge, skills and attitudes to function competently and safely in the field of nursing. The clinical learning environment has been described as having an influence on the clinical teaching and learning of students (Bergjan & Hertel, 2013:1397; Melender, Jonsén & Hilli, 2014:305; Papathanasiou, Tsaras & Sarafis, 2014: 57). Positive perceptions of the clinical learning environment have been linked to the availability of learning opportunities, whereas negative perceptions are linked to a lack of learning opportunities and challenge the quality learning of the students (Baraz, Memarian & Vanaki, 2015; Jamshidi, 2012:3335; Killam, & Heerschap, 2013:688; Stayt & Merriman, 2013:429), leading to negative attitudes of the students towards clinical learning (Algoso & Peters, 2012).

Ghanaian nursing students have been found to have negative attitudes towards clinical learning during placements by Awuah-Peasah, Sarfo and Asamoah (2013:21), which is a source of concern and contrary to the Nursing and Mmidwifery Council mission of securing in the public

interest the highest standard of training of the nursing professionals (NMC, Act 857,2013). Strategies to address this situation are currently required and studying the perceptions of the stakeholders involved in teaching and learning in the clinical learning environment is thus relevant.

# CHAPTER 3: METHODOLOGY

## 3.1    INTRODUCTION

The chapter gives an orderly, disciplined description of the research paradigm and design of the study. It further describes the setting where the study will be conducted, the population and target population, sampling and the procedure, the criteria for including respondent groups, the data collection instrument and the data collection process. The data analysis, dissemination of the findings and the management of data according to UKZN policy will be detailed. Finally, the fundamental ethical principles that will be followed to avoid jeopardising the rights of the respondents will be described.

## 3.2    RESEARCH PARADIGM

A paradigm is a worldview or the basic set of beliefs that guide action, according to Creswell (2014:6). A positivist paradigm, sometimes referred to as logical positivism underpins this study. The fundamental assumption of this paradigm is that there is a reality out there that can be studied and known (Sekaran & Bougie, 2013:29; Polit & Beck, 2017:9). Supporters of the paradigm believe that nature is basically ordered and regular, and that an objective reality exists and is independent of human observation. They seek to be objective in their studies, using an approach that involves the use of orderly and disciplined procedures, with tight controls over the research situation to test hunches about the nature of the phenomena being studied and the relationships among them (Polit & Beck, 2017:9). They are concerned with the rigor, replicability of their research, reliability of observations, and the generalisability of the findings (Sekaran & Bougie, 2013:29). According to Creswell (2014:5), paradigms have strong implications for the designs and methods used to develop evidence, and that the overall decision involved in selecting the designs and methods for a study should be informed by the worldview assumptions that the researcher brings to that study.

## 3.3    RESEARCH DESIGN

This is the blueprint for the collection, measurement and analysis of data, based on the research objectives and questions of the study, asserted Sekaran and Bougie (2013:95). For this study, a

quantitative non-experimental research design of the descriptive type was selected. A quantitative design was selected, as opposed to qualitative design, because it is most closely allied with the positivist tradition stated by Polit and Beck (2017:11). The intention for the selection was also so as not to depart from the set purpose and objectives of the study, as sometimes happens with qualitative studies so that a more objective conclusion can be arrived at in the end. A structured questionnaire was used to collect quantitative data and allowed for a greater participation of respondents. The questionnaire also offered a sense of psychological comfort to the respondents due to the anonymous nature of it. The researcher is from the same institution where the study was conducted and interview bias, which is common with qualitative studies, was avoided. It is nonexperimental research because the researcher intended to collect data in a natural setting without introducing treatment or making changes, and was therefore a bystander (Brink et al, 2012:102). It is descriptive in design because the purpose of the study was to describe the perceptions of the nursing students, nurse educators and clinicians of the clinical learning environment, without changing or manipulating them.

## 3.4 RESEARCH SETTING

The study was conducted at a selected Nurses' Training College, including its affiliated hospital in northern Ghana. The selected college is accredited by the Nursing and Midwifery Council (NMC) of Ghana and is affiliated to the Kwame Nkrumah University of Science and Technology (KNUST) in Ghana. The Nursing College is one of the three Diploma awarding Nursing Training Colleges in the upper east region of northern Ghana. The mission of the college is to train polyvalent nurses for Ghana. It has a total of 47 staff made up of tutors, accounts officers, an administrator, a librarian, a store keeper, kitchen staff and national service personnel.

The college offers a three-year Diploma in Registered General Nursing (RGN) programme. To obtain admission, the prospective student has to apply, attend a selection interview and be recruited, if successful, for training. The annual intake of students is about 100 and on average, only 50 students complete the three-year programme annually due to poor performance. There were a total of 264 students in the college at the time of data collection. The male and female ratio during recruitment is 1:1. The age range that qualifies a candidate to be able to apply to be admitted is from 18 years to 35 years, and the college admits students from all ten regions of

Ghana. The college runs a semester system, where students are required to do theoretical learning for four months in the college and spend one month in the clinical area per semester. Clinical learning takes place in the same selected accredited hospital in northern Ghana.

Students are assessed by theoretical and clinical examinations and assignments. After graduating from the college, successful graduates are posted after application to designated areas where there is a need for nurses. Posting is done by the regional health directorate in the upper east region of Ghana.

The selected affiliated hospital is also located in northern Ghana where the selected Nurses' Training College is situated. It was built in 1953 by the government of Ghana and handed over to the Presbyterian Church to manage in 1956. It serves the people of Ghana and beyond, including neighbouring countries such as Togo and Burkina Faso. It also serves as a referral centre for the health centres and clinics in the municipality where it is situated. It has a total of 11 in–patient wards, with 120 registered nurses and 10 medical doctors. The annual out-patient (OPD) attendance and admissions is on average 189175 and 20595 respectively (www.presbyhealthnorth.org).



Figure 3:Map of Ghana (www.mapsofworld.com/Ghana)

## 3.5    POPULATION AND TARGET POPULATION

The population consisted of all nursing students (first, second and third year) studying towards a Diploma in Registered General Nursing (RGN) at the selected Nursing Training College in northern Ghana (n=264); all nurse educators at the selected nursing training college (n=24) and all clinicians at the college's affiliated hospital (n=120). The student population is divided into 85 first year students, 99 second year students and 80 final third year students. The target population was all students (n=262), all nurse educators (n=24) and all clinicians from five selected wards (n=48); made up of the male medical ward (9), the male surgical ward (8), the female medical ward (13), the female surgical ward (7) and the paediatric ward (11). The selected wards are the wards used for the college's clinical examinations and the Nurses and Midwifery Council's licensing examination covering medical, surgical and paediatric nursing

## 3.6    SAMPLE AND SAMPLING PROCEDURE

Determination of the sample was assisted by a senior lecturer and biostatistician in the School of Nursing and Public Health, College of Health Sciences, UKZN.

A three step sampling procedure was used:

Step one: The researcher conveniently sampled the college and the hospital for the study as the researcher is familiar with the settings.

Step two: A stratified random sampling procedure was used to select 50 students each from the different year groups or level of study. This was based on the fact that there are three year groups of nursing students in the College, possibly with different levels of knowledge and experience regarding clinical learning. The number of times students were placed in the clinical area to practice and interact with staff and patients might contribute to the students providing diverse responses. Thus to be representative of the entire student body, an equal number of students from each year group was included.

Step three: There was no sampling of the nurse educators because of their smaller number. There was also no sampling of clinicians from the selected wards and all were invited to participate.

Therefore, the sample consisted of 150 nursing students, 24 nurse educators and 48 clinicians who were invited to participate in the study (n=222). The details of the calculation of the sample size are shown in Appendix 2: Calculation of sample size.

### 3.6.1 Procedure for stratified random sampling

This procedure was applied only to the nursing students. The student population (n=264) was divided into three groups or strata; first (85), second (99) and third (80) year students. Within the strata, random sampling was performed. In this sampling technique, each member of the student population had an equal and independent chance of being selected.

To select 50 nursing students from the first year group (85),

i.   The word 'selected' was written on 50 small pieces of paper and the paper folded, and the words 'not selected' also written on 35 small pieces of paper and the paper folded by the researcher. The folding was done in such a way that the words written on the pieces of paper could not be seen.

ii.  The folded papers were put in a bowl and thoroughly mixed by shaking the bowl several times.

iii. Each student of the class was invited to pick one folded paper from the bowl. After everyone had picked, they were told to unfold their pieces of paper.

iv.  All those who picked the pieces of paper with the word 'selected' were taken to be part of the study.

v.   The same procedure was followed to select 50 students each from the second and third year groups.

### 3.6.2 Inclusion criteria
**Students**

i.   Nursing students registered with the Nursing College for the Diploma in Registered General Nursing (RGN).

ii.  Nursing students who were present in class during the data collection period.

iii. Nursing students who picked a piece of paper with the word 'selected' written on it during the random selection process.

iv.  Nursing students who consented in writing to participate in this study.

**Nurse educators**

i.   Employed by the Ministry of Health to teach in the selected Nurses Training College.

ii.  Present in the school during the data collection period.

iii. Those who consented in writing to participate in the study.

**Clinicians**

    i.   Clinicians working in the five selected wards of the affiliated hospital.

   ii.   Present in the ward during the data collection period.

  iii.   Those who consented in writing to participate in the study.

## 3.7     DATA COLLECTION INSTRUMENT

### 3.7.1 Instrument description

The questionnaire, consent form and the information sheet that were administered to the respondents were written in the English language. The respondents' official language is English and they were all proficient in it and so there was no need for translation of these items.

The researcher utilised a questionnaire developed by Chuan and Barnett (2012:194) on student, tutor and staff nurse perceptions of the clinical learning environment. Items on the questionnaire were available publically but for reasons of courtesy, the researcher requested permission from the authors to use the questionnaire by means of an email (Appendix 7). The authors responded positively and provided the researcher with approval to use their tool (Appendix 8).

The questionnaire was used to gather data that described the nursing students', nurse educators' and clinicians' perceptions of the clinical learning environment in the selected institutions in northern Ghana.

The questionnaire consisted of three sections: A, B and C. Section A consisted of three questions (A1 to A3) on the position of the respondents. Section B consisted of 34 items on the perceptions of the clinical learning environment. The items focused on six areas of interest in the clinical learning environment. These were; supervision by staff nurses and clinical instructors, learner friendly, satisfaction, learning tensions, translating learning and peer support. Chuan and Barnett (2012:194) had a 4-point scoring Likert scale ranging from 1=strongly disagree to 4=strongly agree. The researcher extended the scoring to a 5-point Likert scale, however, with the inclusion of a neutral response, ranging from 1=strongly disagree to 5=strongly agree. The inclusion of the neutral response was to allow respondents the option to withhold their responses if they did not want to disagree or agree. There was no reverse scoring of the items. Section C consisted of two open-ended questions. One required the respondents to list the factors they believed contributed

to student learning in the ward and the other required the respondents to list the factors they believed hindered students' learning in the ward.

### 3.7.2 Validity and reliability of the instrument

*Psychometrics:* The authors of the instrument used Cronbach's alpha to test the reliability, and it was calculated to be 0.86. That indicated an acceptable internal consistency of the questionnaire.

*Content and face validity*: To ensure content and face validity of the questionnaire, the authors made sure that it was critically reviewed by one local and one international expert. Items were also arranged in random order and pre-tested with 15 students and 5 staff nurses who were excluded from the study population (Chuan & Barnett, 2012:193). These measures made the tool valid and reliable for use.

For this study the content validity was achieved for the questionnaires in terms of the conceptual framework, the objectives and the literature (See table 1)

Table 1: Content validity of questionnaire

| Research objectives | Framework for the study | Research question number | Questionnaire number | Research studies |
|---|---|---|---|---|
| 1.To identify and describe nursing students, nurse educators and clinicians' perceptions of the clinical learning environment. | structure standards | 1.6.1.1 | B2; B3; B4; B15; B17; B22; B24; B28 | Chuan and Barnett, 2012; Dadgaran, Parvizy & Peyrovi, 2012; Franklin, Leathwick & Phillips, 2013. |
| | process standards | 1.6.1.1 | B1; B6; B12; B14; B16; B29; B32; B33; B34 | Nerwton et al., 2012; Kaphagawani & Useh, 2013; Stayt & Merriman, 2013; Zakaria & Gheith, 2015. |
| | outcome standards | 1.6.1.1 | B18; B19; B20; B21 | Sundler et al., 2014; Dimitriadou et al., 2015; Tiwaken, Caranto & David, 2015. |
| 2. To compare the nursing students, nurse educators and clinicians' perceptions of the clinical learning environment | structure standards | 1.6.2.1 | B2; B3; B4; B15; B17; B22; B24; B28 | Chuan and Barnett, 2012; Dadgaran, Parvizy & Peyrovi, 2012; Franklin, Leathwick & Phillips, 2013. |
| | process standards | 1.6.2.1 | B1; B6; B12; B14; B16; B29; B32; B33; B34 | Nerwton et al., 2012; Kaphagawani & Useh, 2013; Stayt & Merriman, 2013; Zakaria & Gheith, 2015 |
| | outcome standards | 1.6.2.1 | B18; B19; B20; B21 | Sundler et al., 2014; Dimitriadou et al., 2015; Tiwaken, Caranto & David, 2015. |
| 3. To compare the perceptions of the clinical | structure standards | 1.6.3.1 | B2; B3; B4; B15; B17; B22; B24; B28 | Chuan and Barnett, 2012; Dadgaran, Parvizy & Peyrovi, 2012; Franklin, Leathwick & Phillips, 2013. |

| learning environment between the first, second and third year nursing students. | process standards | 1.6.3.1 | B1; B6; B12; B14; B16; B29; B32; B33; B34 | Nerwton et al., 2012; Kaphagawani & Useh, 2013; Stayt & Merriman, 2013; Zakaria & Gheith, 2015 |
|---|---|---|---|---|
| | outcome standards | 1.6.3.1 | B18; B19; B20; B21 | Sundler et al., 2014; Dimitriadou et al., 2015; Tiwaken, Caranto & David, 2015. |
| 4. To identify the challenges affecting nursing students' learning in the clinical setting. | structure standards | 1.6.4.1 | B2; B3; B4; B15; B17; B22; B24; B28 | Chuan and Barnett, 2012; Dadgaran, Parvizy & Peyrovi, 2012; Franklin, Leathwick & Phillips, 2013. |
| | process standards | 1.6.4.1 | B1; B6; B12; B14; B16; B29; B32; B33; B34 | Nerwton et al., 2012; Kaphagawani & Useh, 2013; Stayt & Merriman, 2013; Zakaria & Gheith, 2015. |
| | outcome standards | 1.6.4.1 | B18; B19; B20; B21 | Sundler et al., 2014; Dimitriadou et al., 2015; Tiwaken, Caranto & David, 2015. |

## 3.8 DATA COLLECTION PROCESS

The questionnaire was administered to the respondents for their responses. For the students, it was administered at one sitting. For the nurse educators and clinicians, it was administered to them individually, at their offices and wards respectively.

Prior to ethical submission, provisional gate keeper permission was sought from the selected Nurses' Training College principal (Appendix 3), as well as from the affiliated hospital nursing services administrator (Appendix 4) for approval to conduct the study. An approval letter was obtained from the head of the college (Appendix 5) as well as from the hospital's nursing services administrator (Appendix 6).

When ethical approval was provided by the researcher's study university Humanities and Social Sciences Research Ethics Committee (HSSREC) (Appendix 15), the information was forwarded to the head of the College, with a request for convenient times for information provision regarding the study to potential respondents and for data collection. The ethical approval information was also forwarded to the affiliated hospital's nursing services administrator, with a request for convenient times for information provision regarding the study, as well as data collection. Feedback was received from the head of the College and the nursing services administrator of the hospital by means of a telephone call. The researcher first arranged and met with the nursing students and tutors of the College. After that meeting, the researcher also arranged and met with the clinicians of the selected wards of the affiliated hospital. The

researcher during those meetings discussed with the potential respondents the study, convenient dates and times for data collection, the venue for the study and how ethical considerations were to be observed. The researcher discussed with potential respondents the issues of anonymity and confidentiality to encourage participation. Potential respondents were made aware that participation was voluntary and that non-participation was not going to have any negative effect on them. The respondents were also informed of the fact that they could choose to withdraw from the study, at any point during the course of the study up to posting the questionnaire into the envelope. Due to the anonymous nature of the questionnaire, a respondent could not withdraw once the questionnaire had been placed in the envelope provided.

All selected respondents were provided with an information sheet. That allowed them to ask questions about the study before the data collection on the agreed date. The researcher did not allow anybody outside of the study to have access to any information regarding the study or to participate in the study.

The researcher observed ethical boundaries with regards to the explanation of the study, through the use of an information sheet, by obtaining signed consent prior to data collection, and by placing strong emphasis of anonymity and data collection. Prior to the day of data collection, the researcher printed and had the consent forms and questionnaires ready in separate, sealed envelopes.

On the convenient day and time agreed for data collection, the researcher met all the selected nursing students in one classroom. A further opportunity was provided for questions and then the participating students were provided with the informed consent forms for completion and signature. Each student participant was provided with two empty envelopes. After completion of the informed consent forms, the students placed them into one of their envelopes and sealed the envelopes, so that no link could be established between the consent forms and the questionnaires. Once the consent forms were completed, the students were handed the questionnaires to fill in. Each student sat privately at their own desk, and upon completion, was required to put the completed questionnaire into their other envelope.

Similarly, nurse educators were also given a further opportunity to ask questions. A consent form and a questionnaire were given to each of the educators in their respective offices. Two labelled open boxes were provided at a central point within the offices. Completed consent forms and questionnaires were placed into these separate boxes to avoid any link between the consent forms and the questionnaires, and the educators completed and posted the consent forms before completing and posting the questionnaires. Clinicians were treated in the same way as the educators and given an opportunity to ask further questions, but the two separate labelled boxes for the completed consent forms and the questionnaires were placed into each of the wards.

No names, signatures or marks that might have revealed a respondent's identity were required on the questionnaire. When all the questionnaires and consent forms of all the participating respondents were submitted into their respective envelopes and boxes, the researcher collected all of them and placed the completed questionnaires into one envelope and all the completed consent forms into another separate envelope and sealed them both. All of the respondents were refreshed with a cold drink after they had finished responding to the questionnaire, in recognition of any inconvenience caused, and they were all thanked for their participation.

## 3.9    DATA ANALYSIS

Data analysis began after collecting the data from the respondents.  A code book was developed and used to record numbers assigned to the variables and grouping of the questionnaire, for entry into the SPSS software package. A statistician was identified from the UKZN College of Health Sciences and contracted to assist in the data processing and analysis. A private computer owned by the researcher was used for the data analysis. The computer was password locked by the researcher to ensure security. Data was entered, cleaned, and the IBM Statistical Package for the Social Sciences (SPSS) software (version 23) was used for the data analysis. Nominal and ordinal data was collected. Descriptive statistics (frequencies, percentages, mean and standard deviation) were used to describe the category of respondents and the perceptions responses. An analysis of variance (ANOVA) was conducted to determine if there were significant differences between the respondents' perceptions of the clinical learning environment. Significant differences were found and a Post-hoc test using the least significant difference (LSD) was

subsequently conducted to determine exactly where in the groups the differences lay. Results were presented in the form of tables and charts.

A five-point Likert scale measuring the strength of agreement was used for scoring the perceptions of the nursing students, the nurse educators and the clinicians from the clinical learning environment. Questions were scored from one, which represented 'strongly disagree'; to five for 'strongly agree'. A summation for the perceptions score was determined to be 103, with a minimum score of 72 and a maximum score of 150, out of a possible maximum score of 170. There was no negative scoring for any of the items.

## 3.10    DATA DISSEMINATION

With respect to dissemination of the findings, all respondents will receive a report of the study from their head of institutions. A copy of the report will be given to the head of the Nursing College, the nursing services administrator of the affiliated hospital, the Ghanaian Ministry of Health, and the Nurses and Midwives Council of Ghana. Any publication that arises will be subject to the rules of the publishing journal with regards to dissemination; however, the respondents' institutions will be notified of where to access it.

## 3.11    DATA MANAGEMENT

After capturing all data from the answered questionnaires for the purpose of the study, the researcher sealed the questionnaires into an envelope and handed them over with the envelope containing the consent forms to their supervisor, to be kept and locked in a cupboard for the duration of the study. After the study, the questionnaires and consent forms were scanned onto a disc and given to the researcher's supervisor, to be stored in their office under lock and key for five years, according to UKZN policy. After scanning onto the disc, hard copy documents were destroyed by fire. The data saved on the researcher's computer was deleted and the recycle bin emptied, as well as deleting those files saved in pen drives, and all of this was done in the presence of the supervisor.

## 3.12   ETHICAL CONSIDERATIONS

The fundamental ethical principles that guide researchers during the research process were adhered to (Marianna, 2011:4; Brink, van der Walt & van Rensburg, 2012:34; Grove, Burns & Gray, 2013:163). This was to ensure that the rights and welfare of individuals or groups in the study were not jeopardised. It was also to provide the individuals or groups in the study with adequate information regarding the study and in order for them to willingly accept or reject being part of the study.

The principle of respect for persons was maintained, in accordance with Brink, van der Walt & van Rensburg (2012:35). With regard to the fact that individuals are autonomous and have the right to self-determination, gate keeper permission was sought from the principal of the selected Nurses' Training College (Appendix 3) and from the affiliated hospital (Appendix 4) to conduct the study. An approval letter was issued to the researcher by the principal of the selected Nurses' Training College (Appendix 5), as well as from the nursing services administrator of the affiliated hospital (Appendix 6) for the conducting of the study. Again, in keeping with this principle, potential respondents were selected on a voluntary basis. They were provided with enough information about the study via the information sheet (Appendix 9) and were required to willingly fill out the informed consent form (Appendix 10), based on their understanding of the information. Prior to filling out the consent form, they were provided an opportunity to ask questions of the researcher, the researcher's supervisor, as well as the Humanities and Social Sciences Ethics Committee, through their contact details provided. Respondents were informed that they could choose to withdraw from the study if they so wished, at any point until the posting of the questionnaire, and that non-participation or withdrawal would not have any adverse effect or loss of benefits to which they were entitled.

The right to anonymity and confidentiality was also respected (Brink, van der Walt & van Rensburg, 2012:37; Grove, Burns & Gray, 2013:169). Respondents were made aware that names, signatures or marks that might reveal their identity were not required on the questionnaire. Completed consent forms with signatures were placed in a separate envelope from the completed questionnaires to avoid linkage of the respondent's identity with personal

responses. To ensure confidentiality, no other person outside of the study was allowed access to any information and documents concerning the study.

The researcher also respected the potential respondents' rights to privacy (Brink, van der Walt & van Rensburg, 2012:37). A discussion was held with the respondents on how information from the study would be shared or made public, and their concerns on that were respected.

Further, the principle of beneficence was maintained, in keeping with the recommendations of Marianna (2011:4); Brink, van der Walt and van Rensburg (2012:35) and Grove, Burns and Gray (2013:176). The researcher's chosen topic required a quantitative study and did not require any form of invasive procedure, intervention or treatment of the respondents. The potential benefits of identifying the respondents' perceptions of the clinical learning environment were clearly discussed with them. Potential respondents were given the opportunity to ask questions relating to any possible harm they might have foreseen, such as the possible social risks of fear of jeorpardisation of studies, employment or work in the study, and clarifications were made on those issues. The anonymity and the tick box system of the questionnaire also reduced the risk of those issues. Respondents were informed that information on the study findings would be printed and given to all of them, two months after completion of the study. Distribution to all further highlighted the anonymity of the study.

Brink, van der Walt and van Rensburg (2012:36) and Wester (2011:302) state that justice is another ethical principle that guides researchers during the research process, and this was also respected. Respondents were fairly selected, solely for the purpose of the study. The nursing students, nurse educators and clinicians were given the opportunity to participate voluntarily without coercion. The date, venue and time for data collection suited the respondents and the researcher, and did not incur on their studies or work negatively. Data collection only took about twenty minutes for each of the groups: Ten minutes for the presentation of the study and ten minutes for data collection. The agreed venues were a selected classroom for the students, the tutor's respective offices for the tutors and the selected wards for the clinicians. The researcher made sure that there was no interference during the data collection process. In doing that, the

right of privacy was respected. After completion of the study, the findings would be provided to all respondents.

The principles of collaborative partnership and social value were also adhered to, in accordance with Emmanuel et al. (2004:932). The researcher collaborated with a nurse educator or tutor from the training college to call the nursing students for a meeting with the researcher, for a discussion about the study and its potential benefits, as well as to arrange a convenient date, venue and time for the data collection. The tutor also helped the researcher to link with the other tutors to discuss the study. The researcher asked for assistance from the nursing services administrator's office, to arrange an introduction to the clinicians for the purposes of setting a meeting about the study. To maintain social value, the researcher informed the potential respondents that results of the study would be made available to them two months after completion of the questionnaire. To further enhance the social value of the study, the researcher would disseminate the findings of the study to the Ministry of Health in Ghana, the Nursing and Midwifery Council of Ghana, as well as the participating College management and the office of the nursing services administrator for utilisation of the information.

Scientific validity and scientific honesty was maintained, as per the studies of Emmanuel et al. (2004:933) and Brink, van der Walt and van Rensburg (2012:43). For the sake of scientific honesty, the researcher acknowledged all other researchers' studies and academic writing used in this study and presented the true nature of the study, devoid of falsification, fabrication or forgery. This study is the researcher's original work and has never before been submitted to UKZN or elsewhere for the purpose of obtaining a certificate. The researcher avoided plagiarism and proved that by subjecting this study to TURNITIN which yielded a plagiarism index of 3% (See appendix 14)

To respect the principle of scientific validity, the researcher completed the UKZN Training and Resources in Research Ethics Evaluation (Trree) online programme, and was awarded certificates (Appendix 11) upon completion of the programme. The research design and data collection methods were carefully selected to match the chosen topic. The design and data collection methods were crosschecked by the researcher's supervisor for accuracy, and the

researcher used reliable sources of information from the internet, journals and books for the study.

**3.13    SUMMARY OF THE CHAPTER**

The positivist paradigm underpinned the study and influenced the selection of a quantitative non-experimental research design of the descriptive type. The setting was a selected Nursing Training College and its affiliated hospital, where the sample was drawn from a population of nursing students, nurse educators and clinicians. Convenient and stratified random sampling techniques were used to sample respondents who met the inclusion criteria for the study. A questionnaire with acceptable psychometric properties was utilised for the data collection.  Data obtained was analysed using the SPSS software, version 23. Ethical principles were strictly adhered to throughout the data collection process.

# CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

## 4.1    INTRODUCTION

This chapter presents the data collected from the respondents at the selected Nurses Training College and its affiliated hospital in northern Ghana. Data on the perceptions of the clinical learning environment was collected through the use of a structured questionnaire, over the course of one day and after one contact session with the nursing students made up of first, second and third year students, nurse educators and clinicians. Data was entered into the computer, cleaned and the IBM Statistical Package for the Social Sciences (SPSS), version 23 software used for the analysis of descriptive statistics, comparisons using one-way analysis of variance (ANOVA) and reliability. There was no missing data. Results after analysis were presented in the form of statistical tables and charts. The independent variables were the categories of the respondents which consisted of nursing students (first, second and third year), nurse educators and clinicians. The dependent variable was the perceptions of the clinical learning environment.

## 4.2    RESPONSE RATE

Two hundred and twenty-two (222) respondents made up of nursing students, nurse educators and clinicians met the inclusion criteria to participate in the study. On the day of data collection, all the 150 nursing students selected to represent each year group were present, 20 nurse educators were also present, as well 45 clinicians from the selected wards that were approached to participate in the study. The total number of respondents that were present and responded to the questionnaire was therefore 215, which yielded a response rate of 96.8 %. The remaining 7 respondents made up of 4 nurse educators and 3 clinicians were not present to respond to the questionnaire.

## 4.3    DESCRIPTION OF THE SAMPLE

### 4.3.1   Representation

The sample was representative of the student population, as an equal number of students were selected from each year group to avoid response bias. It was also representative of the nurse

educators, as all of the nurse educators at the facility were involved in the study. It was however, not representative of the clinicians because only five wards were selected out of eleven. The selection was based on that the five wards made up of male medical, male surgical, female medical, female surgical and paediatric wards are the only wards used in that hospital for nursing students clinical practice and examinations and the Nursing and Midwifery Council's licensing practical examinations. Therefore, clinicians from these wards might have developed more knowledge and experience on the clinical learning environment as a result of working, interacting and supervising students than their colleagues in the other wards.

Ghana has a quota system for recruiting nursing students, which is prescribed by the Ministry of Health (http://www.moh-ghana.org/) and is based on the availability of resources in the nurses' training institutions. Following that prescription, the selected College admits 70 to 100 students to pursue the Diploma in registered general nursing (RGN) programme every year. The average number of teaching staff ranges from 20 to 25, which is often comparable to other institutions. The sample cannot therefore be said to be representative of all nursing training colleges in northern Ghana.

### 4.3.2   Category of respondents
The number and percentages of the category of respondents that participated in the study are shown in the pie chart below (Figure 3: Category of respondents).



**Category of respondents**

Clinicians 45 (20.9%)

Nurse educators 20(9.3%)

Nursing students 150 (69.8%)
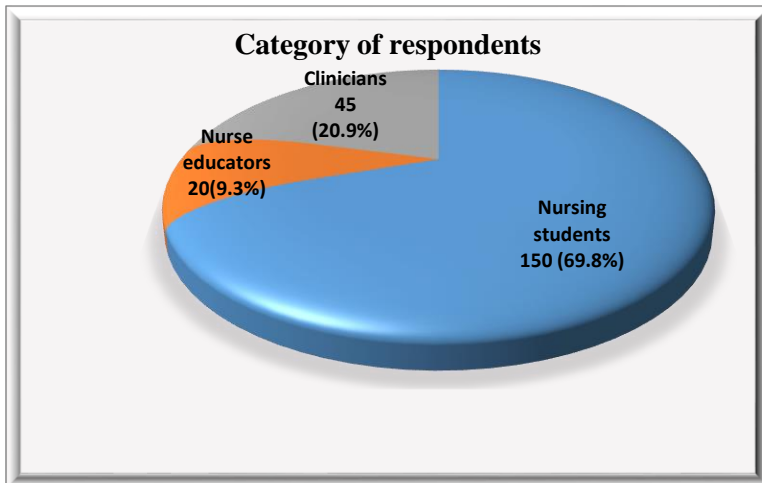
Figure 4: Category of respondents

## 4.4 PERCEPTIONS OF THE CLINICAL LEARNING ENVIRONMENT

A detailed representation of the responses reflecting the perceptions of the clinical learning environment is provided under six main areas of interest. These are; supervision by staff nurses and clinical instructors, learner friendly, satisfaction, learning tensions, translating learning and peer support. For easy reporting and reading, the frequencies and percentages of the responses 'strongly disagree' and 'disagree' will be reported in the text as 'disagree' and that of 'strongly agree' and 'agree' will be reported as 'agree'.

### 4.4.1 Supervision by staff nurses and clinical instructors

The results in Table 2 illustrate that the majority of the respondents (131, 60.9 %) perceived that staff nurses guide student nurses to perform new skills but were either not interested (136, 63.5 %) or unwilling to spend time teaching the students (148, 68.9 %). There was a high level of disagreement (161, 74.8 %) with the statement that staff nurses regularly provide feedback to students for the work that is done. In answer to the statement that clinical instructors have good knowledge and skills, there was a high number of respondents who agreed (176, 81.9 %). In response to the statement that the instructors provide adequate guidance for new skills, there was a high number of respondents who clearly disagreed that this was the case (186, 86.5 %). They disagreed with the statements that the clinical instructor is readily available to assist learning (186, 86.5 %), as well as providing prompt feedback to students (165, 76.7 %).

Table 2: Supervision by staff nurses and clinical instructors

| N0 | Supervision statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| | | n (%) | n (%) | n (%) | n (%) | n (%) |
| B1 | Staff nurses regularly provide feedback to student nurses for the work that is done. | 56(26.0%) | 105(48.8) | 3(1.4%) | 39(18.1%) | 12(5.6%) |
| B2 | Staff nurses are interested in supervising students | 34(15.8%) | 102(47.7%) | 4(1.9%) | 62(28.1%) | 13(6.0%) |
| B4 | Staff nurses are willing to spend time teaching student nurses. | 41(19.1%) | 107(49.8%) | 5(2.3%) | 46(21.4%) | 16(7.4%) |
| B5 | Staff nurses guide student nurses to perform new skills. | 23(10.7%) | 55(25.6%) | 6(2.8%) | 103(47.9%) | 28(13.0%) |
| B12 | The clinical instructor provides prompt feedback to students for the work that is done. | 63(29.3%) | 102(47.4%) | 1(0.5%) | 42(19.5%) | 7(3.3%) |
| B14 | The clinical instructor provides adequate guidance with new skills. | 41(19.1%) | 119(55.3%) | 9(4.2%) | 42(19.5%) | 4(1.9%) |

| B15 | The clinical instructor has good knowledge and skills. | 5(2.3%) | 22(10.2%) | 12(5.6%) | 139(64.7%) | 37(17.2%) |
| B16 | The clinical instructor devotes sufficient time to teaching students. | 63(29.3%) | 122(56.7%) | 8(3.7%) | 14(6.5%) | 8(3.7%) |
| B17 | The clinical instructor is readily available to assist learning. | 67(31.2%) | 119(55.3%) | 4(1.9%) | 23(10.7%) | 2(0.9%) |

### 4.4.2 Learner friendly

The results in Table 3 reveal that both the ward staff (142, 61.4 %) and the clinical instructors (132, 61.4 %) were easy to approach. The majority of the respondents (134, 62.4 %) strongly agreed that staff nurses show a positive attitude towards the supervision of students than the number (73, 33.9 %) who disagreed. Many (166, 77.3 %) perceived that students were regarded by staff nurses as learners rather than workers. There was a high response rate of agreement that high quality care is provided to patients (123, 57.2 %) with only (70, 32.6 %) who disagreed with this statement. The clinical instructor was regarded as a good role model, as evidenced by the high number of respondents who agreed with this statement. This was different from that of the staff nurse, where the majority of the respondents disagreed that staff nurses were good role models (113, 52.6 %).

Table 3: Learner friendly

| No | Learner friendly statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| | | n (%) | n (%) | n (%) | n (%) | n (%) |
| B3 | Staff nurses are good role models. | 32(14.9%) | 81(37.7%) | 9(4.2%) | 70(32.6%) | 23(10.7%) |
| B6 | Staff nurses show a positive attitude towards the supervision of student nurses. | 17(7.9%) | 56(26.0%) | 8(3.7%) | 107(49.8%) | 27(12.6%) |
| B7 | The ward staff are easy to approach. | 20(9.3%) | 48(22.3%) | 5(2.3%) | 97(45.1%) | 45(20.9%) |
| B8 | The ward staff know the student nurses by their names. | 48(22.3%) | 90(41.9%) | 12(5.6%) | 50(23.3%) | 15(7.0%) |
| B9 | High quality care is provided to patients. | 23(10.7%) | 47(21.9%) | 22(10.2%) | 92(42.8%) | 31(14.4%) |
| B10 | Staff nurses regard the student nurse as a learner rather than a worker. | 22(10.2%) | 25(11.6%) | 2(0.9%) | 96(44.7%) | 70(32.6%) |
| B11 | The clinical instructor is a good role model. | 24(11.2%) | 50(23.3%) | 7(3.3%) | 101(47%) | 33(15.3%) |
| B13 | The clinical instructor is easy to approach. | 22(10.2%) | 50(23.3%) | 11(5.1%) | 110(51.2%) | 22(10.2%) |

### 4.4.3 Satisfaction

The results in Table 4 show that the majority of the respondents (116, 53.9 %) disagreed that they enjoyed their time working on the ward. This was evident in the high rate of responses expressing disagreement at being happy with the experience they have had on the ward. In addition, 121 (56.3 %) of the respondents disagreed that the experience on the ward makes students eager to become staff nurses.

Table 4: Satisfaction

| No | Satisfaction statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|----|-------------------------|-------------------|----------|---------|-------|----------------|
|    |                         | n (%) | n (%) | n (%) | n (%) | n (%) |
| B18 | I enjoyed my time working on the ward. | 48(22.3%) | 68(31.6%) | 8(3.7%) | 71(33.0%) | 20(9.2%) |
| B19 | I am happy with the experience I have had on this ward. | 43(20.0%) | 77(35.8%) | 6(2.8%) | 64(29.8%) | 25(11.6%) |
| B20 | I look forward to clinical practice. | 20(9.3%) | 35(16.3%) | 9(4.2%) | 108(50.2%) | 43(20.0%) |
| B21 | The experience on the ward makes students eager to become staff nurses. | 41(19.1%) | 80(37.2%) | 11(5.1%) | 55(25.6%) | 28(13.0%) |

### 4.4.4 Learning tensions

Responses in Table 5 reveal that students had difficulty finding help when needed (146, 67.9 % agreed), with a high agreement rate (142, 66.1 %) that there is conflict between the procedures taught in the classroom and the real situation on the ward. Many (139, 64.7 %) perceived that student nurses were given a lot of responsibilities without adequate supervision, and that they competed with each other to practice skills (159, 74.0 % agreed). There was a high disagreement level (135, 62.8 %) with the statement about feeling stressed with the amount of work to be done on the ward.

Table 5: Learning tensions

| No | Learning tensions statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|----|------------------------------|-------------------|----------|---------|-------|----------------|
|    |                              | n (%) | n (%) | n (%) | n (%) | n (%) |
| B22 | Student nurses have difficulty finding help when needed. | 20(9.3%) | 43(20.0%) | 6(2.8) | 89(41.4%) | 57(26.5%) |
| B23 | I feel stressed with the amount of work to be done on the ward. | 48(22.3%) | 87(40.5%) | 4(1.9%) | 51(23.7%) | 25(11.6%) |

| B24 | There is a conflict between procedures taught in the classroom and the real situation on the ward. | 22(10.2%) | 47(21.9%) | 4(1.9%) | 96(44.7%) | 46(21.4%) |
| B25 | Student nurses are given a lot of responsibility without adequate supervision. | 12(5.6%) | 60(27.9%) | 4(1.9%) | 95(44.2%) | 44(20.5%) |
| B26 | Student nurses compete with each other to practice skills. | 20(9.3%) | 32(14.9%) | 4(1.9%) | 110(51.2%) | 49(22.8%) |

### 4.4.5 Translating learning

Results in Table 6 below illustrate a high level of agreement that theory learnt in the classroom is reinforced on the ward (124, 57.8 %); that students are being taught to link theory to practice (172, 80.0 %); and that students are encouraged to ask questions regarding their studies. The majority (130, 60.5 %) disagreed that what is learnt in the classroom is being practiced on the ward, and an even higher rate of disagreement (160, 74. 4 %) was seen with the statement that student nurses are considered to be part of the ward team.

Table 6: Translating learning

| No | Translating learning statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
| --- | --- | --- | --- | --- | --- | --- |
| | | n (%) | n (%) | n (%) | n (%) | n (%) |
| B27 | Theory learned in the classroom is reinforced on the ward. | 24(11.2%) | 64(29.8%) | 3(1.4%) | 98(45.6%) | 26(12.2%) |
| B28 | Student nurses are considered to be part of the ward team. | 52(24.2%) | 108(50.2%) | 3(1.4%) | 33(15.3%) | 19(8.8%) |
| B29 | Student nurses are taught to link theory to practice. | 15(7%) | 25(11.6%) | 3(1.4%) | 131(60.9%) | 41(19.1%) |
| B30 | What is learned in the classroom is being practiced on the ward. | 38(17.7%) | 92(42.8%) | 3(1.4%) | 55(25.6%) | 27(12.6%) |
| B31 | Student nurses are encouraged to ask questions. | 28(13.0%) | 74(34.4%) | 3(1.4%) | 70(32.6%) | 40(18.6%) |

### 4.4.6 Peer support

Responses in Table 7 show that the majority (154, 71.6 %) perceived that student nurses teach one another; that student nurses help one another to carry out allocated tasks (199, 92.5 %); and finally that senior students guide junior students (160, 74.5 %).

Table 7: Peer support

| No | Perceptions statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| | | n (%) | n (%) | n (%) | n (%) | n (%) |
| B32 | Student nurses teach one another. | 13(6.0%) | 45(20.9%) | 3(1.4%) | 106(49.3%) | 48(22.3%) |
| B33 | Student nurses help one another to carry out allocated tasks. | 4(1.9%) | 9(4.2%) | 3(1.4%) | 137(63.7%) | 62(28.8%) |
| B34 | Senior students guide junior students. | 13(6.0%) | 39(18.1%) | 3(1.4%) | 110(51.2%) | 50(23.3%) |

### 4.4.7 Perception score

The perception score was calculated through summation of the individual items on the scale. The total mean was 103. 81 (SD=13.97). The range of scores was 72 to 150 out of a possible score of 170. The skewness value was 1.83.

### 4.4.8 Determining the differences in perception among respondents

An analysis of variance (ANOVA) was conducted to determine if there were significant differences between the group of respondents' (nursing students, nurse educators and clinicians) perceptions of the clinical learning environment. The results indicated a statistical difference in perceptions among the three groups; $F_{(2,212)} =10.38$, p=.000

Significant differences were found in the areas of interest regarding the clinical learning environment: For supervision (p=.003); for learner friendly (p=.000); with respect to satisfaction (p=.000), for learning tensions (p=.017) and for translating learning (p=.000). There was no significant difference found for peer support (p=.386). The results are shown in Table 8 below.

Table 8: ANOVA test to compare the mean scores between groups

| Area of interest | | Sum of squares | df | Mean square | F | p-value |
|---|---|---|---|---|---|---|
| Supervision | Between groups | 342.22 | 2 | 171.11 | 6.05 | .003* |
| | Within groups | 5993.73 | 212 | 28.27 | | |
| | Total | 6335.95 | 214 | | | |
| Learner friendly | Between groups | 797.31 | 2 | 398.66 | 16.75 | .000* |
| | Within groups | 5045.97 | 212 | 23.80 | | |
| | Total | 5843.28 | 214 | | | |
| Satisfaction | Between groups | 297.10 | 2 | 148.55 | 13.91 | .000* |
| | Within groups | 2264.04 | 212 | 10.68 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Total | 2561.14 | 214 | | | |
| Learning tensions | Between groups | 89.94 | 2 | 44.97 | 4.15 | .017* |
| | Within groups | 2294.92 | 212 | 10.83 | | |
| | Total | 2384.86 | 214 | | | |
| Translating learning | Between groups | 361.62 | 2 | 180.81 | 11.73 | .000* |
| | Within groups | 3267.19 | 212 | 15.41 | | |
| | Total | 3628.81 | 214 | | | |
| Peer support | Between groups | 8.55 | 2 | 4.27 | .96 | .386 |
| | Within groups | 947.78 | 212 | 4.47 | | |
| | Total | 956.33 | 214 | | | |

Statistical differences in perception between nursing students, nurse educators and clinicians were tested using analysis of variance (ANOVA). Significance set at $p < .05$

As ANOVA is an omnibus test, it only gives the statistical differences but does not indicate exactly where the differences lie, hence a post-hoc test using the least significant difference (LSD) was conducted. The results indicated that the mean score of nursing students for supervision (M=22.13, SD=4.89) was significantly different from clinicians (M=25.20, SD=6.54), p=.001. There was no statistically significant difference between nursing students and nurse educators. There was also no significant difference between nurse educators and clinicians. For learner friendly, the mean score for nursing students (M=25.53, SD=4.90) was significantly different from that of the nurse educators (M=24.40, SD=5.65), p=.000 and clinicians (M=28.78, SD4.41), p=.000.  Also, nurse educators (M=21.40, SD=5.65) were significantly different from clinicians (M=27.78, SD=4.41), p=.000.

In relation to satisfaction, the mean score for nursing students (M=11.65, SD=3.30) was significantly different from nurse educators (M=14.10, SD=3.82), p=.002 and clinicians (M=14.29, SD=2.86), p=.000. There was no statistically significant difference between nurse educators and clinicians.

With regard to learning tensions, the mean score for nursing students (M=16.51, SD=3.49) was significantly different from clinicians (M=14.91, SD=2.79), p=.005. There was no statistically significant difference between nursing students and nurse educators. There was also no difference between nurse educators and clinicians.

Furthermore, the mean score of nursing students (M=14.27, SD=4.26) was statistically different from clinicians (M=17.47, SD=2.81), p=.000 in the aspect of translating learning. There was no statistically significant difference between nursing students and nurse educators, and there was no statistical difference between nurse educators and clinicians.

In terms of peer support, there was no statistically significant difference between the groups

Table 9: Post-hoc test results with a mean difference significant at a level of .05

| Dependent variables | (I) category of respondents | (J)category of respondents | Mean Difference (I - J) | Std. Error | p-value | 95% confidence interval | |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound |
| Supervision | Nursing students | Nurse educators | -1.67 | 1.27 | .189 | -4.16 | .83 |
| | | Clinicians | -3.07* | .90 | .001* | -4.84 | -1.29 |
| | Nurse educators | Nursing students | 1.67 | 1.27 | .189 | -.83 | 4.16 |
| | | Clinicians | -1.40 | 1.43 | .328 | -4.22 | 1.42 |
| | Clinicians | Nursing students | 3.07* | .90 | .001* | 1.29 | 4.85 |
| | | Nurse educators | 1.40 | 1.43 | .328 | -1.42 | 4.23 |
| Learner friendly | Nursing students | Nurse educators | 4.13* | 1.16 | .000* | 1.83 | 6.42 |
| | | Clinicians | -3.25* | .83 | .000* | -4.89 | -1.62 |
| | Nurse educators | Nursing students | -4.13* | 1.16 | .000* | -6.42 | -1.84 |
| | | Clinicians | -7.38* | 1.31 | .000* | -9.96 | -4.79 |
| | Clinicians | Nursing students | 3.25* | .83 | .000* | 1.62 | 4.89 |
| | | Nurse educators | 7.38* | 1.31 | .000* | 4.79 | 9.96 |
| Satisfaction | Nursing students | Nurse educators | -2.43* | .78 | .002* | -3.96 | -.89 |
| | | Clinicians | -2.62* | .56 | .000* | -3.71 | -1.52 |
| | Nurse educators | Nursing students | 2.43* | .78 | .002* | .89 | 3.96 |
| | | Clinicians | -.19 | .878 | .830 | -1.92 | 1.54 |
| | Clinicians | Nursing students | 2.62* | .56 | .000* | 1.52 | 3.71 |
| | | Nurse educators | .19 | .88 | .830 | -1.54 | 1.92 |
| Learning tensions | Nursing students | Nurse educators | .61 | .78 | .434 | -.93 | 2.16 |
| | | Clinicians | 1.60* | .56 | .005* | .50 | 2.70 |
| | Nurse educators | Nursing students | -.61 | .78 | .434 | -2.16 | .93 |
| | | Clinicians | .10 | .88 | .265 | -.75 | 2.73 |
| | Clinicians | Nursing students | -1.60* | .56 | .005* | -2.70 | -.50 |
| | | Nurse educators | -.10 | .88 | .265 | -2.73 | .75 |
| Translating learning | Nursing students | Nurse educators | -1.43 | .93 | .128 | -3.27 | .42 |
| | | Clinicians | -3.19* | .67 | .000* | -4.50 | -1.88 |
| | Nurse educators | Nursing students | 1.43 | .93 | .128 | -.42 | 3.27 |
| | | Clinicians | -1.77 | 1.06 | .095 | -3.85 | .31 |
| | Clinicians | Nursing students | 3.19* | .67 | .000* | 1.88 | 4.51 |
| | | Nurse educators | 1.76 | 1.06 | .095 | -.31 | 3.85 |
| | Nursing students | Nurse educators | -.60 | .50 | .235 | -1.59 | .39 |

| Peer support | | Clinicians | .18 | .36 | .621 | -.5306 | .89 |
| | Nurse educators | Nursing students | .60 | .50 | .235 | -.3922 | 1.59 |
| | | Clinicians | .78 | .57 | .173 | -.34 | 1.90 |
| | Clinicians | Nursing students | -.18 | .40 | .621 | -.89 | .53 |
| | | Nurse educators | -.78 | .57 | .173 | -1.90 | .34 |

Determining the exact group of respondents that statistically differed in perception was tested using a post – hoc test. Significance set at p < .05

## 4.4.9 Determining the differences in perceptions between the students

Once again, an ANOVA test was conducted to explore the significant differences in the perceptions of the clinical learning environment in relation to the areas of interest between the first, second and third year groups of nursing students. Results showed significant differences for supervision (p=.000), learner friendly (p=.000), satisfaction (p=.006) and translating learning (p=.000). There was no significant difference found for learning tensions (p=.116) and peer support (p=.646).

Post-hoc test results showed that the mean scores for supervision, for first year students (M=24.76, SD=5.46), were significantly different from the second year students (M=21.62, SD=3.59), p=.001 and from the third year students (M=20.02, SD=4.49), p=.000. There were no statistically significant differences between the second and third year students.

For learner friendly, the mean scores for first year students (M=27.56, SD=4.29) were significantly different from the second year students (M=25.52, SD=4.21), p=.030 and also from those of the third year students (M=23.50, SD=5.35), p=.000. Those of the second year students (M=25.52, SD4.21) were significantly different from the third year students (M=23.50, SD=5.35), p=.031.

Regarding satisfaction, first year students (M=12.66, SD=2.89) were significantly different from the third year students (M=10.58, SD=3.71), p=.001. There was no statistically significant difference between first and second year students and between second and third year students.

In relation to translating learning, the mean scores for first year students (M=16.88, SD=3.44) were significantly different from the second year students (M=13.16, SD=4.35), p=.000, as well

as from the third year students (M=12.78, SD=3.72), p=.000. There was no significant difference between the second and third year students.

## 4.5  CONTRIBUTORY AND HINDERING FACTORS TO STUDENTS' LEARNING ON THE WARD

In addition to providing responses to the closed-ended questions, the respondents listed factors they believed contributed or hindered students' learning in the ward. These factors were grouped into five main categories under contributory factors and under hindering factors; and subsequently analysed using descriptive statistics. Table 10 below illustrates the results, with responses in the 'NO' column indicating that respondents did not list the particular factor, and those in the 'YES' column indicating that respondents listed that particular factor.

Regarding contributory factors, the majority of the respondents (168, 78.1 %) listed support from the training College, followed by adequate supervision (164, 76.3 %), the availability of equipment (158, 73.5 %), positive attitudes of staff towards students and supervision (134, 62.3 percent) and positive attitudes of students towards staff and learning (125, 58.1 percent)

Regarding the hindering factors, the lack of equipment was listed by the majority of the respondents (173, 80.5 %), followed by overcrowding of students (163, 75.8 %), poor supervision (149, 69.3 %), bad attitudes of staff towards students and supervision (145, 67.4 percent) and bad attitudes of students towards staff and learning (114, 53.0 percent)

Table 10: Contributory and hindering factors to students' learning on the ward

| Contributory factors | NO | YES |
|---|---|---|
| | n (%) | n (%) |
| Adequate supervision | 51(23.7%) | 164(76.3%) |
| Availability of equipment | 57(26.5%) | 158(73.5%) |
| Positive attitudes of staff towards students and supervision | 81(37.7%) | 134(62.3%) |
| Positive attitudes of students towards staff and learning | 90(41.9%) | 125(58.1%) |
| Support from college staff | 47(21.9%) | 168(78.1%) |
| **Hindering factors** | | |
| Poor supervision | 66(30.7%) | 149(69.3%) |
| Lack of equipment | 42(19.5%) | 173(80.5%) |
| Bad attitudes of students towards staff and learning | 101(70%) | 114(53%) |
| Bad attitudes of staff towards students and supervision | 70(32.6) | 145(67.4) |
| Overcrowding of students | 52(24.2%) | 163(75.8%) |

## 4.6   RELIABILITY

Analysis for Cronbach's alpha of the scale yielded a result of 0.76. This showed an acceptable internal consistency of the items on the scale, as it is above the minimum value 0.7 (Pallant, 2016:104). The value obtained was, however, below the value indicated (0.86) by the authors of the scale (Chuan & Barnett, 2012:193).

## 4.7   SUMMARY OF THE CHAPTER

Data obtained from the respondents (n=215, 96.8 %) was analysed using SPSS (version 23) software for descriptive statistics, comparisons using one-way analysis of variance (ANOVA) and reliability. Key findings were noted from the respondents' perceptions of the clinical learning environment, in relation to the six areas of interest. The findings were both positive and negative. Significant differences between the groups in terms of the mean scores of their perceptions related to supervision, a learner friendly environment, satisfaction, learning tensions and translating learning to the real life environment were found. There was no significant difference found for the peer support subscale. For the students, significant differences were found for all the areas of interest, except learning tensions and peer support. The differences in perceptions between the groups do not support the null hypothesis that predicted no differences in perceptions between the groups.

A Post-hoc test using LSD comparisons was carried out to reveal the groups that significantly differed. Reliability analysis showed a Cronbach's alpha value of 0.76. Tables and a pie chart were used to represent the results.

## CHAPTER 5:DISCUSSION

### 5.1    INTRODUCTION

This chapter provides a discussion of the results of the respondents' perceptions of the clinical learning environment, in relation to the objectives of the study. The objectives were, firstly, to identify and describe the perceptions of the respondents of the clinical learning environment; secondly, to compare their perceptions; and finally to identify challenges that affect students' learning in the clinical setting. The respondents of this study were nursing students (n=150) comprising of first year, second year and third year students; nurse educators (n=20) and clinicians (n=45). These three groups were directly involved in clinical teaching and learning. The discussion of the perceptions of the respondents, and the differences in perceptions between the groups will be done under six main areas of interest in the clinical learning environment. These are; supervision by staff nurses and clinical instructors, a learner friendly environment, satisfaction, learning tensions, translating learning and peer support. The chapter concludes with outlining the key findings discussed.

### 5.2 PERCEPTIONS OF THE CLINICAL LEARNING ENVIRONMENT

Overall, the study showed that the majority of the respondents perceived that there are challenges within the clinical learning environment. A detailed discussion is provided under the following areas of interest;

#### 5.2.1 Supervision by staff nurses and clinical instructors

Supervision of students by staff nurses and clinical instructors was found to be a critical issue. Though it can be seen from the results that staff nurses did guide students in the performance of skills, it was clearly inadequate. This was evidenced by the lack of willingness (148, 68.9 %) and interest (136, 63.5 %) in the supervisor role. Unavailability of the clinical supervisors and failure to devote time to supervise the students were seen as contributory factors to the inadequate supervision, despite the fact that they were noted to have good knowledge and skills. These findings were consistent with those of Kristofferzon et al. (2013:1252), that staff nurses and educators were not willing or interested in guiding and supervising students in the clinical

setting, describing the supervision role as an extra function to rendering services to patients. Walker et al. (2014:99) also found similar unwillingness of staff nurses to assist students and suggested that a possible reason for this attitude was a lack of knowledge of their professional roles in the clinical ward and of the students' learning needs. The findings also correlated with that of Algoso and Peters (2012:197), who found poor attitudes towards supervision a common problem in clinical learning environments, especially where there were staff shortages, heavy workloads and inadequate resources which led to overburden and stress on the few staff available.

Chuan & Barnett (2012:192), however, stated that guidance and supervision by clinical instructors was perceived by students and educators as the most positive aspect of the clinical learning environment. Also in this study, the majority of the respondents listed adequate supervision as a contributory factor to learning, in their open-ended responses. Melender, Jonsén and Hilli (2014:297) stated that undergraduate nursing students in their study had a positive experience with their clinical instructors, owing to the instructors' availability and display of enthusiasm towards carrying out their supervisory roles.

Madhavanprabhakaran et al. (2013:43) also stated that clinical instructors with knowledge of the curriculum, the clinical setting, the quality of the teaching and learning, as well as the learners' attitudes were effective in clinical teaching; portraying sound interpersonal skills and providing learners with feedback. This totally disagrees with the attitudes portrayed towards supervision in this study.

Madhavanprabhakaran et al.'s (2013:43) results, however, indicated that feedback was never provided to learners. Ramani and Krackov (2012:790) stated that feedback is an important element in clinical teaching and learning, which every institutional leader should consider as part of the institutions' culture and thus provide it to trainees on their performance. Matua et al. (2014:24) explained that the provision of feedback to students provides the clinical instructors with the opportunity to discuss with the nursing students their performance in the areas they have worked in, and also enables the students the opportunity to critically reflect and evaluate their performance, and rate themselves in a realistic manner in order to make amendments for

improvement. All of the studies cited here thus highlight the current study findings that the supervision of the students by staff nurses and clinical instructors was poor.

Though these issues were perceived by the majority of the respondents, there were statistically significant differences in the perceptions between nursing students and clinicians (p=.000). There were also statistically significant differences between the student groups; first year students statistically differed from second year students (p=.001) and from third year students (p=.000). These findings are similar to Okoronkwo et al. (2013:66), who found significant differences between the nursing students regarding their perceptions on effective clinical teaching in the areas of clinical knowledge (p=.014), knowledge of the subject matter (p=.006) and feedback (p=.046) and consistent with the significant differences seen by Sabog, Caranto and David (2015:16), who found significant differences in the perceptions of the issues between the academic levels of nursing students from first to fourth year.

### 5.2.2 Learner friendly
In this study, the ward staff and clinical instructors showed positive attitudes towards the students, in terms of considering them as learners by being approachable to them. A study by Damodaran (2015:29) stated that the clinical educator must be approachable, patient, friendly and understanding, to enable students to feel free to practice, and the findings of the current study support this finding. These findings are also supported by Sabog, Caranto and David (2015:16) who reported that students' performance improved and they became more confident when these characteristics were displayed by their clinical instructors. Without these characteristics in their instructors, however, they become anxious and less efficient.

A study with contrary findings, however, was that of Rikhotso, Williams and De Wet (2014:1), who found that clinical staff displayed negative attitudes towards the students; such as being hostile, authoritative, unapproachable, and using abusive and demeaning language towards the students when assigned to clinical practice; all of which made them unhappy.
Another study with contrary findings to this one was that of Msiska, Smith and Fawcett (2014:35), who found that student nurses were regarded as regular workers instead of as students, and were given tasks and left to work without the guidance and supervision required for

them to learn appropriately. Chuan and Barnett (2012:192), in their study, reported that regarding students as workers instead of as learners new to clinical practice was one of the factors that hindered their learning. The majority of the respondents in this study listed bad attitudes of staff towards students as one of the hindering factors to learning.

The provision of high quality nursing care to patients (123, 57.2 %) is supported by literature as one of the factors supportive of a learner friendly environment. Dimitriadou et al. (2015:236) found the provision of high quality care to patients to be one of the key aspects of a quality learning environment. Damodaran (2015:29) also reported that students were happy working in a learning environment where patients received quality care from the staff. The Nursing Education Stakeholders group (2012) also stated that the preparation of competent nurses is only possible in a learning environment where there is provision of care to patients that is of a high quality. In the opinion of Lawal et al. (2015:35), exposing students to learning environments characterised by high quality care is more likely to produce nurses who reflect a caring attitude towards their patients.

Another interesting but questionable finding from the results of this study was that of the clinical instructors being considered as good role models (134, 62.3 %). This contradicts the finding that clinical instructors were not willing and interested in supervising students in this study. Okoronkwo et al. (2013:68) are of the opinion that a good role model clinical instructor enjoys assisting students, and is prepared and ready to share their knowledge and stimulate students' interest to learn. The perception that staff nurses were not good role models (113, 52.6 %) agrees with the opinion of Okoronkwo et al. (2013:68), because of their unwillingness to supervise the students.

The different results seen regarding the perceptions that clinical instructors and staff nurses are good role models are contrary to the expectation of Nasrin, Soroor and Soodabeh (2012:1), that all staff in the clinical learning environment should be role models, possessing good qualities and having a significant role in motivating students during clinical learning. According to Sabog, Caranto & David (2015: 16), competency and role modelling are key ingredients in clinical learning that assist clinical instructors to bridge the theory and practice disparity.

Comparatively, the respondents' perceptions regarding this area of interest significantly differed between nursing students and nurse educators (p=.000), between nursing students and clinicians (p=.000), and also between nurse educators and clinicians (p=.000). Just as Cremonini et al. (2016:199) found significant differences between first, second and third year nursing students of their perceptions regarding the supervisory relationship (p=.046) and the role of the tutor (p=.000), the perceptions of first year nursing students differed from the second year, as well as the third year students in this study. The second year students also differed significantly from the students in their third year of study. Furthermore, Sabog, Caranto and David (2015:17) found significant differences in the perception of the clinical instructors' relationships with the students between the lower level and the senior level nursing students.

### 5.2.3 Satisfaction

The high disagreement rates with the statements that the students enjoyed working in the wards and were happy with the experiences acquired were a clear indication that they were not satisfied. Their dissatisfaction was also shown by their disagreement with the statement that the experiences on the ward made students eager to become staff nurses (121, 56.3 %). Bigdeli et al. (2015:1) also reported a similar finding, where students were dissatisfied with their actual learning environment as a result of what they were expected to do. Linking these findings to Cunningham, Wright and Baird's (2015:264) position that the overall expectation of stakeholders in the clinical learning environment was the provision of quality clinical experiences for every student, it would be relevant to suggest that the clinical learning environment in this study did not offer respondents the best learning opportunities and experiences possible. According to Cremonini et al. (2016:202), students' overall satisfaction with the clinical learning was associated with the strong involvement of the clinical supervisors and the organisation of the supervision. Additionally, when using satisfaction as an outcome measure, it was found to be positively associated with all other dimensions of the clinical learning environment (Papathanasiou, Tsaras & Sarafis, 2014:57). Satisfaction was specifically related to a positive perception of the pedagogical atmosphere in the ward, the leadership style of the ward manager, the nature of the quality of the nursing provided in the ward and the supervisory relationship (Ali, Banan & Al Seraty, 2015:4; Cremonini et al., 2016:202; D'Souza et al., 2015:837; Papastavrou et al., 2016:1)

Linking these findings to previous studies in Ghana by Awuah-Peasah, Sarfo & Asamoah, (2013:22), it is clear that a nationally recognised model of clinical teaching is still lacking. This is due to the partial implementation of the preceptor model, and there have been criticisms that the clinical teaching approach used does not actually reflect that of preceptorship (Asirifi et al., 2013:168). Coupled with the current nurse shortages in the wards and those reported by Mwini-Nyaledzigbor et al. (2014) and Pillinger (2011:7), and that the findings of this study show that there has not been significant improvement of the clinical teaching, this study therefore reflects what has been reported in the literature.

Similar to Ali, Banan and Al Seraty (2015:4), who found significant differences in perceptions between his study respondents regarding satisfaction as a preferred characteristic of effective clinical learning environment, this study also found significant differences in this area. Nursing students significantly differed from nurse educators (p=.002) and clinicians (p=.000), with no difference observed between nurse educators and clinicians. In addition, there were differences between first year students and third year students (p=.001), however, the perceptions between first and second year students and second and third year students did not differ.

### 5.2.4 Learning tensions

Unlike Ali, Banan and Al Seraty (2015:3) who found that students experienced no difficulty getting assistance during clinical practice due to good clinical instructors who considered their feelings and assisted them whenever they needed help, this study's results indicate that students experienced difficulties finding assistance, were given responsibilities without help and had to compete with fellow students to practice skills in the wards. Msiska, Smith and Fawcett (2014:39) also found a similar experience where nursing students were left unsupervised during clinical placements, which created a feeling of abandonment in the students. According to Jamshidi et al. (2016:5), difficulty experience by nursing students in getting assistance when needed can lead to stress which can affect their general health and disturb their learning. Regarding competing to practice skills, the report by Eta et al. (2011) that overcrowding of students in the clinical environment makes it difficult to assign tasks to assist every single student could be linked as a reason for tension among the students.

In addition, the findings of this study indicate a disparity between what was taught in the classroom and what takes place the real ward situation. According to Tiwaken, Caranto and David (2015:68), students experienced frustrations as a result of the poor linkage of theory and practice. Nabolsi et al. (2012:5853) also found a high degree of dissatisfaction on the part of respondents due to the differences between what was learnt in the classroom and the reality in the practice area. Kaphagawani and Useh (2013:181) reported this disparity as a long time concern in nursing education, which has had an impact on knowledge acquisition.

In comparing the learner tensions, significant differences exist between the nursing students and the clinicians, in terms of the levels of anxiety arising as a result of their interactions. There was no discernible difference between nursing students and nurse educators, or between nurse educators and clinicians in this regard. There was no significant difference between the student groups however. This was consistent with the findings of Lawal et al. (2015:35), that nursing students experienced feelings of anxiety due their relationship with clinical instructors, but these authors found no statistical difference in perceptions between them.

### 5.2.5 Translating learning

In this area of interest, the results indicated there was reinforcement of the theory learnt in the classroom, in the ward; teaching students to link theory to practice, as well as encouraging them to ask questions regarding their studies. This is an acceptable practice because learning occurs if students are able to apply what has been taught in the classroom and in the skills laboratory into practice (Kaphagawani & Useh, 2013:181). The findings that theory learnt in the classroom was not always practiced in the ward setting would probably have an effect on the translation of theory into practice, however. This could be linked to the lack of resources in the ward for staff and students to carry out procedures the way they were taught in the classroom. Algoso and Peters (2012:197) found such clinical learning environments to be characterised by inadequate working equipment and materials, which negatively affected the clinical practice of nursing students. The majority of the respondents in this study listed the lack of equipment as a hindering factor to their learning in the ward. It could also be linked to the lack of collaboration between the training institutions and the clinical setting to ensure that issues relating to theory and practice disparity were properly handled. A study by Bvumbwe, Malema and Chipeta (2015:930)

found that there was poor support from the training institutions and students often reported to the clinical facilities without being accompanied or visited by the academic staff. There was no interaction with clinical staff and students to see what the students were learning, which caused dissatisfaction and frustration on the part of the ward staff. As part of the contributory factors to learning in the ward, support from the College was listed by the majority of the respondents.

Furthermore, the results indicate that students were not considered to be part of the ward team. This was considered a bad practice according to Henderson et al. (2011:201), as partnering with students and demonstrating role modelling contributes to the effective translation of learning at all levels of their placement and adds to their professional development and skills. Gidman (2011:351) also found that the best aspects of clinical practice, that were perceived to enable students to learn well, included students being part of the clinical team, being involved in patient care and receiving support from their mentors.

In addition, there were significant differences in the respondents' perceptions (p=.000) regarding the translation of theory into practice. Nursing students differed from clinicians. There were no differences between nursing students and nurse educators or nurse educators and clinicians in this regard. First year students also differed from the second and third year students, but no significant difference was observed between second and third year students.

### 5.2.6 Peer support

The results of the study indicate that there was guidance and support among the students, especially from the most senior students with more experience towards the junior students. According to Chuan and Barnett (2012:193), peer support in clinical learning is important because it allows the sharing of experiences among students. Gidman (2011:354) also found that peer support was highly valued by students in clinical practice; who described their peer supervisors as enthusiastic, approachable and motivating in their supervision. Kaphagawani and Useh (2013:183) also found that students' academic and clinical performance were better after being supported by their peers. Stenberg and Carlson (2015:1) stated that students felt safe, with increased independence when they are supported by their peers. The authors also added that there was increased learning and knowledge as peer supervisors made sure that they learnt

enough in order to be able to supervise the junior students. The findings of this study were reflective of the clinical practice situation in the Ghanaian context, where there are reported issues concerning staff shortages (Mwini-Nyaledzigbor et al., 2014:26) and clinical supervision (Asirifi et al., 2013:168). Students thus support one another in the performances of procedures. This conforms to the findings of Potgieter (2012:7), who stated that peer support is particularly valuable in clinical settings where there are not enough clinical instructors and nurses to guide the students.

Unlike Stenberg and Carlson (2015:1), who found significant differences between students' percetions of peer support, this study did not find any statistically significant difference between the respondents of the study.

## 5.3 CONTRIBUTORY AND HINDERING FACTORS TO STUDENTS' LEARNING ON THE WARD

With reference to the contributory factors, respondents listed adequate supervision, the availability of equipment, positive attitudes of the staff and students towards each other, good quality teaching and learning and support from the training College. These, according to previous studies, are essential factors for effective learning to occur (Ali, Banan & Al Seraty, 2015:1; Anarado, Agu & Nwonu, 2016:144; Chuan & Barnett, 2012:192; Dadgaran, Parvizy & Peyrovi, 2012:1715; Dale, Leland & Dale, 2013:4; Henderson, 2011:141; Kaphagawani & Useh, 2013:184; O'Mara et al., 2014: 212; Price,2011:780; Rikhotso, Williams & De Wet, 2014:1).

Also, factors believed to hinder learning were listed as poor supervision, inadequate equipment, bad attitudes of staff towards students and supervision, bad attitudes of students towards staff and learning and overcrowding of students in the wards. These were supported by literature (Awuah-Peasah, Sarfo & Asamoah, 2013:21; Eta et al., 2011; Jamshidi, 2012:3335; Killam & Heerschap, 2013:687; Löfmark et al., 2012:165; Msiska, Smith & Fawcett, 2014:35).

This implies that the majority of the respondents are fully aware of the contributory and hindering factors to student learning in the ward, and indicates the reality of their perceptions of the clinical learning environment.

## 5.4 RELIABILITY OF THE QUESTIONNAIRE

According to Chuan and Barnett (2012:193), the Cronbach alpha coefficient of the questionnaire was reported to be 0.86, which showed an acceptable internal consistency, according to Pallant (2016:104). In this study, the Cronbach alpha coefficient was found to be 0.76, which also showed an acceptable internal consistency. The little difference between the values may be due to differences in the settings where the questionnaire was utilised.

## 5.5 SUMMARY OF THE CHAPTER

The chapter discussed the results of the analysis with respect to the study objectives, under the six main areas of interest in the clinical learning environment. Under each of the headings, the discussions centred on the respondents' perceptions and the significant differences that existed between their perceptions. Supervision of students, satisfaction, learning tensions and translating learning were areas of concern in the clinical learning environment, as these were negatively perceived. Peer support was positively perceived, without any significant difference between the respondents.

# CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

## 6.1 KEY FINDINGS

The key findings from the respondents' (n=215) perceptions on the clinical learning environment, after analysis and discussion of their responses, revealed the following:

### 6.1.1 Supervision

- Guidance and supervision was inadequate, with a lack of willingness, interest and devotion of time by the staff nurses and clinical instructors to supervise the students adequately.
- There was no provision of feedback to students.
- Respondents differed statistically in their perceptions of this.

### 6.1.2 Learner friendliness

- Ward staff were approachable, and were considerate of the students' status as learners new to the environment.
- Patients received high quality care.
- Clinical instructors were considered as good role models, but this was not the case with staff nurses.
- Respondents differed statistically in their perceptions of this.

### 6.1.3 Satisfaction

- There was no enjoyment working in the ward and the nursing students were unhappy with their experiences in that setting.
- Experiences in the ward did not positively influence the students' eagerness to become staff nurses.

### 6.1.4 Learning tensions

- Students had difficulty obtaining assistance from their instructors.
- Instructors assigned a lot of responsibility to the students without supervising them adequately to ensure they were performing their tasks adequately.

- Students have to compete among themselves to practice skills, as there are too many students in the clinical learning environment at the same time.

- There was conflict between how procedures were taught in the classroom and the way in which they were actually performed in the ward.

### 6.1.5 Translating learning

- Students were taught to link theory to practice and to ask questions regarding their studies, thus reinforcing the theory learnt in the classroom in the ward setting, however

- There was disparity between what was taught and learned in the classroom, and what was done in the ward.

- Students were not considered as part of the ward team or staff complement, but rather as novice extras.

### 6.1.6 Peer support

- Students guide and support each other in the performances of their duties.

- There were no statistically significant differences between the respondents

### 6.2 RECOMMENDATIONS

Based on the findings, the following recommendations are made:

### 6.2.1 Recommendations for optimum clinical teaching and learning

- Guidance and supervision of students during clinical practice should be considered important as part of the respective incumbents' job descriptions, and improved upon and re-enforced using well documented and clear job descriptions of the roles of the clinical instructors and staff nurses. This will ensure that the clinical instructors and staff nurses clearly understand this to be their responsibility and provide the necessary, regular feedback to the students. Programmes on clinical teaching strategies should be organised for clinical instructors and staff nurses, so that they learn how to teach properly.

- Clinical instructors and staff nurses should be motivated to be willing and interested in supervising and teaching the students to the best of their ability. This can possibly be achieved by helping them to understand that the better the training and supervision

provided, the better the quality and competency of the qualified nurse as a result, and the more these new nurses will be able to assist them in the long run. This is especially relevant for those facilities that are hard hit by staff shortages, where a small staff complement has to deal with a heavy workload burden and stress. This is significant because Eta et al. (2011:3) discovered that the lack of financial incentives was one of the reasons why clinical instructors were not ready to adequately supervise students, and the nursing institutions may not be in a financial position to increase their salaries to cover the cost of this additional task.

- All clinical instructors and staff nurses should periodically receive in-service training on the attributes of professionalism, to enable them develop in themselves behaviours that reflect role models for students to emulate.

- The scheduling of students for clinical practice should be reviewed and redefined, either locally or nationally, to allow for a reasonable number of students in the ward at a time to avoid overcrowding and unnecessary competition to practice skills.

- There should be a strong collaboration between the training Colleges and the clinical settings to ensure that there is a proper link between theory and practice. The curricula at the training Colleges should be updated to reflect the current practice.

- Peer support should be encouraged and promoted to augment the efforts of the clinical instructors and staff nurses.

### 6.2.2 Recommendation for further research

- A quantitative research study involving more Colleges and hospitals from the north and south of the country should be conducted to compare the perceptions of the clinical learning environment, in order to obtain a broader view of the subject.

- A qualitative research study should also be conducted to obtain the in-depth experiences of the participants.

- It is also suggested that research should be conducted, aimed at developing a contextually suitable model of clinical teaching to replace the existing preceptor model which has received many criticisms on its implementation and the teaching approach used (Asirifi et al., 2013:168) as well as of its essence (Atakro & Gross, 2016:1).

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## 6.3 LIMITATIONS

The study was limited in the following manner:

The respondents of the study were drawn from only one training College and only one hospital in the north of the country. The involvement of more Colleges and hospitals across the north and south of the country may possibly provide much more diverse perceptions.

The researcher works in the same training College that the study was conducted in, and that could possibly have influenced the responses.

## 6.4 CONCLUSIONS

This study described nursing students', nurse educators' and clinicians' perceptions of the clinical learning environment in a hospital and training College in northern Ghana, as a way of identifying challenges that might have contributed to the bad attitudes of nursing staff towards clinical practice (Awuah-Peasah, Sarfo & Asamoah, 2013:22). This is significant because Algoso and Peters (2012) stated that a learning environment that does not offer students the best clinical learning opportunities and experiences possible leads to negative attitudes of the students towards clinical practice. Bigdeli et al. (2015:1) also stated that any difference in perceptions between the actual and expected clinical learning environment decreases the students' interest in clinical learning and correlates negatively with their clinical performance.

The findings of the study revealed that the respondents (n=215) perceived the clinical learning environment to have certain challenges in the areas of supervision, satisfaction, learning tensions and translating learning into practice. The perceptions of learner friendliness and peer support in relation to previous studies were positive (Chuan &Barnett, 2012:193; Damodaran, 2015:29; Gidman, 2011:354; Kaphagawani & Useh, 2013:183; Stenberg & Carlson, 2015:1).

The findings contributed to the evidence of the perceptions of the clinical learning environment. Based on that, recommendations were made, which focused on strengthening the clinical guidance and supervision of students, motivation of staff, periodic in-service training of staff, reviewing and redefining the scheduling of students in the clinical work areas, collaboration and the promotion of peer support.

Finally, in order to get a much broader perspective of the clinical learning environment, a quantitative study should be conducted involving more Colleges and hospitals, preferably from both the north and south of the country. The prospective researcher should aim at developing a contextually suitable model for clinical teaching.

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**APPENDIX 1:QUESTIONNAIRE**

**QUESTIONNAIRE FOR NURSING STUDENTS, NURSE EDUCATORS AND**
**CLINICIANS.**

**Thank you for agreeing to participate in this study.**
*Before you can start there are three (3) questions in relation to the process followed prior to this survey. They require a "yes" or "no" response. Please mark the relevant box with an X. If "no" to any of the questions, please do not proceed further, and notify the researcher*

1. Do you have a copy of the information sheet? …………………………..
2. Did you read the information sheet? ……………………………………..
3. Have you signed the informed consent form? …………………………...

| Yes | No |
|-----|----|
| Yes | No |
| Yes | No |

**SECTION A: SOCIODEMOGRAPHIC DATA**
Please, mark with an [x] the options below that is applicable to you
A1. Nursing student:  first year [ ]    second year [ ]    third year [ ]
A2. Nurse educator [ ]
A3. Clinician     [ ]

**SECTION B: PERCEPTIONS ON THE CLINICAL LEARNING ENVIRONMENT**
Please, complete the following by marking the choice that best reflects your opinion in the table with an [x].

| No. | | Strongly Disagree | Disagree | Neutral | Agree | Strongly agree |
|-----|---|---|---|---|---|---|
| B1 | Staff nurses regularly provide feedback to student nurses for the work that is done | | | | | |
| B2 | Staff nurses are interested in supervising students | | | | | |
| B3 | Staff nurses are good role models | | | | | |
| B4 | Staff nurses are willing to spend time teaching student nurses. | | | | | |
| B5 | Staff nurses guide student nurses to perform new skills | | | | | |
| B6 | Staff nurses show a positive attitude towards the supervision of student nurses. | | | | | |
| B7 | The ward staff are easy to approach. | | | | | |
| B8 | The ward staff know the student nurses by their names. | | | | | |

| B9 | High quality care is provided to patients. | | | | | |
|----|---------------------------------------------|--|--|--|--|--|
| B10 | Staff nurses regard the student nurse as a learner rather than a worker. | | | | | |
| B11 | The clinical instructor is a good role model. | | | | | |
| B12 | The clinical instructor provides prompt feedback to students for the work that is done. | | | | | |
| B13 | The clinical instructor is easy to approach. | | | | | |
| B14 | The clinical instructor provides adequate guidance with new skills. | | | | | |
| B15 | The clinical instructor has good knowledge and skills. | | | | | |
| B16 | The clinical instructor devotes sufficient time to teaching students. | | | | | |
| B17 | The clinical instructor is readily available to assist learning. | | | | | |
| B18 | I enjoyed my time working on the ward. | | | | | |
| B19 | I am happy with the experience I have had on this ward | | | | | |
| B20 | I look forward to clinical practice | | | | | |
| B21 | The experience on the ward makes students eager to become staff nurses. | | | | | |
| B22 | Student nurses have difficulty finding help when needed. | | | | | |
| B23 | I feel stressed with the amount of work to be done on the ward | | | | | |
| B24 | There is a conflict between procedures taught in the classroom and the real situation on the ward | | | | | |
| B25 | Student nurses are given a lot of responsibility without adequate supervision. | | | | | |
| B26 | Student nurses compete with each other to practise skills. | | | | | |
| B27 | Theory learned in the classroom is reinforced on the ward. | | | | | |
| B28 | Student nurses are considered to be part of the ward team. | | | | | |
| B29 | Student nurses are taught to link theory to practice | | | | | |
| B30 | What is learned in the classroom is being practiced on the ward. | | | | | |

| B31 | Student nurses are encouraged to ask questions | | | | | |
|------|------|------|------|------|------|------|
| B32 | Student nurses teach one another | | | | | |
| B33 | Student nurses help one another to carry out allocated tasks. | | | | | |
| B34 | Senior students guide junior students. | | | | | |

**SECTION C**

Please answer the following questions.

List some factors that you believe contribute to students' learning on the ward.

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List some factors that you believe hinder students' learning on the ward.

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**Thank you for your participation**

**APPENDIX 2: CALCULATION OF SAMPLE SIZE**

**Using G-Power sample calculation tool, these are the parameters I used to calculate sample size**

    **i.**    Effect size: 0.21 (  ). **Remember an effect size measure is a quantity that measures the size of an effect as it exists in the population, in a way that is independent of other details of the experiment such as the sizes of the samples used.**

**The proportion of variability accounted for by an effect-** 
        **Guideline for Effect sizes (d) according to Cohen (1988); Small Effect (**



   **ii.**    Type 1 error: 0.05 **(recommended for medical studies)**
  **iii.**    Type 2 error: 0.20 **(recommended for medical studies)**
   iv.    Power (1-type 2 error): 0.80
    v.    Number of groups: 3 (Nursing Students, Educators and Clinicians)
   vi.    Critical F: 3.04
vi.  Total sample size: 222

**APPENDIX 3: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH STUDY FROM HEAD OF COLLEGE.**

University of KwaZulu-Natal

Howard College Campus

School of Nursing and Public Health

20th May, 2016

The Principal

Presby. NTC

Post Office Box 45

Bawku

Upper East

Ghana.

Dear Sir,

**REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH**

I am a master of nursing student at University of Kwazulu-Natal, South Africa. I am conducting a study on perceptions of the clinical learning environment in order to promote quality clinical teaching and learning. The study will involve nursing students, nurse educators and clinicians. I therefore kindly request your permission to allow me entry into your institution for data collection.

I wait in anticipation for your understanding and favourable response.

Thank you.

Yours faithfully,

ATUUT ABUGRI

Cell: +27632211150

Email: atuutabugri@gmail.com

**Supervisor**

 Mrs Pretty N. Mbeje (Lecturer)

Tel: 031 2601541

Email:Mbejep@ukzn.ac.za

**APPENDIX 4: REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH STUDY FROM HOSPITAL ADMINISTRATOR**

> University of KwaZulu-Natal
>
> Howard College Campus
>
> School of Nursing and Public Health
>
> 1ˢᵗ June, 2016

The Administrator

Presby. Hospital

Post Office Box 45

Bawku, UE/R

    Dear Sir,

<u>**REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH**</u>

I am a master student at University of Kwazulu-Natal, South Africa. I am conducting a study on survey of the clinical learning environment in order to improve quality clinical education and learning. I intend to involve the clinicians of your institution in the study. I therefore kindly request your permission to allow me entry into your institution for data collection.

Waiting for your consideration and favourable response.

Thank you.

> Yours faithfully,
>
> ATUUT ABUGRI
>
> Cell+27632211150or +233248945461
>
> Email: <u>atuutabugri@gmail.com</u>

Supervisor

Mrs Pretty N. Mbeje (Lecturer)

Tel: 031 2601541

Email:<u>Mbejep@ukzn.ac.za</u>

**Through:**

The nursing services administrator

Presby. Hospital, Bawku

Upper East Region.

**APPENDIX 5: PROVISION OF APPROVAL TO CARRY OUT THE RESEARCH STUDY FROM PRINCIPAL OF COLLEGE**

## PRESBYTERIAN NURSES TRAINING COLLEGE: BAWKU

### (MEMBER OF CHAG)

**Bankers**
Ghana Commercial Bank, Bawku
Agric. Dev. Bank, Bawku
Telegram: Nursing Training Bawku
Tel: 0382222362
E-mail: bawkuntc@yahoo.com
Web: www.pntc-bawku.com

P.O. Box 45
Bawku, U.E.R.
7th June 2016

Our Ref: ...................................
Your Ref: ...................................

MR. ATUUT ABUGRI
UNIVERSITY OF KWAZULU-NATAL
HOWARD COLLEGE CAMPUS
SCHOOL OF NURSING AND PUBLIC HEALTH

Dear Sir,

### RE: REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH

With reference to your letter dated 20th May 2016 asking permission to enter my Institution for data Collection that will enable you carry out a research on Nursing Students Clinical learning and supervision. I write back to inform you that permission is granted to you to undertake the exercise. It is my hope that you will encounter a successful and fruitful undertaking

Thank you.

Yours faithfully,

EMMANUEL ABELKO
(PRINCIPAL)...............
PRINCIPAL
PRESBY. NURSES' TR. COLLEGE
BAWKU

cc: Supervisor

**APPENDIX 6: PROVISION OF APPROVAL TO CARRY OUT THE RESEARCH STUDY FROM THE HOSPITAL GENERAL MANAGER**

# PRESBYTERIAN CHURCH OF GHANA
## (AREA HEALTH SERVICE – NORTH)

OUR INSTITUTIONS AND PROGRAMMES
- Presbyterian Hospital, Bawku
- Presbyterian Nurses' Tr. College, Bawku
- Presbyterian PHC, Bawku
- Presbyterian PHC, Bolgatanga
- Presbyterian PHC, Sabaga
- Presby. Regional Eye Hospital, Bolgatanga
- Presbyterian CBR Programme, Bolgatanga
- Presbyterian Health Innovative Projects, Bolgatanga
- Specialist Orthopaedics Center, Bawku
- Specialist Eye Center, Bawku
- Specialist Obstetrics and Gynaecology Center, Bawku
- Specialist Surgical Center, Bawku

Bawku Hospital
P.O. Box 45
Bawku , U.E.R
Tel: 0382222232

June 16, 2016

My Ref
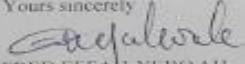
Mr. Atuut Abugri
University of KwaZulu Natal
Howard College Campus
School of Nursing and Public Health
atuutabugri@gmail.com

Dear Mr. Abugri,

**RE: REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH**

Please be informed that your request to carry out research in this hospital has been approved.

Kindly take note that you are to observe all ethical requirements necessary in the conduct of research in a hospital, and that this hospital will not hesitate to stop you when your data collection methods is found out to be an infringement on patients/staff rights and confidentiality.

You are also required to share the findings of your research with the hospital by giving the hospital a copy of the final report.

Wishing you well.

Yours sincerely

FRED EFFAH-YEBOAH
GENERAL MANAGER

Cc:
Nursing Services Administrator
Medical Administrator

*MEMBER OF THE CHRISTIAN HEALTH ASSOCIATION OF GHANA - CHAG*

## APPENDIX 7: REQUEST FOR PERMISSION TO USE A TOOL

REQUEST TO USE A TOOL  📁  Inbox  x

**Atuut Abugri** <atuutabugri@gmail.com>
to chuanol ▾

Jun 13 (2 days ago) ☆

I am a student at the University of KwaZulu-Natal, South Africa. Currently I am doing a full research masters in nursing. I am examining nursing students, nurse educators and ward managers perceptions of the clinical learning environment and its impact on the learning process of nursing student in northern Ghana.

I have identified your article with a tool that is of interest (page 194). The title of your article is; **Student, tutor and staff nurse perceptions of the clinical learning environment.**

Please, i would be grateful if you could allow me use it in my studies. Thank you so much.

Looking forward to your soonest response so that i can progress in my studies.

Regards.

Atuut Abugri.

UKZN

Howard college campus

School of nursing and public health.

cell: 0632211150

Supervisor: mbejep@ukzn.ac.za

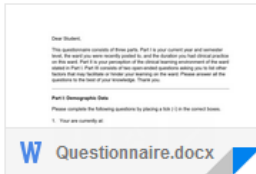# APPENDIX 8: PROVISION OF APPROVAL TO USE A TOOL

chuanol@hlwe.com
to me

Jun 13 (2 days ago)

Dear Miss Atuut Abugri,

Attached is the questionnaire that you have requested. I hope it is useful for your thesis.

All the best.

Regards
Chuan



W Questionnaire.docx

---

**Tony Barnett**
to me

Jun 14 (1 day ago)

Yes of course Atuut. Permission granted. Best wishes with your research! tony

**APPENDIX 9: INFORMATION SHEET**

**Information sheet**

My name is Atuut Abugri, a master's student in nursing education, School of Nursing and Public Health, University KwaZulu-Natal, South Africa. I am currently conducting a research project and would like to invite your voluntary participation into the study. The duration of the study should not last more than 20 minutes of your time. It involves the completion of an anonymous questionnaire consisting of three sections: section A with 3 questions, section B with 34 items in a tick box format and section C with 2 open ended item.

The purpose of the study is to "describe the perceptions of nursing students, nurse educators and clinicians on clinical learning environment. It is envisaged that analysis of information obtained will yield findings about the clinical learning environment for recommendations to be made to promote quality clinical teaching and learning.

The study and its procedure has been approved by the said university's Humanities and Social Sciences Research Ethics Committee (HSSREC), No: HSS/1226/016M.

Your anonymity and confidentiality will be maintained through the following;

Your name or the name of your college will not appear on any document or publication that may arise from this study.

After you have voluntarily agreed to participate in the study, you can still withdraw at any time prior to placing the answered questionnaire in the provided envelope. Thereafter, you cannot withdraw as it will be impossible to identify which questionnaire is yours.

On completion of the study, the completed questionnaire and consent form will be scanned to a single disc and stored in the confidential custody of the researchers' supervisor's office for a duration of five years according to UKZN research policy. After scanning, written copies of completed questionnaire and consent forms will be destroyed by fire.

You have time to think as to whether to participate or not and you can ask me personally any question bothering you regarding this study or through our contacts provided below.

After you have voluntarily agreed to participate in the study, you will be required to complete the informed consent form. Each of these items will be collected separately.

After you have completed this questionnaire, copies of the study findings will be given to the college principal and the hospital administrator to be distributed to you. Should any publication arise from this study you will be notified.

Thank you so much

Atuut Abugri

Cell no: +27(0) 632211150

　　　 +233(0) 248945461

Email: atuutabugri@gmail.com

**Supervisor**

Mrs. Pretty N. Mbeje (Lecturer)

Tel: 031 2601541

Email:Mbejep@ukzn.ac.za

**HSSREC RESEARCH OFFICE**

Full Name: Prem Mohun

HSS Research Office

Govan Bheki Building

Westville Campus

Contact: 0312604557

Email: mohunp@ukzn.ac.za

**APPENDIX 10: DECLARATION OF CONSENT**

**PROJECT TITLE: Perceptions of nursing students, nurse educators and clinicians on the clinical learning environment in selected institutions in northern Ghana.**

<u>**RESEARCHER**</u>

Full Name: Atuut Abugri

School:  University of KwaZulu-Natal

College: Health Sciences

Campus: Howard College

Proposed Qualification: Master of nursing

Cell: 0632211150

Email:atuutabugri@gmail.com

<u>**SUPERVISOR**</u>

Full Name of Supervisor: Mrs.  Pretty N. Mbeje

School:  University of KwaZulu-Natal

College: Health Sciences

Campus: Howard College

Contact details: Mrs Mbeje N. Pretty

Desmond Clarence Building

Howard College Campus

University of KwaZulu-Natal

Floor 4

Tel: 031 2601541

Email:<u>Mbejep@ukzn.ac.za</u>

<u>**HSSREC RESEARCH OFFICE**</u>

Full Name: Prem Mohun

HSS Research Office

Govan Bheki Building

Westville Campus

Contact: 0312604557

Email: mohunp@ukzn.ac.za

I, Atuut Abugri, Student no 214585495, am a master of nursing student, at the School of Nursing and Public Health, at the University of KwaZulu - Natal. You are invited to participate in a research project entitled: perceptions of nursing students, nurse educators and clinicians on the clinical learning environment in selected institutions in northern Ghana. The purpose of the study is to describe the perceptions of nursing students, nurse educators and clinicians on the clinical learning environment such that information can be available for policy makers to take actions to promote quality clinical teaching and learning.

Through your participation, I hope to understand your perceptions on the clinical learning environment such that information can be available for recommendations to be made for quality clinical teaching and learning in Ghana. I guarantee that your responses will not be identified with you personally. Your participation is voluntary and there is no penalty if you do not participate in the study. Please sign on the dotted line to show that you have read and understood the contents of this letter. The questionnaire will take approximately 20 minutes to complete.

**DECLARATION FOR CONSENT**

I………………………………………………………………………………………… (Full Name) hereby confirm that I have read and understand the contents of this letter and the nature of the research project has been clearly defined prior to participating in this research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

Participants Signature…………………………………………………………………………………

Date…………………………………………………………………….

**APPENDIX 11: UKZN ETHICS ONLINE CERTIFICATES OF RESEARCHER**

**Zertifikat**

**Certificat**

**Certificado**

**Certificate**

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

**Certificat de formation - Training Certificate**

Ce document atteste que - this document certifies that

## Abugri Atuut

a complété avec succès - has successfully completed

## Research Ethics Evaluation

du programme de formation TRREE en évaluation éthique de la recherche
of the TRREE training programme in research ethics evaluation

June 20, 2015
CID : NPtqgrSWkY7

Professeur Dominique Sprumont
Coordinateur TRREE Coordinator

**FMH** Continuing Education Program (5 Credits)
Programme de Formation Continue (5 Crédits)

Foederatio
Pharmaceutica
Helvetiae

**FPH**
Programmes de formation
continue

Continuing Education Programme
Programmes de formation continue

Ce programme est soutenu par - This program is supported by :

European and Developing Countries Clinical Trials Partnership (EDCTP) (www.edctp.org) - Swiss National Science Foundation (www.snf.ch) - Canadian Institutes of Health Research (http://www.cihr-irsc.gc.ca/e/2891.html) - Swiss Academy of Medical Science (SAMS/ASSM/SAMW) (www.samw.ch) - Commission for Research Partnerships with Developing Countries (www.kfpe.ch)

[REV : 20140328]

**Zertifikat**
**Certificat**
**Certificado**
**Certificate**

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

**Certificat de formation - Training Certificate**

Ce document atteste que - this document certifies that

## Abugri Atuut

a complété avec succès - has successfully completed

## Informed Consent

du programme de formation TRREE en évaluation éthique de la recherche
of the TRREE training programme in research ethics evaluation

June 21, 2015
CID : v8TCpVmaVW

Professeur Dominique Sprumont
Coordinateur TRREE Coordinator

FMH Continuing Education Program (5 Credits)
Programme de Formation continue (5 Crédits)

Foederatio Pharmaceutica Helvetiae
FPH Programmes de formation continue

Continuing Education Programms
Programme de formation continue

Ce programme est soutenu par - This program is supported by :
European and Developing Countries Clinical Trials Partnership (EDCTP) (www.edctp.org) - Swiss National Science Foundation (www.snf.ch) - Canadian Institutes of Health Research (http://www.cihr-irsc.gc.ca/e/2891.html) - Swiss Academy of Medical Science (SAMS/ASSM/SAMW) (www.samw.ch) - Commission for Research Partnerships with Developing Countries (www.kfpe.ch)

[REV : 20140328]

108

**Zertifikat**

**Certificat**

**Certificado**

**Certificate**

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

**Clinical Trials Centre**
The University of Hong Kong

## Certificat de formation - Training Certificate

Ce document atteste que - this document certifies that

# Abugri Atuut

a complété avec succès - has successfully completed

## Good Clinical Practice (GCP)

du programme de formation TRREE en évaluation éthique de la recherche
of the TRREE training programme in research ethics evaluation

June 25th, 2015
CID : ebHeR1xIvR

Professeur Dominique Sprumont
Coordinateur TRREE Coordinator

**FMH** Continuing Education Program
Programme de Formation continue

Foederatio Pharmaceutica Helvetiae **FPH** Programmes de formation continue

Continuing Education Programs
Programmes de formation continue

GCP training program for investigator recognized by Swissmedic
Programme de formation GCP pour investigateur reconnu par Swissmedic

Ce programme est soutenu par - This program is supported by :

European and Developing Countries Clinical Trials Partnership (EDCTP) (www.edctp.org) - Swiss National Science Foundation (www.snf.ch) - Canadian Institutes of Health Research (http://www.cihr-irsc.gc.ca/e/2891.html) -
Swiss Academy of Medical Science (SAMS/ASSM/SAMW) (www.samw.ch) - Commission for Research Partnerships with Developing Countries (www.kfpe.ch) - Université de Neuchâtel (www.unine.ch)

[REV : 20140128]

109

## APPENDIX 12: LETTER CONFIRMING EDITING OF DISSERTATION

7 Woodlands Rd
GLENWOOD
DURBAN
4001
083 415 2531

17 November 2016

Reg. No. 2000/130780/23

Atuut Abugri

**EDITING OF RESEARCH DISSERTATION OF ATUUT ABUGRI**

I have an MA in English from University of Natal (now UKZN) and have been performing editing services through my company for eleven years. My company regularly edits the research dissertations, articles and theses of the School of Nursing, Environmental Studies and various other schools and disciplines at the University of KwaZulu-Natal and other institutions, as well as editing for publishing firms and private individuals on contract.

I hereby confirm that Pauline Fogg edited the research dissertation of **Atuut Abugri** titled "PERCEPTIONS OF NURSING STUDENTS, NURSE EDUCATORS AND CLINICIANS OF THE CLINICAL LEARNING ENVIRONMENT AT SELECTED INSTITUTIONS IN NORTHERN GHANA" on behalf of WordWeavers.cc and commented on the anomalies she was unable to rectify in the MS Word Track Changes and review mode by insertion of comment balloons prior to returning the document to the author. Corrections were made in respect of grammar, punctuation, spelling, syntax, tense, referencing and language usage as well as to sense and flow.

I trust that the document will prove acceptable in terms of editing criteria.

Yours faithfully

*C Eberle*
Catherine P. Eberle (MA: University of Natal)

## APPENDIX 13: REPORT TO SCHOOL PRINCIPAL, HOSPITAL ADMINISTRATOR AND RESPONDENTS



## RESEARCH REPORT

A total 215 respondents made up 150 students, 20 nurse educators and 45 clinicians participated in the study title "perceptions of nursing students, nurse educators and clinicians of the clinical learning environment at selected institutions in northern Ghana".

Findings revealed that respondents perceived the clinical learning environment to have certain challenges in the areas of supervision, satisfaction, learning tensions and translating learning into practice. The perceptions of learner friendliness and peer support in relation to previous studies were positive.

Based on the findings, the following recommendations are made:

o   Guidance and supervision of students during clinical practice should be considered important as part of the respective incumbents' job descriptions, and improved upon and re-enforced using well documented and clear job descriptions of the roles of the clinical instructors and staff nurses.

o   Clinical instructors and staff nurses should be motivated to be willing and interested in supervising and teaching the students to the best of their ability.

o   All clinical instructors and staff nurses should periodically receive in-service training on the attributes of professionalism, to enable them develop in themselves behaviours that reflect role models for students to emulate.

o   The scheduling of students for clinical practice should be reviewed and redefined, either locally or nationally, to allow for a reasonable number of students in the ward at a time to avoid overcrowding and unnecessary competition to practice skills.

o   There should be a strong collaboration between the training Colleges and the clinical settings to ensure that there is a proper link between theory and practice. The curricula at the training Colleges should be updated to reflect the current practice.

o Peer support should be encouraged and promoted to augment the efforts of the clinical instructors and staff nurses.

o Further research should be conducted involving more Colleges and hospitals from the north and south of the country to obtain a broader view of the subject and aimed at developing a contextually suitable model of clinical teaching to replace the existing preceptor model which has received many criticisms on its implementation and the teaching approach used.

## APPENDIX 14:PLAGIARISM INDEX REPORT

**Jane Kerr**

to Pretty, me ▾

3:17 PM (10 hours ago) ☆ ↩ ▾

Dear Atuut

The plagiarism index for your work is 3 % which is excellent!

Pretty its fine to submit for marking J

Jane

Dr. Jane Kerr
Bachelor of Nursing Coordinator
Lecturer - Nursing Management
Room 515
5<sup>th</sup> floor, Desmond Clarence Building
King George V Avenue
Durban
4000
Email: kerrj@ukzn.ac.za
Tel: 27312601432
Cell: 27836269423
Fax: 0866236284

UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

## APPENDIX 15:HSSREC ETHICAL CLEARANCE

UNIVERSITY OF ™
KWAZULU-NATAL

INYUVESI
YAKWAZULU-NATALI

16 August 2016

Mr Abugri Atuut 214585485
School of Nursing and Public Health
Howard College Campus

Dear Mr Atuut

Protocol reference number: HSS/1226/016M
Project Title: Perceptions of nursing students, nurse educators and clinicians on the clinical learning environment at selected institutions in northern Ghana

**Full Approval – Expedited Application**

In response to your application received 12 August 2016, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted FULL APPROVAL.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE:  Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

......................................................................................
Dr Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Mrs Pretty N. Mbeje
Cc Academic Leader Research: Professor M Mars
Cc School Administrator: Ms Caroline Dhanraj

_____

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609   Email: ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

1910 - 2010
100 YEARS OF ACADEMIC EXCELLENCE
Founding Campuses: ■ Edgewood   ■ Howard College   ■ Medical School   ■ Pietermaritzburg   ■ Westville

114