DEVELOPING A FRAMEWORK FOR CLINICAL EDUCATION PROGRAMME FOR UNDERGRADUATE NURSING STUDENTS IN GHANA

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A thesis submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in fulfilment of the requirement for the degree of Doctor of Philosophy in Nursing

Johannesburg, 2021

DECLARATION

I Nachinab Gilbert Ti-enkawol declare that this thesis is my own work. It is being submitted for the Degree of Doctor of Philosophy in Nursing at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

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November, 2021

ABSTRACT

Introduction: Clinical education is an essential component of the training of nursing students. The teaching of clinical skills is faced with challenges such as a lack of formal training for preceptors, inadequate material resources and a theory-practice gap. The increase in student enrolment is a major cause of overcrowding in the classroom, skills laboratories and clinical facilities. In Ghana, there is no framework that identifies the various stakeholders in clinical education and indicates how they could work together to improve the quality of clinical education of the undergraduate nursing students.

Aim: The aim of the study was to develop a framework to enable an effective clinical nursing education programme for undergraduate students.

Methodology: A multimethod approach was used to conduct the study in four phases. Phase one consisted of a scoping review on the practices that facilitate clinical nursing education in the undergraduate programme. Phase two consisted of a situational analysis which was subdivided into two sections - a survey and key informant interviews. The survey was conducted among preceptors and nursing and key informant interviews were among lecturers, unit managers, nurse managers and clinical placement coordinators. Phase three involved the application lessons learnt from phase I and II in the development of the framework and implementation plan for clinical education in Ghana. The development of the framework was guided by the model for clinical education and training developed by the Nursing Educators Stakeholders Group in South Africa. Phase four was the evaluation of the implementation plan for the developed framework using a Delphi Technique.

Findings: The scoping review revealed that factors that facilitate clinical nursing education were related to context, structure and process. Context-related factors that enhanced clinical nursing education include support for students, characteristics of clinical faculty and students, and academic-clinical collaboration. The structures that facilitate clinical nursing education are material resources and technology, and human resources. Processes that facilitate clinical nursing education include clinical teaching and learning, preparation and planning, communication and assessment.

The survey determined preceptors' and students' perceptions of the clinical placement area, clinical teaching and learning, and clinical assessment. The students and preceptors all indicated there is no well resource skills laboratory, poor communicate of placed dates, and lack of clinical

accompaniment. The results indicated that although the mean difference in perception among preceptors and students was statistically significant, they all indicated the need to improve clinical nursing education. The key informant interviews revealed that nursing education institutions, service settings and regulatory body all play interrelated and important roles. The key informant interviews indicated that clinical education can be enhanced through provision of resources, taking steps to enhance skills teaching in the ward and positive students' attitude. The lessons learnt from phase one and phase two were integrated to develop a framework for clinical nursing education. An implementation plan was developed for the framework. A Delphi technique was used to evaluate the implementation plan for feasibility and relevance.

Conclusion: The framework for clinical nursing education developed in the study will guide improvement of clinical education in the undergraduate nursing programme in Ghana. The developed framework highlights the need to improve communication and collaboration, clinical teaching and learning, clinical supervision, clinical placement and clinical assessment.

DEDICATION

I dedicate this thesis to my late father who spoke blessings into life by telling me that one day I shall reach greater heights. “Mba” as I used to call you, your words of blessings and prophesy have become a reality.

ACKNOWLEDGEMENT

I thank the almighty God for giving and sustaining me throughout my life. My personal life has been the epitome of God's doing. My sincere gratitude goes to my supervisors, Dr. Susan Jennifer. Armstrong and Dr Hilary Thurling. Your guidance, support, motivation and availability were incredible. You have made a significant contribution to my academic life and I remain forever grateful. The Head of Department and all lecturers of the Department of Nursing Education, University of the Witwatersrand, Johannesburg comes under the umbrella of my thanks for your diverse contributions towards this study.

My heartfelt thanks go to all the participants in the various stages of this study. The students, lecturers, nurses, and Nursing and Midwifery Council of Ghana, I say thank you for willingly participating and giving valuable feedback that forms an integral part of this study.

I appreciate Dr. Christmal Dela Christmals for being a strong pillar in my PhD journey. Words are not enough to express my gratitude. I wish to thank Dr Vida Yakong and Mrs. Florence Ziba for all the sacrifices you have made for me. Dr. Charles Adjei Ampong you have been a source of encouragement for the past 8years and I really appreciate you. To my friends Alex, Isaac, Abraham and Simon I appreciate your contributions to my life.

To my beautiful wife, thank you for all the prayers, encouragement and support. To my two beautiful children, Nobel and Zoe, I love you. Thank you to my colleagues in the PhD in Nursing programme, David, Oboshie, Alhassan and Atta for your encouragement.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

ASAP	Amalgamated Students Assessment
CPC	Clinical Placement Coordinator
CPD	Continuous Professional Development
NEI	Nursing Education Institution
NS:	Nursing students
NM&C	Nursing and Midwifery Council
RGN	Registered General Nursing
SS	Service setting
SH	Stakeholder
SDL	Self-Directed Learning

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Clinical nursing education involves all the real-life or practice-based teaching and learning activities that take place within the clinical learning environment (Eta et al., 2011). The nursing profession is practice-oriented hence the training of nurses must be tailored towards the acquisition of practical competencies that will make graduates safe and quality practitioners (Jonsén et al., 2013; Kpodo, 2015; Norouzadeh & Heidari, 2015). The emphasis on clinical teaching and learning might have an influence on the role that clinical facilities play in nursing education. The location of the clinical facilities and the availability of resources are major factors in determining the quality of clinical education.

Nursing education has moved from a hospital-based apprenticeship system of training into higher education where the Nursing Education Institutions (NEIs) have more autonomy and responsibility (Saifan et al., 2015). Though undergraduate nursing programmes produce nurses with higher academic qualifications under this system, the ability of most universities to ensure effective clinical nursing education is challenging. Universities typically offer the undergraduate nursing programme in addition to other programmes of study and this might lead to competition for financial resources to meet the training needs of all the programmes. For instance, the nursing programme requires the NEI to provide resources not required by other programmes such as human resources to cover academic and clinical supervision, a skills laboratory, as well as a library, and information and communication technology facilities to enable students to access support whether in theoretical or clinical placements.

Nursing students' capacity to learn clinical skills is influenced by the behaviour of their clinical instructors (Ismail, 2015; Okoronkwo et al., 2013; Ramzan et al., 2017). Clinical instructors' abilities that positively influence the students' learning process include communication skills, coaching and clinical nursing competence (Asirifi et al., 2017; Ismail, 2015; Moonaghi et al., 2015; Niederriter et al., 2017). These positive clinical instructors' abilities can be obtained through working experience, further training and willingness to support students' clinical learning.

Students on clinical placement often come to the ward with placement objectives that require support from the clinical nurses (Bazrafkan & Kalyani, 2018; Cândida et al., 2017; Joolaee et al., 2016). In some instances, students of different levels of their studies may be placed simultaneously in a clinical area which implies they need differing levels of support. The nurses in the clinical area often concentrate on rendering nursing care to patients, as this is their primary role, and may not be in a position to adequately support students to achieve their clinical placement objectives (Bazrafkan & Kalyani, 2018; Jahanpour et al., 2016). Where there is no organized system of rendering support to students during clinical placement, achieving clinical placement objectives will be challenging.

Interactions with undergraduate nursing students have revealed that they face challenges during clinical placement. Lecturers, clinical nurses and students are all sceptical about how effective clinical placements are in enhancing skills acquisition among undergraduate students in Ghana. Studies have revealed that there is a gap between what students are taught in class and what they learn during clinical placements (Adjei et al., 2018; Amro et al., 2017; Jahanpour et al., 2016; Saifan et al., 2015). Registered nurses who act as clinical instructors normally carry out procedures regardless of the standardised way in which students are taught in the class and this confuses students in their clinical learning process (Adjei et al., 2018; Jahanpour et al., 2016). The theory-practice gap is made worse by employing clinical instructors who do not have the requisite training to offer students the necessary support (Saifan et al., 2015).

In Ghana, registered nurses generally act as clinical instructors since they are engaged in the clinical teaching of students in the clinical facilities. Nurses assume the role out of their desire to help students and this is a positive influence regarding readiness to help students. However, some nurses may not have the capacity to guide students in their clinical learning because they are not formally trained and appointed for such roles. This impacts negatively on students since there is no formal agreement between the clinical facility and the nursing education institution. Studies conducted in Ghana have indicated the need to build the capacity of clinical instructors to meet the training needs of students during clinical placement (Asirifi et al., 2019; Atakro et al., 2019)

In reviewing the curriculum for nursing training, the Nursing and Midwifery Council (NM&C) of Ghana recognized the importance of clinical education by increasing the time spent in clinical placement by nursing students (NM&C, 2015 unpublished). To ensure students meet this increased number of clinical contact hours, Universities and Colleges adopt both intra-semester and inter-

semester clinical placement systems. The number of nursing students in NEIs in each region of Ghana generally exceeds the clinical facilities available for clinical placement leading to overcrowding during clinical placement. Overcrowding of students in the clinical area is a barrier to effective clinical nursing education. When students are crowded in the clinical area they have difficulties in observing nursing procedures and getting opportunities to practice them themselves. Overcrowding of students also increases the burden on nurses who try to assist students to learn clinical skills.

Overcrowding of students does not only occur in the clinical facilities but in the skills laboratories in the Nursing Education Institutions. Effective skills training in the skills laboratory depends on the availability of equipment, space and proper scheduling of students to avoid overcrowding (Arkan et al., 2018; Muthathi et al., 2017).

A study in two public universities in Ghana revealed that there is a lack of both lecture halls and well-equipped skills laboratories (Bell et al., 2016). Bell and colleagues conducted their study in Southern Ghana and no such study has been done in Northern Ghana to understand the situation. As part of this study, a situational analysis was done in a public university in Northern Ghana currently offering a Bachelor of Science degree in nursing. The results contributed to the development of a framework for clinical education of the undergraduate nursing programme.

1.2 NURSING EDUCATION IN GHANA

In Ghana, there are two categories of academic nursing education institutions that train nurses. The nursing training colleges train nurses at diploma and certificate level and the universities train nurses at the undergraduate and postgraduate level. The Nursing and Midwifery Council of Ghana (NM&C) develops the curriculum for the training of nurses at the nursing training colleges. The universities develop their curricula using the NM&C curriculum as a guide. The NM&C and National Accreditation Board (NAB) under the auspices of Ghana Tertiary Education Commission (GTEC) work together to give accreditation for nursing education institutions to run nursing programmes. The curriculum developed by the NM&C is a competency-based curriculum that emphasizes the importance of teaching and learning of clinical skills. Students upon completion of their training programme whether at the university or nursing training college write a licensing examination conducted by the NM&C to be licensed to practice.

There are different levels of preparation in nursing in Ghana. There is a two-year certificate programme in Nurse Assistant Clinical (NAC) or Nurse Assistant Preventive (NAP), a three-year Diploma in Registered General Nursing (RGN) and a Bachelor of Science Degree in Nursing (BSc. Nursing). The entry requirement for training to become a nurse under any of the categories is an appropriate pass at the West African Senior Secondary Certificate Examination. Nurses with Diploma or Bachelor of Science Degree in Nursing can progress to offer Post-Basic programmes in nursing with options in ophthalmic nursing, perioperative nursing, critical care nursing, ear, nose and throat nursing, nurse anaesthesia and public health nursing. The highest level of professional training in nursing is a specialist training programme by the Ghana College of Nurses and Midwives. The specialist programme is a three-year residency programme for nurses with at least a Bachelor of Science Degree in Nursing. Upon completion of the three-year residency programme the graduates are awarded a Membership Certificate in their area of specialty.

In Ghana, as of 2021, there are 125 nursing education institutions comprising of hundred nursing training colleges and twenty universities (NM&C, 2021). They consist of seventy-nine (79) public and twenty-one (21) privately owned nursing training colleges, and five (5) public and twenty (20) private universities. Three of the public universities currently offer postgraduate programmes at the master's level in nursing. The University of Ghana, Legon which is the biggest and the oldest university in Ghana started Ph.D. in Nursing in the 2019/2020 academic year.

1.3 MODELS OF CLINICAL EDUCATION

1.3.1 Preceptorship Model

A preceptorship model focuses on supporting the student to transition from novice to expert nurse through the gaining of knowledge, practical skills and confidence. In this model, a clinical nurse based in the hospital serves as a clinical teacher and supervises the student a on one-to-one basis (Chan et al., 2018). The normal roles of the preceptors as ward nurses are not taken away from them to enable concentration on supporting students (Girotto et al., 2019; Madhavanpraphakaran et al., 2014). Due to the increased number of students, preceptors in many instances supervise more students at a time (Asirifi *et al.*, 2017).The clinical education model developed by nursing education stakeholders in South Africa suggests that one preceptor should supervise 15-20 students (Nursing Educators Stakeholder Group, 2014).

1.3.2 Dedicated Education Unit Model

As the movement of nursing to higher education has increased, the focus on theory has increased and this may result in less attention to the clinical training. The concept of a Dedicated Education Unit (DEU) was developed in 1997 by the faculty of the Department of Nursing, Flinders University, South Australia (Edgecombe & Wotton, 2015). The aim of developing the model was to enhance the effectiveness of clinical training of students and foster academic-practice partnerships.

The DEU model involves transforming a clinical unit into a high quality clinical learning environment to take in students from one nursing training programme (Edgecombe & Wotton, 2015). An experienced nurse with a minimum qualification of a degree in nursing is appointed as a Clinician Instructor (CI). CIs are appointed upon a recommendation by their unit managers confirming their clinical competence and teaching abilities. An academic faculty member helps the CIs to understand their roles, maintain a cordial relationship with the unit staff and promote student learning. CIs follow the same two students throughout the placement duration. The academic faculty member supervises 10-12 students by collaborating with the CIs to translate theory into practice, assess students and resolve any arising issues. Some Universities have since adopted this model of clinical education.

1.3.3 Collaborative Clinical Placement Model

Edgecombe and Bowden (2009) in a systematic review explained that in the collaborative clinical placement model, students are rotated between wards or units within five weeks and four levels of supervision are applied in this model. At the first level, some personal preceptors provide direct support to students at the bedside on a daily basis. The second level involves the main preceptor who supports the personal preceptors and the students in groups. Both preceptors are clinical nurses who are employees of the clinical facility have a minimum of two years of working experience, but the main preceptor should have additional training in preceptorship. Other nurses referred to as "Clinical Nurses" provide pedagogical expertise to support the preceptors. Senior Clinical Nurse Lecturers then assume the overall responsibility for the effectiveness of the placement. Both the Clinical Nurse and the Senior Clinical Nurse Lecturer are employed by the University. The Clinical Nurse has a minimum of a Master's degree and the Senior Clinical Nurse lecturer has a PhD.

1.3.4 Standard Facilitation Model

The standard facilitation model often involves assigning students to ward nurses with a roving clinical facilitator who may not be familiar with the clinical environment (Edgecombe & Bowden, 2009). The clinical staff allocated is chosen from amongst the registered nurses on duty at the time (Walker et al., 2013). The registered nurse supports the skills learning of six to eight students at a time. The clinical facilitator comes in occasionally to check how students are faring with the skills training.

1.3.5 Cluster Placement Model

Stakeholder discussion on how to support the clinical training of undergraduate students gave birth to the cluster placement model in the year 2004 in Australia (Bourgeois et al., 2011). Experienced registered nurses in the hospital were appointed as clinical teachers. The selected clinical teachers were taken off the duty roster of their respective wards to enable them to have protected time to support students. The clinical teachers attended a university clinical facilitation workshop. They also attended another workshop in the clinical setting on specific issues on clinical teaching, debriefing, assessment of students, policies and procedures. Eight students with similar placement objectives were placed in each participating ward. Clinical teachers worked in shifts to allow for rest. Students received continued support and supervision from different clinical teachers.

1.3.6 Innovative Clinical Partnership Model

This model involves trying to ensure effective communication between the clinical nurses and the academic faculty to support the student's clinical learning. Chan et al. (2018) in describing the clinical partnership model (CPM) indicated that 6-8 students were assigned to an acute medical or surgical unit and were supervised by hospital-based clinical teachers. The hospital-based clinical teachers had at least a degree and five years post-registration experience. The University paid the hospital for providing clinical teaching for the students. The clinical teachers were assigned to the units based on their specialised clinical experience. The university organised an orientation programme on clinical teaching and assessment for the clinical teachers before clinical placement. An academic faculty was then appointed to act as a link between the university and the hospital.
The academic faculty would then have a meeting with the clinical teacher to discuss the clinical placement expectations and assessment modalities. The academic faculty would visit the hospital regularly to offer support to the clinical teachers and the students

1.4 PROBLEM STATEMENT

Clinical education of nursing students following the introduction of the Bachelor of Science in Nursing programme in universities in Ghana has been difficult to implement. Part of the problem relates to a poor understanding among lecturers of their role in clinical teaching. Nurse educators concentrate on classroom teaching to the detriment of clinical teaching. The problem is compounded by the lack of dedicated staff for teaching clinical skills in the skills laboratory.

University nursing students in Ghana have informally shared concerns about the lack of available material resources to facilitate the translation of theoretical knowledge acquired in the school to clinical practice. This indicates that the clinical sites acting as teaching facilities for students have a challenge in adequately supporting clinical teaching and learning. A study in Southern Ghana revealed that clinical nurses are often compelled to improvise the implementation of clinical teaching methods for lack of equipment (Adjei et al., 2018). Though improvisation may be seen as a professional step, it does not ensure that the student benefits as they wish to acquire the right skills in the face of real-life situations.

Factors that predominantly influence the quality of clinical nursing education include student-related issues, nurse and faculty-related factors, management issues and availability of training facilities (Shadadi et al., 2018). Lack of educational preparation of nurses for the role of clinical education may result in nurses not having sufficient knowledge and skills to provide adequate clinical teaching (Kerthu & Nuuyoma, 2019; Needham et al., 2016). Students are the main focus of clinical teaching hence they need to be self-motivated and confident (Moonaghi et al., 2015).

Simulation is an essential component of clinical nursing education (Omer, 2016). Simulation enables students to learn skills in an environment that resembles the clinical setting with no fear of causing harm to human life (Miles, 2018). Some nursing education institutions use simulation to complement clinical teaching. However, a lack of space, equipment and clinical teaching staff make this challenging at the study site.

There is no framework in Ghana that spells out the functions of the various stakeholders in nursing education and how these can be integrated and implemented to enhance quality clinical nursing education. This calls for urgent action to improve the clinical education aspect of the Bachelor of Nursing programme in Ghana. To do this, it is important to develop a framework specifically for

clinical training in Ghana which will be feasible and acceptable to all students, clinical skills lecturers and universities offering the degree in nursing programme.

1.5 RESEARCH QUESTION

How can an evidence-based framework best be developed and implemented to improve the quality of undergraduate clinical nursing education in Ghana?

1.6 PURPOSE OF THE STUDY

The purpose of the study is to develop a framework to enable an effective clinical nursing education programme for undergraduate students.

1.7 SPECIFIC OBJECTIVES

1) To determine the practices that facilitate undergraduate clinical nursing education in international literature
2) To conduct a situational analysis of the current clinical education programme used in undergraduate nursing education in Ghana
3) To develop an evidence-based framework for an effective clinical nursing education programme
4) To determine the feasibility and relevance of the implementation plan for the evidence-based framework

1.8 SIGNIFICANCE OF THE STUDY

The current clinical nursing education programme used at the undergraduate level seems not to effectively equip students with the expected competencies by the end of the training. This study first identified the practices that facilitate clinical education to inform the development of a framework for a clinical nursing education programme.

The involvement of stakeholders in clinical nursing education such as nurses, nurse managers, lecturers and students gave a comprehensive view on the way forward. This informed the development of an evidenced-based framework for clinical nursing education that encompassed all the perspectives elicited and will essentially enhance effective delivery. The study culminated in the development of a framework and an implementation plan in which the major steps that can be taken to improve clinical nursing education are clearly identified and described.

1.9 OPERATIONAL DEFINITION OF TERMS

1.9.1 Clinical nursing education

It is the practice-based teaching and learning in nursing that takes place in a clinical setting (Eta et al., 2011; Nxumalo, 2011). In this study, clinical nursing education refers to teaching and learning of nursing skills that take place in both the nursing education institution and clinical setting.

1.9.2 Skills Laboratory

A designated safe environment in the nursing education institution that is equipped for training students to acquire clinical skills and competence (Mbombo & Bimerew, 2012). The skills laboratory provides a simulated environment for clinical training of students and considered safe because there is no risk of harm to a patient.

1.9.3 Clinical Instructor

A registered nurse who assists students to acquire clinical skills. It is an umbrella term referring to academic or clinical nurses who teach, supervise and assess students in clinical placement.

1.9.4 Clinical Supervisor

A professional nurse who is employed by a clinical facility who primarily supports nurses including students to develop themselves professionally (Muthathi et al., 2017; Nurse Educators Stakeholder Group, 2012).

1.9.5 Clinical supervision

A formal process of supporting students to develop clinical competence in the clinical setting (Franklin, 2013).

1.9.6 Clinical Preceptor

An experienced and competent nurse who is committed to improving the nursing profession and students' learning experiences (Botma et. al., 2014). A preceptor could be employed by a college or university to teach students in the clinical setting. Preceptors must have the nursing profession and students at heart to be able to function effectively.

1.9.7 Clinical Expert

A nurse who has considerable experience in clinical nursing education.

1.9.8 Key informants

People whose work puts them in a position to have a better understanding of an issue of interest to a researcher.

1.9.9 Patient

A person or group of persons in need of healthcare

1.9.10 Clinical Placement Coordinator

A registered nurse who develops and maintains a placement system for students from all programmes in higher education institutions in health facilities (Nurse Educators Stakeholder Group, 2012). The clinical coordinator ensures that students are placed based on a memorandum of understanding (MoUS) and inter-agency relationships that allow for students to achieve programme objectives while helping the health facilities to ensure quality health care.

1.9.11 Unit manager

A nurse vested with the responsibility of supervising a team of nurses in a hospital ward or unit.

1.9.12 Nurse Manager

A nurse who serves as the head of nursing staff in a hospital or clinical setting. The nurse manager supervises nurses, makes budgetary decisions, oversees patient care, coordinates meetings and makes decisions regarding nursing services within the hospital.

1.9.13 Nursing Lecturer

A nurse teaching at the university level.

1.9.14 Nursing Student

A person undergoing training to become a nurse

1.10 CONCEPTUAL FRAMEWORK

This study was guided by the Model for Clinical Nursing Education and Training developed by Nursing Education Stakeholders Group of South Africa (Nursing Education Stakeholders Group, 2012). Although the model was developed in South Africa it was appropriate for this study because it indicated how the stakeholders in nursing education could work together to improve clinical nursing education. It must be stated that there was no identified model developed in the Ghanaian context to enhance clinical education that could have been applied for this study.

Clinical nursing education is one of the essentials of nursing education that helps in developing competent professionals. The Nursing Education Stakeholders Group of South Africa upon recognising the impact of clinical nursing education on the professional development of nursing students, developed a framework to improve the quality of clinical education and training of nursing students. The model seeks to enhance the effective clinical training of students. The major organizational structure of the model to ensure effective clinical nursing education should include the following:

1) A difference between experiential learning (clinical practical for learning) where students are part of the service team and work-based learning (clinical practical for role-taking) where students form part of the service team.
2) The implementation of effective preceptorship to ensure that students receive the required support during clinical placement
3) The appointment of a clinical placement co-ordinator who acts as a liaison between the Nursing Education Institution (NEI) and Service Setting and manages the clinical teaching
4) Clinical supervisors who support and teach nursing students during clinical placement
5) Clinical placement of students in clinical facilities that meets certain standards to provide quality clinical experiences. The NEIs have the responsibility of identifying a Positive Practice Environment (PPE).
6) Nurse educators are expected to remain clinically competent and take part in clinical supervision

1.10.1 The Components of Clinical Nursing Education

The model outlines four main stakeholders that are involved in clinical nursing education. These include the students, the service setting, nursing education institutions and the regulatory body. The effective functioning and interplay among these stakeholders contribute to the quality of clinical nursing education.

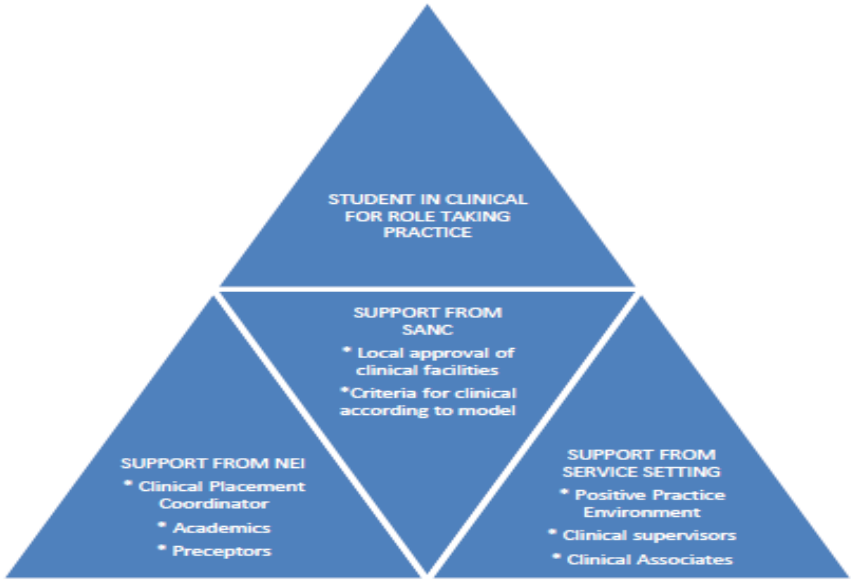

Figure 1.1: Model for Clinal Nursing Education and Training
(Source: Nursing Education Stakeholders Group, 2012).

1.10.2 Nursing Education Institutions (NEIs)

The NEI is responsible for the educational programme of the students. Nurse educators are found in these institutions and they play a key role in clinical nursing education. They prepare the curriculum clearly stating the theoretical and practical components of the training. They are at the forefront of the implementation of the curriculum and collaborate with the other stakeholders to enhance the acquisition of clinical skills and competencies by the students. They take part in clinical supervision for students and run group supervision for preceptors.

1.10.3 Service Setting

Clinical nursing education takes place in the clinical learning environment where a varied number of cases provide learning opportunities for nursing students. A positive clinical learning environment is very important for effective clinical nursing education. The NEI and its relevant moderators should be responsible for the approval of the clinical setting for clinical placement.

The NEI should appoint a clinical placement coordinator and clinical preceptors to support clinical teaching and learning of students. The number of preceptors appointed should be enough to ensure a ratio of 1 preceptor to 15-20 students.

1.10.4 Students

Students undergo training in NEIs to gain knowledge and skill to become nurses. For students to be admitted by NEIs for training they must first meet an entry requirement prescribed by the regulatory body and the NEI. Students are the main beneficiaries of an effective clinical nursing education. At the end of the training, they are licensed upon passing a prescribed examination and register with the regulatory body to practice as professional nurses.

1.10.5 Regulatory Body

The regulatory body also sets the standards for recruitment of staff and students for the training programme. The regulatory body sets the minimum standards for registration to practice.

1.11 OUTLINE OF THE STUDY

Chapter one: Overview of the study

Chapter two: Research design and methodology

Chapter three: Scoping literature review

Chapter four: Survey on perception of clinical nursing education among students and clinical preceptors

Chapter five: Qualitative descriptive exploration of key informants' perspective on factors influencing clinical nursing education

Chapter six: Development of framework for clinical nursing education

Chapter seven: Evaluation of the implementation plan of the developed framework

Chapter eight: Summary, conclusion and recommendations

1.12 CHAPTER SUMMARY

The chapter provided an overview of clinical nursing education, models of clinical education, and the problem statement. The chapter also contains an overview of the model for clinical education that served as a guide for the framework development in this study. The next chapter presents the research design and methodology applied in conducting the study.

CHAPTER 2: RESEARCH DESIGN AND METHODOLOGY

2.1 INTRODUCTION

The previous chapter gave an overview of clinical nursing education. This chapter describes the steps that were followed to conduct the study. The chapter starts with a general description of the research setting and design. The research methods for each of the four phases of the study are presented in table 2.1 and then described.

2.2 RESEARCH SETTING

Ghana is a West African country that shares boundaries with Togo, Burkina Faso, and Cote D 'Ivoire to the East, North and West respectively. The southern border of Ghana is occupied by the Gulf of Guinea. The country consists of 10 administrative regions that were demarcated into 16 regions by a Constitutional Instrument in November 2019. The regions are zoned into southern, middle and northern zones. The northern region which is in the northern zone has a population of 1,948,913 and covers a landmass of 70,765 square kilometers (Ghana Statistical Service, 2020).

The study was conducted at a public university in the northern zone of Ghana and three hospitals where students from the university are placed for clinical experience. The university has seven (7) schools and seven (7) faculties. The School of Nursing and Midwifery was created in November 2020. The school of Nursing and Midwifery has six departments and offers BSc. (Nursing), BSc. (Nurse Practitioner), BSc. (Midwifery), and BSc. (Paediatric Nursing).

The hospitals are a district level hospital, a regional level hospital and a tertiary hospital. The district-level hospital has a bed capacity of one hundred and twenty (120). The hospital has three hundred (300) nurses comprising of registered nurses, nurse assistants and midwives of which one hundred and twenty-four (124) are registered nurses (Annual report, 2019). The regional level hospital with a bed capacity of one hundred and fifty (150) and three hundred and seventy (370) nurses comprising of registered nurses, nurse assistants and midwives (Annual Report, 2019). The district level hospital and the regional level hospital provides out-patient and in-patient services and serve as referral centres for clinics and health centres in the region. The tertiary hospital serves as a referral facility for all the health facilities within the northern zone of Ghana. The hospital has a bed capacity of eight hundred (800) and offers services such as general medicine, general surgery, obstetrics and gynaecology, urology, neurology, ophthalmology, orthopaedics and paediatrics. The

tertiary level hospital employs one thousand two hundred and fifty-nine (1,259) registered nurses, nurse assistants and midwives.

2.3 RESEARCH PARADIGM

The term "research paradigm" refers to the fundamental beliefs and philosophical assumptions of the researcher that make up his/her worldview (Lincoln et al., 2011). The research paradigm determines the researcher's philosophical orientation and this influences the decisions that the researcher takes including the methods chosen (Kivunja & Kuyini, 2017).

The philosophical underpinning of this study was pragmatism. Pragmatism as a research paradigm postulates that there can be one or multiple realities that could be investigated (Creswell & Vicki, 2011). Pragmatism leans towards solving practical problems in the real world (Kivunja & Kuyini, 2017). The practical problem which prompted this study was the poor quality of the current clinical education programme for undergraduate nurses in Ghana.

Pragmatism does not adhere to the traditional philosophical objectivity and subjectivity hence the researcher can combine both the postpositivist and constructivist views (Creswell & Vicki, 2011). Post-positivism supports quantitative methods while constructivism is typically associated with qualitative methods, but pragmatism assumes a reflexive and flexible stand where the two methods can be combined (Feilzer 2010; Morgan 2007; Pansiri 2005). Pragmatist researchers are of the view that the research question should be the main determinant of the design and methods that should be applied in the study (Polit & Beck, 2014). A pragmatist researcher selects and uses any methodological tool "that works". Pragmatism is typically associated with the use of mixed methods or multi-methods (Burke & Onwuegbuzie et. al., 2004).

2.4 RESEARCH DESIGN

The research design spells out the strategies adopted by the researcher to attain the study objectives (Polit & Beck, 2014). The study employed a multimethod research design carried out in four phases as outlined in Table 2.1. A multimethod research design involves the use of qualitative and quantitative designs in which each of them is a complete study on their own but together contribute to the components of the entire project (Byrne & Humble, 2007; Onwuegbuzie & Johnson, 2004). Multimethod designs can be implemented concurrently or sequentially (Driessnack et al., 2007). In this study, a sequential multimethod design was employed as a scoping literature review, a quantitative study and a qualitative study were conducted sequentially as independent complete

studies. The lessons learnt based on the findings from these three studies were applied in the development of the framework which was evaluated in the final phase.

The sequence of the phases of the study was consistent with research and design methodology (Ellis & Levy, 2010). The research and development approach involve identifying a problem, defining objectives, developing an artefact (framework) to solve the problem, testing the artefact, evaluating the impact of the developed artefact on relieving the effects of the problem, and communicating the results. In this study, the first three steps of the research and design approach were used and the artefact was evaluated for feasibility and relevance.

2.5 PHASES OF RESEARCH AND DEVELOPMENT RESEARCH

Design and development research can be described as performing a bridge for the gap between theory and practice (Nunamaker, Chen & Purdi, 1991). This research normally begins with the conceptualization of a problem and culminates in the evaluation of the impact of a developed artefact on relieving the effects of the problem. The artefact developed improves the interaction between the problem conceptualisation and evaluation phase. Hevner et al. (2004) outlined 6 phases for Design and Development Research which include a) identify the problem motivating the research; b) describe the objectives; c) design and develop the artefact; d) subject the artefact to testing; e) evaluate the results of testing f) communicate the result

2.5.1 Identify the problem motivating the research

In this stage, the researcher states the problem that is motivating the study. Understanding why a study is being conducted helps to place value on the study (Creswell, 2005). The situational analysis that was done in this study identified the problems associated with clinical education in the research setting.

2.5.2 Describe the objectives

The objectives of a study determine the research question that will be answered by the study. The research question for this study was “how can an evidence-based framework best be developed and implemented to improve the quality of undergraduate clinical nursing education in Ghana?” The scoping literature review and the situational analysis provided the relevant evidence required to develop the framework in this study

2.5.3 Design and develop the artefact

This step involves the development of a tool, model or process to address the problem. In general, this section brings to the fore the contribution of the study in addressing an acknowledged problem (Ellis & Levy, 2008). This stage also distinguishes between the mere development of a product and design and development research. In this study, the artefact developed was the framework for clinical nursing education. Lessons learnt from the scoping review and situational analysis were applied in the development of the framework in this study.

2.5.4 Subject the artefact to testing and evaluation

The method applied in evaluating an artefact depends on how it was developed and the available resources to the researcher (Ellis & Levy, 2010). Common approaches in testing and evaluation include direct observation from pilot studies and indirect indicators from interviews, surveys, questionnaires and other observations (Hasan, 2003; Richey & Klein, 2007). The most important consideration is that the method used should be acceptable and supported by literature (Ellis & Levy, 2010). In this study, a Delphi survey was conducted among clinical experts. This method allowed experts in nursing education to evaluate the implementation plan of the framework for relevance and feasibility in the Ghanaian context.

2.5.5 Communicate results and conclusions

Adequate communication of the results and conclusion of the study constitutes the contribution of the study to the body of knowledge. A considerable amount of knowledge is produced through research but without adequate documentation and communication of the results, there will be no contribution to knowledge or advancement in research. The study findings will be published and also shared with the selected Ghanaian university where the study was conducted.

Table 2.1*:* Summary of Methods

Phases	Objectives	Research method	Sample	Data collection	Data analysis
Phase One	To determine the practices that facilitate undergraduate clinical nursing education in international literature	Scoping review following Arksey & O'Malley's (2005) methodological framework	Literature from databases such as ProQuest, CINAHL, ERIC and PubMed (Nursing). Literature Search: Using keywords such as clinical nursing education, student nurses, and undergraduates	Data were extracted using the data extraction sheet outlined by De Souza et al. (2010)	Thematic content analysis
Phase Two	To conduct a situational analysis of the current clinical nursing education used in undergraduate nursing education in Ghana	Descriptive cross-sectional survey	Preceptors and student nurses Total number of preceptors:1063 Sample size: 319 Total number of students: 423 Sample size:226 Sample size calculator was determined using Yamane's (1967) formula	Survey on the perceptions of preceptors and nursing students on clinical nursing education at the undergraduate level	Descriptive inferential analysis was done using Stata
		Exploratory descriptive qualitative	16 Key Informants (lecturers, clinical placement coordinators, unit managers and nurse managers)	Individual face-to-face interviews of key informants on factors that influence clinical nursing education	Framework analysis

Phases	Objectives	Research method	Sample	Data collection	Data analysis
Phase Three	To develop an evidenced-based framework for clinical nursing education programme	Development of draft framework guided by clinical education model developed by South African Nursing Education Stakeholders Group (2012).	This was an iterative process done with assistance from three educational experts	Lessons learnt from phase I and phase II of the study were integrated to determine common lessons to be applied in the framework.	
Phase Four	To determine the feasibility and relevance of the implementation plan of the framework	Expert review using a Delphi technique	Purposively selected clinical experts consisting of nurses in academia, nurse leaders in clinical nursing, regulatory bodies and undergraduate nursing students	1.Review of the implementation plan of the framework 2. The researcher finalizes the framework using inputs and recommendations from the expert review	Consensus on feasibility and relevance of the of the implementation plan of the framework

2.6 PHASE 1: THE SCOPING REVIEW METHOD

2.6.1 Introduction

Review of primary data is a common research practice and is a means through which researchers try to put findings from various studies together. Several methods of review have emerged following attempts by researchers to integrate findings from various studies. In a study on the typology of literature reviews, fourteen types were revealed of which the scoping review was one of them (Grant & Booth, 2009). Each of these reviews has a primary objective and a unique method of doing it.

A scoping review is described as an initial assessment of the size and scope of literature that exist in the area of interest (Armstrong et al., 2011; Grant & Booth, 2009). A scoping review aims at mapping existing literature in an area of research interest and could be used in areas where extensive research has not been conducted (Arksey & Malley, 2005; Christmals & Armstrong, 2019). Doing a scoping review may involve exploring the scope of available evidence in an area without necessarily describing in detail the findings (Armstrong et al., 2011). In a scoping review, little attention is given to produce a critically appraised answer to the research question rather the focus is to give an overall picture of the available evidence on the issue of interest (Munn et al., 2018).

While the general description of a scoping review may focus on the need for extensive coverage of available studies, the degree of how details are extracted from the included studies can vary between reviews (Arksey & Malley 2005) and may depend on the purpose of the review.

Scoping reviews can be undertaken solely as studies by themselves or can be done as a prelude to a systematic review or another research study. Scoping reviews as standalone literature reviews strive to summarise research contributions, identify shortfalls in studies and make informed decisions for further studies (Peters et al., 2015). According to Arksey and Malley (2005) the general reasons for doing scoping reviews include:

1) To appraise the range, extent and type of research works available in an area of interest
2) To ascertain the value of undertaking a full systematic review
3) To collate, review and report study findings to enable policymakers or consumers of research to make use of them
4) To identify gaps that exist in the available literature

2.6.2 The Scoping Review Process

There are five steps involved in undertaking a scoping review:

Stage 1: identifying the research question

Stage 2: identifying relevant studies

Stage 3: study selection

Stage 4: charting the data

Stage 5: collating, summarizing and reporting the results

Below is a brief description of the stages of the scoping review process. The details are contained in chapter three.

2.6.3 Framework Stage 1: Identifying the Research Question

A scoping review starts with identifying the research question that guides the search. The research question is essential in devising the search strategy since the search aims to address the research question (Arksey & O' Malley, 2005). The research question should be broad enough to enable the researcher to capture the available studies in the area under study (Arksey & O'Malley, 2005; Levac et al., 2010). A well-defined scope of inquiry helps to clarify the search strategy. The purpose of the scoping review in this study was to assess the practices of clinical nursing education in undergraduate nursing, to determine the practices that facilitate clinical learning. The research question for the review incorporated the Population of Interest-Context- Content (PCC) framework recommended for scoping reviews (Joanna Briggs Institute, 2015). The research question is contained in chapter three

2.6.4 Framework Stage 2: Identifying Relevant Studies

The aim of a scoping review is to identify relevant primary studies and reviews that will enable the researcher to find answers to the research question (Arksey & Malley, 2005). This stage involves identifying the relevant studies and making decisions as to where to search (Levac et al., 2010). Arksey and Malley (2005) indicated that a search of data from various sources could be used. Thus in this review, electronic databases and a hand-search of key journals were performed. The literature search was conducted in four main databases namely Proquest (Nursing and Allied Health), Cumulative Index to Nursing and Allied Health Literature (CINAHL), Educational Resources Information (ERIC) and PubMed (Nursing Journals). Boolean operators were used to combine keywords to form search strings that were used for the data search. The search of

databases for studies was done by the researcher and a post-doctoral fellow who is an experienced reviewer. The search process is contained in chapter three.

2.6.5 Framework Stage 3: Study Selection

In scoping reviews, study selection involves setting inclusion and exclusion criteria after identifying the possible studies (Arksey & Malley, 2005; Levac et al., 2010). The search that is done in scoping reviews often generates large volumes of data that the researcher has to familiarise himself or herself with and set criteria to exclude those that are not relevant in answering the research question (Arksey & Malley, 2005). This step was an iterative process but the final decision on studies selected was based on the Population of interest-Concept-Context framework (Joanna Briggs Institute, 2015). The decision of the study selection by the researcher and the postdoctoral fellow was ratified by the study supervisors. The process of inclusion and exclusion of studies is outlined in chapter three.

2.6.6 Framework Stage 4: Charting Data

This stage involved extracting data from the included studies (Arksey & Malley, 2005; Levac et al., 2010). To clarify this stage, a data charting form was developed indicating which variables to extract from the selected studies(Christmals et al., 2018 & Levac et al., 2010). The data charting form for this study contained: author(s), year of publication, study location, the purpose of the study, study population and sampling, methodology and key findings that were related to the aim of the review. The key findings extracted from the studies included were findings on practices that facilitate undergraduate clinical nursing education. The extraction of studies using a data extraction sheet is in Table 3 in chapter three.

2.6.7 Framework Stage 5: Collating, Summarizing and Reporting the Results

This stage involves collating, summarizing and reporting results from the selected studies that have been charted (Arksey & Malley, 2005). Scoping reviews seek to present an overview of all the available literature by using an analytic framework or thematic presentation. Three distinct steps are involved in this step which includes analysis of the data, reporting the findings and applying meaning to the results (Levac et al., 2010). Analysis of the data comprises collating and summarizing the data (Levac et al., 2010).

Step one: Analysis of the data involves a narrative account of the findings presented in two areas: a descriptive summary of study characteristics and thematic analysis (Arksey & Malley, 2005;

Levac et al., 2010). The descriptive summary of the studies highlighted the overall total number of studies used, types of study design, years of publication and characteristics of the study populations.

Braun & Clarke's (2006) guidelines for thematic analysis were applied in analysing the extracted key findings from the studies that were included. The first stage involved the researcher reading the extracted key findings repeatedly to familiarise himself with the data. Interesting statements, words and phrases were noted and given initial codes. The initial codes were then grouped into subcategories based on how they were related. Similar subcategories were categorized under the same themes. The formation of categories and subcategories was an iterative process done until they were suitable for the presentation of the findings. The themes were labelled using constructs of the Donabedian Model which include structure, context, process and outcomes (Donabedian, 2005).

Context, as used in labelling the themes in this scoping review, refers to the psychosocial or "unseen" factors that play a role in making the clinical learning environment suitable for clinical learning. Structure referred to the various elements or resources present in the clinical learning environment that support the clinical nursing education of students. The process referred to the steps or arrangements that are taken to enhance the quality of clinical nursing education. However, "outcome" which is one of the components of the Donabedian model was not used in defining the themes.

Step Two: This step involved stating the outcome of the study and explaining the study to readers. The outcomes are normally communicated through themes, frameworks and tables outlining strengths or gaps in evidence (Arksey & Malley, 2005). The outcome should reflect the purpose of doing the scoping review. A tabulation of the themes, categories and subcategories was presented. A narrative presentation of the findings was done according to the themes captured in the table.

Step Three: This final step involved advancing the implications of the findings within the broader context (Levac et al., 2010). The implications of the study findings were presented under themes that were used to present the findings. The study findings were discussed in relation to practices that facilitate clinical nursing education.

2.6.8 Framework Stage 6: Consultation

This stage is considered optional in scoping reviews (Arksey & Malley, 2005). Levac, Colquhoun and O'Brien (2010) indicated that this stage though optional, it adds methodological rigor to the study. The purpose of the consultation should be clearly stated which could be sharing initial findings, authenticating the findings or making recommendations for further studies (Levac et al., 2010). The purpose of consultation in this study was to authenticate the findings. The postdoctoral fellow and the study supervisors authenticated the findings.

2.7 PHASE 2: SITUATIONAL ANALYSIS OF THE CURRENT CLINICAL NURSING EDUCATION PROGRAMME

2.7.1 Introduction

This phase involved conducting a situational analysis to assess the perceptions of the current state of clinical nursing education. The situational analysis comprised of two studies which included a quantitative study on the perception of clinical nursing education and a qualitative study on factors influencing clinical nursing education.

2.8 PHASE 2A. THE QUANTITATIVE STUDY

2.8.1 Research Method

A descriptive cross-sectional design was employed to assess the perception of students and preceptors of the current state of clinical nursing education in Ghana. Cross-sectional designs are used to describe the status of a phenomenon and the relationship between phenomena at a point in time (Polit & Beck, 2010). A cross-sectional design involves taking data in a snapshot and is considered economical (Polit & Beck, 2010). This design also allowed the researcher to collect sufficient original data to enable generalization.

2.8.2 Study Population

The target population for this survey was nursing students and preceptors working at three hospitals that serve clinical placement sites. Students are recipients of clinical nursing education and preceptors are involved in the teaching of clinical skills in the hospitals making these two groups of people central to clinical nursing education.

2.8.3 Inclusion Criteria

Registered general nurses with a minimum qualification of a diploma in nursing and at least three years of working experience acting as preceptors were included. The nurses were permanent staff of the selected hospitals who work in units students are often placed. Students who participated were nursing students in the second, third, and fourth years of their study at the selected university.

2.8.4 Exclusion Criteria

Registered general nurses on leave or working in units not selected for the study were excluded. Nursing students in their first year of study were excluded from the study. Students who already have a diploma in nursing before being enrolled for the bachelor of nursing programme were also excluded. Registered general nurses and students who met the inclusion criteria but did not voluntarily consent to participate in the study were excluded.

2.8.5 Sample Size Determination

The number of registered nurses who met the inclusion criteria in the tertiary, regional and district level hospitals were seven hundred and eighty-nine (789), one hundred and fifty (150) and one hundred and twenty-four (124) respectively totalling one thousand and sixty-three (1063). Using the total number as the accessible population and an alpha level of 0.05, Yamane's (1967) formula for sample size calculation was applied:

Using the Yamane formula,

$$n = \frac{\mathrm{N}}{1 + \mathrm{N(e)2}}$$

Where n=required sample size

N= Total accessible population

e= alpha level or significance

$$n = \frac{1063}{1 + 1063(0.05)2} = 290$$

Thus, n = 290

Adding 10% for possible non-response the sample size was rounded to a total of 319 which was proportionally allocated to the three selected hospitals. However, 307 preceptors completed and returned the questionnaire representing a 96.2% response rate.

Also, for the students, the total population for the selected levels was 423 comprising 107, 155 and 161 for second, third and fourth years respectively. Using the total number of students as the accessible population, Yamane's (1967) formula for sample size calculation was applied at an alpha level of 0.05. Using the Yamane formula;

$$n = \frac{\mathrm{N}}{1 + \mathrm{N(e)2}}$$

Where n=required sample size

N= Total accessible population

e= alpha level or significance

$$n = \frac{423}{1 + 423(0.05)2} = 206$$

Thus, n = 206

When an additional 10% was added to allow for possible non-responses, the planned sample size was 226. The sample size was proportionally allocated to the three selected nursing classes. The response rate for the students was 97.3% as 220 of them returned the completed questionnaire.

2.8.6 Sampling Technique

A multistage sampling technique was used to recruit the respondents. A purposive sampling technique was first used to select hospitals and nursing classes from which to recruit preceptors and nursing students respectively. The hospitals purposively selected were hospitals that serve as clinical placement sites for undergraduate nursing students of the university. The nursing students in their second, third and fourth year were selected for the study on the basis that they had experienced clinical placement in the hospitals.

At each hospital, the clinical coordinator helped in purposively selecting units that undergraduate nursing students are frequently placed in when they come for clinical placement. A stratified random sampling technique was then used to select respondents. The sample size for the hospital was divided among the selected strata which were the wards. In each ward, a simple random sampling technique without replacement was applied to give all respondents an equal chance to participate. To do this, papers labelled with "Yes" or "No" were folded and kept in a container and mixed by shaking. The total number of folded papers was equal to the number of staff that met the inclusion criteria in the ward and accepted to participate. The number of papers labelled "Yes" was equal to the number of respondents required from the ward to meet the calculated sample size. The nurses who met the inclusion criteria were then invited to pick randomly from the container only once and those that picked "Yes" were given the questionnaire to answer.

Similarly, a stratified random sampling technique was then used to select students to respond to the questionnaire. In each class papers labelled "Yes" or "no" were folded and kept in a container and mixed by shaking. The total number of folded papers was equal to the number of students in the class that accepted to participate. In each class, the total number of papers with "Yes" was equal to the number of respondents required from the class to meet the calculated sample size. The students were invited to pick randomly from the container only once until all the papers were exhausted.

2.8.7 Data Collection Instrument

The questionnaire used for the study was originally developed by Peter (2008) but was adapted and validated by Xaba (2015) in a study entitled, "An assessment of the facilitation of the clinical training component of the undergraduate nursing programme at a University of Technology" was used for the survey. The questionnaire is publicly available but the researcher obtained permission to use the questionnaire. The questionnaire is divided into four sections for both preceptors and students (Annexure N and Annexure O). Section A had questions on background information, Section B had questions on perceptions of the clinical placement area, section C had questions on perceptions of clinical teaching and learning and section D had questions on perceptions of clinical assessment. All the questions were on a 4-point Likert scale ranging from neutral to strongly agree where Neither Agree nor Disagree= 0, strongly Disagree= 1, Disagree= 2, Agree= 3 and Strongly Agree= 4. None of the items were reverse coded thus higher perception scores represent a higher

level of agreement with the statements. For the questionnaire for the preceptors, section B had 13 items, section C had 10 items and section D had 9 items (Annexure N). For the students' questionnaire, sections B and C each had 14 items each and section D had 8 items (Annexure O).

2.8.8 Data Collection Procedure

After obtaining ethical approval, formal permission was obtained from authorities of the three hospitals and the Department of Nursing of the university (Annexure D, E and F). Research assistants were then trained on the nature of the study, how to handle the data collection process and ethical issues in research. The respondents were not required to sign consent forms as consent was assumed if a participant completed and returned the questionnaire.

The first visit to each unit in the hospital was done by the researcher and a research assistant to meet the Unit Manager for a preliminary discussion on the data collection process. At the selected unit, the study was explained to respondents and the information sheets (Annexure G) were given to them. The research assistant assigned to each unit continued visiting the unit at the beginning of each shift until all the required questionnaires were administered and retrieved. A sealed box was placed in each unit to allow the respondents to return the questionnaire whether completed or not.

Data collection in the university was done by research assistants since the researcher himself is an academic lecturer from planning, and students needed not to feel coerced in deciding whether or not to participate. The research assistants met with each selected class to explain the study to them and give them the information sheets (Annexure I). The students that voluntarily agreed to participate in the study and were selected based on the applied sampling technique were given the questionnaire. A sealed box was left at the back of the class and students were asked to leave the questionnaire inside for retrieval whether completed or not.

2.8.9 Data Analysis

The questionnaire was coded and entered into Epidata. The data were then exported and analysed using Stata version 15. All the analyses were performed at a 95% confidence interval. Descriptive statistics including frequencies and percentages were used to present the background characteristics of respondents.

Perception of the current state of clinical nursing education in Ghana was assessed using a tool on assessment of the facilitation of the clinical training component of undergraduate nursing programme (Xaba, 2015). Perception of the respondents on the current state of clinical nursing education was assessed on a scale of 0-4. Higher scores corresponded with a higher level of agreement with the statements assessing the perception of clinical nursing education. Three main components of clinical nursing education which include clinical placement area, clinical teaching and learning, and clinical assessment were assessed. The ratings were averaged to yield a perception score for each of these clinical nursing education components.

A Pearson Product-Moment Correlation was performed to determine the strength and significance of the relationship between the various components of the Nursing Education Education (Clinical Placement Area, Clinical Teaching and Learning, and Clinical Assessment).

In clinical nursing education, both Clinical Teaching and Learning, and Clinical Assessment all take place in the Clinical Placement Area. To make inferential statements, perceptions of the Clinical Placement Area were therefore considered a dependent variable since the perception of Clinical placement Area could be influenced by perceptions of Clinical Teaching and Learning, perceptions of Clinical Assessment, and demographic characteristics of respondents. Linear regression analysis was conducted to examine the extent to which perceptions of the Clinical Placement Area are explained by the variables such as demographic characteristics, perception of Clinical Teaching and Learning, and perception of clinical assessment. The R-square gave an indication of the extent to which the perception of the Clinical Placement Area was explained by the other variables and the adjusted R-squared adjusted the value based on the number of independent variables.

The linear regression analysis consisted of two models; model 1 and model 2. In model 1, the background characteristics alone were examined to determine their contribution to the perception of the Clinical Placement Area. In model 2, background characteristics together with the perception of Clinical Teaching and Learning, and perception of Clinical Placement Area of respondents were examined to determine their influence on perceptions of the clinical placement area.

The preceptors were recruited from three clinical facilities including a tertiary hospital, regional hospital and district hospital. The clinical facilities were nominal variables hence One-way Analysis of Variance (ANOVA) was used to determine differences in perception of preceptors across the three facilities. One-way ANOVA is used to determine differences in the mean of three or more groups and the result indicated by F (Field, 2005).

Lastly, a comparison of the perception of clinical nursing education between preceptors and students was performed. Differences in perception between preceptors and students were examined for the overall score of clinical nursing education and the components of clinical nursing education.

2.8.10 Validity and Reliability

Validity is the degree to which an instrument measures what it is supposed to measure while reliability is consistency with which an instrument produces results (Polit & Beck, 2010). The questionnaire was pretested with 10 preceptors in a hospital in Northern Ghana and 10 students in the Department of Nursing. The pretesting helped to determine the clarity of the questions. The questionnaire was also presented to the research supervisors who are all nursing education experts and two local clinical nursing education experts to check for face and content validity.

The author of the questionnaire checked the internal consistency of the instrument in a previous study using Cronbach alpha. The questionnaire for data collection among the preceptors has an overall Cronbach alpha of 0.750 and that of the student nurses has an overall Cronbach alpha of 0.877. This indicates the instrument was reliable because the minimum desired Cronbach alpha is 0.7 (Bujang et al., 2018)

The original questionnaire was measured on a scale of 1-5 where neutral was scored 5. However, this was considered counter intuitive in the order of magnitude in statistical analysis because a neutral was scored higher than those who were decisive in expressing their decision. Applying this original scale could therefore cause interpretational problems in inferential analysis. To overcome this limitation the scoring of the tool was reordered where Neither Agree nor Disagree= 0, Strongly Disagree= 1, Disagree= 2, Agree= 3 and Strongly Agree=4.

With the rescaling or ordering of the scale of the original questionnaire, a Cronbach alpha reliability test was performed to ascertain if the scale was still consistent with the reliability scores reported in the original questionnaire. It is important to mention that the author of the questionnaire

did not report factor analysis on the items hence it was not necessary to perform confirmatory factor analysis.

In this study, the rescaled questionnaire for the preceptors yielded an overall Cronbach alpha of 0.925. The Cronbach alpha for the clinical placement subscale was 0.868, clinical teaching and learning was 0.811 and clinical assessment was 0.811. Also, the rescaled tool for the students in this study yielded an overall Cronbach alpha of 0.872. The constituent subscales also resulted in acceptable levels of Cronbach alpha of 0.765, 0.707 and 0.741 for clinical placement area, clinical teaching and learning, and clinical assessment respectively. Table 2.2 below shows a summary of the internal reliability scores (Cronbach alpha) for the original questionnaire and the rescaled questionnaire used in this study.

Table 2. 2: Summary of Internal Reliability Scores (Cronbach's alpha)

Scale	Sub-scales	Reliability score of the rescaled tool used in this study	Reliability scores from the original tool
Preceptors	Clinical Placement Area	0.868	0.820
	Clinical Teaching and Learning	0.811	0.720
	Clinical Assessment	0.806	*0.650*
	Overall score for preceptors' tool	***0.925***	***0.750***
Students	Clinical Placement Area	0.765	0.828
	Clinical Teaching and Learning	0.707	0.698
	Clinical Assessment	0.741	0.821
	Overall score for students' tool	***0.872***	***0.877***

2.9 PHASE 2B: THE QUALITATIVE STUDY

2.9.1 Research Method

The qualitative study involved a descriptive exploratory design conducted among lecturers, clinical coordinators, unit managers and nurse managers to understand their perspectives on clinical nursing education. The descriptive exploratory design enables the researcher to explore participants' perspectives of the issue under investigation (Mayan, 2009). The researcher regarded the participants in this study as key informants whose perspective on factors influencing clinical nursing education was considered an important aspect of the baseline assessment of the current clinical nursing education in Ghana.

2.9.2 Study Population

The target population for this study was lecturers, clinical coordinators, unit managers and nurse managers. The nursing lecturers were recruited from the Department of Nursing of the university. The clinical placement coordinators, unit managers and nurse managers were from Tamale Teaching Hospital, Tamale Central Hospital and Tamale West Hospital.

2.9.3 Inclusion Criteria

The lecturers included in this study are full-time lecturers in the Department of Nursing with at least a master's degree and not less than one year of working experience. The clinical placement coordinators, unit managers and nurse managers were permanent staff of the three selected hospitals.

2.9.4 Exclusion Criteria

Part-time lecturers, lecturers who are not nurses by profession and lecturers who are not teaching in the Department of Nursing were excluded. Unit managers, nurse managers and clinical placement coordinators not employed at the selected hospitals were also excluded.

2.9.5 Sample Size and Sampling Technique

In qualitative studies, the aim is to understand participants' perspectives on the phenomenon under investigation. A purposive sampling technique is appropriate for exploratory qualitative designs and considered convenient, low cost and not time-consuming (Taherdoost, 2017). A purposive sampling technique was used to select lecturers, clinical placement coordinators, unit managers and nurse managers for face-to-face individual semi-structured interviews. Data saturation was

reached by the time the 16th participant was interviewed. Saturation is when further interviews do not yield new codes (Bernard, 2000).

2.9.6 Data Collection Tool

The data were collected using a semi-structured interview guide developed by the researcher according to the purpose of the study (Annexure P). The interview guide had two sections. Section A had guiding questions on the background information of participants. Section B had guiding questions on clinical nursing education and how it can be improved.

2.9.7 Pretesting

The interview guide was pretested with 3 participants (1 nurse manager, 1unit manager and 1 lecturer) to check the ability of the interview guide to elicit information that will help achieve the study objective. The pretesting also helped the researcher to know how long each interview was likely to last during the actual data collection. The data collected from participants during the pretesting was not included in the findings of the study.

2.9.8 Data Collection Procedure

The researcher obtained formal permission from authorities of the three hospitals and the Department of Nursing of the university (Annexure D, E and F).. The researcher then met the participants individually and explained the purpose of the study to them and gave them the study's information sheet (Annexure K). A suitable date and time for the interviews were agreed upon by the researcher and each participant that accepted to participate. The interviews were done in the offices of the participants. The participants signed a written consent form (Annexure L). Permission was obtained from participants to allow the researcher to audio-record the interviews.

2.9.9 Data Analysis

The data were analysed using the constructs of the clinical education model as a template for analysis which is in line with framework analysis. The framework analyses method is a commonly used and rigorous thematic analysis method for semi-structured interviews (Gale et al., 2013; Furber, 2010). Gale et al's (2013) description of the steps of framework analysis as stated below were applied to analyse the data.

Transcription: The first step involved transcribing the audio-recorded interviews verbatim. The transcription was done by the researcher by typing directly in Microsoft Word.

Familiarisation: This step involves becoming acquainted with the data**.** The researcher read through the transcripts over and over to familiarise himself with the data. Initial thoughts or impressions were made during the familiarisation process.

Coding: The researcher then read each transcript line by line highlighting key areas that represented the voice of the participants and labelling them with keywords or phrases. The keywords or phrases were the codes. The coding was a deductive process as the emerging codes were predefined with constructs of the conceptual framework which is the model for clinical training and education developed in South Africa described in chapter one.

Developing an analytical framework: The codes were sorted into categories and subcategories under each of the predefined themes to form the analytical framework. The formation of the analytical framework was an iterative process to capture all the codes. The analytical framework was discussed with thesis supervisors and a consensus was reached.

Applying the analytical framework: The analytical framework was used as a guide to analyse the subsequent transcripts. Thus, the emerging codes from the subsequent transcripts were indexed using the existing pre-defined categories. In applying the framework care was taken not to disregard codes that did not fit into the framework. Hence new codes that emerged and were not in line with the analytical framework were appropriately defined and added to the findings.

Charting data into a matrix: Charting involves summarising the data by categories from each transcript. This involves reducing the data while ensuring that original meanings or words are maintained. An excel spreadsheet was used to create a matrix and the data were charted into it.

Interpreting the data: This involves the researcher's impression, ideas and interpretation of the emerging results. The interesting ideas emanating from the results were discussed with the study supervisors. The characteristics, differences and connections between the categories were explored.

2.10 PHASE 3: DEVELOPMENT OF AN EVIDENCED-BASED FRAMEWORK FOR CLINICAL NURSING EDUCATION PROGRAMME

2.10.1 Introduction

The findings from phase I and phase II were integrated to guide the development of the framework for clinical nursing education. It is recommended that the development of a framework be guided by an existing model (Ellis & Levy, 2010). The development of the framework was therefore

guided by the components of the model for clinical education and training developed in South Africa (Nursing Education Stakeholders Group, 2012).

2.10.2 Methods

The framework development was an iterative process that was done in consultation with three experienced nursing education experts. The lessons learnt from the scoping literature review, descriptive cross-sectional survey and key informant interviews were tabulated to facilitate triangulation. The development of the framework in this study consisted of the following steps:

Step one: The first step of the framework development involved identifying the key lessons learnt from the scoping literature review, descriptive cross-sectional survey and key informant interviews on how the quality of clinical nursing education can be improved (Table 6.1). The lessons learnt were the ideas from the findings of the scoping literature review, descriptive cross-sectional survey and key informant interviews that could be applied in developing a framework to provide quality clinical nursing education. The lessons learnt were triangulated to arrive at common lessons under each of the constructs or components of the guiding framework (Annexure Q). The constructs or components of the guiding framework were the four main stakeholders in clinical nursing education which include support from nursing education institutions, support from service settings, students in clinical for role-taking and support from Nursing Council.

Step two: The second step was to review the lessons learnt and understand how they were related to each other. The lessons were qualitatively analysed using a colour coding strategy to arrive at five thematic areas for the resulting framework (Annexure S). The resulting subheadings were then described in detail applying lessons learnt from phase I, phase II and existing literature where necessary. A diagram spelling out the roles of the four stakeholders concerning the lessons learnt was also presented (Annexure R).

Step three: The final step of developing the draft framework was to develop an implementation plan for the framework. The implementation plan consisted of five standards that were consistent with the five thematic areas of the framework. The implementation plan had three phases which included the immediate, intermediate and final phase. The immediate phase consisted of actions that were implementable in the first six months, the intermediate phase consisted of actions

implementable beyond the first six months but within 2 years and the final phase consisted of the next 3 years.

2.11 PHASE 4: TO DETERMINE THE FEASIBILITY AND RELEVANCE OF THE IMPLEMENTATION PLAN OF THE FRAMEWORK

2.11.1 Introduction

A Delphi technique was used to evaluate the implementation plan of the framework. Delphi is a widely used method of obtaining individuals' opinions in their area of expertise or specialization (Hsu & Sandford, 2007). In a Delphi, the experts participate in a group communication that aims at gaining consensus on a particular issue under consideration. Delphi can be applied in programme planning, needs assessment, and policy development and evaluation. The application of Delphi involves the collection of data from experts in an iterative process using a questionnaire to build consensus. The main considerations in a Delphi include the selection of the panel of experts, timeframes for conducting the study and a possible low response rate (Hsu & Sandford, 2007).

Though the number of rounds for a Delphi study depends on how quickly consensus is reached, most Delphi studies last two or three rounds (Diamond et al., 2014; Gossler et al., 2019; Meshkat et al., 2014). Diamond et al. (2014) upon conducting a systematic review concluded that most studies have poorly defined criteria for consensus. However, some studies have used between 60-90% level of agreement as consensus (Peters et al., 2015; Hsu & Sandford, 2007; Meshkat et al., 2014,). In this study, the Delphi was conducted in two phases and it was agreed that 90% consensus on any item in the implementation plan would be acceptable.

2.11.2 Participants and Sampling Technique

The number of participants for Delphi may vary from one study to another. Studies have used between 10-30 participants in a Delphi (Gossler et al., 2019; Nair et al., 2011). Hsu & Sandford (2007) emphasised the need to focus on the expertise of the participants.

For the Delphi in this study, the participants were all professional nurses with work experience in the Ghanaian context, and five senior student nurses also participated. The selection of the experts was done to include stakeholders from nursing education institutions, nursing students, service settings and the regulatory body. A purposive sampling technique was used to select 26 clinical

experts for Delphi. Twenty-five (25) experts participated in phase one and 17 experts participated in phase two of the Delphi.

2.11.3 Delphi Tool

In phase one, the Delphi questionnaire for this study was developed to assess the feasibility and relevance of the implementation plan of the framework for clinical nursing education (Annexure S). The questionnaire covered the five standards of the implementation plan of the framework which included communication and collaboration, the clinical teaching programme, formal clinical supervision, clinical placement and a clinical assessment system. Under each standard, the questionnaire was grouped into three phases including an immediate phase, intermediate phase and final phase. Each item in the questionnaire was graded for relevance and feasibility. The items were scored using 0, 1 or 2:

0 = that aspect is not feasible/relevance,

1= I am not sure if it is feasible/relevance,

2= it is feasible/relevant.

There was a comment section under each standard. A second comment section was provided at the end of the questionnaire to gather reviewers' overall impression on content, relevance, user-friendliness, weaknesses and strengths of the framework.

A questionnaire was also developed for phase two based on the comments that the participant gave in phase one (Annexure T). The experts answered the questionnaire for phase two by stating against each item whether they agreed or disagreed that the item should be modified or added to the final implementation plan. An item was added or modified when 90% or more of the participants agreed that the item should be added or modified.

The researcher contacted each of the clinical experts through phone calls and emails to explain the objective of the Delphi technique and invite them to participate (Annexure M). The Delphi was conducted by sending the questionnaire to the clinical experts via email. Follow-up calls and emails were sent to courage the clinical experts to complete and return the questionnaire.

2.11.4 Analysis of Data

In phase one, the experts rated each item in the questionnaire for relevance and feasibility in the Ghanaian context on a scale of 0-2. The rated items in the questionnaire were analysed using descriptive statistics. Simple percentages were calculated for each item by summing the ratings and calculating the obtained percentage based on the total highest core possible. A score of 90% or more was considered to indicate consensus in this study.

In phase two, the experts answered the questionnaire by stating against each item whether they agreed or disagreed that the item should be modified or added to the final implementation plan. An item was added or modified when 90% or more of the participants agreed that the item should be added or modified.

The textual data emanating from the comments provided by the participants were analysed qualitatively using latent content analysis. In latent content analysis, the researcher plays an integral role in adding meaning to the text (Kleinheksel et al., 2020). Latent content analysis consists of pattern latent content analysis and projective latent content analysis (Potter & Levine-Donnerstein, 1999). Where patterns could be determined the researcher applied pattern latent content analysis. Pattern latent content analysis seeks to establish patterns within the text (Kleinheksel et al., 2020). Where patterns were not present the researcher used projective latent content analysis by interpreting the "hidden meaning" of the text. Projective latent content analysis is an approach where the researcher interprets the hidden or implied meaning within the text (Kleinheksel et al., 2020).

2.12 TRUSTWORTHINESS OR METHODOLOGICAL RIGOUR

Trustworthiness or rigour is the extent to which the identified meanings accurately represent the perspectives of the study participants (Grove, Gray & Burns, 2015). Morse et al.,(2002) indicated that rigour provides a means of ensuring that the research conducted is not fictional and worth adding to the body of knowledge. Lincoln and Guba (1985) established four criteria for ensuring the trustworthiness of a qualitative study which include credibility, dependability, confirmability and transferability. The extent to which these criteria are ensured is the main determinant of degree of rigour of the study findings (Grove, Gray & Burns, 2015).

2.12.1 Credibility

Lincoln and Guba (1985) viewed credibility as an overriding goal of qualitative studies. Credibility is the confidence on the truth of the data and the interpretation of the data (Polit & Beck, 2010). Credibility was ensured by conducting face-to-face interviews, ensuring participant and data triangulation, and member checking of the research findings. In developing the framework, lessons learnt from phase I and phase II of the study were triangulated. Participant triangulation was ensured in the evaluation of the implementation plan of the framework by recruiting clinical experts from academia, clinical facilities and the Nursing and Midwifery Council of Ghana. Member checking was done by showing the findings of the qualitative interviews to some of the participants to verify if the researcher's interpretations represent the views they expressed.

2.12.2 Transferability

This refers to a thick description of the research context so that the behaviour and experiences of participants become meaningful to an outsider (Korstjens & Moser, 2018). The researcher gave a detailed description of the setting and the processes involved in doing the study.

2.12.3 Dependability (Consistency)

Dependability is the ability of the study to produce the same findings if the inquiry is repeated among the same or similar participants in the same context (Polit & Beck, 2010). Dependability helps ensure that the research process is logical, traceable and documented in terms of the chosen method and the decisions made by the researcher. The researcher documented the method used for data collection, analysis and interpretation.

2.12.4 Confirmability

Confirmability is concerned with establishing that the data represent that of the participants and interpretation is consistent with the data (Polit & Beck, 2010). To ensure that this criterion is achieved the researcher ensured that the findings represent the voice of the participants and not that of his own biases and motivation. An audit trail consisting of transcripts, emerging themes and audio recordings were kept.

2.13 ETHICAL CONSIDERATIONS FOR THE STUDY

2.13.1 Ethics Approval

i. Ethical Clearance was obtained from the Human Research Ethics Committee (Medical), University of the Witwatersrand (M190807) (Annexure B)
ii. Ethical Clearance was obtained from Ghana Health Service Ethics Committee (GHS-ERC 007/09/19) (Annexure C)

2.13.2 Risks and Benefits

The administration of questionnaires and key informants' interviews were all done before the outbreak of COVID-19 in Ghana. However, the evaluation of the implementation plan of the framework was conducted amid the COVID-19 outbreak hence the Delphi questionnaires were emailed to participants and retrieved through the same means. The study did not expose participants to any physical or psychological risks. It involved sharing of professional views on undergraduate clinical nursing education. The participants did not receive any material or monetary benefits for their participation in the study.

2.13.3 Privacy and Confidentiality

The key informant interviews were done in the offices of the participants. Personal or identifying data were not collected. The participants were assured of their confidentiality. Audio-recorded information and transcripts were given codes and stored in a password-encrypted folder in the researcher's personal computer and accessible to the researcher. The questionnaire for the survey and Delphi did not require respondents to give any identifying information. All the information collected was reported as aggregated data with no reference to any participant. Participants for qualitative interviews were labelled as participants 1, 2, 3 etc. depending on their chronological enrolment into the study.

2.13.4 Data Storage and Usage

The completed questionnaire and audio-recorder are kept under key and lock only accessible to the researcher. The questionnaire and audio-recorder will be kept for two years after the publication of findings after which they will be destroyed or otherwise stated by the Ghana Health Service Ethics Review Committee and the Human Research Ethics Committee (Medical), University of the Witwatersrand.

2.13.5 Voluntary Withdrawal

The participants were free to withdraw from the study at any time without any negative repercussions. The participants were free to decide to withdraw from completing the interviews at any point without any penalties. Respondents could decide to stop answering the questionnaire without any negative repercussions.

2.14 CHAPTER SUMMARY

This chapter focused on the research design and methodology that was employed to conduct the study. A multimethod research design was used to conduct the study in four phases guided by the research and development research approach. The methods applied in each phase of the study was described. The chapter also gave a brief description of pragmatism as the research paradigm that guided the study. The next chapter presents the scoping literature review that was conducted to identify factors that facilitate undergraduate clinical nursing education.

CHAPTER 3: SCOPING LITERATURE REVIEW

3.1 INTRODUCTION

The previous chapter presented the research methodology and design that was applied in conducting the entire study. This chapter reports on the scoping literature review on clinical nursing education. The scoping review contain the following sections; background, aim of the review, review question, identification of relevant studies, study selection, findings and discussion.

3.2 BACKGROUND

Clinical nursing education is an integral part of nursing education as the development of professional skills by students depends on clinical education. Practices that facilitate clinical nursing education have an impact on the professional development of students. How clinical nursing education is conducted may differ from one context to the other. A scoping review could therefore be an important means of creating a greater understanding from literature on the practices that facilitate clinical nursing education. The findings from the scoping review consolidated the findings of the quantitative survey and qualitative study to inform the development of an evidence-based framework that will enhance the clinical education of undergraduate nursing students in Ghana.

3.3 RECAP OF THE RESEARCH METHOD

The study design was a scoping review where the Arksey and O'Malley (2005) framework for scoping review was employed. A research question was devised to help in determining the search strategy. The search was conducted in four databases. A hand search was done. Studies that were relevant for this were selected using the PCC framewowork. Title screening was performed first then abstract screening. The final stage of the screening was the reading of the full texts After the screening, the selected studies were charted into a data extraction sheet. The extracted findings of the selected studies were analysed qualitatively and reported under themes consistent with the Donabedian Model (2005). The findings of the scoping review were also discussed.

3.4 AIM

This scoping review aimed to identify the practices that facilitate clinical nursing education in undergraduate nursing programme.

3.5 RESEARCH QUESTION

The research question that guided the literature search was “what are the practices that facilitate undergraduate clinical nursing education?”

3.6 IDENTIFYING RELEVANT STUDIES

3.6.1 Information sources

To obtain data for the scoping review, an electronic search of ProQuest (Nursing and Allied Health), Cumulative Index to Nursing and Allied Health Literature (CINAHL), Educational Resources Information Center (ERIC) and PubMed (Nursing Journals) was done. Other studies included were identified from a hand search of databases and reference list of the articles included. A hand search was conducted to further identify studies that could be included in the review.

3.6.2 Search Strategy

The search was done using keywords: clinical nursing education, student nurse and undergraduate. Variations of the keywords were combined using Boolean operators (“AND” “OR”) and wildcards (*) forming a search string: “clinical nursing education” AND “student nurs*” OR “undergraduate*”.

3.7 STUDY SELECTION

3.7.1 Screening

Title screening of articles was done by the researcher, a postdoctoral fellow and ratified by the two supervisors of the study. The Population of interest-Concept- Context (PCC) framework was applied in title screening to select studies that needed further screening (Joanna Briggs Institute, 2015). Studies selected based on titles were subjected to abstract screening to determine their relevance to the review. A final level of screening was done by reading full text of the selected articles before including the studies.

3.7.2 Eligibility

The Population of interest-Concept- Context (PCC) framework recommended by Joanna Briggs Institute for assessing the eligibility of research questions for scoping reviews was applied (Joanna Briggs Institute, 2015). This criterion is considered a more flexible tool as compared to PICO (Population, Intervention, Comparator and Outcome) which is applied to systematic reviews

(Chola et al., 2018). Thus, in applying the PCC framework for study selection, the following considerations were made.

Population of interest: Studies conducted among nursing students, nurse educators, clinical nurses, clinical preceptors and clinical instructors.

Concept: Clinical nursing education

Context: Nursing education institutions that provide nursing programmes for undergraduate nursing students and hospitals that provide learning opportunities for these students

Studies included were also those published in peer-reviewed journals between January 2015 and December 2020 in English. Six studies that resulted from a hand search of databases and reference list were also included in the review. The studies were all primary studies that had findings relevant to answering the research question.

Table 3.1*:* Selection of Studies

Database	Search String	Titles screened	Abstracts Read	Full Articles Read	Full Articles Included
ProQuest	"clinical nursing education" AND "student nurs*" OR "undergraduate*"	667	32	18	13
CINAHL	"clinical nursing education" AND "student nurs*" OR "undergraduate*"	19	8	8	4
ERIC	"clinical nursing education" AND "student nurs*" OR "undergraduate*"	60	14	14	4
PubMed	clinical nursing education" AND "student nurs*" OR "undergraduate*"	19	4	3	2
Total		765	58	43	23

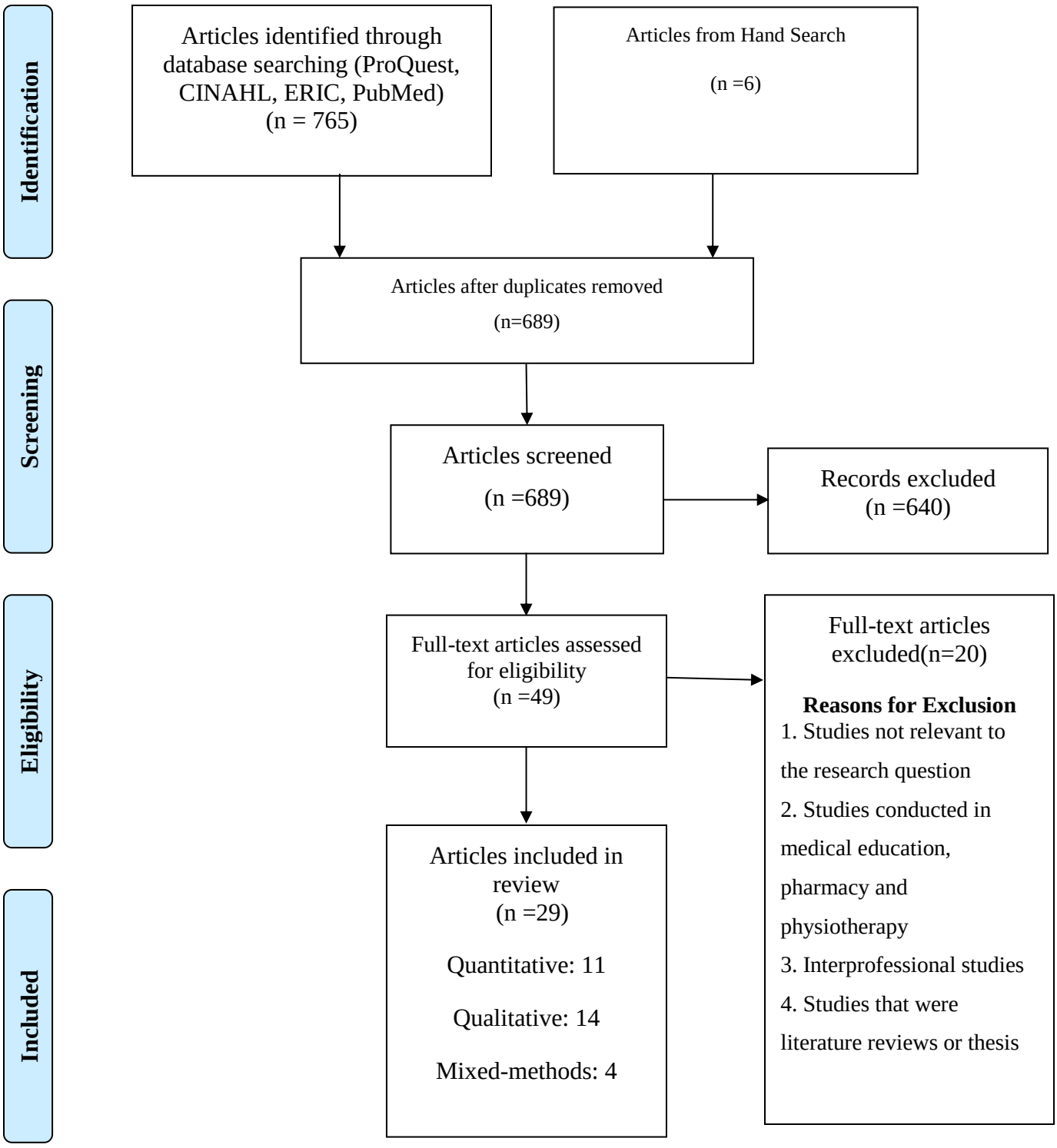

Figure 3.1: Prisma Diagram: Search, Evaluation and Inclusion

Table 3. 2:Selected Studies

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
ProQuest					
Moonaghi, H. K., Mirhaghi, A., Oladi, S., & Zeydi, A. E. (2015)	Iran	To explore nursing students' experiences of the factors influencing their clinical education	Qualitative study	12 nursing students	1. Clinical educators should: a. Possess desirable characteristics such as self-confidence, effective communication skills, and interest in student clinical teaching b. Adjust clinical teaching to reduce theory-practice gap c. Communicate effectively among themselves 2. Students should be motivated, self-confident and hungry for clinical care
Zasadny, M. F., & Bull, R. M. (2015)	Australia	To assess the competence of undergraduate nursing students using the Amalgamated Student Assessment Practice (ASAP) model and tool	Quantitative study	225 final year students 23 clinical facilitators	1. The ASAP tool provides a rigorous and readily useable method for assessing students in practice 2. The ASAP tool accurately identify specific areas that students are weak and require support 3.The tool gives a detailed and objective documented evidence of students' performance

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
Needham, J., Mcmurray, A., & Shaban, R. Z. (2016)	Australia	To explore the perspective of clinical facilitators on the best practices of clinical facilitation	A qualitative study	11 clinical facilitators	Strategies for improving practices of clinical facilitation include: 1. Baseline assessment of student goals and the clinical environment. 2. Formal educational support for clinical facilitators 2. Networking and mentorship from experienced facilitators 3. Effective communication between facilitators and students, nurses and patients
Atakro, C. A., Armah, E., Menlah, A., Garti, I., Addo, S. B., Adatara, P., & Boni, G. S. (2019)	Ghana	To explore experiences of undergraduate nursing students with clinical placement	Qualitative study	35 nursing students placed in two teaching hospitals	1.Undergraduate nursing students require varying levels of support, supervisory commitments and logistics provisions to learn skills 2.There should be academic-clinical collaboration in providing continuous professional development for nurses on preceptorship
Kamphinda, S., Chilemba, E. B., & Chilemba, E. (2019)	Malawi	To explore and describe undergraduate nursing students' perspectives on	Mixed methods	125 nursing students answered the questionnaire 20 students were interviewed	Clinical learning is enhanced by 1.Support, guidance and supervision by lecturers 2. Availability of material resources

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
		clinical supervision and support			4. Adequate number of clinical nurses to support students 5. Students spending adequate duration in clinical placement
Bani-issa, W., Tamimi, M. A, Fakhry, R., & Tawil, H. A. (2019)	United Arab Emirates	To explore the experiences of undergraduate nursing students and examiners with Objective Structured Clinical Examination (OSCE)	Mixed methods	55 nursing students 8 external examiners	According to the students, OSCE enhances clinical learning because: 1.The debriefing after OSCE is a learning opportunity for students 2.OSCE covers a wide area of knowledge Students know the information required of them 3. According to examiners, OSCE covers knowledge area required for practice
Bazrafkan, L. & Kalyani, M. N. (2018)	Iran	To explore the experiences of nursing students during clinical education	Qualitative study	16 nursing students	Clinical education of nursing students can be improved through: 1.Reduction in theory-practice gap 2.Clinical nurses giving adequate support to students 3.Effective preparation of students for clinical placement

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
Burke, E., Kelly, M., Byrne, E., Chiardha, T. U., Nicholas, M. M. & Montgomery, A. (2016)	Ireland	To explore preceptors' experiences of assessment of undergraduate nursing students using a Competence Tool	Mixed methods design	17 preceptors were interviewed 843 preceptors answered a questionnaire	1.Competence Tool facilitated communication with students 2.The tool helps to identify students learning needs requiring support 3.The tool helps to monitor clinical learning progress
Lovecchio, C. P., Dimattio, M. J. K., & Hudacek, S. (2015)	United States of America	To determine the predictors of undergraduate nursing students' satisfaction with the clinical learning environment	Quantitative study	54 nursing students	Clinical faculty support student clinical learning by 1. Giving specific instructions on patient care 2. Assigning a task that allows students to understand the rationale behind psychomotor skills
Miles, D. A. (2018	United States of America	To examine how undergraduate nursing students, transfer their simulation experiences to clinical learning	Qualitative study	25 students	1. Simulation learning allows students to take role behaviours that are expected of them as nurses 2. Stimulation is considered a "safe environment" where students can make mistakes without consequences 3. Feedback from students allow students to make sense of their learning

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
Henderson, A., Harrison, P., Rowe, J., Edwards, S., Barnes, M., Henderson, S. & Henderson, A. (2018).	Australia	The study explored the potential of check-in (pre-briefing) and check-out (debriefing) processes in improving the effectiveness of clinical learning	Qualitative study	431 first year nursing students	1. Pre-briefing and debriefing is are effective methods of engaging students in clinical learning space 2. Check-in (pre-briefing) helped in clarifying the goals of the placement 3. Check-out (debriefing) was valuable for reflecting the on students' strengths
Donough, G. & Heever, M. V. (2018)	South Africa	To explore the experiences of undergraduate nursing students on clinical supervision	Qualitative study	36 nursing students	1.Continuous professional development programmes for clinical supervisors 2.Support for clinical supervisors such as debriefing sessions and peer counseling 3. The number of students allocated to each supervisor should be according to standard practice
Cândida, R., Pereira, D. C., Queirós, P. J., Tanaka, L. H., Costa, P. J., Isabel, C., … Oliveira, F. (2017) Portugal	Portugal	To identify students' difficulties with communicating with patients	Mixed methods	90 nursing students	1. Effective communication between students and tutor nurses and clinical supervisors will help identify students' difficulties in clinical learning 2. Tutor nurses and clinical supervisors should give individualized support to students

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
					3. Teaching students innovative care methodologies will help students achieve better communication skills
CINAHL					
Yousefy, A., & Mohammadi, S. (2015)	Iran	To explore the clinical environment of baccalaureate nursing students in Iran	Qualitative study	54 nursing students 8 clinical educators	1.The clinical instructor should be reevaluated as role models 2.Theory and evidence-based knowledge should reflect in nursing practice
Pålsson, Y., Mårtensson, G., Leo, C., Ädel, E., & Engström, M. (2017).	Sweden	To examine the effect of peer learning on students self-rated efficacy in the clinical environment	Quasi-experimental design	87 nursing students	1. Peer learning is a useful method that improves self-efficacy and critical thinking related to a nursing task 2. Psychological empowerment, support and adequate resources increase clinical learning
Baksi, A., Gumus, F. & Zengin, L. (2017)	Turkey	To examine the effect of clinical preparatory education on anxiety levels of freshmen nursing students	Experimental and controlled design	74 nursing students	Preparation before clinical placement leads to a reduced level of anxiety
Connor, S. O., & Andrews, T. (2018)	United Kingdom	To assess the perspective of nursing students on the use of smartphones and	Quantitative study	232 students	1. Mobile technology provides easy access to clear and succinct educational material

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
		mobile apps to enhance learning in clinical learning			2. Mobile apps provide audio-visual learning content which enhances clinical learning
ERIC					
Mettiäinen, S. (2015)	Finland	To assess students and teachers' attitude and experiences towards electronic assessment and feedback tool in clinical supervision	Qualitative study	112 students 9 nursing teachers	The use electronic assessment and feedback tool: 1. made the student's learning process visible for the teacher 2. made teachers know areas that students need more support in supervision 3 provided the teacher with information about the allocation of supervision resources 4. improves students cognitive learning
Omer, T (2016)	Saudi Arabia	To assess overall perception of satisfaction and self-confidence with simulation experience	Quantitative study	117 nursing students	1. Simulation help students to acquire knowledge and skills for clinical practice 2. Stimulation increases the self-confidence of students to perform effective health assessment and intervention

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
Bodys-cupak, I., Majda, A., Skowron, J., Puchala, Z. & Trzcińska, A. (2018)	Poland	To assess the coping strategies of first year nursing students in clinical practice	Quantitative study	110 nursing students	1. Reduction in the theory-practice gap, sufficient procedures, and adequate equipment increases the effectiveness of clinical learning 2. Emotional support help students to cope with clinical learning
Kerthur, S. H. & Nuuyoma, V. (2019)	Namibia	To explore and describe the challenges of integrating theory into practice	Qualitative study	10 students for focus group discussion	1. Provision of more guidance and support by clinical supervisors and mentors makes a clinical learning environment conducive 2. Clinical facilities with an adequate number of patients afford students with learning opportunities 3. Lecturers should adequately prepare students for clinical placement through simulation
PubMed					
Lee, N., Chae, S., Kim, H., Lee, J., Min, H. J., & Park, D. (2016)	South Korea	To assess the effect of mobile-based video clip learning on motivation, competence and class satisfaction	A randomized controlled trial with pretest-posttest design	71 students consisting of: 36 intervention group 35 controlled group	1. Mobile-based learning videos significantly increases the knowledge and skills of students. 2. Mobile-based learning video also increases learning motivation and confidence in practice

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
Kim, H., & Suh, E. E. (2018)	South Korea	To evaluate the effect of interactive nursing skills mobile application on students	A randomized controlled trial with pretest-posttest design	72 students consisting of 36 intervention group 36 controlled group	Interactive nursing skills mobile application increases students' knowledge of skills, self-efficacy and nursing skills performance
Hand Search					
Niederriter, J. E., Eyth, D., & Thoman, J. (2017)	Study setting not indicated	To explore students' perception of preceptors' characteristics	Qualitative study	14 nursing students	1. Clinical instructors being knowledgeable or experienced, build trusting relationships, use coaching techniques and act as role models effectively enhance clinical learning. 2. Mentorship from experienced clinical instructors will help new clinical instructors develop teaching skills
Muthathi, Thurling & Armstrong (2017)	South Africa	To determine which method according to students best facilitates clinical learning	Qualitative study	24 nursing students consisting of 8 second, 7 third and 9 fourth year students	Best practices in clinical facilitation is enhanced: 1. In the skills laboratory through pre-contact preparation, good demonstration techniques by clinical facilitators and putting students into smaller groups 2. In the clinical area through standardization of procedures, students spending adequate time in the clinical facility and placement should

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
					immediately follow learning in the skills laboratory.
Asirif, A. M., Mill, J. E., Myrick, F. and Richardson, G. (2017)	Ghana	To explore the role and challenges of students, preceptors and nurse educators	Qualitative study	26 participants including students, preceptors and nurse educators	Factors that enhance clinical education include: 1.Preceptors acting as role models 2.Incentives for preceptors in the form of monetary rewards and in-service training 3.Students showing readiness to learn 4. Provision of adequate equipment for practice
Gurková, E., Žiaková, K., Cibríková, S., Magurová, D., Hudáková, A., & Mrosková, S. (2016)	Slovakia	To assess factors influencing the effectiveness of clinical learning	Quantitative study	503 nursing students	Supervision frequency and duration of placement positively influences student learning experiences
Mcsharry, E., & Lathlean, J. (2017)	Ireland	To explore clinical teaching and learning within a preceptorship model	Qualitative study	13 students 13 preceptors	1. An empowering preceptor-student relation is the bedrock of clinical learning 2. Preceptors dialoguing and teaching enhance understanding among students 3. Preceptors asking high ordered questions enhance clinical reasoning

Author(s), year of publication	Study Location	Purpose of the study	Method	Study Sample	Practices that Facilitate Clinical Nursing Education
					4. Educational preparation of preceptors will let them acquire pedagogical competences
Wu, X. V., Enskär, K., Pua,L. H.,Heng, D. G. & Wang, W. (2017)	Singapore	To explore the perceptions of clinical nurse leaders and academics on clinical assessment for undergraduate nursing education	Exploratory qualitative study	8 nurse managers, 6 clinical nurse educators and 8 academics	1. Closer academic-clinical partnership is required to develop curricular 2. Academic and clinical institutions need to work together to develop a learning program for preceptors 3. Closer academic-clinical partnership is required to support students and preceptors

3.8 FINDINGS

3.8.1 Descriptive Summary of Study Characteristics

Following an electronic search of four databases, 765 titles were screened, out of which 58 abstracts were read. The full text of 43 studies from the databases was read and 23 of them selected for inclusion in the review. A hand search of journals was performed and 6 studies that met the inclusion criteria were selected and added to the 23 studies included resulting in a total of 29 studies that were used in the review. The 29 studies comprised of 11 quantitative studies, 14 qualitative studies and 4 mixed-methods studies.

Regarding the geographical distribution of the studies, three studies each were conducted in Iran and Australia, two each were conducted in Ghana, South Africa, Ireland, the United States and South Korea. With the remaining studies, one each was conducted in Malawi, United Arab Emirates, Portugal, Sweden, Singapore, Turkey, United Kingdom, Finland, Saudi Arabia, Poland, Namibia and Slovakia. The study setting of one study was concealed. All the studies were conducted among undergraduate nursing students, nurses, preceptors, clinical facilitators and nurse educators. The studies generally focused on the experiences of the participants on the various aspects of clinical nursing education. The aspects of clinical nursing education that emanated from the studies that were deemed essential for this review include facilitating factors in the clinical learning environment, clinical facilitation, innovative clinical teaching methods and assessment methods.

3.8.2 Thematic Presentation of Findings

Key findings related to factors influencing clinical nursing education were extracted from the included studies and analysed qualitatively. Braun and Clarke's (2006) steps for thematic analysis as outlined in the methodology was used for analyses. Initial codes were grouped into 27 subcategories. The subcategories were grouped into 9 categories and labelled accordingly. The categories were aligned with the constructs of the Donabedian Model (modified) thus context, structure and process. The findings were considered as a modified version of the Donabedian Model because there was no outcome component. The findings did not provide for the measurement of the outcome upon implementing practices that promote clinical nursing education. Table 3.3 below presents the details of the themes, categories and subcategories.

Table 3. 3:Theme, categories and subcategories

Themes	Categories	Subcategories
Context	Support	Psychological support (Bodys-cupak et al., 2018; Pålsson et al., 2017). Support from clinical supervisors and nurses (Atakro et al., 2019; Kerthu and Nuuyoma, 2019; Cândida et al., 2017) Support from Lecturers (Bazrafkan and Kalyani, 2018; Kamphinda, Chilemba and Chilemba, 2019)
	Characteristics	Characteristics of clinical faculty (Moonaghi et al., 2015; 2015; Asirifi, Ogilvie, Barton, Aniteye, Stobart, Bilash and Eliason, 2017; Niederriter, Eyth and Thoman, 2017) Students characteristics (Asirifi et al., 2017; Moonaghi et al., 2015)
	Collaboration	Academic-clinical collaboration for in-service training of nurses (Wu, Enskär, Heng & Wang, 2017; Atakro et al., 2019) Academic-clinical collaboration for clinical support of students (Wu, Enskär, Heng & Wang, 2017). Academic-clinical collaboration for the development of curricula (Donough & Heever, 2018; Wu, Enskär, Heng & Wang, 2017)
Structure	Material resources and Technology	Material resources (Asirif, Mill, Myrick & Richardson, 2017; Atakro et al., 2019; Kamphinda, Chilemba & Chilemba, 2019; Pålsson et al., 2017)) Adequate learning opportunities (Kamphinda, Chilemba and Chilemba, 2019; Kerthu & Nuuyoma, 2019; Bodys-cupak et al., 2018)) Technology (Lee et al., 2016; Connor & Andrews, 2018; Kim and Suh, 2018)
	Human resources	Adequate number of nurses (Kamphinda, Chilemba & Chilemba, 2019) Student-instructor ratio (Donough & Heever, 2018)
Process	Clinical Teaching and Learning	Peer learning (Pålsson et al., 2017) Pre-briefing and debriefing (Henderson et al., 2018) Adjusting to decrease theory-practice gap (Moonaghi et al., 2015; Yousefy and Mohammadi, 2015; Bazrafkan and Kalyani, 2018) Effective preceptorship (McSharry & Lathlean, 2017) Simulation (Miles, 2018; Omer, 2016)
	Preparation and planning	Preparation of students for clinical placement (Needham, McMurray & Shaban, 2016; Kerthu & Nuuyoma, 2019, Muthathi, Thurling & Armstrong, 2017)

		Educational preparation of facilitators (Needham, McMurray & Shaban, 2016; McSharry & Lathlean, 2017; Kerthu & Nuuyoma, 2019) Mentorship from experienced facilitators (Needham, McMurray & Shaban, 2016; Niederriter, Eyth & Thoman, 2017) Duration of placement (Kamphinda, Chilemba & Chilemba, 2019; Gurková, Žiaková, Cibríková, Magurová, Hudáková, & Mrosková, 2016) Timing for clinical placement (Muthathi, Thurling & Armstrong, 2017)
	Communication	Communication between facilitators, nurses and Students(Needham, McMurray and Shaban, 2016; Cândida et al., 2017)
	Assessment	Amalgamated Students Assessment Practice (ASAP) model and tool (Zasadny & Bull, 2015) Competence Assessment Tool (Burke et al., 2016) Objective Structured Clinical Examination (OSCE) {Formatting Citation} Electronic Assessment and Feedback (Mettiäinen, 2015)

3.9 THEME 1: CONTEXT

Context, as defined in this study consists of the psychosocial elements that influence clinical learning. The context is generally the "unseen" factors that play a role in making the clinical learning environment suitable for clinical learning. In this review, the context was categorized into support for students, characteristics of clinical faculty and students, and academic-clinical collaboration.

3.9.1 Support

The review established that support for students is an important factor that enhances clinical learning experiences. The aspects of support include psychological support (Bodys-cupak et al., 2018; Pålsson et al., 2017), supervisory support from nurses and clinical supervisors (Atakro et al., 2019; Cândida et al., 2017; Kerthu & Nuuyoma, 2019) and support from lecturers (Kamphinda et al., 2019).

Clinical placement is considered stressful for students hence the need to adopt various strategies to cope (Bodys-cupak et al., 2018). Individuals students need different levels of support from clinical nurses to have a successful clinical placement (Bazrafkan & Kalyani,

2018; Cândida et al., 2017). Psychological support is an essential strategy for helping students cope with the stress associated with clinical placement (Bodys-cupak et al., 2018). The psychological empowerment of students may have a significant impact on how effective a clinical learning environment supports skills clinical learning (Pålsson et al., 2017).

Students sometimes meet patients who are confused, unable to communicate or agitated (Cândida et al., 2017). In clinical training, clinical supervisors should support students to communicate effectively with patients (Cândida et al., 2017). Cândida et al. (2017) indicated that nurses and clinical supervisors need to have discussions with students to understand their difficulties and the type of support they require. Successful experience with the clinical environment largely depends on the level of supervisory support from clinical supervisors and nurses (Atakro et al., 2019; Kerthu & Nuuyoma, 2019). Students are also of the view that adequate support and supervision from their lecturers during clinical placement could also help improve clinical learning (Bazrafkan & Kalyani, 2018; Kamphinda et al., 2019)

3.9.2 Characteristics

The expertise or characteristics of the clinical faculty such as clinical educators, supervisors, instructors, preceptors, and facilitators influence clinical teaching and learning. When clinical supervisors can communicate effectively, coach and serve as role models it impacts positively on clinical learning of students (Moonaghi et al., 2015; Asirifi et al., 2017; Niederriter et al., 2017).

Students can achieve better clinical learning outcomes when clinical educators ensure effective communication based on respect, fairness and openness (Moonaghi et al., 2015). Clinical instructors who are approachable gain the trust of students since the students can communicate openly with them (Niederriter et al., 2017). Students suggest that clinical instructors who act effectively as coaches are calm, motivated and advocate for the students (Niederriter et al., 2017). The application of coaching skills helps students to develop critical thinking and analytic skills (Niederriter et al., 2017).

Clinical instructors should be role models for students by demonstrating professional qualities that are worth emulation (Asirifi et al., 2019; Niederriter et al., 2017). Qualities of the clinical instructors that students are expected to emulate include multitasking, upholding professional ethics, and being well informed about events within the ward (Niederriter, Eyth and Thoman, 2017).

Students' characteristics were also reported as an important factor that influences clinical learning. Student clinical learning is effective when students are motivated and self-confident in clinical learning (Moonaghi et al., 2015; Asirifi et al., 2017). Preceptors are of the view that students' clinical learning will improve if the students show readiness to learn by listening, observing and asking questions during nursing care activities (Asirifi, 2017).

3.9.3 Academic-Clinical Collaboration

The training of nursing students takes place both in the academic and clinical institutions. Some of the studies reported academic-clinical collaboration as an important factor that has a positive influence on clinical learning (Atakro et al., 2019; Donough & Heever, 2018; Wu et al., 2017) There is a need for academic-clinical collaboration to design a training programme for clinical nurses to enhance their pedagogical competence on preceptorship (Wu et al., 2017; Atakro et al., 2019). Training of preceptors will enhance their assessment skills so that they can monitor students' progress and provide constructive feedback for academic institutions (Wu et al., 2017). Constructive feedback from the clinical setting is essential for academic institutions to know students' progress and areas students require additional support (Wu et al., 2017).

Academic-clinical collaboration is essential in reviewing and drawing up the clinical education curriculum since staff from both will have to work with the curriculum (Wu et al., 2017). When nurses and clinical preceptors take part in preparing the clinical education curriculum it enables the preceptors to make inputs based on their clinical experience that will make the curriculum more practically applicable (Wu, 2017).

3.10 THEME 2: STRUCTURE

The structure as used in the presentation of these findings refers to the various elements or resources present in the clinical learning environment that support the clinical nursing education of students. The review established that structure consists of material resources, technology and human resources which influence the effectiveness of clinical nursing education.

3.10.1 Material Resources and Technology

The review reported the need for the clinical environment to be adequately resourced with equipment and technology for clinical learning (Asirif et al., 2017; Atakro et al., 2019; Kamphinda et al., 2019).

Nursing procedures require the provision of specific equipment in the clinical setting to enable students to learn the skills (Atakro et al., 2019). Students have reported that the provision of requirements for nursing procedures and general ward supplies such as aprons, gloves and drapes are very important to make clinical learning effective (Asirif et al., 2017; Kamphinda et al., 2019).

During their clinical placement, students learn skills through nursing activities that are performed on patients. The clinical settings that have an adequate number of patients with varied conditions allow students to learn a myriad of skills by caring for the patients (Kamphinda et al., 2019; Kerthu & Nuuyoma, 2019a). Students get better learning opportunities in clinical settings where an adequate number of nursing procedures are performed (Bodys-cupak et al., 2018).

The application of technology to enhance clinical nursing education was reported by some of the studies in the review (Lee et al., 2016; Connor and Andrews, 2018; Kim and Suh, 2018). Mobile-based video clips of nursing procedures given to students for unlimited viewing can improve students' clinical skills (Lee et al., 2016). Lee et al. (2016) revealed that students who used mobile-based learning videos displayed a higher learning motivation and were confident in performing nursing procedures as compared to their colleagues who did not use the application. Nursing students consider mobile technology as a platform that could contain a range of nursing educational material to improve students' knowledge and confidence hence reducing their anxiety during clinical learning (Connor & Andrews, 2018).

The development of a comprehensive portfolio of nursing procedure videos allows the students to learn interactively through their mobile phone screen is an effective method for students to experience skills (Kim & Suh, 2018). The upload of videos of nursing procedures for students to watch significantly increase students' knowledge of skills, self-efficacy and actual performance of nursing skills (Kim & Suh, 2018).

3.10.2 Human Resources

Students argue that having an adequate number of clinical nurses positively influences clinical learning (Kamphinda et al., 2019). Recruiting adequate clinical supervisors was seen as the ultimate solution to having a manageable clinical instructor-student ratio (Donough & Heever, 2018).

3.11 THEME 3: PROCESS

The process refers to the steps that are taken to deliver clinical nursing education. The process encompasses arrangements that are necessary to ensure that clinical nursing education is effective. The review revealed that the process consists of clinical teaching and learning, preparation and planning, communication and assessment.

3.11.1 Clinical Teaching and Learning

Clinical teaching and learning is a core component of clinical nursing education. The review reported that the processes that could improve clinical teaching and learning were check-in (pre-briefing) and check-out (debriefing) (Henderson et al., 2018), preceptorship (McSharry & Lathlean, 2017), peer learning (Pålsson et al., 2017), adjusting teaching to decrease the theory-practice gap (Moonaghi et al., 2015; Yousefy & Mohammadi, 2015; Bazrafkan & Kalyani, 2018) and simulation (Miles, 2018; Omer, 2016).

Pre-briefing and debriefing were viewed by students as an important strategy that enhances the clinical learning experience (Henderson et al., 2018). Pre-briefing allows students to make clarifications on their placement objectives so that their actions will be guided during the clinical learning process (Henderson et al., 2018). Debriefing allows students to reflect on their clinical experience to identify areas they need improvement (Henderson et al., 2018).

When preceptors devote time to students and ensure a good preceptor-student relationship it enhances the students' clinical learning (McSharry & Lathlean, 2017). Preceptors who use dialogue and appropriate questioning techniques promote critical thinking and problem-solving skills among students (McSharry & Lathlean, 2017).

In peer learning, two students of the same level of study are paired and placed on the same shift where they work and support each other supervised by a preceptor. Students receiving peer learning have an improved self-efficacy as compared to those receiving traditional supervision where one student is supervised by one supervisor (Pålsson et al., 2017). Peer learning enables students to develop critical thinking about the nursing task (Pålsson et al., 2017).

The reduction in theory-practice gap will enhance the clinical learning of students (Bazrafkan & Kalyani, 2018; Yousefy & Mohammadi, 2015). Clinical educators can improve students' skills learning if they can appropriately combine evidence-based knowledge and practice (Yousefy & Mohammadi, 2015). Students consider the clinical educator as a promoter of evidence-based practice who should advance the integration of theory and practice (Moonaghi et al., 2015).

Simulation was reported as an important strategy that enhances the acquisition of clinical skills and self-confidence (Omer, 2016). Simulation allows students to practice skills and clinical decision-making without worrying about making mistakes because human life is not involved (Miles, 2018). Students reported that simulation allows them to apply knowledge and learn how to handle critical situations by themselves as if they were clinical nurses (Miles, 2018). Through simulation, students can improve their ability to do a health assessment, recognize patients' progress and work as an effective team member (Omer, 2016) The feedback given to students during the simulation and in the debriefing post-simulation is seen as an important measure that allows them to integrate theory and practice (Miles, 2018).

3.11.2 Preparation and Planning

Preparation of students before they come for skills learning in the skills laboratory or clinical facility was reported as necessary to achieving learning objectives (Muthathi et al., 2017; Kerthu & Nuuyoma, 2019). Giving students reading material on the procedure for them to prepare for skills laboratory sessions is considered an effective means of enhancing skills learning (Muthathi et al., 2017). Putting students into smaller groups allows them to observe procedures and perform return demonstrations (Muthathi et al., 2017).

For students to have positive clinical learning experiences, lecturers need to introduce clinical components to them in the skills laboratory before the actual placement (Kerthu & Nuuyoma, 2019a). In the clinical area, preceptors need to do an initial interaction with the students to understand their capabilities and the goals they want to achieve during the clinical placement (Needham et al., 2016).

Timing for placement of students was deemed necessary for effective clinical learning. Muthathi and colleagues (2017) reported clinical placement of students should follow just after skills laboratory learning so that students can apply clinical skills. Scheduling students to spend a full day in the ward during clinical placement will provide adequate time to learn (Muthathi et al., 2017).

The duration of the the clinical placement influences student clinical learning (Gurková et al., 2016). Spending sufficient time in the ward allows students have adequate time to learn skills. For instance, students having spent 4-7weeks in one ward expressed satisfaction with the duration of placement (Kamphinda et al., 2019).

Clinical faculty need formal training to acquire competencies necessary for them to perform their roles (Needham et al., 2016; McSharry & Lathlean, 2017). Facilitators pointed out that

the university should institute a course on clinical facilitation to give them formal training (Needham et al., 2016). A comprehensive educational preparation will give preceptors the teaching skills to enable them to stimulate clinical reasoning and professional development of students (McSharry & Lathlean, 2017).

Networking and mentorship were reported as a strategy to enable newly appointed preceptors to acquire the necessary skills to function effectively (Needham et al., 2016). The pairing of experienced mentors with new mentors will ensure that the new ones get constructive feedback and learn from the experienced ones (Niederriter et al., 2017).

3.11.3 Communication

Communication has been reported as an essential driving force of clinical nursing education (Moonaghi et al., 2015; Needham et al., 2016; Cândida et al., 2017). Clinical supervisors, nurses and students need to discuss the barriers to learning that students face during clinical placement and identify possible strategies that could be used to resolve such barriers (Cândida et al., 2017). Clinical instructors' communication with students should be based on fairness, openness, justice and respect (Moonaghi et al., 2015). Clinical facilitators agree that to have a successful clinical placement the interaction amongst nurses, students and patients have to be effective (Needham et al., 2016). Clinical facilitators explain that effective communication will help unravel the individual needs of students so that clinical teaching could be tailored to meet such needs (Needham et al., 2016).

3.11.4 Assessment

The review revealed various methods of assessing students with each of them having a strength that contributes to effective clinical nursing education (Zasadny & Bull, 2015; Burke et al., 2016; Bani-issa et al., 2019; Mettiäinen, 2015).

Students and examiners all regard Objective Structured Clinical Examination (OSCE) as a comprehensive clinical learning experience and an effective means of preparing students for professional practice (Bani-issa et al., 2019a). OSCE can be considered an effective means of assessing students on a wide range of knowledge, attitudes and skills (Bani-issa et al., 2019a). Students think the feedback they receive after an OSCE helps improve their skills (Bani-issa et al., 2019a). Examiners indicated that the use of a checklist allows for fair grading of students during OSCE (Bani-issa et al., 2019a).

The Amalgamated Students Assessment (ASAP) model and tool was developed in an Australian university in response to the inadequacies of existing assessment tools. The ASAP model offers a comprehensive focused assessment of students suitable for both formative and summative assessments (Zasadny & Bull, 2015). Preceptors and facilitators consider the ASAP model as an easy-to-use tool that identifies students' weaknesses and provides objective documented evidence of performance (Zasadny & Bull, 2015).

Preceptors with the experience of using the Competence Tool to assess the competence of undergraduate nursing students reported that using the tool involves interviewing students and this has a positive effect on fostering communication (Burke et al., 2016). The tool is useful in identifying students learning needs, monitoring the progress of skills acquisition and remediation of students' concerns (Burke et al., 2016).

The use of electronic feedback and assessment tool for clinical supervision of students was reported as an effective means of monitoring students' progress during clinical placement (Mettiäinen, 2015). The electronic feedback and assessment tool involved the use of an electronic platform where nursing teachers post questions regarding clinical placements and students log into the platform and respond to the questions using a smartphone or computer. According to nursing teachers, the electronic feedback tool made the students' clinical learning process visible, structured the clinical learning process and provided information on how efficient clinical supervision was (Mettiäinen, 2015). The students' perspective of the electronic feedback tool was that it provided daily supervision of their activities, helped them to restructure their learning objectives, stimulated their cognitive learning processes and enabled them to do self-assessment and reflection (Mettiäinen, 2015).

3.11.5 Discussion of Findings

3.11.5.1 Context

The objective of the review was to explore factors that facilitate effective clinical nursing education. The review established that nursing students, clinical nurses, clinical supervisors and lecturers all play essentials in clinical nursing education. The provision of resources and delivery of effective clinical teaching were also identified as important elements of clinical nursing education.

Nursing students are the recipients of clinical teaching in the clinical setting. During clinical placement, students learn in real-life situation which is accompanied by stress. Students' efforts to maintain a good relationship with nurses, patients and patients’ relatives could be a potential

source of stress. Psychological support is necessary to enable students to cope with the stress associated with the clinical environment (Bodys-cupak et al., 2018). Without adequate support in the clinical environment, students may feel isolated while in clinical placement (Atakro et al., 2019; Kerthu & Nuuyoma, 2019a). Nurses and clinical supervisors will need to have scheduled meetings with students to understand their psychological needs when they are in clinical placement.

Communication with patients is a challenge that students sometimes face during clinical placement. Some patients may be confused, unable to communicate or even agitated (Cândida et al., 2017). Students need support from nurses and clinical supervisors to apply concepts learnt from courses such as relational practice and therapeutic communication skills to care for patients. The level of support students receive from nurses and clinical supervisors influences their perception of the effectiveness of the clinical environment (Atakro et al., 2019; Kerthu & Nuuyoma, 2019a). To provide the needed supportive environment that will facilitate clinical learning, clinical supervisors and nurses should therefore provide more guidance and supervision to students.

Nursing lecturers should be involved in both the teaching of theory and practical and importantly be available to supervise students in their clinical placement. Students prefer that nursing lecturers supervise them during clinical placement (Bazrafkan & Kalyani, 2018; Kamphinda et al., 2019). The presence of nursing lecturers for clinical supervision will enable the lecturers to observe the extent to which theoretical aspects taught in the classroom are being translated into skills learning.

Clinical preceptors are involved in the supervision of students. The qualities of clinical supervisors are instrumental in the clinical skills teaching of students. When clinical supervisors communicate openly it encourages students to approach them with their concerns. Communication and coaching are important qualities of clinical instructors that facilitate the clinical learning of students (Moonaghi et al., 2015; Asirifi et al., 2017; Niederriter et al., 2017).

Students' characteristics have an influence on their skills learning. Students who are dedicated, hardworking and self-motivated can achieve clinical placement objectives. Students who show interest in clinical learning always make themselves available by taking part in nursing procedures and ask questions (Asirifi et al., 2017). Nursing has been described as a “calling” hence personal interest right from school will impact clinical learning of skills. Students who

are self-motivated and dedicated towards learning of clinical skills are most likely to develop professional skills faster.

The training of nursing students takes place both in academic and clinical institutions. A collaboration between academic and clinical institutions will make the training process more effective. In the clinical setting, nurses are involved in the clinical teaching of nursing students whether they are prepared for such roles or not. There is a need for academic-clinical collaboration to design a training programme for nurses to enhance their pedagogical competence on preceptorship (Wu et al., 2017; Atakro et al., 2019). When clinical nurses are well prepared for the clinical teaching role they will be in the best position to assist students to learn clinical skills.

An academic-clinical collaboration will help in understanding the contribution that is required from each institution towards effective clinical learning of students (Wu et al., 2017). Academic institutions need to communicate with the clinical setting regarding what support is expected of them towards students during clinical placement. On the other hand, feedback from the clinical setting is essential for academic institutions to know students' progress and areas that require improvement. Clinical learning of students will be more effective if the communication between academic and clinical institutions is open, genuine and constant.

The clinical setting serves as a platform for the implementation of the clinical curriculum. Nurses and preceptors are usually staff of the clinical institutions and they play a pivotal role in implementing the clinical curriculum. Academic-clinical collaboration is therefore essential in reviewing and drawing up the clinical education curriculum since staff from both will have to work with the curriculum (Wu et al, 2017). When nurses and clinical preceptors collaborate in preparing the clinical education curriculum it enables the preceptors to make inputs based on their clinical experience that will make the curriculum more practically applicable (Wu et al., 2017).

3.11.5.2 Structure

Nursing procedures are done using material resources in the clinical environment. The review established that the provision of material resources for nursing is essential in helping students learning clinical skills (Asirifi et al., 2017; Kamphinda et al., 2019). Where the material requirements for nursing procedures are not available nurses are forced to improvise. Consequently, if the act of improvising involves the use of materials that are not close to the

right material students' clinical learning will be affected. Academic institutions may be concerned with ensuring that skills laboratories are well stocked but this must go with the provision of material resources in the clinical area to help students learn skills.

The provision of nursing care for patients creates the avenue for clinical learning. Clinical facilities that have space and a bed capacity that accommodate an adequate number of patients presents students with the opportunity to learn varied skills (Kamphinda et al., 2019; Kerthu & Nuuyoma, 2019a). Students should be allocated to wards where there is a greater possibility of patient contact and availability of nursing procedures for students to perform. Performing nursing procedures creates the opportunity for students to learn clinical skills.

The application of technology in skills teaching is an important strategy that could be adopted to improve skills acquisition. Experimental studies have established the viability of improving skills teaching through the use of mobile-based learning videos of clinical nursing content (Lee et al., 2016; Connor & Andrews, 2018; Kim & Suh, 2018). Mobile-based clinical nursing video content allows students to view the procedures several times at their own time. Though there is a cost implication of each student having a smart phone the benefits thereof are high. The mobile-based platforms can be loaded with videos of nursing procedures where students can view them before skills laboratory sessions or clinical placement. Learning from audio-visual content could help students acquire skills faster.

3.11.5.3 Process

Pre briefing and debriefing are essential processes that enhance the clinical learning of students (Henderson et al., 2018). During the pre-brief session before the start of a day in the clinical setting, it allows students to ask questions, set objectives for the day and know what is expected of them. Pre-briefing also creates the avenue for preceptors to give instructions and make clarifications to students. On the other hand, debriefing creates a platform for students to receive feedback from preceptors about their performance. The feedback received influences the preparation or adjustments required to improve skills learning. During debriefing students also get the opportunity to ask questions about issues in the clinical placement that are of concern to them.

Reduction in the theory-practice gap was reported in this review as an important step to enhance clinical learning (Bazrafkan & Kalyani, 2018a; Yousefy & Mohammadi, 2015). Preceptors and clinical nurses have a responsibility to ensure that the clinical teaching of students incorporates theory and practice. The reduction in theory-practice gap enables students

to appreciate the theory knowledge they have acquired through tuition in the classroom. In Ghana theory-practice gap has been blamed largely on the lack of material resources (Adjei et al., 2018; Salifu et al., 2019). The clinical facilities are expected to help students translate the theory they learn in the classroom into practical skills but there is lack of material resources for performing or practicing nursing procedures. The provision of material resources for clinical training of students will therefore be a pre-requisite to closing the theory-practice gap.

Simulation laboratories mimic the clinical environment in which students can learn a wide range of skills. In simulation laboratories, students can practice and gain the confidence that is required for real clinical practice. One major advantage of simulation is that human life is not involved and students will not worry about the consequences of their mistakes (Miles, 2018). Well-equipped simulation laboratories in academic institutions will be necessary to enable students to derive the benefits of skills learning in them.

Student numbers are increasing in most academic institutions making skills laboratory sessions crowded and ineffective. To ensure effective skills laboratory sessions there is a need to put students in smaller groups (Muthathi et al., 2017). Academic institutions should employ personnel whose main responsibility will be to work in the skills laboratory where students can go there on a rotational plan and receive the needed support. Skills laboratory personnel will play a major role in ensuring students have adequate skills learning sessions

Timing and duration of clinical placement of students is an essential aspect of ensuring that students derive maximum benefit from the placement. Planning clinical placement to immediately follow skills laboratory training was deemed effective in translating skills learnt into practice (Muthathi et al., 2017). When students practice in the skills laboratory they gain the skills and confidence that can be applied to clinical practice. Students spending a whole day in the ward during clinical placement is deemed necessary to allow adequate time in a shift to learn. Where clinical placement duration is longer students get to spend adequate time in each ward. Nursing is a skills-based profession hence undergraduate nursing curricula should make room for adequate clinical placement hours.

Clinical preceptors play a pivotal role in the clinical teaching of students. Preceptors in some instances do not have specific training on the role of being a preceptor. They are mostly experienced nurses who are familiar with the ward environment and willing to help students gain clinical competences. To ensure that preceptors function effectively formal training will be essential to enable them to acquire the skills they need to deliver clinical teaching (Needham

et al., 2016; McSharry and Lathlean, 2017). Apart from universities coming out with courses on preceptorship, the pairing of experienced preceptors with the newer preceptors will also create room for the practical training of newer preceptors.

Communication is an essential component of clinical teaching and learning. Preceptors' ability to ensure effective communication with students and patients is essential in making clinical placement sessions positive. Dialoguing and appropriate questioning techniques are considered essential components of preceptorship. Students expect preceptors to ask high-ordered questions to stimulate thinking and increase their interest in clinical learning. The communication in the clinical environment is expected to be a dialogue to allow the preceptors and students to discuss issues that enhance clinical teaching and learning (Mcsharry & Lathlean, 2017). Open communication allows students to communicate their difficulties and get support from preceptors. The student-preceptor relationship is strengthened through effective communication and this can impact the quality of clinical teaching and learning.

Clinical assessment of students is a vital component of clinical nursing education. Clinical assessment of students helps to monitor the progress of skills learning. The use of Objective Structured Clinical Examination (OSCE) is considered a very effective means of clinical assessment of students that is widely used in most academic institutions. On the other hand, the use of competence assessment tools in clinical assessment involves interviewing students which helps the assessor understand the students' strengths and weaknesses (Burke et al., 2016). The competence assessment tool provides vital information about areas that students need more support. The use of a competence tool could therefore be very important for the formative assessment of students.

The use of electronic applications for clinical assessment of students is increasing among academic institutions. Supervision and clinical assessment of students using an electronic platform is an effective tool in monitoring students' progress during clinical placement (Mettiäinen, 2015). With this electronic assessment method, nursing lecturers post questions regarding what the students are expected to learn during clinical placement daily. The students then log onto the platform and respond to the questions. The lecturers can monitor students' progress in clinical learning based on the responses received. Students stand to benefit from the application because their grievances can be communicated for timely support to enhance their clinical learning.

3.12 CHAPTER SUMMARY

The chapter involved conducting a scoping literature review on the practices of clinical education. Clinical nursing education is influenced by factors both in the clinical and academic institution's setting. Planning, provision of resources and application technology are essential for effective clinical nursing education. Academic-clinical collaboration is necessary for planning clinical placement so that students will receive the support they need during placement. Material resources are required for skills learning hence authorities need to ensure that these are provided for both skills laboratories and clinical facilities. Technology is increasingly becoming a very important resource that can be applied to enhance clinical learning.

The next chapter presents a survey conducted among university nursing students and preceptors to assess their perception on clinical nursing education.

CHAPTER 4: THE QUANTITATIVE STUDY

4.1 INTRODUCTION

The previous chapter presented the scoping literature review on factors that facilitate clinical nursing education. This chapter presents the results of the survey conducted among university nursing students and preceptors. The results are presented under background characteristics, descriptive summary of perceptions, Pearson's correlation of the components of clinical nursing education, and linear regression analysis. The chapter also presents discussion of the results.

4.2 RECAP OF RESEARCH METHOD

The study used a descriptive cross-sectional design. The respondents were nursing students in the second, third and fourth year of the undergraduate programme. The preceptors were registered nurses with at least a diploma in nursing. Purposive sampling technique was used to select the three hospitals. Stratified random sampling technique was used to select preceptors and the students. Data was collected through the administration of a questionnaire. The data was analysed using descriptive statistics and presented in frequencies and percentages. A Pearson Product Moment Correlation was performed to determine the significance of relationship between the components of clinical nursing education. Linear regression analysis was conducted to examine the extent to which perceptions of the Clinical Placement Area are explained by the variables such as demographic characteristics, perception of Clinical Teaching and Learning, and perception of clinical assessment.

4.3 STUDENTS

Table 4.1 below indicates that 50.5% (n=111) of the students were female and 49.5% (n=109) were male. The majority of the students (60.9%, n=135) were between the ages of twenty and twenty-four (20-24) years and only eight (n = 8) were 35 years and above. Eighty-three (n = 83) or 37.7% of the students were in their fourth year of study and eighty-one (n = 81) or 36.8% were in their third year of study. Fifty-six (n = 56) or 25.5% of the students were in their second year of study

Table 4. 1: Background characteristics of students

Characteristics	Category	Frequency (N = 210)	Percentage (100%)
Gender			
	Female	111	50.5
	Male	109	49.5
Age			
	19 and below	15	6.8
	20-24	134	60.9
	25-29	34	15.5
	30-34	29	13.2
	35+	8	3.6
Level of Training			
	Fourth year	83	37.7
	Third year	81	36.8
	Second year	56	25.5

4.3.1 Descriptive Summary of Perceptions of Clinical Nursing Education amongst students

Table 4.2 shows the nursing students' perceptions of Clinical Nursing Education. The components of Clinical Nursing Education that were assessed include Clinical Placement Area, Clinical Teaching and Learning, and Clinical Assessment.

Perception of the Clinical Placement Area had a composite score of 1.72 on a scale of 0-4 (95% CI: 1.64-1.80). This translates into 43% level of agreement with statements assessing the perception of the clinical placement area. Of fourteen (14) items that contributed to assessing the perception of the Clinical Placement Area, the lowest level of agreement was on the

statement “the development and teaching of the student nurses is only the responsibility of the university”. The students rated this 1.54 on a scale of 0-4 (95% CI: 1.39-1.69) hence expressing only a 38.5% level of agreement. In contrast, the highest score on the statement “placement dates are pre-published before the placement of students to the clinical facilities” which was rated 2.20 on a scale of 0-4 (95% CI: 2.03-2.37) translating into a 55% level of agreement.

The composite score of the nursing students’ perceptions of Clinical Teaching and Learning was 1.86 on a scale of 0-4 (95% CI:1.79 -1.93) translating into a 46.5% level of agreement. Of fourteen (14) items that were used to assess the perception of Clinical Teaching and Learning, the lowest score was on the statement “The university has enough equipment and material resources for demonstration and feedback of clinical skills”. This statement was rated 1.54 on a scale of 0-4 (95% CI: 1.41-1.67) hence expressing only a 38.5% level of agreement. The highest level of agreement was on the statement “as a nursing student I am willing to learn” which was rated 2.81 on a scale of 0-4 (95% CI: 2.64-2.98) representing a 70.2% level of agreement with the statement.

The composite score of nursing students’ perception of Clinical Assessment was 1.86 on a scale of 0-4 (95% CI: 1.76-1.96) indicating a 46.5% level of agreement with statements assessing the perception of Clinical Assessment. Eight items were used to assess the perception of Clinical Assessment. The lowest score on Clinical Assessment was on the statement “All students sign an assessment contract before being assessed”. The students rated this 1.72 on a scale of 0-4 (95% CI: 1.56-1.88) hence expressing only a 43% level of agreement. The highest level of agreement was on the statement “as a student I avail myself for clinical practice before being assessed” which was rated 2.01 on a scale of 0-4 (95% CI: 1.71-2.07) translating to a 50.3% level of agreement.

Table 4. 2: Descriptive Summary of the Perceptions of Nursing Students on Clinical Nursing Education

Variable	Mean	Std. Error	Std. Deviation	95% Confidence Interval		% score on a 4-point scale (Level of agreement)
				Lower	Upper	
Clinical Placement Area Perception Score	**1.72**	**0.04**	**0.59**	**1.64**	**1.80**	**43.0%**
Placement dates are pre-published before the placement of students to the clinical facilities	2.20	0.09	1.32	2.03	2.37	55.0%
We receive a manual containing all rules regarding clinical practice, procedures, forms and strategies prior to commencement of clinical placements	2.04	0.09	1.32	1.87	2.21	51.0%
Students get sufficient clinical exposure in the clinical placements	1.65	0.08	1.17	1.50	1.80	41.3%
There is sufficient clinical accompaniment by clinical instructors when we are in the placement area	1.66	0.08	1.11	1.51	1.81	41.5%
There is effective communication between clinical facilitators and clinical staff	1.55	0.08	1.16	1.40	1.70	38.8%
Students and clinical facilitators have effective communication	1.64	0.08	1.16	1.49	1.79	41.0%
We as students and clinical staff have effective communication	1.67	0.08	1.19	1.51	1.83	41.8%
Lecturers also visit the clinical area for accompaniment of students	1.58	0.07	1.03	1.44	1.72	39.5%
The learning needs of students are clarified to us as students	1.65	0.07	1.09	1.50	1.80	41.3%

There is a joint responsibility between the lecturers and the clinical staff to develop the student nurses.	1.84	0.08	1.19	1.68	2.00	46.0%
Student's learning outcomes are distributed to the placement area before placement of students	1.68	0.08	1.12	1.53	1.83	42.o%
The development and teaching of the student nurses are only the responsibility of the university.	1.54	0.08	1.12	1.39	1.69	38.5%
The clinical facilities are supportive of professional growth, skills development and practice of students.	2.01	0.09	1.31	1.84	2.18	50.3%
There are enough clinical placement facilities to place students for clinical practice	1.86	0.08	1.21	1.70	2.02	46.5%
Clinical Teaching and Learning Perception Score	**1.86**	**0.04**	**0.55**	**1.79**	**1.93**	46.5%
The university has enough space for clinical teaching and learning activities	1.56	0.07	0.98	1.43	1.69	39.0%
The university has enough equipment and material resources for demonstration and feedback of clinical skills	1.54	0.07	0.99	1.41	1.67	38.5%
The clinical placement areas have enough equipment and material resources for demonstration and feedback of clinical skills	1.66	0.08	1.13	1.51	1.81	41.5%
The term "self-directed learning" is clear to us as nursing students	1.67	0.08	1.21	1.51	1.83	41.8%
As a student I understand my responsibilities regarding clinical facilitation	2.04	0.09	1.31	1.87	2.21	51.0%
We are theoretically prepared before we go for clinical facilitation.	1.96	0.09	1.37	1.78	2.14	49.0%
As a nursing student I am willing to learn.	2.81	0.09	1.29	2.64	2.98	70.3%
Students accept constructive criticism.	2.22	0.09	1.36	2.04	2.40	55.5%

All students know the limitations of clinical teaching and learning process.	1.90	0.09	1.33	1.72	2.08	47.5%
A remedial plan is implemented if we as students are not yet competent in a certain skill.	1.57	0.08	1.13	1.42	1.72	39.3%
As a student I benefit from clinical accompaniment when allocated in different clinical facilities.	2.17	0.09	1.32	2.00	2.34	54.3%
Student clinical accompaniment should only be done by clinical facilitators.	1.77	0.08	1.23	1.61	1.93	44.3%
Lecturers should not be involved in the clinical accompaniment of students.	1.67	0.08	1.21	1.51	1.83	41.8%
Lecturers are involved in student clinical facilitation and accompaniment.	1.77	0.08	1.24	1.61	1.93	44.3%
Clinical Assessment Perception Score	**1.86**	**0.05**	**0.77**	**1.76**	**1.96**	46.5%
As a student, I am informed of the specific criteria and standards for each clinical placement against which I will be assessed	1.92	0.09	1.28	1.75	2.09	48.0%
All students sign an assessment contract before being assessed	1.72	0.08	1.20	1.56	1.88	43.0%
We are informed in time before clinical assessments starts	1.89	0.09	1.33	1.71	2.07	47.3%
As a student I avail myself for clinical practice before being assessed	2.01	0.09	1.28	1.84	2.18	50.3%
We are informed in time of the skills we will be assessed on	1.75	0.09	1.28	1.58	1.92	43.8%
The assessment tools facilitate the integration of theory and practice	1.89	0.09	1.29	1.72	2.06	47.3%
There is confidentiality of the assessment outcome for each student	1.94	0.09	1.38	1.76	2.12	48.5%
The student and the facilitator discuss and evaluate performance against each competency thereby identifying areas of strength and areas needing improvement	1.77	0.08	1.23	1.61	1.93	44.3%
Clinical Nursing Education Perception Score	**1.81**	**0.04**	**0.54**	**1.74**	**1.88**	45.3%

4.3.2 Pearson Product-Moment Correlation of Clinical Nursing Education Components

A Pearson Product-Moment correlation coefficient (*r*) test was performed to determine the strength and significance of the relationship between the components of clinical nursing education. Table 4.3 below of Pearson's Product-Moment correlation analysis showed that the three components of clinical nursing education (clinical placement area, clinical teaching and learning, clinical assessment) are positively and significantly correlated. Perception of Clinical Placement Area is moderately correlated with Clinical Teaching and Learning (r=0.594, p<0.001) as with perception of Clinical Placement (r=0.469, p<0.001). A relatively stronger association is observed between the perception of Clinical Teaching and Learning and that of Clinical Assessment (r=0.626, p<0.001). See table 4.3 below for details.

Table 4. 3: Pearson's Correlation of Clinical Nursing Education Components

Variable	Clinical Placement Area Score	Clinical Teaching and Learning Score
Clinical Teaching and Learning Score	0.594**	
Clinical Assessment Score	0.469**	0.626**

**** = p<0.001**

4.3.3 Predictors of Clinical Nursing Education Perceptions

The linear regression analysis was done to examine the extent to which the perception of the Clinical Placement Area is explained by other variables (Demographic Characteristics, perception of Clinical Teaching and Learning, and perception of Clinical Assessment). The R-squared measured the extent to which the perception on the Clinical Placement Area is explained by the other variables and the adjusted R-square adjusted the statistic based on the number of independent variables

Table 4.4 below shows that background characteristics of nursing students was examined in an initial model (model 1) to determine their influence on the perception of students on Clinical Placement Area. The students' background characteristics (gender, age and level of training) all together explained only 3.8% of the variations in student perception of the Clinical Placement Area (*Adjusted R^2=0.038, p=0.01)*. However, age and level of training were statistically significant in their contribution to perception of the Clinical Placement Area. Older students had a higher level of agreement with statements assessing perception of the Clinical

Placement Area and this was statistically significant (β = 0.13, p< .001) but perception did not significantly vary by reason of their gender (β = 0.00, p= 0.97).

On the other hand, increasing level of training was associated with decreasing perception score for the Clinical Placement Area. Thus, holding gender and age constant, moving from a lower level of training to the next higher one is associated with a decrease of 0.11 perception score (on a scale of 0-4) for the clinical placement which was statistically significant (β = -0.11, p= 0.04).

Table 4.4 also indicates that in model 2, all the background characteristics of students, as well as their perception of Clinical Teaching and Learning, and Clinical Assessment, accounted for nearly 37% of the difference in their Clinical Placement Area perception (*Adjusted R^2=0.369, p<0.001)*. In model 2, it is interesting to note that in the presence of other explanatory variables, the association between level of training and perception on Clinical Placement Area was not statistically significant (β=- -0.002, p=0.97), same as gender (β= -0.03, p=0.67). Also, all things being equal, a unit increase in the Clinical Teaching and Learning Score is associated with a 0.54 increase in the Clinical Placement Area score which was statistically significant (β= 0.54, p<0.001). By holding all other variables constant, a unit increase in the Clinical assessment Score is associated with 0.10 increase in the Clinical Placement Area Score which was not statistically significant (β= 0.10, p=0.08).

Table 4. 4: Predictors of perception of clinical placement area amongst university nursing students

Model	Predictors	Coefficients	Std. Error	t-statistic	P-value
1	(Constant)	1.64	0.15	10.88	0.00
	Gender	0.00	0.08	-0.04	0.97
	Age	0.13	0.04	2.97	0.00
	Level of training	-0.11	0.05	-2.10	0.04
	Model summary: ***Adjusted R^2=0.038, $F_{(3,219)}$ =3.9, P=0.01***				
2	(Constant)	0.37	0.17	2.15	0.03
	Gender	-0.03	0.06	-0.42	0.67
	Age	0.08	0.04	2.13	0.03
	Level of training	-0.002	0.04	-0.04	0.97
	Clinical Teaching and Learning Score	0.54	0.07	7.34	0.00
	Clinical Assessment Score	0.10	0.06	1.75	0.08
	Model summary: ***Adjusted R^2=0.369, $F_{(5,219)}$ = 5.8, P<0.001***				

Dependent Variable: Clinical Placement Area Perception Score

4.4 PRECEPTORS

4.4.1 Background Characteristics of Preceptors

Table 4.5 below indicates that 52.4% (n=161) of the preceptors were females and 47.6% (n=146) were males. Most (42.4%, n=130) of them were within the age range 30-39 years, and 37.8% (n=116) were within 20-29years. Of the 307 preceptors, 74.3% (n=228) worked in the teaching hospital, 14.0% (n=43) worked at the regional hospital and 11.7% (n=36) worked in a district hospital.

Table 4. 5: Background Characteristic of Preceptors

Characteristics	**Category**	**Frequency (N = 307)**	**Percentage (100%)**
Gender			
	Female	161	52.4
	Male	146	47.6
Age			
	20-29	116	37.8
	30-39	130	42.4
	40-49	52	16.9
	50-59	8	2.6
	60+	1	0.3
Facility Type			
	Teaching Hospital	228	74.3
	Regional Hospital	43	14.0
	District Hospital	36	11.7
Academic qualification			
	Diploma	188	61.2
	Bachelor	115	37.5
	Masters	4	1.3

4.4.2 Perceptions of Clinical Nursing Education amongst Preceptors

Table 4.6 below shows a descriptive summary of preceptors' perceptions of clinical nursing education which was rated on a scale of 0-4. Three main components of clinical nursing education (Clinical Placement Area, Clinical Teaching and Learning, and Clinical Assessment)

were assessed. The ratings were averaged to yield a perception score for each of these clinical nursing education components and an overall score.

Perception of the Clinical Placement Area which was assessed with 13 items yielded a composite score of 2.30 on a scale of 0-4 (95% CI: 2.21-2.39). This translates into a 57.5% level of agreement with statements assessing the perception of the Clinical Placement Area. With the individual items, the highest level of agreement was on the statement "Placement dates are pre-published before the placement of students to the clinical facilities" The preceptors rated this statement 2.66 on the scale of 0-4 (2.52-2.80) hence expressing only 66.5% level of agreement. In contrast, the lowest level of agreement was with the statement that sought to find out if the development and teaching of student nurses is only the responsibility of the university. The preceptors rated this question 1.75 on a scale of 0-4 (95% CI: 1.62-1.88) translating to a 43.8% level of agreement with the statement.

The preceptors' Clinical Teaching and Learning composite score was 2.04 on a scale of 0-4 (95% CI: 1.95-2.13) translating into a 51.0% level of agreement with statements assessing the perception of Clinical Teaching and Learning. Of 11 items that were used to assess the perception of Clinical Teaching and Learning, the highest score was on the statement "Clinical accompaniment does benefit students". The preceptors rated this statement 2.69 on a scale of 0-4 (95% CI: 2.54-2.84) translating to 67.3% agreement with the statement. The lowest level of agreement was on the statement "The university has enough equipment and material resources for demonstration and feedback of clinical skills" which rated 1.75 on a scale of 0-4 (95% CI: 1.61-1.89) with a 44% level of agreement.

Nine items were used to assess perception of Clinical Assessment. The composite score of the preceptors' perceptions of Clinical Assessment was 2.30 on a scale of 0-4 (95% CI: 2.21-2.39) indicating 58% level of agreement with statements assessing perception of clinical assessment supports clinical nursing education. The highest score on Clinical Assessment was on the statement "as preceptors we are involved in clinical assessments of students". The preceptors rated this 2.64 on a scale of 0-4 (95% CI: 2.48-2.80) hence expressing 66.0% level of agreement. The lowest level of agreement was on the statement "Student and the facilitator discuss and evaluate performance against each competency thereby identifying areas of strength and areas needing improvement". The preceptors rated this statement 2.01 on a scale of 0-4 (95% CI: 1.85-2.17) indicating 50.3% level of agreement.

Table 4. 6: Descriptive Summary of the Perceptions of Preceptors on Clinical Nursing Education

Components of Clinical Nursing Education	Mean	Std. Error	Std. Deviation	95% Confidence Interval		% score on a 4-point scale (Level of agreement)
				Lower	Upper	
Clinical Placement Area Score	***2.30***	***0.05***	***0.84***	***2.21***	***2.39***	57.5%
Placement dates are pre-published before the placement of students to the clinical facilities.	2.66	0.07	1.25	2.52	2.80	66.5%
Students get enough clinical exposure in the clinical placements	2.51	0.08	1.32	2.36	2.66	62.8%
There is sufficient clinical accompaniment by clinical instructors in the placement area	2.13	0.08	1.41	1.97	2.29	53.3%
There is effective communication between clinical facilitators and staff in the clinical facilities.	2.30	0.08	1.37	2.15	2.45	57.5%
Students and clinical facilitators have effective communication	2.30	0.08	1.41	2.14	2.46	57.5%
There is effective communication between clinical facilitators and clinical staff	2.42	0.07	1.25	2.28	2.56	60.5%
Lecturers also visit the clinical area for the accompaniment of students.	2.33	0.08	1.39	2.18	2.48	58.3%
The learning needs of students are clarified to the students.	1.96	0.08	1.46	1.80	2.12	49.0%
There is a joint responsibility between the lecturers and the clinical staff to develop the student nurses.						63.5%

	2.54	0.08	1.39	2.38	2.70	
The development and teaching of the student nurses are only the responsibility of the university.	1.75	0.07	1.18	1.62	1.88	43.8%
The clinical facilities are supportive of professional growth, skills development and practice of students.	2.61	0.08	1.32	2.46	2.76	65.3%
There is a good relationship between clinical facilitators and the clinical staff in clinical placements.	2.07	0.08	1.44	1.91	2.23	51.8%
There are enough clinical placement facilities to place students for clinical practice.	2.30	0.08	1.33	2.15	2.45	57.5%
Clinical Teaching and Learning Score	***2.04***	***0.05***	***0.81***	***1.95***	***2.13***	51.0%
The university has enough space for clinical teaching and learning activities.	1.81	0.07	1.20	1.68	1.94	45.3%
The university has enough equipment and material resources for demonstration and feedback of clinical skills.	1.75	0.07	1.21	1.61	1.89	43.8%
The clinical placement areas have enough equipment and material resources for demonstration and feedback of clinical skills.	1.86	0.07	1.29	1.72	2.00	46.5%
Students are theoretically prepared before they are sent to clinical facilities	2.07	0.08	1.40	1.91	2.23	51.8%
Nursing students are willing to learn.	2.28	0.08	1.42	2.12	2.44	57.0%
Students accept constructive criticism.	1.99	0.08	1.45	1.83	2.15	49.8%
All students know the limitations of the clinical teaching and learning process.	1.93	0.08	1.37	1.78	2.08	48.3%

A remedial plan is implemented if a student fails to master a skill	1.95	0.07	1.26	1.81	2.09	48.8%
Clinical facilitators get full support from the lecturers.	2.07	0.08	1.38	1.92	2.22	51.8%
The clinical accompaniment does benefit students.	2.69	0.08	1.38	2.54	2.84	67.3%
Clinical Assessment	***2.30***	***0.05***	***0.85***	***2.21***	***2.39***	***57.5%***
Students are informed of the specific criteria and standards for each clinical placement against which they will be assessed.	2.24	0.08	1.31	2.09	2.39	56.0*%*
All students sign an assessment contract before being assessed.	2.10	0.08	1.31	1.95	2.25	52.5*%*
Students are informed in time before clinical assessments starts.	2.39	0.07	1.28	2.25	2.53	59.8*%*
Students avail themselves for clinical practice before they are assessed.	2.26	0.08	1.35	2.11	2.41	56.5*%*
The assessment tools facilitate the integration of theory and practice.	2.39	0.08	1.34	2.24	2.54	59.8*%*
There is the confidentiality of the assessment outcome for each student.	2.14	0.08	1.32	1.99	2.29	53.5*%*
The student and the facilitator discuss and evaluate performance against each competency thereby identifying areas of strength and areas needing improvement.	2.01	0.08	1.40	1.85	2.17	50.3*%*
Preceptors have an input in the development of assessment tools.	2.52	0.08	1.44	2.36	2.68	63.0*%*
As preceptors, we are involved in clinical assessments of students.	2.64	0.08	1.41	2.48	2.80	66.0*%*
Clinical Nursing Education Perception Score	***2.21***	***0.04***	***0.74***	***2.13***	***2.29***	***55.3%***

4.4.3 Pearson's Product-Moment Correlation of Clinical Nursing Education components

To examine whether preceptors' perceptions of each of the Clinical Nursing Education components had any form of relationship, a Pearson's Correlation was performed as shown in table 4.7. The results show that all three variables are significantly and positively correlated. Perception of Clinical Teaching and Learning has a statistically significant correlation with perception of Clinical Placement Area ($r = .692$, $p<0.001$). Also, perception of Clinical Assessment has a statistically significant correlation with the perception of Clinical Placement Area ($r = .679$, $p<0.001$). Lastly, the relationship between perception of Clinical Assessment and perception of Clinical Teaching is statistically significant ($r = .626$, $p<0.001$).

Table 4. 7: Pearson Correlation between Clinical Nursing Education components

Variables	Clinical Placement	Clinical teaching and learning
Clinical teaching and learning	0.692 **	
Clinical assessment	0.679 **	0.626**

**** = p<0.001**

4.4.4 Predictors of Clinical Nursing Education Perceptions

To examine the extent to which clinical placement area perception is explained by the other variables, linear regression analysis was conducted.

Table 4.8 below indicates that the background characteristics of preceptors were examined in an initial model (model 1) to determine their influence on the perception of preceptors on the Clinical Placement Area. The preceptors' background characteristics (gender, age, years of service and academic qualification) all together explained only 1.9% of the variations in perception of the clinical placement area (*Adjusted R^2=0.019, p=0.22).* In assessing the individual contribution of background characteristics, the contribution of academic qualifications to the perception of the Clinical Placement Area was statistically significant ($\beta = 0.202$, $p= 0.042$). Gender, age and years of service did not make a statistically significant contribution to the perceptions on Clinical Placement Area. However, being a

female and increasing age are associated with a decreasing perception score for the clinical placement area. Thus, all this being equal, being a female is associated with a .098 decrease in the perception score (β = -0.098, p= 0.312) and moving from one age bracket to the next higher one is associated with a decrease of 0.02 in the perception score (β = -0.02, p= 0.783).

Also, table 4.8 shows that in model 2, all the background characteristics of preceptors together with perception on Clinical Teaching and Learning, and Clinical Assessment accounted for nearly 59% of the differences in their Clinical Placement Area perception (*Adjusted R^2=0.592, p<0.001)*. Gender, age and years of service did not make a statistically significant contribution to the perceptions on the Clinical Placement Area. However, similar to model 1, being a female and increasing age was associated with a decrease in the perception score. Academic qualification had a statistically significant relationship with the perceptions on the Clinical Placement Area (β= 0.147, p=0.023). Also, holding all other factors constant, a unit increase in the Clinical Teaching and Learning score is associated with a 0.042 increase in the perception score of the Clinical Placement Area and this was statistically significant (β= 0.421, P <0.001). Similarly, a unit increase in the Clinical Assessment score is associated with a 0.43 increase in the perception score of the Clinical Placement Area which was statistically significant (β= 0.429, p<0.001).

Table 4. 8: Predictors of perception of Clinical Placement Area

Model	Predictors	Coefficients	Std. Error	t-statistic	p-value
1	(Constant)	2.088	0.175	11.916	0.000
	Gender	-0.098	0.097	-1.014	0.312
	Age	-0.02	0.074	-0.275	0.783
	Years of service	0.013	0.104	0.123	0.902
	Academic qualification	0.202	0.099	2.039	0.042
	Model summary: ***Adjusted R^2=0.019, $F_{(4, 302)}$ =1.46, P=0.22***				
2	(Constant)	0.292	0.144	2.032	0.043
	Gender	-0.066	0.063	-1.056	0.292
	Age	-0.051	0.048	-1.064	0.288
	Years of service	0.062	0.067	0.92	0.359
	Academic qualification	0.147	0.064	2.285	0.023
	Clinical teaching and learning Score	0.421	0.049	8.628	0.000
	Clinical assessment	0.429	0.047	9.137	0.000
	Model summary: ***Adjusted R^2=0.592, $F_{(2, 300)}$ =210.72, P<0.001***				

Outcome variable: Clinical Placement Area Score

4.4.5 Preceptors' Perceptions of Clinical Nursing Education Based on Facility Type

A One-way ANOVA was used to determine the differences in the perceptions of the preceptors across the three facilities from which they were recruited. Table 4.9 below shows that there is no statistically significant difference among the preceptors' perceptions of clinical nursing education based on facility type ($F_{(2, 304)} = 2.215$**,** $p=0.111$).

Table 4. 9: Clinical Nursing Education Perception Score Based on Facility Type

Facility type	N	Mean	Std. Deviation	df	F	P
Tertiary Hospital	228	2.26	.764	2(304)	2.215	0.111
Regional Hospital	43	2.00	.557			
District Hospital	36	2.19	.708			
Total	307	2.21	.735			

4.4.6 Comparison of Perceptions between Preceptors and Students

Table 4.10 below summarises the comparison of the perceptions of preceptors and students. The overall perception of clinical nursing education on a scale of 0-4 was 2.21 (95% CI: 2.13 - 2.29) translating into a 55.3% level of agreement for preceptors versus 1.81 (95% CI: 1.74 - 1.88) translating into 45.3% for students. The mean difference in perception between preceptors and students was 0.40 on a scale of 0-4 which represents 10%. This is statistically significant since the confidence intervals for the mean perception of preceptors and students are not overlapping. Thus, preceptors have a 10% higher level of agreement with all the statements assessing perception of Clinical Nursing Education than the students.

The composite score for the perception of the Clinical Placement Area on a scale of 0-4 was 2.30 (95% CI: 2.20 - 2.39) representing 57.5% of the agreement for preceptor versus 1.72 (95% CI: 1.64 - 1.80) representing 43.0% for students. The mean difference in perception between preceptors and students was 0.58 on a scale of 0-4 which represents 14.5% which is statistically significant. Thus, preceptors have a 14% higher agreement than students on the questions assessing the perception of the Clinical Placement Area.

The composite score for Clinical Teaching and Learning Perception Score on a scale of 0-4 was 2.04 (95% CI: 1.95-2.13) translating into a 51.0% level of agreement for preceptors and 1.86 (95% CI: 1.79 - 1.93) translating to 46.5% for students. The mean difference in the perception between the preceptors and students was 0.18 on a scale of 0-4 which represents 4.5% is which is statistically significant. Hence the preceptors have 4.5% higher agreement than students on the questions assessing the perception of Clinical Teaching and Learning.

The composite score for perception of Clinical Assessment on a scale of 0-4 was 2.30 (95% CI: 2.21-2.39) representing a 57.5% level of agreement for the preceptors while that of the

students was 1.86 (95% CI: 1.74 - 1.88) representing 46.5%. The mean difference in perception between preceptors and students was 0.44 on the scale of 0-4 which represents 11% which is statistically significant. Thus, preceptors have an 11% higher level of agreement than students based on statements assessing the perception of Clinical Assessment.

Table 4. 10: Comparison of perception of clinical nursing education between and preceptors and student

Variables	Preceptors			Students			Mean Difference (c = a-b)	% difference
	Mean (a)	LCL	UCL	Mean (b)	LCL	UCL		
Clinical Placement Area Perception Score	2.30	2.20	2.39	1.72	1.64	1.80	0.58	14.5%
Clinical teaching and learning Perception Score	2.04	1.95	2.13	1.86	1.79	1.93	0.18	4.5%
Clinical assessment Perception score	2.30	2.21	2.39	1.86	1.76	1.96	0.44	11%
Clinical Nursing Education Perception Score	2.21	2.13	2.29	1.81	1.74	1.88	0.40	10%

4.5 Discussion of Findings

The purpose of the survey was to assess the perception of preceptors and university nursing students on the current state of clinical nursing education in Ghana. This study assessed perceptions of three main components of clinical nursing education which include the placement area, clinical teaching and learning, and clinical assessment.

4.5.1 The Clinical Placement Area

The clinical placement area plays an important role in the clinical skills training of nursing students. In general, the preceptors expressed a 57.5% level of agreement while the students expressed a 43.0% level of agreement with statements assessing the perceptions of the clinical placement area. Thus, the preceptors rated this component 14.5% higher than the students indicating that the preceptors viewed the clinical placement area in a more favorable light than the students. The preceptors in this study are employees of the clinical facilities

hence this finding may suggest that they were defending the system. That notwithstanding, both preceptors' and students' scores indicate that they believe there is room for improvement of the clinical placement area. This study finding concurs with other studies that have called for the need to improve the clinical placement area (Jamshidi et al., 2016; Kananu et al., 2020; Mbakaya et al., 2020; Rajeswaran, 2017).

Students at higher level of training in this study were more critical of the clinical facility than students at the lower levels. This may suggest that as students progress in the training programme and learn more, they become well informed regarding what constitutes an ideal clinical placement area. Alternatively, they may become more cynical or disillusioned and therefore be more prone to criticize the clinical placement area. The students' and preceptors' perceptions of the clinical placement area suggested specifically that the areas of communication, clinical accompaniment and stakeholder collaboration for students' development need to improve.

The level of agreement regarding whether clinical placement dates are pre-published was 55% for students and 66.5% for preceptors. Pre-publishing dates before clinical placement is a fundamental step that has to be taken to ensure that both students and preceptors prepare for it. Differences in the level of agreement expressed by the students and preceptors make it unclear if the dates are pre-published or not. The scores may suggest ineffective communication from the academic faculty responsible for publishing clinical placement dates. The higher scores of the preceptors could also suggest that academic faculty responsible for this may be focused on informing the clinical facilities about the clinical placement dates rather than students. A clinical placement plan should be communicated effectively with both students and preceptors ahead of time.

The level of agreement on whether there was effective communication between students and clinical staff was 57.5% for preceptors and 38.8% for students. Communication is the backbone of the relationship between students and clinical staff. The relationship between clinical staff such as facilitators and nurses, and students is an important factor that influences perceptions of the clinical placement area (Needham, McMurray & Shaban, 2016; Ryan & McAllister, 2019). Ryan and McAllister (2019) indicated that spending time interacting with students and getting to know them was deemed necessary in enhancing the relationship between clinical staff and students. The results of the present study may suggest that clinical staff do not spend time interacting with students during clinical placement. Considering the

key role communication plays in making clinical placement successful there is the need to put in place strategies that can enhance communication between students and nurses.

The level of agreement with the statement “lecturers also visit the clinical area for the accompaniment of students” was rated 58.3% for preceptors and 41% for students. Clinical accompaniment of students is an essential component of enhancing clinical learning among students. Clinical accompaniment when done by lecturers allows them to better appreciate the challenges the students are facing and the kind of support that is required. In Malawi, students preferred to see their lecturers in the clinical area for accompaniment (Kamphinda et al., 2019). Considering the importance of clinical placement there is the need to understand the factors making it difficult for lecturers to engage in clinical accompaniment. That notwithstanding, an effective method of achieving clinical accompaniment will need to be factored in as a core responsibility of nursing lecturers.

The findings from the study indicate the need to ensure stronger stakeholder collaboration to enhance the teaching and development of students. The students’ level of agreement with the statement, “The development and teaching of the student nurses is only the responsibility of the university” was 38.5% while the preceptors' level of agreement was 43.8%. The low level of agreement expressed by both students and preceptors indicates that they believe the teaching and development of students is a joint responsibility of the university and the clinical institutions. Other studies have also emphasised the collaborative role that should be played by academic and clinical institutions towards clinical education of nursing students (Direko & Davhana-Maselesele, 2017; Maguire et al., 2012; McKillop et al., 2014). Clinical nursing education consists of students acquiring theoretical knowledge and translating it into skills acquisition in the clinical placement area. Stronger collaboration will therefore play an essential role in coming up with strategies to support students to acquire professional skills. The development of a memorandum of understanding between academic and clinical institutions could be an important step towards stronger stakeholder collaboration.

4.5.2 Clinical Teaching and Learning

Clinical teaching and learning are a core component of clinical nursing education. Both students and preceptors had different levels of agreement with statements assessing clinical teaching and learning. Overall, the findings indicate that the preceptors had a favourable stance towards the present state of clinical teaching and learning than students. The

preceptors are the main group of clinical staff expected to handle clinical teaching of students hence the results may suggest that the preceptors think they are doing their best.

In this study, both students and preceptors had less than 50.0% level of agreement on whether the university had adequate equipment and material resources for demonstration. This finding agrees with an earlier study in Ghana which revealed that there is a lack of space and material resources such as mannequins, patient beds and basic equipment in the skills laboratories (Bell et al., 2016). In Ghana, the number of nursing education institutions have increased in recent years and the need for them to set-up skills laboratories to meet the training needs of students cannot be over emphasized. The Nursing and Midwifery Council of Ghana which is the regulatory body could play a monitoring role to ensure that nursing education institutions prioritise the provision of skills laboratories.

Students' preparedness to learn is a major driving force in skills learning. Where students are willing to learn they show interest in the nursing care activities. The students had a 70.2% level of agreement whereas the preceptors had a 57.0% level of agreement on whether students were willing to learn. The stance of the students may imply that they were affirming themselves. A study conducted in Jordan among nursing students established that students rated themselves as having good attitudes towards clinical teaching and learning (Gharaibeh et al., 2017). Since preceptors are those who support students to learn it may go to say preceptors' assessment of the students could be considered more objective. Regardless of the wide differences in the level of agreement between students and preceptors, there is the need to motivate students to show interest in clinical learning so that they can develop professional skills as expected.

Students master clinical skills at different rates and some may struggle to reach a level of competency. The level of agreement on the statement "there is a remedial plan to enable students to gain competence during clinical placement" was 39.3% for student and 48.8% for preceptors. The development of a remedial plan that would assist students to gain mastery of clinical skills is an important factor in clinical teaching. The apparent lower level of agreement from both students and preceptors in the present study may point to the fact that there is low attention on remedial plans to support students achieve clinical competencies. Learning of clinical skills among students could be influenced by student's desire, preceptors' or nurses' ability to teach, availability of learning opportunities and material

resources. Where a student is unable to achieve the said placement competencies there is the need to give the student a chance to learn through a remedial plan.

Self-directed learning (SDL) is an important concept in the professional development of nursing students (Zahid et al., 2016). In self-directed learning, the student determines learning needs, formulates learning goals, identifies resources and takes steps to meet learning needs (Qamata-Mtshali & Bruce, 2018). In the present study, students indicated a 41.8% level of agreement regarding their understanding of SDL. This lower level of understanding of SDL may impact negatively on their ability to apply this concept. To enable students to derive the maximum benefits from SDL there may be the need to introduce them to the concept to enable them to apply it in their clinical learning.

4.5.3 Clinical Assessment

The need for assessment and the fairness of assessments is an essential component of clinical education. The results indicate that though the preceptors had a more favourable view of the current method of clinical assessment than the students, there was a general perception of the need for improvement. Preceptors play an integral role in the clinical assessment of students hence they could have this favourable view because they may share the blame for what might be wrong. Specific areas of clinical assessment that were identified as requiring improvement include the need for signing a performance contract by students before the assessment, students availing themselves for assessment and giving constructive feedback after clinical assessments. Clinical assessment of students is a standard method of evaluating students' clinical learning.

Signing a performance contract puts some responsibility on both the student and the preceptor to ensure that the student achieves the set objectives. The level of agreement on the statement “the students sign a performance contract before clinical assessment” was 43.0% for students and 52.5% for preceptor. This finding is consistent with a study conducted in China which revealed that students were unfamiliar with signing a performance contract (Chan & Wai-Tong, 2000). Clinical learning contracts have demonstrated a positive impact on students' clinical learning (Sajadi, Fayazi, Fournier & Abedi, 2017). By signing a performance contract, students and preceptors are able to understand their responsibilities from the start.

The level of agreement regarding whether the student and the facilitator discuss and evaluate performance against each competency was 44.3% for students and 50.3% for preceptor.

Students are of the view that receiving feedback after a clinical assessment is essential (Bani-issa et al., 2019b). Students are expected to achieve specific competencies at every level of their study. One of the main reasons for clinical assessment of students is to evaluate their performance against the expected competencies. A discussion after clinical assessment will serve as feedback that will enable students to know the areas into which they need to put more effort. Consciously including a feedback session in the clinical assessment process will therefore be an important step to improving students' skills development.

4.5.4 CHAPTER SUMMARY

The chapter consists of the survey conducted among students and preceptors. Clinical education was assessed under three main components which include clinical teaching and learning, clinical placement area, and clinical assessment. Though the mean perception of preceptors and students on the various components of clinical education varied significantly, they generally all pointed to the need to improve the present state of clinical education

The next chapter is a qualitative study in which key informants' perspectives on factors that influence clinical nursing education was explored.

CHAPTER 5: THE QUALITATIVE STUDY

5.1 INTRODUCTION

Chapter four presented the findings of a survey on the perception of university nursing students and preceptors on clinical education. This chapter presents the findings of the qualitative interviews that were conducted among key informants, which together with the survey, met the second objective of the study: To conduct a situational analysis of the current clinical education programme used in undergraduate nursing education in Ghana. The chapter also contains a discussion of the key findings from the study.

5.2 RECAP OF RESEARCH METHOD

The qualitative study used a descriptive exploratory design in which sixteen (16) key informants were interviewed. The key informants were nursing lecturers, unit managers, nurse managers and clinical placement coordinators. Data was collected through face-to-face individual interviews using a semi-structured interview guide. The interviews were recorded, transcribed and analysed using the constructs of the clinical education model as a template for analysis which is in line with framework analysis.

5.3 BACKGROUND INFORMATION OF PARTICIPANTS

Sixteen participants were recruited for this study. All the participants were nurses by profession occupying various positions. The participants consist of eight (8) unit managers, two (2) nurse managers, three (3) clinical placement coordinators and three (3) lecturers. The age of the participants ranged from twenty-seven (27) to fifty-nine (59) years. The participants had a minimum of five (5) years working experience. Nine of the participants were males and the remaining seven (7) were females. Eight (8) of the participants had a master's degree, one had an advanced diploma and the remaining participants had a bachelor's degree in nursing.

Table 5.1: Background Characteristics of Participants

Participant	Position	Gender	Age	Years of Experience	Highest Academic Qualification
Participant 1	Unit manager	Male	30	6	BSc. Nursing
Participant 2	Unit manager	Female	28	5	BSc. Nursing

Participant	Position	Gender	Age	Years of Experience	Highest Academic Qualification
Participant 3	Unit manager	Male	33	7	Masters' degree
Participant 4	Unit manager	Female	45	19	BSc. Nursing
Participant 5	Unit manager	Male	34	7	Masters' degree
Participant 6	Unit manager	Male	31	7	BSc. Nursing
Participant 7	Unit manager	Male	27	5	BSc. Nursing
Participant 8	Unit manager	Female	29	7	BSc. Nursing
Participant 9	Clinical Placement Coordinator	Male	36	12	Masters' degree
Participant 10	Clinical Placement Coordinator	Male	34	11	Masters' degree
Participant 11	Clinical Placement Coordinator	Male	29	13	BSc. Nursing
Participant 12	Nurse manager	Male	59	32	Masters' degree
Participant 13	Nurse manager	Male	57	31	Advanced Diploma
Participant 14	Lecturer 1	Female	42	17	Masters' degree
Participant 15	Lecturer 2	Female	35	10	Masters' degree
Participant 16	Lecturer 3	Female	38	14	Masters' degree

5.4 THEMATIC ORGANIZATION OF FINDINGS

The qualitative findings consisted of four main themes with their corresponding subthemes. Most of the corresponding subthemes also had categories under them. Table 5.2 below presents the details of the findings.

Table 5.2: Main themes, subthemes and categories

Main themes	**Subthemes**	**Categories**
Clinical Facilities	Strategy and placement	Collaboration and communication Dealing with overcrowding Alignment of students' intake to available resources
	Resources	Need for qualified clinical nurses Provision of material resources
	Enhancing clinical teaching and learning	Internal ward arrangements Correctional measures Improving clinical assessment Synergy between theory and practice
Nursing Education Institutions (NEIs)	Staffing	Appointment of lecturers Appointment of preceptors Clinical accompaniment
	Logistics and resources	Transportation arrangement Equipping the skills laboratory
	Clinical placement	Duration of clinical placement
Nursing Students	Students' attitude	Serious students Arrogant students

		Disinterested students
	Purpose of clinical placement	Placement objectives
Regulatory Body	Regulation of NEIs	
	Regulation of clinical facilities	

5.5 CLINICAL FACILITIES

Health facilities play a major role in the clinical training of nursing students. The ability of the health facilities to support clinical learning is very important to enable nursing students to integrate theoretical knowledge into skills learning. Three main factors that influence clinical nursing education in the clinical facilities emerged namely strategy and placement, clinical teaching and learning, and resources.

5.5.1 Strategy and Placement

This subtheme consisted of all the steps that were necessary to ensure effective clinical placements. The strategies that were deemed essential for effective clinical placement include collaboration and communication, dealing with overcrowding and students' intake.

5.5.1.1 Collaboration and Communication

The participants underscored the need for collaboration and communication between staff of academic institutions and clinical facilities. The collaboration will enable the staff in the clinical facilities to prepare for effective clinical placement of nursing students. According to the participants, since the health facilities receive students from many academic institutions, effective collaboration will enable them to prepare a schedule to receive the students in batches to prevent overcrowding of the wards. A participant shared how collaboration is a necessary tool.

> *"We have adapted a means where before a school sends us students, they need to communicate with us so that we will assess our capacity to be able to take on the students for clinical training and give them a feedback to go ahead and send us the students. If we assess and there are so many students or there are already a number of schools in the wards we will tell you to hold on until they depart and then you can send us the students." (Participant 9, Clinical Placement Coordinator).*

Participants thought effective communication would enable the clinical nurses to know what is expected of the health facilities during the clinical placement of nursing students so that they could prepare adequately.

> *"I was thinking that even before the students come, the academic staff should come to the facility level, sit with the nurse manager and with the preceptors and say this is the competency areas that we are looking at and this what we expect you to do. This is what you discuss and come to an agreement before the students come but that is not done." (Participant 7, Unit Manager).*

5.5.1.2 Dealing with Overcrowding of Students

The clinical facilities where this study was conducted receive students from several nursing education institutions for clinical placement and this leads to overcrowding of the physical space within the wards. The participants indicated that the situation of overcrowding can be worse when schools are on break in the same period..

> *"There is no space and when they come, they are usually also a lot. The students are many. Sometimes the students that come are more than patients plus staffs in the ward. You can have like fifteen students, and some are coming for afternoon and some are off." (Participant 2, Unit Manager).*

> *"Yes, together you have over students 20 in each shift. Yes, you have the entire ward crowded with students on constant basis. During the Christmas break and towards the end of January so many students from different schools on vacation and they come for clinical placement at the same time." (Participant 4, Unit Manager).*

The participants expressed the view that the academic institutions should draw a schedule for clinical placement of their students. This will prevent many schools from sending their students to the clinical facilities at the same time.

> *"I think there should be some kind of consensus among the nursing training institutions. I know they have individual curricula but I think they should have some kind of consensus so that so many institutions do not send students for clinical practicum at the same period." (Participant 3, Unit Manager).*

> *"The schools too should meet and decide that maybe this time when the university nursing students are coming on clinical placement other schools should hold on. They should collaborate so that we don't cause congestion in the hospitals." (Participant 5, Unit Manager).*

5.5.1.3 Alignment of Students' Intake to Available Resources

The participants thought the numbers of nursing students recruited in various NEIs exceeded the resources available to provide adequate clinical skills training. Participants observed that the available space in clinical facilities were inadequate to accommodate the high numbers of currently enrolled nursing students.

> *"So, when the Ministry of Health is allocating the quotas to the institutions, they should also look at the resources available for these institutions to train and the resources should not be limited to what is within the academic institutions but also the health facilities." (Participant 3, Unit Manager).*

> *"The Ministry of Health should reduce or limit students' intake. They should know that we have limited hospitals that can really train the students so when they take more than the resources that we have to train them what happens is overcrowding and they don't learn." (Participant 5, Unit Manager)*

5.5.2 Resources

Human and material resources are required for clinical nursing education. Clinical nurses were the main human resource involved in teaching of students during clinical placement. The participants indicated that material resources were needed for nursing procedures from which students would learn.

5.5.2.1 Need for Qualified Clinical Nurses

In Ghana, registered clinical nurses with at least a diploma in nursing are very instrumental in the clinical teaching of nursing students. The participants indicated that the clinical facilities were operating with inadequate numbers of registered nurses. The inadequate numbers of registered nurses affect patient care and clinical teaching of nursing students.

> *"We know the staffing norms in terms of numbers of nurse-patient especially in acute wards, normal general wards, ICUs and all those areas. However, we are nowhere near that number so the few nurses who are around are usually those who carry the burden of a whole lot of nurses who should have been around. This affects students teaching because of workload on the nurses." (Participant 9, Clinical Placement Coordinator).*

There was an indication that some health facilities have a great deal of enrolled nurses to make up the number of nurses required for patient care. However, some participants argued that the enrolled nurses may not be able to assist with clinical teaching of nursing students.

> *"As for the staffing I wouldn't say it is adequate because we have two categories of nurses within the facility. That are the enrolled nurses and that of the*

registered general nurses (RGN). These two categories are trained in different ways so their responsibilities are virtually not the same. So, the number of RGNs is woefully inadequate and they are the key staff that we think play key roles in the training of the students" (Participant 4, Unit Manager).

5.5.2.2 **Provision of Material Resources**

The lack of specific material resources for nursing procedures denies nursing students adequate learning opportunities. Some of the participants estimated the number of available resources on a scale or percentage.

"Generally, on a scale of 0-100, I will put it at 60 in terms of having resources to adequately and properly carry out nursing procedures. So, the other 40 percent that we don't have that is what makes the nurses in the clinical field unable to teach students properly" (Participant 4, Unit Manager).

"What we have is just 30% resources because if you ask me to take a student through bed making, I wouldn't be able to because we don't have the requirements and fundamentally, they must go through all this training" (Participant 7, Unit Manager).

5.5.3 Enhancing Clinical Teaching and Learning

The main reason for clinical placement is to integrate theory and practice and develop nursing competencies. Clinical teaching enables students to learn clinical skills. Some unit managers indicated that they try to improve clinical teaching and learning through internal ward arrangements, correctional measures, synergy between theory and practice, and improved clinical assessment.

5.5.3.1 Internal Ward Arrangements

At the ward level, the clinical nurses came out with ways of enhancing clinical teaching and learning. All strategies implemented were planned by the nurses without any directive from hospital management or the nursing education institutions. Some of the wards selected some nurses to assist students with skills learning. Some of the nurses chosen by their unit managers to assist students with skills learning were nurses with interest in clinical teaching.

"Currently we have appointed one nurse to handle students' clinical teaching. That is something we have instilled in the pediatrics unit. It rotates from nurse to nurse regarding the responsibility of guiding the students with their clinical practice" (Participant 1, Unit Manager).

"When students come, we have nurses in the ward, they are usually two people. Actually, those nurses like to teach so we call them "students' in-charges". Usually when the students come, they are those who handle them" (Participant 2, Unit Manager).

In some wards the students are put in groups to enhance effective clinical teaching and learning session.

"In my unit, I have decided to adopt the group approach. If I have thirty students, I put them into about five groups and each group sets their objectives for the time they are supposed to be in the unit. So, if it is a week, they set about six objectives out of their competencies. Now, each day when they come, we are supposed to carry out one of those objectives" (Participant 3, Unit Manager).

Peer learning is also enhanced when students of the same level of study are grouped together because they usually have the same clinical placement objectives.

"We put them in groups and let's say we are dealing with level 300s or third year nursing students, so the group may contain students from the university and other institutions. I usually ask them to set daily objectives as a group out of the competencies that they have to achieve. So, for the objectives each day as a group I guide them to carry out that particular practical activity. It makes them learn from each other." (Participant 3, Unit Manager).

In some wards, students are assigned to patients to enable them to assess, plan and implement nursing care. By taking care of the patients the students learn the clinical skills.

"We usually manage them by trying to assign them to various patients. So, once you are assigned to a particular patient, you can have two or three students assigned to one patient then the supervision is done across. Sometimes when the students are many this method allows them to be able to plan and care for patients." (Participant 10, Clinical Placement Coordinator).

5.5.3.2 Correctional Measures

There were instances where measures had to be taken to correct students that were not committed to their clinical schedule and learning activities. Some of these behaviours include failure to report for clinical placement without any apparent reason, not taking part in ward activities and the use of earphones on the ward. Some of the measures taken to ensure that students concentrate on clinical learning were reporting offenders to clinical placement coordinators and nurse managers.

"When student fail to come for clinical placement, we hand them over to the clinical coordinator because he has the contacts of the school." (Participant 2, Unit Manager).

"Yes, one challenge is absenteeism so with that we usually report to the clinical coordinator and he also takes it on to the institution level. But before that if we are able to contact student, we try to find out why the person has been absenting him/herself and if it can be addressed within the unit level we do that." (Participant 3, Unit Manager).

Some participants who are at the decision-making such as nurse managers and clinical placement coordinators level explained the steps taken to deter students from repeating such undesirable behaviours.

"We ask some of them to do extra ward activities like ward cleaning and dusting for a whole week and make some too forfeit their off-day. I made one of the students from the university to go an extra three days because she failed to come for the first three days of the clinical placement so she had to make up for the three days." (Participants 12).

5.5.3.3 Improving Clinical Assessment

The participants suggested that the current method of clinical assessment of students should be modified. Assessment of students in the clinical area is an essential aspect of clinical nursing education. The clinical assessment helps to determine what skills students have gained during clinical placement.

Participants explained that formative assessment of the students should be done instead of doing only summative assessment.

"Apart from the exams or mock time there should be an ongoing assessment but we don't see that one. In this hospital, since the students have been coming I haven't seen anything like that (referring to formative assessment)." (Participant 11, Clinical Placement Coordinator).

In Ghana, clinical assessment of students is done in the skills laboratory or in the clinical facility. The university nursing students are mostly assessed in the skills laboratory. Some participants suggested that clinical assessment of students should be done in the clinical facility since it presents a real-life situation.

"Objective structured clinical examination (OSCE) is a very good tool that we use in assessing the skill level of students. Now I would have preferred we move it from the skills laboratory to the actual clinical area for OSCEs. Because in the skills laboratory, the students are made to use dummies, mannequins and

sometimes role play, simulations and stories. However, in the clinical area the real clinical situation is facing them" (Participant 9, Clinical Placement Coordinator).

For some participants, capacity building in the form of training for assessors and those acting as simulated patients in the clinical skills laboratory during practical examination is very important. The participants also stressed the need to construct standardised tools for clinical assessment of nursing students.

I think that we need to train the simulated patients and we need to also train ourselves and we should know what we are going to examine the student for. In addition to that, we can develop more tools. Currently, it is the same Nursing and Midwifery Council tools we use which are full of mistakes (Participant 14, Lecturer 1).

Participants also suggested that clinical assessment should be based on the resources and applicability of procedures beyond the clinical assessment. They observed that some procedures have outlived their usefulness and for others, there are no material resources to perform them in the hospitals.

"The Nursing and Midwifery Council of Ghana should readjust to the reality when it comes to the practical assessment of these students. There are certain aspects they examine these students that have become irrelevant. I've examined a couple of students on behalf of the council, let me take something like bed making, a very vital procedure but in our country and in our health facilities to get one bed sheet to put on a patient's is always a problem" (Participant 3, Unit Manager)

5.5.3.4 Synergy between Theory and Practice

Students are taught theoretical aspects of nursing in the classroom and are expected to translate the knowledge acquired into the learning of clinical skills. The participants indicated that practices of clinical nurses were at variance with standard steps in theory. One of the participants had this to say:

"Practice seems to be hanging somewhere and theory and research is also hanging somewhere. It is very difficult integrating the two and it appears no very conscious effort has been made to bridge the two unlike elsewhere" (Participant 9, Clinical Placement Coordinator).

Students' failure in the practical examination was seen as a result of a disconnect between theory and practice.

"Yes, that is what sometimes accounts for students' failure in the practice because they will learn the thing when they are in school but when they come to the ward, they don't do those things again until their final exams. Yet when they are going to do practical examination those things show up again and they are confused" (Participant 2, Unit Manager).

The practice of nursing procedures depends on the knowledge and availability of material resources. Participants attributed the theory practice gap to a lack of resources.

"We don't have most of the resources so what is available we try to make use of them. But I think some of the students get confused because they've learnt the thing in theory in the school and when they get here it is a different thing" (Participant 5, Unit Manager).

The workload of clinical nurses was also seen as a major cause of disconnection between theory and practice. Participants were of the opinion that when the number of nurses is inadequate, they struggle to meet the competing needs of many patients hence they are unable to strictly follow through all the standard steps in doing nursing procedures.

"Some of the nurses and midwives from whom the students learn when they come to the clinical area do not actually follow the standards sometimes due to the fact that there is work overload on them. Some may not know actually what they are doing, others are there and they are simply overwhelmed among other things that may make them cut corners" (Participant 9, Clinical Placement Coordinator).

5.6 NURSING EDUCATION INSTITUTIONS (NEIS)

Clinical placement of students is planned by NEIs based on their curricula. The amount of time spent on the clinical site is therefore determined by academic institutions. The effectiveness of clinical placement is largely determined by arrangements put in place by academic institutions. Academic institutions provide staffing, resources and logistics, and clinical placement duration.

5.6.1 Staffing

Staffing is an important means of supporting clinical learning of nursing students. Classroom and clinical teaching of nursing students depend on the availability of staff. Academic institutions are involved in the appointment of lecturers, preceptors, and planning of clinical accompaniment.

5.6.1.1 Appointment of Lecturers

Lecturers are appointed by academic institutions to train the students. Lecturers are those involved in teaching students in the classroom to understand the theoretical concepts required for clinical practice. According to the participants, the academic institutions mandated to train nursing students are woefully understaffed and this negatively affects clinical teaching. A participant who was a lecturer had this to say:

> *"The lecturer who is the clinical coordinator is teaching many other courses, having a lot of workload and then we are also not committed to some of these things. I think that we have not done what we are supposed to do as a school and a department" (Participant 14, Lecturer 1).*

The shortage of lecturers increases the workload of the few remaining making it impossible for them to engage in clinical accompaniment.

> *"But we are also handicapped with staff. The department does not have enough staff. We are not always available or able to go supervision and the monitoring" (Participant 16, Lecturer 3).*

A participant from the clinical area had this to add:

> *"And then I think they also have complaints about the challenges they face. One of them I can remember is that they said the workload on them in the school is so much. Sometimes you find one lecturer doing the work of up to about three or four lecturers." (Participant 9, Clinical Placement Coordinator).*

5.6.1.2 Appointment of Preceptors

The engagement of preceptors was seen as a major factor that will help improve clinical nursing education. The appointment of preceptors formally by the universities meant that students will recognize that person and follow the person's instructions to achieve their placement objectives. The preceptors will handle clinical teaching of nursing students and provide feedback to the academic institutions. The participants observed that there were no trained preceptors in the clinical facilities, hence the need for academic institutions to recruit and train nurses as preceptors.

> *"When these students get to realize that a preceptor has been formally acknowledged by the institution therefore this person is standing in as the clinical instructor on behalf of the academic institution, they also owe that preceptor some kind of duty to honour him and follow his instructions." (Participant 3, Unit Manager).*

Participants saw preceptorship as an organised method of handling clinical teaching of students. Participants indicated that preceptors know their roles and work within the guidelines from the curriculum.

> *"With the preceptorship, it is a well-organized system that is put in place to ensure that students are well trained. A well-structured curriculum is given to these preceptors or they kind of get training with regards to preceptorship. So, when students come, they are able to ensure that all the objectives set within that timeframe are met." (Participant 4, Unit Manager).*

> *"There is a need for adequate training of preceptors so that they know their roles and how they can go about them. Guidelines and all that but we don't have it formalized within the country. But it is very important if we want our students to be well trained." (Participant 9, Clinical Placement Coordinator).*

5.6.1.3 Clinical Accompaniment

Clinical accompaniment was seen as an important step to enhancing clinical experience of students. The participants expected lecturers to accompany them to the clinical area. However, participants observed that students were often sent for clinical placement without lecturers following up on them.

> *"I don't remember seeing any supervisor from the university in my ward here, honestly. But during the clinical time I don't know whether they do it at the clinical coordinator's level but at the ward level we don't see them." (Participant 2, Unit Manager).*

> *"There are certain times the students will come all through and we wouldn't see any lecturer following up from the school." (Participant 4, Unit Manager).*

Some participants who were lecturers indicated that there was no well-planned strategy by the academic institutions for clinical accompaniment. This confirms what other participants working in the hospitals said about lack of clinical accompaniment.

> *"As a school, we don't have any standard or structured way of even monitoring……. there is poor supervision so you don't know whether the students are really going to the wards or not." (Participant 15, Lecturer 2).*

> *"There is no supervision. They come for the letters that we give to them and they go on their own but we don't follow up to see what the students are really do." (Participant 14, Lecturer 1).*

> *"Somebody once made a statement that I was even shy. That the students have even complained that they see the tutors from other schools coming to monitor their students whiles they are on the wards and it is like they the university*

students are orphans; we leave them there and nobody comes to monitor them" (Participant 15, Lecturer 2).

5.6.2 Logistics and Resources

The academic institutions have the responsibility of providing logistics and resources to ensure effective clinical teaching and learning. The participants identified the need for arranging for transport for students during clinical placement and providing adequate skills laboratory equipment.

5.6.2.1 Transportation Arrangement

The clinical facilities are all situated outside the university campus hence transportation has to be arranged for nursing students during clinical placement. The participants all indicated that students from the university report late and sometimes leave earlier than they should because of the transportation issues.

> *"So that challenge with the bus makes them come late and sometimes an hour before the actual closing, you see them either dodging or seeking permission to run away to wait for the bus to come and pick them back home" (Participant 9, Clinical Placement Coordinator)*

> *"The school bus is what brings them and by 1pm the school bus is here and they don't usually come early. Sometimes they come after 9:00am" (Participant 1, Unit Manager).*

> *"They go home early, mostly the reason is that there is a bus that has been conveying them to the campus and if they don't catch up with the bus they will have to foot extra cost in getting to the campus. So; by 1:00pm the students start leaving the wards when under normal circumstances they are supposed to leave around 2:00pm" (Participant 3, Unit Manager).*

The effect of leaving earlier than normal time was highlighted by a participant.

> *"So, you know because of the nature and the time that they go some procedures are even missed and most of the procedures are always not there in the morning and some of the procedures too are carried out early in the morning or later so looking at the time that they go they are not able to cover the 24hr shift for a typical nursing activity that we do" (Participant 14, Lecturer 1).*

5.6.2.2 Equipping the Skills Laboratory

The skills laboratory was seen as a very important facility to help nursing students practice what they learn in the classroom before going to the ward. Lecturers indicated that lack of a well-equipped skills laboratory was a barrier to clinical skills training of nursing students.

Innovations such as dividing students into smaller groups and improvising for lack of equipment were inadequate in enhancing skills teaching and learning.

> *"For the level 200 group of students, they are about 28 in one group that I have to meet for skills at a particular time for 2hours. Assuming I even demonstrate something and I want a return demonstration, how many of them would be able to have hands-on within 2hours?" (Participant 14, Lecturer 1)*

> *"The resources are woefully inadequate; you teach sometimes abstract practical because the thing you need to demonstrate is not there so you are forced to improvise. Sometimes what you even use is not even close so it makes it difficult for the students to get the understanding" (Participant 16, Lecturer 3).*

5.6.3 Clinical placement

Clinical placement planning is done by academic institutions. The academic institutions normally send students to the clinical area with the stipulated duration of placement. The participants shared their views on the duration of clinical placement and how this could be improved.

5.6.3.1 Duration of Placement

Longer duration of clinical placement affords nursing students better opportunity for exposure to clinical learning experience. The participants indicated that clinical placement durations were short and did not contribute positively to students' skills learning.

> *"When we refer to the clinical practice, nursing as a profession is such that it is more practical based but the students are not so much exposed to the practical aspect of the training. They have little practical but more of the theoretical or more instructional time than the practical." (Participant 9, Clinical Placement Coordinator).*

> *"The time spent in the clinical area is absolutely or woefully inadequate; you can't consider this as even coming close to the standard requirement." (Participant 4, Unit Manager).*

The intra-semester clinical placement, which normally involves students going to the ward once or twice a week, was considered inadequate. This worsened with late reporting and early leaving of students from the wards before the end of their shift.

> *"The university students come once a week and the time they stay in the ward too is another problem. They can come around 8:30 am and by 1 or 1:30 pm the bus is in and they have to go. It is very limited and I think that affects the practical aspect of their studies." (Participants 4).*

Skills learning was deemed ineffective where the students went to the clinical placement area once a week and had to rotate through several units. A participant made the following observation.

> *"They don't spend much time in a particular ward and that might be because of the limited time. One week they are here another week they are in the next ward and so on. The once weekly is not enough for them, and you know some of them take two days to adjust to the ward. You are new and by the time the person is ready to learn he is moved to another ward." (Participant 5, Unit Manager, Unit Manager).*

5.7 STUDENTS

The attitude of students and purpose of clinical placement were identified as factors that influenced their learning of clinical skills.

5.7.1 Attitudes

The study revealed that some nursing students exhibited positive attitudes that enhanced skills learning whereas others had negative attitudes that hindered skills learning. The data were categorized into: serious students, disinterested students and arrogant students

5.7.1.1 Serious students

Participants explained that some students are serious during clinical placement. The serious students try to make the best out of the placement by showing interest in learning clinical skills. Participants indicated that students who are serious follow the nurses whenever they go to perform procedures on patients. Students deemed serious were those who were always willing to learn and participated in nursing care even when they were not invited.

> *"When it comes to learning skills, some students are eager to learn. There are some students that naturally they will come and when they just see you getting up to do a procedure they are following; others too are adamant-sitting down." (Participant 2, Unit Manager).*

> *"When they are in first year; you know that eagerness to learn is there, they are curious and all that so when they come they are always around and all that. So, it is just a few." (Participant 12, Nurse Manager).*

5.7.1.2 Disinterested Students

Some students displayed attitudes showing that they were not interested in the clinical placement. Participants explained that during clinical placement some students spend the time playing with their phones or roam around without participating in clinical learning activities.

"We do encounter some challenges where a student will come and write his name and you see him fidgeting with the phone and in the next minute, he "vanishes". So, such a student can even come for clinical placement for about two to three months but what is he/she getting out of it? Nothing." (Participant 11, Clinical Placement Coordinator)

"There was a day I saw some of the university nursing students grouped themselves on one bed chatting and one of the students was with this red headphone on top of the head. I saw it and I couldn't bear it so I sent for him to come and I asked him "what are you doing?" and he said he is listening to news." (Participant 3, Unit Manager).

"Those who don't want to learn they are those who are always gallivanting around. They just like roaming around without participating in anything in the ward." (Participant 8, Unit Manager)

5.7.1.3 Arrogant Students

Another display of poor attitude was pride among some of the nursing students. According to the participants, some of the clinical nurses on the wards are diploma or even certificate holders hence, some university nursing students disrespect them. Some participants explained that the university nursing students' uniform is meant for senior nurses and this makes some of the students arrogant.

"Some of the students too their attitude is very bad. They are wearing "white" (white colour is worn by senior staff) so when they come to the wards they feel "on top". Some of them when they come you just see that they are already looking down upon those who are wearing the "green" (junior staff)". (Participant 5, Unit Manager, Unit Manager).

"You see because they know that when they complete they will be senior to the staff nurses, some of them are just proud." (Participant 7, Unit Manager).

5.7.2 Purpose of Clinical Placement

Students are normally prepared for clinical placement based on the curriculum that is used for their training. Clinical placements are meant for students to achieve certain practical competencies according to the schedule of their training. The participants, however, pointed out that students were not focused on achieving their clinical placement objectives.

5.7.2.1 Placement Objectives

Students are normally given objectives prepared from the school for clinical placement. Achieving these objectives will help students become clinically competent. The participants

indicated that coming with placement objectives to the clinical area was seen as a formality to some nursing students. A participant pointed out that the students simply hand their clinical objectives over to the unit managers without making any reference to it.

> *"What I have realized is that they come with objectives/competencies. In my observation, it is like just something they come with to give to the unit manager or staff receiving them but they don't usually put their attention on the objectives/competencies. It is like it is just something formal that they have to fulfill." (Participant 11, Clinical Placement Coordinator).*

> *"They do all the time have placement objectives with them but they are not attaching any importance to them." (Participant 1, Unit manager).*

5.8 NURSING AND MIDWIFERY COUNCIL OF GHANA (NM&C)

The training and practice of nursing is supposed to be regulated by the NM&C, Ghana. The NM&C has criteria for ensuring standards are followed both in the NEIs and health facilities. The participants suggested that NM&C should regulate both academic institutions and health facilities to ensure effective clinical nursing education.

5.8.1 Regulation of NEIs

Participants explained that NM&C should be active in monitoring training institutions to ensure that they meet the requirement for professional accreditation. Participants were of the opinion that the NM&C should ensure that NEIs have well-equipped skills laboratories.

> *"I think NM&C has a role to play in making sure that all training institutions are well equipped with skills lab. They need to constantly monitor to see what the reality on the ground is and then recommend it. So, if the institution does not have what it takes to continue with the programme, you close it down or you don't re-accredit them until they get the things that they need to have." (Participant 15, Lecturer 2)*

The participants suggested that schools that are below standard should be closed down.

> *"The Supervisory and Monitoring Department within the council should be up and doing. They should visit the training centers both clinical and classroom to make sure they are up to scratch; they are up to the standard and if they are not, they should begin closing down substandard nursing training school." (Participant 9, Clinical Placement Coordinator).*

5.8.2 Regulation of Health Facilities

Participants shared that NMC should have criteria to follow to ensure that health facilities used for clinical placement of nursing students meet that minimum standard. The participants

think health facilities that do not meet standards should not serve as clinical placement sites for nursing students.

> *"NM&C should find a way of having an accreditation system for clinical learning areas for students. It should be that when they come and assess a hospital or health facility and it is not up to the standard of being able to train nurses and midwives then they do not accredit it. For that matter, the training schools will be forbidden from sending students to those facilities for clinical learning." (Participant 10, Clinical Placement Coordinator).*

> *"When NM&C gets to a clinical setting, there are basic requirements for the practice of nursing and if you get there and those standards are not met, you are supposed to stop schools from placing students there." (Participant 3, Unit Manager).*

5.9 DISCUSSION

The study was conducted among nurses who play key roles in clinical nursing education. The participants comprised of unit managers, nurse managers, in-service training coordinators and lecturers. The findings indicated that clinical education of nursing students is influenced by factors related to clinical facilities, nursing education institutions, students and the regulatory body.

5.9.1 Clinical Facilities

The enrolment of nursing students in most Sub-Sharan African countries has seen an increase with no corresponding adequate provision of infrastructure and material resources for their training (Bvumbwe & Mtshali, 2018). In this study, the participants indicated that the wards are sometimes overcrowded with nursing students. This finding is consistent with a study in Malawi which indicated that sometimes there are 23 nursing students as against 15 patients in the ward at a particular time (Bvumbwe et al 2015). Overcrowding of students in the clinical area is a major challenge facing clinical nursing education (Arkan et al., 2018; Bvumbwe et al., 2015; Jamshidi et al., 2016). Overcrowding of students in the ward may make it difficult for all of them to observe and practice or learn nursing procedures. This is likely to affect the quality of clinical skills training of nursing students.

Consequently, the participants in this study suggested that academic institutions and clinical facilities should collaborate with each other to ensure effective clinical placement of students. Collaboration between clinical facilities and academic institutions is ultimately important in ensuring effective clinical education (Direko & Davhana-Maselesele, 2017).

Collaborating with clinical facilities was seen as necessary to enable nurses prepare adequately to receive students and give them the requisite support. The clinical facilities receive nursing students from various NEIs hence the need for communication to ascertain the capacity of the clinical facility to receive the students.

In Ghana there are two cadres of nurses; professional nurses, referred to as registered general nurses and nurse assistants, referred to as enrolled nurses. The participants in this study, particularly nurse managers and clinical placement coordinators, were of the view that the number of registered nurses were inadequate to effectively mentor the large numbers of student nurses that come to the clinical facility. This study finding concurs with a Malawian study which revealed that the number of registered nurses was inadequate and this negatively affected clinical teaching and learning (Kamphinda et al., 2019). In Ghana, a lack of registered nurses has been reported to be associated with an increased workload on the available few (Adjei et al., 2018). The increased workload on registered nurses may make them unable to teach and guide student nurses on the wards to acquire adequate practical nursing skills.

The findings of this study indicate that there is a lack of material resources in the clinical facilities. This finding agrees with other studies in Ghana which point to the lack of material resources as a key constraint in clinical nursing education (Adjei et al., 2018; Salifu et al., 2019). The participants in this study cited the lack of material resources as a major factor responsible for the gap that exists between theory and practice in nursing. In the classroom, nursing students are taught standardised steps in carrying out nursing procedures and these require the use of certain material resources or equipment. The unavailability of these requisite material resources or equipment make it difficult for the clinical environment to support nursing students with the integration of the theory learned into practice. This eventually affects competency development among nursing students.

Clinical assessment of students is an important component of clinical nursing education which helps in evaluating the competency development of students. The participants in this study indicated that currently, only summative assessment is employed and recommended formative assessment. Formative assessment of nursing students will help identify learning areas that nursing students require support. The feedback given to students after formative assessment has proven to have positive impact on summative assessment (Kesavan &

Palappallil, 2018). The use of both formative and summative assessments will help improve students learning outcomes (Arrogante et al., 2021).

The Objective structured clinical examination (OSCE) is considered an essential means of clinical assessment of students (Bani-issa et al., 2019b). In this study, the participants indicated that students are often assessed in the skills laboratory through an OSCE. The participants recommended bedside OSCE in the clinical area for nursing students to learn from real-life situations. However, effective implementation of OSCE in a simulated environment is necessary to enable students gain competences before they are introduced to OSCE in the clinical area. The effectiveness of the OSCE is determined by the availability of resources and the skills of the assessors.

Preceptorship is an important concept that involves the use of preceptors to support the clinical learning of students (Girotto et al., 2019). Preceptors are normally engaged by academic institutions to provide formal clinical teaching support for students. The participants in this current study indicated that there was a lack of preceptors to effectively support clinical nursing education. Preceptors play an important role in supporting students with clinical learning (Girotto et al., 2019; Madhavanpraphakaran et al., 2014; Niederriter et al., 2017). Preceptors serve as clinical role models, mentors, tutors, supervisors, and coaches for nursing students during clinical placement. Lecturers also rely on feedback from preceptors to monitor the progress of students' clinical skills development (Asirifi et al., 2017). In the current Ghanaian context, preceptors are nurses employed by clinical facilities who support nursing students during clinical placement. NEIs should therefore collaborate with clinical facilities to identify and train nurses who are qualified and willing to become preceptors.

5.9.2 Nursing Education Institutions

The participants indicated that the lecturers were unable to engage in clinical supervision due to a shortage of lecturers. This finding concurs with an earlier study in South Africa in which students indicated that they received inadequate support from lecturers during clinical placement (Kgafele et al., 2015). The lack of lecturers leads to an increased workload on the few available lecturers which affects their ability to engage in clinical supervision. Considering the importance of clinical education in the training of nursing students the authorities of the NEIs will need to engage more lecturers. Clinical accompaniment should also be considered as a core responsibility of lecturers.

The need for a well-equipped skills laboratory for clinical skills training in nursing cannot be over emphasized. The study findings indicated that the skills laboratory of the academic institution where this study was conducted was inadequately equipped and small in size. This finding agrees with an earlier study in two other academic institutions in Ghana which also had inadequately equipped skills laboratories (Bell et al., 2016). This is likely to affect nursing student participation in skills laboratory activities. Muthathi et al. (2017) suggested putting nursing students in groups for skills laboratory training to improve participation. However, providing adequately equipped skills laboratories and ensuring the intake of students matches the available space will be an important step to be considered by NEIs to improve skills training in the skills laboratories.

The duration of placement and the number of hours spent in the clinical area during each shift play an important role in clinical education of nursing students (Gurková et al., 2016). In this study, participants indicated that students report late and leave early from clinical sites on a daily basis due to ineffective arrangement of their transportation. This finding is consistent with another Ghanaian study which revealed that excessive travel time was responsible for students arriving late at the clinical area and leaving early (Asirifi et al., 2017). Students not spending the required time for a shift at the clinical area make them miss out on learning certain nursing procedures such as taking over and handing over a ward. The NEIs will need to improve the arrangement and transport of students to the clinical site for clinical placement.

5.9.3 Nursing Students

The conduct of nursing students towards clinical nursing education is an essential factor that was also assessed. The study findings indicated that some nursing students were serious with their clinical practicum while others were not. The participants indicated that the students that were serious readily participated in nursing procedures on the wards. When students take part in nursing activities, they learn clinical skills. This underscores the need to motivate nursing students to show interest in their clinical skills training.

The study findings indicate that some of the nursing students, especially those in their second year and beyond, were not serious about gaining clinical competence. Thus, an indication of poor attitude towards skills learning. The findings disagree with a study in Jordan which indicated that students in higher classes had positive attitudes towards skills learning (Gharaibeh et al., 2017). The level of support students receive could be an important factor

that influences their attitude towards clinical learning. There is the need for lecturers, preceptors and nurse tutors to have clinical conferences with nursing students before and after each day. These conferences will allow the faculty to offer students the support they require.

Nursing students have to achieve a set of objectives in each clinical placement session. Students come for clinical placement with unique attitudes that impact their clinical learning (Swartz, 2019). The study revealed the nursing students do not place much importance on clinical placement objectives. This may negatively affect the development of professional skills among the students. Perhaps, introducing learning contracts may put some responsibility on preceptors and students to work towards achieving their clinical placement objectives. Sajadi et al. (2017) established that learning contracts promote self-directed learning among students.

5.9.4 The Regulatory Body

In Ghana, the Health Professions Regulatory Bodies Act, 2013 (ACT 857) mandates the Nursing and Midwifery Council (NM&C) to regulate the training and practice of nurses in Ghana. The NM&C works with the National Accreditation Board under the auspices of Ghana Tertiary Education Commission (GTEC) to give accreditation to academic institutions to set up a nursing programme in Ghana. For effective clinical nursing education, the two most important issues revealed in this study include ensuring the provision of skills laboratories and regulating the selection of clinical facilities for clinical placement of students.

The bed capacity and the presence of essential material resources in a clinical facility are essential factors that influence the clinical learning of nursing students. The study findings also pointed to the need for further accreditation of hospitals to act as clinical sites for NEIs. The present nursing programme accreditation system in Ghana requires that the NEIs have a memorandum of understanding with selected hospitals where students can have clinical placement. However, it appears that there are no criteria for selecting clinical facilities for nursing students. The participants suggest that the NMC should accredit the clinical facilities to act as clinical training sites. This is necessary to ensure some standards in accredited clinical settings for nursing students to enable them to develop practical nursing skills and improve upon their competence level.

5.10 CHAPTER SUMMARY

Clinical nursing education is influenced by factors that exist in academic institutions, clinical facilities, and nursing and midwifery. An effective communication between NEIs and clinical facilities was identified as one important means to ensure that clinical placements are properly scheduled to prevent overcrowding of nursing students at the clinical sites. Preceptorship is necessary to enhance clinical learning. However, currently in Ghana most preceptors are not trained hence there is the need for collaboration between NEIs and clinical facilities to provide training programmes for preceptors. Scheduling lecturers for clinical accompaniment and the provision of an adequately equipped skills laboratory by the NEIs were identified as important strategies to improve clinical nursing education.

Formative assessment of students during clinical placement was also identified as an important strategy in monitoring the progress of students because feedback allows students to improve on their deficient clinical competencies. The oversight responsibility of NMC in ensuring that NEIs and clinical facilities provide adequate facilities to improve clinical nursing education was also emphasized. The next chapter describes the development of a framework for clinical education where lessons learned from the scoping literature review, the survey and the qualitative study were applied.

CHAPTER 6: DEVELOPMENT OF FRAMEWORK FOR CLINICAL EDUCATION

6.1 INTRODUCTION

The first phase of the study was a scoping literature review on practices that facilitate clinical nursing education. This was followed by a situational analysis of current state of clinical nursing education in a selected study sites in Ghana. The situational analysis encompassed two studies; a survey among undergraduate nursing students and preceptors, and a qualitative study among key informants including unit managers, nurse managers, clinical placement coordinators and nursing lecturers. In this chapter, lessons learnt from the scoping literature review and the situational analysis were applied to develop a framework for clinical education of undergraduate nursing programmes in Ghana. This framework will assist stakeholders to implement quality clinical nursing education in Ghana

6.2 RECAP OF METHODS

The model for clinical nursing education developed by the Nurse Educators Stakeholders Group in South Africa (Nursing Education Stakeholders, 2012) was used to guide the development of the framework. As described in Chapter 1, the model comprises of four major components: the NEIs, service settings, nursing students and the nursing council. These components served as the priori codes under which the lessons learnt from the findings in Phases I and II were categorised in Table 6.1.

Table 6.1 then served as the data matrix which was iteratively synthesized to develop the framework. The lessons learnt from Phases I and II, displayed in Table 6.1 were colour coded to identify lessons that were common to all (Annexure Q). The same colour coded components were grouped into thematic areas, labelled and described (Annexure S). The coding and categorization of the lessons learnt were done in consultation with clinical education experts. The thematic areas were considered as the main constructs of the resulting framework

Table 6. 1: Identification of Lessons Learnt from Phase I and Phase II

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
Support from NEI	• A training programme should be developed for preceptors • NEIs should collaborate with clinical institutions in drawing clinical curriculum • Utilise videos in teaching nursing skills • Improve the application of stimulation • Put students in groups for skills laboratory training	• Pre-publish placement dates to students and clinical facilities • Ensure adequate duration of clinical placement • Lecturers should visit the clinical site for supervision • Lecturers should be involved in clinical facilitation • Introduce students to "self-directed learning" in the classroom	• Intake of students should be according to lecture hall space, facilities for skills training and number of lecturers • There should be a formative assessment of students during clinical placement by preceptors • Appoint an adequate number of lecturers for classroom and skills laboratories	• Improving teaching and learning of clinical skills • communication and collaboration between NEI and service setting • clinical supervision of students • Planning of clinical placement for students • Ensuring effective clinical assessment

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
	• Students should spend adequate time in each ward • Electronic feedback platform should be used for monitoring students while they are in clinical placement area • Objective Structured Clinical Examination (OSCE) should be used in assessing students • Competence assessment tools are effective in monitoring students progress in skills development	• Communicate clinical placement objectives with clinical facilities before clinical placement • Provide skills laboratories with adequate space and materials • Engage staff for clinical teaching of students in the skills laboratory • Involve preceptors in the development of clinical assessment tools	• Implement preceptorship • Training of simulated patients • Capacity building of assessors • Lecturers should take part in clinical supervision • There should effective transportation system • There should be adequate duration for clinical placement • Clinical placement should be in “block”	

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
		• Transport students to and from the clinical area promptly.	• NEIs should be adequately equipped skills laboratory	
Support from service setting	• There should be constructive feedback from clinical faculty (nurses, preceptors and clinical supervisors) • Provide material resources for nursing procedures • Engage an adequate number of registered nurses	• Clinical facilities should develop a clinical manual containing all rules regarding clinical practice and procedures • Preceptors should clarify the learning needs of students • Provide adequate equipment for	• Effective communication with academic institutions • Rotational plan for various academic institutions that send students for clinical placement • Engaging more registered nurses	• Preparation to receive students • Communication between service settings and NEI, and service setting and students • Support of Students during clinical placement

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
	• Take steps to enlist the support of nurses and clinical supervisors in clinical teaching of students • There should be effective communication with student • There should be pre-briefing and debriefing sessions with students during clinical placement • Preceptors should have characteristics such as effective communication	demonstrations and return demonstration • Preceptors should have effective communication with students • Develop a remedial plan for students who are unable to gain competence in a particular skill • Sign learning contracts with students	• Provision of material resources • Encouraging nurses to initiate personal strategies to enhance clinical learning at the ward level • Peer learning i.e. the pairing of students who are at the same level of study but in different schools to enable them to learn from each other • Preceptors should conduct formative assessment	• Provide material and human resources • Clinical assessment

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
	skills, coaching skills and role modelling. • Peer learning i.e. pairing of students from same level of study for the same shift during clinical placement should be encouraged		• Organize clinical meetings with students during clinical placement	
• **Student in clinical for role taking practice**	• Students should indicate readiness for clinical learning through observation, listening and asking questions • Attend pre-briefing and debriefing sessions • Students should be self-confident and motivated	• Accept constructive criticism • Sign a performance contract before clinical assessment • Students should communicate effectively with clinical staff	• Attend clinical conferences and ask questions • Students should seek counselling when they have problems in the placement area	• Attendance • Positive mindset • Commitment

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
		• Students should avail themselves for clinical assessment	• Respect laid down rules of clinical placement	
• **Support from Nursing Council**	• Monitor academic institutions through scheduled visits	• Assist academic institutions set-up skills laboratories that have essential equipment and materials	• NM&C should set-up an accreditation system for clinical facilities • NM&C should make recommendations for student intake based on the availability of facilities • Monitor NEIs to provide adequately equipped skills laboratory	• Monitoring to ensure that NEIs meet and maintain a minimum standard • Advice to the Minister of Health • Clinical assessment of students

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
			• NM&C should improve conduct of Licensing Examination	

6.3 THE FRAMEWORK FOR CLINICAL NURSING EDUCATION IN GHANA

The goal of the framework is to identify and integrate the actions of the various stakeholders to ensure effective clinical nursing education in Ghana.

The framework proposes that to ensure quality clinical nursing education there is the need for NEIs to implement innovative and cost-effective clinical teaching methods, a well-structured clinical placement and a formal supervision system. The service setting which is an integral part of the framework would contribute to improving clinical education through adequate preparation and support of students during clinical placement. The framework also indicates that the provision of adequate resources, effective communication and collaboration between NEIs and service settings is crucial in improving the quality of clinical education. The students are the recipients of clinical education and of the activities enshrined in the framework. The students therefore have an important role to ensure that they are fully committed to becoming competent and confident registered nurses on graduation.

The Nursing and Midwifery Council (N&MC) of Ghana is mandated to regulate nursing education and practice in Ghana. The N&MC could improve clinical nursing education through an initial assessment of NEIs and clinical settings to ascertain the availability of resources to provide effective clinical nursing education. The N&MC could then communicate the findings of the assessment and provide information on what is expected to ensure effective clinical education.

The resulting framework consists of five thematic areas which include communication and collaboration, clinical teaching programme, formal clinical supervision, clinical placement system and standard clinical assessment. These thematic areas work together to contribute to an effective clinical nursing education.

6.3.1 Communication and Collaboration

The standard developed for this aspect of the framework was communication and collaboration between stakeholders to provide for seamless preparation of students in the classroom and clinical areas. Data from both phase I and II of the study indicated that collaboration and communication between the NEIs and the health facilities that act as clinical placement sites is necessary for improving clinical nursing education. Communication and collaboration were also seen as

important factors in the formation of a clinical learning forum, reviewing and developing the curriculum for clinical training, information flow and finding protected time for preceptors.

6.3.1.1 Clinical Learning Forum (CLF)

CLF is a set of committees that will work in a coordinated manner to ensure effective clinical nursing education is an essential aspect of communication and collaboration. The formation of a clinical learning forum consists of representatives from NEIs and the service setting. Academic-clinical partnership bridges the gap between education and practice and brings stakeholders closer together (Chan et al., 2018; Westwood et al., 2018). This partnership is similar to what is being proposed in this framework.

Students are an important stakeholder in the model for clinical education and training (Nursing Education Stakeholders, 2012) upon which this framework is developed. The evidence gathered in this study indicated current challenges with regard to communication between students and both the NEI and the clinical facilities, the researcher therefore recommended students be included the CLF. The roles of this forum are designed to ensure that students are placed appropriately and that all clinical learning takes place in an optimal manner. The forum oversees all the activities identified in the framework. The CLF should consist of subcommittees specifically responsible for clinical placement, clinical teaching, formal clinical supervision and clinical assessment. The CLF will need to have a constitution to guide their work. The CLF should have scheduled meetings, review of subcommittee reports and maintain effective communication with Nursing and Midwifery Council.

6.3.1.2 Curriculum Review

Academic-clinical collaboration is recommended in reviewing and drawing up clinical education curricula (Wu et al., 2017). When clinical nurses and preceptors take part in preparing the clinical education curriculum it will enable them to make contributions based on their clinical experience. Also, when preceptors are involved in review of the curriculum they can determine areas that the preceptors themselves will need further training to enable them to assist students with skills learning.

The absence of a practical workbook or manual containing the steps and rationale for nursing procedures causes incongruence among clinical supervisors (Donough & Heever, 2018). In Ghana,

the nursing procedure manual was developed by the Nursing and Midwifery Council in 1995 and have not been reviewed since. There is the need for NEIs to spearhead an academic-clinical collaboration to develop a clinical workbook that reflects current standard guidelines for the performance of nursing procedures.

6.3.1.3 Protected Time for Preceptorship

Preceptors are experienced nurses who contribute to the professional development of nursing students (Botma et al., 2012; Nursing Education Stakeholders Group, 2012). Preceptors create a conducive clinical learning environment and guide students to achieve their placement objectives. In Ghana, preceptors are nurses employed by the clinical facilities but are engaged by NEIs to do clinical teaching of students in addition to their responsibilities as nurses. The current arrangement does not allow the preceptors adequate time to support students during clinical placement. There is the need for NEIs and clinical facilities to plan a protected time for preceptors to engage in preceptorship when students are in the clinical facility for placement.

6.3.2 Clinical Teaching Programme

The findings from both phase I and phase II of the study established that effective clinical teaching is necessary in building the professional skills of nursing students. To ensure efficient skills teaching there is the need to set up skills units, prepare students for simulation, instituting the pre-briefing and debriefing process, assigning staff for skills education and training skills educators. Other innovative teaching strategies such as peer-learning and signing of learning contracts were included in the framework.

6.3.2.1 Setting up Skills Units

Setting up a skills unit allows students to practice skills in an environment that mimics the clinical setting. The skills unit gives students a platform to practice and gain clinical skills without fear of causing harm to human life (Eyikara & Baykara, 2017). The global standards for effective nursing education require the use of innovative methods such as simulation for initial nursing training (World Health Organization, 2009). NEIs should therefore identify space and work on a budget towards setting up a skills laboratory as a basic requirement in providing a simulated environment for skills training of students.

6.3.2.2 Preparing Students for Simulation

Simulation-based learning is an effective approach that enables students to practice clinical skills, solve problems and make decisions (Sahu et al., 2019). Students should be introduced to the various simulation strategies such as role-play, standardised patients, computer-based simulation, virtual reality and high fidelity. Preparation of students for simulation vary and could include reviewing procedures, writing pre-quizzes, watching manikin videos and signing confidential agreements (Herlihy & Teel, 2020). Posting of videos of nursing procedures for students to watch before training sessions is a viable strategy recommended to allow the students to develop confidence towards performing the procedures (Lee et al., 2016)

6.3.2.3 Pre-briefing and Debriefing

The findings from phase I of this study revealed that pre-briefing and debriefing enhances clinical teaching and learning. Pre-briefing positively influences students' competency performance and clinical judgment (Page-Cutrara & Turk, 2017). Pre-briefing involves a face-to-face discussion between students and skills educators. During the pre-briefing, the staff gives guidance based on the placement objectives. The specific procedure that will be practiced vis-à-vis the available equipment or material resources to ensure that students achieve clinical placement objectives is discussed during pre-briefing.

Debriefing will enable preceptors to give feedback to students on their performance and make clarifications where necessary. Debriefing provides an opportunity for preceptors and students to improve skills teaching and learning through healthy reflection and discussion of clinical events.

6.3.2.4 Assigning Staff for Skills Education

Skills educators are lecturers or staff of NEIs assigned to teach skills in the skills laboratory. Skills educators also play an important role in clinical teaching by accompanying students to the clinical placement area. The findings of phase II of this study established that there are currently no staff placed to manage the skills laboratory at the study site. NEIs need to engage staff whose main responsibility will be to teach clinical skills in the skills laboratory. Assigning academic lecturers for skills teaching in the skills laboratory will ensure that students get the required support in skills learning. In the Ghanaian context, NEIs with inadequate number of lecturers could explore the option of engaging senior research assistants for skills teaching upon building their capacity. Senior research assistants are staff with at least a bachelor’s degree employed by NEIs to assists lecturers with teaching and learning activities.

6.3.2.5 Training of Skills Educators

The knowledge and skills of the skills educators is an essential factor in the clinical training of students. The NEIs need to develop Continuous Professional Development (CPD) programmes with corresponding CPD points to build the capacity of skills educators to support students. Skills educators need training on proper questioning technique, giving cues and giving feedback to students during skills learning (Botma et al., 2012). Skills educators' ability to ask appropriate questions will help students to think critically and broaden the students' scope on the skill that they are performing. The skills educator needs to listen, read facial expressions and frame questions to learners level of understanding (Beckman & Lee, 2009). Verbal and non-verbal cues such as nodding, thumbs-up and smiling are powerful in encouraging students during the performance of skills. Constructive feedback should start and end on a positive note focusing on the performance of the student and not the character (Botma et al., 2012). Also, the skills educator should be able to establish rapport and motivate students to participate in skills learning activities (Sahu et al., 2019).

6.3.2.6 Signing of Learning Contract

Students come to the ward with placement objectives that they need to achieve. Signing learning contracts promote self-directed learning (Sajadi et al., 2017). When students sign a learning contract they become active participants in their learning by making contributions to what is to be learnt and how it should be learnt (Swartz, 2019). In self-directed learning students identify resources and take action to achieve their learning needs (Qamata-Mtshali & Bruce, 2018). Students should therefore sign a learning contract during clinical placement. However, there must be an educational preparation of students on the concept of self-directed learning and contract signing. The preparation of the students towards signing a learning contract could be factored into the orientation programme for students during clinical placement.

6.3.3 Clinical Placement System

Clinical placement is an important activity in the training of nursing students. The areas of clinical placement that emanated from both the qualitative and quantitative study that require improvement include development of the clinical placement policy manual, communication of placement dates/objectives, involvement of lecturers and adequate duration of clinical placement.

6.3.3.1 Clinical Placement Manual

There is the need for development of a clinical placement policy manual for all the clinical sites. The manual should contain duties and responsibilities of students, lecturers, preceptors, nurse managers, unit managers and registered nurses in relation clinical placement. The handbook will also contain ward policies. The students should be taken through the handbook during an orientation programme at the commencement of clinical placement.

6.3.3.2 Placement Dates and Objectives

The clinical placement coordinators facilitate the preparation for clinical placement of students by informing nurse managers, clinical preceptors and ward nurses about placement dates (Sanderson & Lea, 2012). Clinical placement dates and objectives should be communicated to both students and staff in the clinical facilities to prepare for the placement at least 2 months ahead. The clinical facilities receive students from various academic institutions hence negotiating placement dates will enable scheduling to avoid overcrowding of students. The NEIs may even need to discuss with clinical facilities how clinical placement objectives could met.

6.3.3.3 Involvement of Lecturers

When lecturers are involved in clinical supervision it will enable them to facilitate clinical skills learning by linking theory to practice (Kamphinda et al., 2019). The involvement of lecturers in clinical supervision will enable them to guide students in the learning of skills, assess students' progress and supervise preceptors. The presence of lecturers in the clinical environment will enhance interaction between lecturers and preceptors in the interest of improving student support. Clinical supervision should therefore be factored in as a responsibility of nursing lecturers. Where lack of lecturers is a major challenge, senior research assistants could be engaged to act as clinical supervisors.

6.3.3.4 Duration of clinical placement

Nursing education consists of a blend of theory and practice which may be given an equal amount of time (National Department of Health, 2012). The duration of clinical placement is a very important factor because nursing is a practice-based profession. Spending a longer duration of time in the clinical placement area is associated with higher exposure to clinical skills learning (Gurková et al., 2016; Kamphinda et al., 2019). Findings from both phase I and phase II all indicated that clinical exposure given to the students was inadequate. The curriculum for

undergraduate nursing training stipulates the duration of clinical placement. NEIs should therefore ensure that clinical placement duration reflects the stated hours in the curriculum.

The qualitative study in phase II established that another factor that cut down on the extent of clinical exposure was late reporting on duty and early departure of students during clinical placement. To overcome this, NEIs need to ensure that bus drivers and students understand the need for early reporting and to have a monitoring system put in place to ensure adherence to the allocated clinical hours. Administrative issues such as availability of buses, maintenance and fuel supply should all be addressed by NEIs to ensure effectiveness.

6.3.4 Formal Clinical Supervision System

Lessons from phase I and II of the current study all suggested that clinical supervision of students during clinical placement is a major element of improving the clinical education of students. The elements of clinical supervision necessary for effective clinical nursing education include the appointment of preceptors, training of preceptors, feedback on preceptorship, improving preceptorship, assigning preceptors to students and application of technology in clinical supervision.

6.3.4.1 Appointment of Preceptors

Preceptors play a very important role in assisting students with the learning of clinical skills during clinical placement (Asirifi, 2017; Girotto et al., 2019; Madhavanpraphakaran et al., 2014; Niederriter et al., 2017). In the Ghanaian context, preceptors do not have formal training but are selected based on their experience as nurses and their willingness to support students. There is a need for clinical facilities to collaborate with NEIs to identify and appoint nurses for the role of preceptorship. The group of key informants to select potential preceptors should include lecturers who teach or coordinate clinical nursing, nurse managers, unit managers and clinical placement coordinators. The NEIs determine the content of clinical education and the clinical facilities supervise students to acquire the stipulated competencies hence the need for collaboration in selecting potential preceptors. Prospective preceptors should be professional nurses who can communicate effectively, uphold the ethics of nursing and have a desire for professional growth (Smedley & Penney, 2009). The preceptor should have the willingness, competence and good communication skills (Yonge, 2007).

6.3.4.2 Training of Preceptors

A best practice workshop should be developed to train appointed nurses to assume the role of preceptors. The training of preceptors should cover areas such as principles of clinical teaching, learning and assessment in the adult context, roles of the preceptor, and management of student-preceptor interaction (Botma et al., 2012). Also, the training should include the application of knowledge, skills and attributes in clinical teaching and learning, how to initiate interest in learning using creative strategies, and how to monitor and evaluate tailor-made programmes (Jeggels et al., 2013). Dates for training preceptors should be agreed upon with authorities of the clinical facilities to enable the selected staff to participate.

6.3.4.3 Feedback System

NEIs need feedback from preceptors and students to be able to evaluate the effectiveness of the preceptorship implemented for students (Lloyd-Penza et al., 2019). Feedback could be collected through questionnaires or an online feedback form. The NEIs should adopt at least one of these strategies to evaluate effectiveness of clinical placement each semester. Changes implemented based on feedback strengthens the collaboration between the two institutions and improves students' learning experiences.

6.3.4.4 Improving preceptorship

Effective preceptorship will ensure that students receive adequate support during clinical placement. One of the barriers facing the effective implementation of preceptorship in Ghana is the lack of motivation for preceptors by NEIs (Asirifi, 2017). Hence there is the need to map out strategies to motivate preceptors. Preceptors could be motivated by appointing them as examiners for clinical assessment of students. Other incentives that could be given to preceptors include awarding CPD points for the preceptorship they provide students and formal recognition as adjunct faculty through appointment letters. Preceptors could also be given access to NEIs facilities such as the University library and online resources. Instituting a feedback system to assess the perspective of preceptors on the barriers, motivating factors and how to improve preceptorship should also be considered.

6.3.4.5 Assigning students to Preceptors

The number of preceptors to be trained should reflect the number of students that need supervision. Several recommendations on the preceptor-student ratios have been made which include 1:6

(Maart, 2011; Schellenberg, 2017), 1: 15 (National Department of Health, 2012) and 1:15-20 (Nursing Educators Stakeholder Group, 2014). Considering all these recommendations provided by published literature will be necessary when assigning students to preceptors.

6.3.4.6 Application of Technology

The application of technology in monitoring students during clinical placement is also a viable strategy that could be applied to supporting students (Mettiäinen, 2015). An electronic platform that requires students to give feedback on daily basis is an effective means of monitoring students' progress in clinical placement. The feedback received by NEIs can help determine if the students are receiving adequate support from preceptors and areas that skills training is lacking or needs improvement.

6.3.5 Standard Clinical Assessment

Clinical assessment is a strategy for assessing students' progress in clinical skills acquisition. It also assesses the students' competence, the need for student remediation and provides students with feedback. There is the need to develop consistent and objective assessment methods (Immonen et al., 2019). To improve clinical assessment there is the need to review and update Objective Structured Clinical Examination (OSCE) assessment tools, and train clinical assessors and simulated patients. Preceptors also require training in the application of competence assessment tools for formative assessment.

6.3.5.1 Objective Structured Clinical Examination (OSCE)

Objective Structured Clinical Examination (OSCE) is considered an effective tool in the clinical assessment of students (Bani-issa et al., 2019b). Findings from the qualitative study indicated that the OSCE is currently used in the clinical assessment of students in the skills laboratory but this requires improvement. Experienced examiners, educational experts and external moderators should be involved in the development and update of the assessment tools and training of the clinical assessors. To make the clinical assessment in the skills laboratory mimic the clinical environment there is the need to also train the simulated patients.

Pre-examination conferences should be done to discuss the clinical assessment tools and assessment criteria to be used. All examiners need to be briefed about the objectives of the exam, and what level of skills competency is expected from the students. Post-examination conferences

should be organized to discuss students' strengths and weaknesses and make recommendations for improvement. A feedback form should also be designed for students to comment on the conduct of the assessment and what in their view should be continued or needs improvement.

6.3.5.2 Competence Tool for Formative Assessment

Authentic formative assessment involves assessing the performance of students in actual role-taking in the face of available resources and time (Botma et al., 2012). The formative assessment focuses on the students' behaviour and performance of clinical skills and not on the personal character of the students (Wade & Hayes, 2010). Formative assessment allows students to receive feedback on their performance. Preceptors should be trained in the application of, and assist in the development of competence tools for formative assessment. The formative assessment will help in identifying areas that students have developed competence and areas that they need more support. Where formative assessment reveals that a student is unable to gain competence, a remedial plan should be instituted to enable such a student to gain the needed competence. The remedial plan may involve allocating more clinical placement hours, and giving additional academic and supervisory support. The remedial plan could also involve clinical skills practice in the skills laboratory with a clinical facilitation

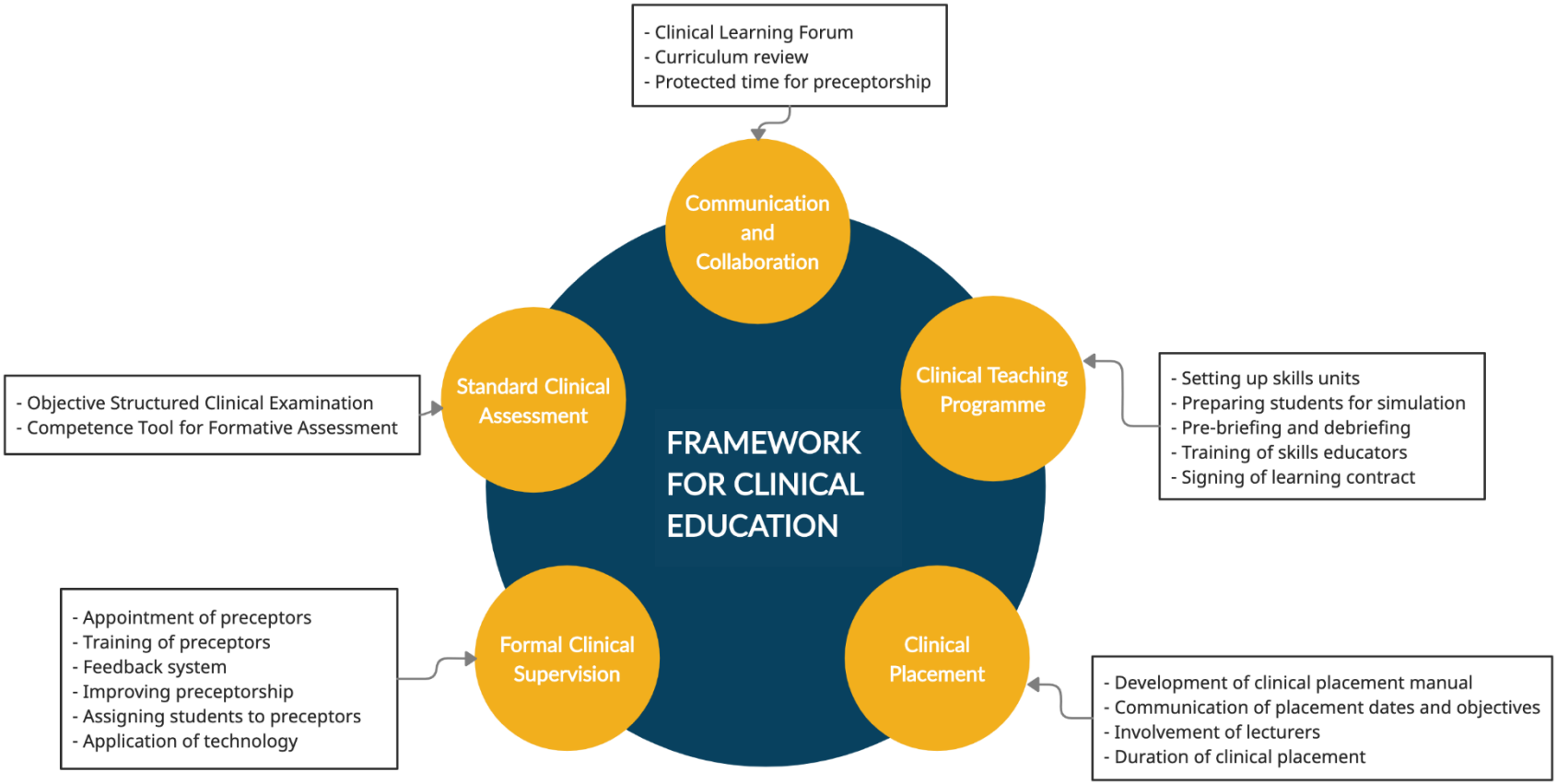

Figure 6. 1: Framework for Clinical Nursing Education

6.4 FRAMEWORK IMPLEMENTATION PLAN

Having developed the framework based on lessons learnt from the findings of phase I and II in consultation with nursing education experts, there was the need to plan how the framework could be implemented to guide clinical nursing education. An implementation plan consisting of the practicable ideas contained in the narrative description of the framework was developed. The implementation plan was developed in the five thematic areas of the framework to be implemented in three phases including immediate, intermediate, and final phases.

Table 6. 2: Implementation Plan of the Clinical Nursing Education Framework

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
C**ommunication and collaboration between stakeholders** provide for seamless preparation of students in the classroom and clinical areas	• Constitute a Clinical Learning Forum (CLF) with representation from NS, NEI and SS to monitor implementation of the framework • Write constitution for a Clinical Learning Forum (CLF) • The CLF should include sub-committees on the clinical teaching programme, the formal system of clinical supervision, clinical placements and clinical assessment • The representatives should meet to establish ground rules and plans	NS NEI SS NS NEI SS NS NEI SS NS NEI SS	• Meet regularly and function as a CPF according to constitution of the CPF • Appoint members onto sub-committees • Review quarterly reports submitted by sub-committees • Maintain communication with the Nursing and Midwifery Council • Provide feedback of NM&C activities and changes to all stakeholders	NS NEI SS NEI SS NEI SS NEI NEI	• Review roles and functioning of CLF and amend as required • Continue regular meetings and activities	NS NEI SS NS NEI SS

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
Clinical teaching programme will provide cost-effective, innovative and relevant education to prepare students for their future roles as professional nurses	• Clarify the learning needs of the Student before clinical placement or skills laboratory sessions • Pre-test students a week prior to placement • Plan a pre-briefing and debriefing for clinical teaching • Identify an area in the department to be used as a skills unit • Work out a budget for requirements for the skills unit • Video skills that will be taught in the skills lab should be posted on the students learning platform for pre-skills preparation	NEI SS NEI NS NEI SS NEI NEI	• Sign learning contracts with students • Introduce students to self-directed learning • Purchase equipment for skills laboratory • Provide low-cost simulation aids • Develop the designated area as a skills unit • Orientate students to effective use of skills unit • Provide specialised training for lecturers on high and low fidelity simulation and innovative skills teaching methods • Purchase audio visual equipment for the real-time transmission of scenario simulations and debriefing	NEI SS NS NEI SS NEI NEI NEI NEI NEI	• Purchase additional simulation equipment • Plan a yearly evaluation of the effectiveness of steps taken to improve clinical teaching • Implement changes as required	NEI NEI SS

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
	• Remind students at least 4 weeks to clinical placement	NEI	to students not in the skills unit. • Plan for embedding small group clinical skills teaching in the curricula.	NEI		
A formal system of clinical supervision provides structure and support to students to enhance translation of theory into practice	• Develop a budget and motivate for funding for the engagement of preceptors • Develop a memorandum of understanding between the service settings and the NEI on the selection, appointment and training of preceptors for student supervision. • Determine the position and responsibilities of the existing clinical facilitators (registered nurses) in relation to the preceptors and the nursing students	NEI NEI, SS NS	• Appoint preceptors • Training dates should be agreed upon with authorities of the clinical facilities to enable the selected staff to attend. • Expose all preceptors, clinical facilitators and nurse educators to the best practice workshop on clinical supervisory skills • Allocate students to preceptors that have participated in the supervision training course	NEI SS NEI SS NEI SS NEI SS	• Review the attendance rate and feedback from the attendees at the workshops. • Conduct a research study on the translation into practice of the supervisory skills taught in the workshop • Review the success (level of attendance, and student feedback) of the supervision	NEI NEI NEI

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
	• Determine the position and responsibilities of the nurse educators in relation to clinical supervision. • Design a best practice workshop on clinical supervision skills. • Develop an electronic monitoring system of students during placements	NEI SS NEI SS NEI	for ongoing clinical supervision • Develop a feedback system for both preceptors and students to discuss the level of supervision provided to the student. • Improve preceptorship by implementing lessons learnt from feedback system • Train users on how to use the electronic platform for clinical supervision	NEI NEI, SS NEI	training program and refine as required.	

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
The **clinical placement** system is structured to facilitate optimal exposure to practice and appropriate student assessment	• Develop a clinical placement policy manual containing ward policies, duties and responsibilities of students, lecturers, preceptors and clinical facilitators. • Negotiate placement dates with the service setting	SS NEI NEI SS	• Make dates available to all stakeholders at least 2 months prior to placement • Schedule regular dates and times, in the academic year for lecturers from the NEIs to be present in the clinical areas to assist with supervision and clinical teaching • Send specific clinical placement objectives to clinical site and students who are attending the specific clinical site a month prior to the placement	NEI NEI NEI	• Review clinical placement manual to evaluate relevance/alignment to student's clinical needs. • Review success of electronic monitoring system • Make changes as required	NS NEI SS NEI NEI SS

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
A **standard clinical assessment** system will ensure effective monitoring of the skills development of students	• Constitute an expert committee consisting of experienced examiners, educational experts and external moderators to review and update clinical assessments tools • Expert committee should design a training programme for assessors and simulated patients	NEI NEI	• Organise a training for OSCE assessors and simulated patients' clinical assessment • Institute pre- and post-examination conferences • Train preceptors on the use of competence tools for formative assessment • Develop remedial plans for students who are unable to achieve competence during clinical placement • Move clinical assessment of students in the second year and beyond to the clinical area	NEI NEI NEI NEI SS NEI	• Schedule a yearly refresher training of simulated patients and assessors • Evaluate the effectiveness of using competence tool for formative assessment • Review and update clinical assessment tools every two years • Train new assessors and simulated patients prior to clinical assessment each time	NEI NEI NEI NEI

Key: SH = Stakeholder; NEI = Nursing Education Institution; NM&C = Statutory council; SS = Service setting; NS= Nursing students

6.5 CHAPTER SUMMARY

In this chapter a framework for undergraduate clinical nursing education was developed. The framework consists of five thematic areas which include communication and collaboration, clinical teaching programme, formal clinical supervision, clinical placement and clinical assessment. An implementation plan was developed to implement the ideas in the framework to improve clinical nursing education programme. The next chapter involves the evaluation of the implementation plan of the developed framework.

CHAPTER 7: EVALUATION OF THE IMPLEMENTATION PLAN OF THE FRAMEWORK

7.1 INTRODUCTION

In the previous chapter, the development of the framework for clinical education was described. This chapter deals with the evaluation process of the framework for feasibility and relevance using a Delphi technique. The chapter commences by describing the goal of the evaluation then provides a summary of the Delphi technique used which was first described in the methodology chapter, and finally presents the findings of the two phases of the Delphi study.

7.2 THE GOAL OF THE EVALUATION PROCESS

The framework was developed by identifying and integrating the lessons learnt from the scoping literature review, the survey among preceptors and students, and the qualitative study among key informants. To ensure that the framework could respond to the need for improvement in clinical education, an implementation plan was developed which directly reflected the practical ideas contained in the narrative description of the framework. The evaluation phase was to allow experts in clinical nursing education to appraise the implementation plan of the framework for feasibility and relevance in the Ghanaian nursing context

7.3 SUMMARY OF THE DELPHI TECHNIQUE

A Delphi technique was used to evaluate the implementation plan of the framework developed for clinical nursing education. A Delphi questionnaire was developed by the researcher based on the implementation plan of the framework. The clinical experts were first presented with lessons learnt from the scoping literature review, the survey among preceptors and students, and the qualitative study among key informants. They were then given a copy of the draft framework developed to assess before the evaluation.

The Delphi questionnaire for phase one of the evaluation consisted of five thematic areas (Annexure T). In phase one, the participants rated each item for relevance and feasibility in the Ghanaian context on a scale of 0-2. A percentage score was calculated for each item by summing the ratings and calculating the obtained percentage based on the total highest score possible. A score of 90% or more was considered to indicate consensus. The participants were also asked to comment on each thematic area of the framework. They also answered five open-ended questions

to indicate their general impression of the implementation plan of the framework. The comments given by the experts were analysed using latent content analysis procedures.

The questionnaire for phase two of the Delphi was divided into Section A and B (Annexure U). Section A consisted only of the items in the original Delphi questionnaire (Part I) where participants had suggested a modification. Part II consisted of items that the participants suggested should be added to the framework. In phase II, the participants responded by indicating against each item whether they agreed or disagreed with the modification or addition of the item to the framework. There was also a comment box against each item to allow for the participants to make comments to clarify their decision.

7.4 BACKGROUND CHARACTERISTICS OF PARTICIPANTS

The clinical experts who participated in the Delphi survey were registered nurses by background, selected from nursing education institutions, service settings, and the regulatory body for nursing in Ghana. Undergraduate nursing students in the second, third, and fourth years also participated in the Delphi. All the experts had working experience in the Ghanaian context. The clinical experts had working experience as nurses or academics in the Ghanaian context.

With regards to the educational background of the participants, four (4) were Ph.D. holders, thirteen (13) were master's degree holders, one (1) had a bachelor's or first degree and five (5) were undergraduate nursing students. Six (6) of the participants were nurse educators working as university lecturers and two (2) were senior officers of the Nursing and Midwifery Council of Ghana. The other participants included three (3) preceptors, four (4) clinical placement coordinators, one (1) academic coordinator, one nurse manager, one nursing education expert, one health system and policy analyst, one nurse specialist, and five (5) nursing students as illustrated in Table 7.2. below.

Table 7. 1: Background Information of participants

Participants	Position	Place of work	Highest Academic qualification	Years of Experience in Nursing
P1	Head of Department, Lecturer	Public university, northern Ghana	Master's Degree	19
P2	Clinical placement coordinator	District hospital	Master's Degree	15
P3	Clinical placement coordinator	Tertiary hospital	Master's Degree	13
P4	Nurse specialist	Ghana College of Nurses and Midwives	Master's Degree	15
P5	Technical Officer for Health systems and Clinical training	World Health Organization	Master's Degree	14
P6	Clinical placement coordinator	Regional Hospital	BSc Nursing	15
P7	Clinical placement coordinator	District hospital	Master's Degree	9
P8	Nurse Manager	Regional Hospital	Master's Degree	25
P9	Nursing Education Expert	North-West University, South Africa	PhD	10
P10	Lecturer	Public university, northern Ghana	PhD	19

Participants	Position	Place of work	Highest Academic qualification	Years of Experience in Nursing
P11	Lecturer	Public university, southern Ghana	Master's Degree	17
P12	Lecturer	Public university, southern Ghana	PhD	16
P13	Clinical Skills Coordinator, Lecturer	Public university, northern Ghana	Master's degree	16
P14	Preceptor, Unit manager	District Hospital	Master's Degree	16
P15	Preceptor, Unit manager	District Hospital	Master's Degree	15
P16	Preceptor, Unit manager	Regional Hospital	Master's Degree	13
P17	Nursing Student	Undergraduate	2nd year of study	-
P18	Nursing Student	Undergraduate	4th year of study	-
P19	Nursing Student	Undergraduate	4th year of study	-
P20	Nursing student	Undergraduate	3rd year of study	-
P21	Academic coordinator	Nursing Training College	Master's Degree	16
P22	Nursing Student	Undergraduate	3rd year of study	-
P23	Lecturer	Public university, northern Ghana	PhD	21
P24	Principal Operations officer	Nursing and Midwifery Council of Ghana	Master's Degree	21

Participants	Position	Place of work	Highest Academic qualification	Years of Experience in Nursing
P25	Head, Items Adm. Measurement and Evaluation	Nursing and Midwifery Council of Ghana	Master's Degree	21

7.5 RESULTS OF PART I

Out of twenty-six (26) clinical experts invited, twenty-five (25) responded to the Delphi questionnaire representing a response rate of 96.2%. The results of phase I indicated that there were discrepancies between the quantitative ratings and the qualitative comments. The quantitative results of phase one indicated a rating of at least 90% by participants on each item. However, the qualitative comments pointed out that there were areas the participants were not satisfied with. The suggestions for modifications and additions by the participants in the comments sections were used to develop the questionnaire for phase two of the Delphi. Where the comments did not suggest the need to modify items then those items were accepted as such into the framework since the ratings were up to targeted consensus at 90%.

The results of this phase were presented under the five thematic areas of the framework which include communication and collaboration, clinical teaching, clinical supervision, clinical placement, and clinical assessment. The clinical experts indicated whether the ideas in the implementation plan of the framework were feasible and relevant. The feasibility of an idea had to do with assessing the idea to determine how possible, reasonable and achievable such an idea was. Relevance had to do with assessing the idea for significance or importance.

The comments provided by the experts on their general impression of the framework and under each standard were analysed and presented using latent content analysis. Where the comments provided enough data to generate patterns then pattern latent content analysis was applied. Alternatively, where there were no adequate textual data to generate patterns then projective latent content analysis was applied by interpreting the statement to unravel the "hidden meaning".

7.6 NARRATIVE SUMMARY OF STANDARDS

The implementation plan of the framework consists of five standards which include communication and collaboration, clinical teaching programme, formal clinical supervision, clinical placement system and standard clinical assessment

Standard one: Communication and collaboration between stakeholders provide for seamless preparation of students in the classroom and clinical areas

Standard two: Clinical teaching programme will provide cost-effective, innovative and relevant education to prepare students for their future roles as professional nurses

Standard three: A formal system of clinical supervision provides structure and support to students to enhance translation of theory into practice

Standard four: The clinical placement system is structured to facilitate optimal exposure to practice and appropriate student assessment

Standard five: A standard clinical assessment system will ensure effective monitoring of the skills development of students

Table 7. 2: Standard One:

C**ommunication and collaboration between stakeholders**

Immediate Phase	Feasible	Relevant	Intermediate Phase	Feasible	Relevant	Final Phase	Feasible	Relevant
Constitute a Clinical Learning Forum (CLF) with representation from Nursing Students (NS), Nursing Education Institutions (NEIs) and Service Settings (SS) to monitor implementation of the framework	94%	92%	Meet regularly and function as a CLF according to the constitution of the CLF	98%	100%	Review roles and functioning of CLF and amend as required	100%	100%
Write constitution for the Clinical Learning Forum (CLF)	100%	100%	Appoint members onto sub-committees	96%	92%	Continue regular meetings and activities	92%	92%
The CLF should include sub-committees on the clinical teaching programme, formal system of clinical supervision, clinical placements and clinical assessment	96%	94%	Review quarterly reports submitted by sub-committees Maintain communication with the Statutory Council	100%	100%			

The representatives should meet to establish ground rules and plans	100%	95%	Provide feedback on NM&C activities and changes to all stakeholders	100%	100%			

7.7 COMMENTS ON COMMUNICATION AND COLLABORATION

7.7.1 Constitution for Clinical Learning Forum

The clinical learning forum (CLF) will serve as an important forum that drives the communication between stakeholders. The participants agreed that the development of a formal document to guide the operations of CLF was necessary. However, the participants raised two main issues regarding the development of the constitution to guide the CLF.

> *"I think that a clinical learning forum can operate with guidelines and not a constitution." P11*

Another participant thought the constitution covers ground rules.

> *"I do not think there is the need for ground rules to be set when already a working constitution has been adopted for the smooth running of the programme". P14*

7.7.2 Sub-committee on Nursing and Midwifery Council Activities

The clinical learning forum proposed in the framework consisted of some sub-committees to coordinate and supervise clinical teaching and learning activities. The Nursing and Midwifery Council of Ghana (NM&C) is responsible for indexing students, setting standards for their training and conducting licensing examinations to register them as professional nurses at the end of their training. Nursing Education Institutions (NEIs) correspond with the NM&C on these activities. The clinical experts observed that there is a need to form a subcommittee to handle these activities related to the NM&C.

> *"Could a sub-committee be formed and charged with the responsibility of handling NM&C related matters? That committee will then be responsible for providing feedback on NM&C activities and changes to the CLF and all stakeholders" P21*

7.7.3 Arrangement of Activities

The activities of the implementation plan were seen as very crucial to the implementation of the framework. The reviewers made observations on the sequencing of the activities within the framework. They made recommendations for the rearrangement of some activities to ensure a chronological flow.

> *"I feel that appointment of members into a sub-committee should occur at the intermediate phase to ensure the chronological presentation of the activities. The*

thinking is that once the main committee is formed, it should be followed by a sub-committee in 6 months. By that time the team will understand the group dynamics and what each brings on board to work at the sub-committee level." P11

Table 7. 3: Standard Two

Clinical teaching programme

INITIAL PHASE	Feasible	Relevant	INTERMEDIATE PHASE	Feasible	Relevant	FINAL PHASE	Feasible	Relevant
Identify an area in the department to be used as a skills unit	94%	94%	Sign learning contracts with students	96%	96%	Purchase additional skills or simulation equipment	96%	100
Work out a budget for requirements for the skills unit	96%	96%	Introduce students to self-directed learning	100%	100%	Continue regular meetings and activities	96%	100
Clarify the learning of the students before clinical placement or skills laboratory sessions with students	96%	96%	Purchase equipment for skills laboratory	98%	100%	Plan a yearly evaluation of the effectiveness of steps taken to improve clinical teaching	98%	100%

INITIAL PHASE	Feasible	Relevant	INTERMEDIATE PHASE	Feasible	Relevant	FINAL PHASE	Feasible	Relevant
Plan a pre-briefing and debriefing session for clinical teaching	94%	94%	Provide low-cost skills or simulation aids	97.8%	100%	Implement changes as required	94%	100%
Video skills that will be taught in the skills lab should be posted on the students learning platform for pre-skills preparation	100%	98%	Develop the designated area as a skills unit	100%	100%			
Remind students at least 4 weeks to clinical placement	100%	100%	Orientate students to effective use of skills unit	100%	100%			
			Provide specialised training for lecturers on high and low fidelity simulation and	98%	98%			

INITIAL PHASE	Feasible	Relevant	INTERMEDIATE PHASE	Feasible	Relevant	FINAL PHASE	Feasible	Relevant
			innovative skills teaching methods					
			Purchase audio visual equipment for the real-time transmission of scenario simulations to students who are not in the skills unit	94%	100%			
			Plan for embedding small group clinical skills teaching in the curricula.	100%	100%			

7.8 COMMENTS ON CLINICAL TEACHING

The comments of clinical experts on clinical teaching were centered on clinical placement objectives, organization of activities and purchase of skills laboratory or simulation equipment.

7.8.1 Clinical Placement Objectives

The participants indicated that students placed in the clinical setting or skills laboratory are expected to achieve clinical placement objectives. The implementation plan of the framework captured the need to state the clinical learning needs of students to direct learning of clinical skills. The participants indicated the need to state clearly that clinical placement objectives should be discussed before clinical placement. The recommendation by participants is that "learning needs" should be replaced with "clinical placement objectives". Two participants commented that:

> *"I feel that the learning needs should be changed to learning objectives. The action verb "discuss" may be more appropriate." P10*

> *"Clarify the learning needs of the student before clinical placement or skills laboratory sessions". One might be confused about which needs are specifically being referred to. If it is about developing a concise and measurable objective, it should be stated as such." P21*

7.8.2 Organization of Activities

The participants noted that the arrangement of activities in the implementation plan of the framework could be improved. They noted that some activities must ideally precede others to ensure an easy understanding of the implementation plan. One participant attempted to explain how the activities should be arranged chronologically.

> *"I feel that the organization of the activities is not chronologically followed. For example, you need to identify a place in the department as a skills lab before you start talking about the activities". P10*

7.8.3 Purchase of Skills or Simulation Aids

The cost of items for skills or simulation laboratory is an important factor to consider when planning to set up a skills or simulation laboratory. A participant recognized that focus on low-cost skills laboratory or simulation aids should not be encouraged because it may not contribute to quality clinical skills learning. The participant recommended that there is the need to blend cost with efficiency.

"Why do you propose low-cost skills or simulation aids? The priority should be on efficient simulation equipment and not the cost per se, probably it should be cost-effective and efficient simulation equipment". P10

Another participant indicated that the financial implication of setting up a skills laboratory is very challenging. Institutional bureaucracies and leadership factors were all cited as bottlenecks that could hinder the setting up of a skills laboratory.

"Anything that has to do with buying of equipment is always a major challenge. If the institution does not see the need to purchase the simulators, it will be difficult to get. Moreover, with the bureaucracy that one has to go through before you can get it. It takes a leader who understands the importance of clinical skills to ensure that this happens". P12

Table 7. 4: Standard Three

A formal system of clinical supervision

Initial Phase	Feasible	Relevant	Intermediate Phase	Feasible	Relevant	Final Phase	Feasible	Relevant
Develop a budget and motivate for funding for the engagement of preceptors	100 %	100%	Select and appoint preceptors	100 %	100 %	Review the attendance rate and feedback from the attendees at the workshops	100%	100%
Develop a memorandum of understanding between the service settings and the NEI on the selection, appointment, training and finding a protected time for	94%	98%	Training dates should be agreed upon with authorities of the clinical facilities to enable the selected staff to attend.	98%	98%	Conduct a research study on the translation into practice of the supervisory skills taught in the workshop	100%	100%

Initial Phase	Feasible	Relevant	Intermediate Phase	Feasible	Relevant	Final Phase	Feasible	Relevant
preceptors to engage in student supervision.								
Determine the position and responsibilities of the existing clinical facilitators (registered nurses) in relation to the preceptors and the nursing students	100 %	95.7 %	Expose all preceptors, clinical facilitators and nurse educators to the best practice workshop on clinical supervisory skills	100 %	100 %	Review the success (level of attendance, and student feedback) of the supervision training program and refine as required	100%	100%
Determine the position and responsibilities of the nurse educators concerning clinical supervision.	100 %	95.7 %	Allocate students to preceptors that have participated in the supervision training course for ongoing clinical supervision	100 %	100 %			
Design a best practice workshop on clinical supervision skills	100 %	100%	Develop a feedback system for both preceptors and students to discuss the level	100 %	100 %			

Initial Phase	Feasible	Relevant	Intermediate Phase	Feasible	Relevant	Final Phase	Feasible	Relevant
			of supervision provided to the student.					
Develop an electronic monitoring system of students during placements	95.7	100%	Improve preceptorship by implementing lessons learnt from the feedback system	98%	100 %			
			Train users on how to use the electronic platform for clinical supervision	100 %	100 %			

7.9 Comments on Formal Clinical Supervision

The comments on formal supervision centered on two issues which include criteria for selection of preceptors and funding to support the activities.

7.9.1 Criteria Selection of Preceptors

The implementation plan of the framework captured the appointment and training of nurses to assume the role of preceptors. The participants indicated the need to set a criterion for the selection of preceptors. A participant suggested that the selection should be done in consultation with the unit managers in the clinical setting and students. The students and the unit managers know the nursing staff well and will make valuable inputs based on their observation.

> *"Indicate criteria for selection of preceptors. Consider recommendation from current head, colleagues and students" P11*

7.9.2 Funding

Funding is required for implementing some of the activities of the framework. The participants pointed out that funding was a major factor that hinders the effective involvement of preceptors. A participant made specific references regarding difficulties in financially motivating preceptors.

> *"Issues with motivation for preceptors have always been a challenge especially when the spending officer and some lecturers do not see the need" P12*

Another participant indicated the need to earmark the sources of funding for activities.

> *"Where are the possible sources of funding listed on the first point you made concerning budgeting and motivating for funding?" P23*

Table 7. 5: Standard Four

The **clinical placement system**

INITIAL PHASE	**Feasible**	**Relevant**	**INTERMEDIATE PHASE**	**Feasible**	**Relevant**	**FINAL PHASE**	**Feasible**	**Relevant**
Develop a clinical placement policy manual containing ward policies, duties and responsibilities of students, lecturers, preceptors and clinical facilitators.	100%	100%	Make dates available to all stakeholders at least 2 months before placement	100%	100%	Review clinical placement policy manual to evaluate relevance/alignment to student's clinical needs	100%	100%
Negotiate placement dates with the service setting	96%	100%	Schedule regular dates and times, in the academic year for lecturers from the NEIs to be present in the clinical areas to assist with	96%	100%	Review success of electronic monitoring system	98%	100%

INITIAL PHASE	Feasible	Relevant	INTERMEDIATE PHASE	Feasible	Relevant	FINAL PHASE	Feasible	Relevant
			supervision and clinical teaching					
			Send specific clinical placement objectives to the clinical site a month before the placement	100%	100%	Make changes as required	100%	100%

7.10 COMMENTS ON CLINICAL PLACEMENT

The comments raised by the experts were related to ensuring the availability of clinical placement guidelines and incorporating clinical placement dates into the timetable for the academic year.

7.10.1 Availability of Clinical Placement Manual

The development of the clinical placement policy manual was applauded by the participants. However, the participants raised concerns on the distribution or availability of the manual to all stakeholders. The participant recommended that the manuals be made readily available by placing them in various places in the clinical facility.

> *"This idea I think is perfect. But the clinical placement manual should be placed at vantage points in the ward so that all stakeholders can refer to". P23*

7.10.2 Dates for Clinical Placement

The need to determine clinical placement dates was captured in the implementation plan of the framework and accepted by the participants as indicated by the ratings. However, a participant indicated that the dates should be incorporated into the timetable.

> *"Dates for clinical placements must be integrated with the overall teaching timetable for the academic year. That will ensure advanced planning for all stakeholders" P10*

Table 7. 6: Standard Five

A standard clinical assessment system

INITIAL PHASE	Feasible	Relevant	INTERMEDIATE PHASE	Feasible	Relevant	FINAL PHASE	Feasible	Relevant
Constitute an expert committee consisting of experienced, educational experts and external moderators to review and update clinical assessments tools	100%	100%	Organise training for OSCE assessors and simulated patient clinical assessment	100%	100%	Schedule a yearly refresher training of simulated patients and assessors	100%	100%
The expert committee should design a training programme for	100%	100%	Institute pre- and post-examination conferences	98%	100%	Evaluate the effectiveness of using competence	98%	98%

INITIAL PHASE	Feasible	Relevant	INTERMEDIATE PHASE	Feasible	Relevant	FINAL PHASE	Feasible	Relevant
assessors and simulated patients						tool for formative assessment		
			Train preceptors on the use of competence tools for formative assessment	100%	100%	Review and update clinical assessment tools every two years	100%	100%
.			Develop remedial plans for students who are unable to achieve competence during clinical placement	100%	100%	Train new assessors and simulated patients before clinical assessment each time	100%	100%
			Move clinical assessment of students in the second	100%	100%			

INITIAL PHASE	Feasible	Relevant	INTERMEDIATE PHASE	Feasible	Relevant	FINAL PHASE	Feasible	Relevant
			year and beyond in the clinical area					

7.11 COMMENTS ON CLINICAL ASSESSMENT

The participants recognized that clinical assessment helps to measure the progress students are making regarding clinical skills acquisition. The participants indicated the need to give feedback to students following clinical assessment.

"Prompt feedbacks should be given to students based on assessment findings". P5

7.12 GENERAL VIEWS ON THE FRAMEWORK

The participants answered five open-ended questions to express their overall impression of the implementation plan of the framework. The questions allowed the participants to make comments on the content, relevance and user-friendliness, strengths and weaknesses of the framework. They also made suggestions on how the framework could be improved. Under each question, the comments were analyzed using pattern latent content analysis where there were patterns or projective latent content analysis where there was no adequate textual data to support the formation of patterns.

7.12.1 Question one: What is your view on the content of the framework?

The experts reviewed the content of the framework and this question allowed them to state their general impression of the content. They expressed various views on the content of the framework. Three subthemes emerged from analysis of the views they expressed on the content. The subthemes that emerged include the application of evidence in developing the framework, components of the framework, and the structure of the framework.

7.12.1.1 Application of Evidence

The experts considered the framework as a context-specific guide developed based on research evidence. They believed that the framework would provide a formal document that would guide clinical nursing education. Two of the participants had this to say:

> *"This is evidenced-based and contextual. Even though we know some of these issues anecdotally, you have confirmed and added various dimensions that we have not thought about. Thank you". P9*

> *"I am glad we are seeing evidence that will help improve nursing education in Ghana. I am one of the people who believe that our systems could only improve if we*

interrogate what we are currently doing, no matter how excellent we think they are. Thank you for taking the challenge to do this. Congratulations". P16

Another participant was happy that a study had been conducted in clinical nursing education and produce the framework that is otherwise not available.

"I think it will be a good tool since there is limited information on the availability of such type of frameworks to improve clinical education". P6

7.12.1.2 Components of the Framework

The experts were of the view that the implementation plan of the framework touched on various aspects of clinical education. According to the experts, the implementation plans covered components of clinical education such as skills teaching, clinical learning environment and clinical assessment.

Some comments from the experts include:

The content touches on almost all aspects of nursing clinical skills teaching, clinical learning environment and assessment. P10

"The content of the framework is good and captures the various aspects of clinical education". P1

"The content of the framework is very rich and comprehensive and provides pragmatic measures to improve the training of competent nurses". P6

7.12.1.3 Structure of the Framework

Another view of the implementation plan of the framework that was expressed by the participants was the organization of the activities within the framework. The experts suggested that the implementation plan was well structured and applicable. One participant said

"It is well structured and has all the key things that will help improve clinical education in the undergraduate nursing programme in Ghana". P10

The arrangement of the framework implementation activities in phases was regarded as a positive step that will enhance implementation.

"I think the recommendations are very applicable. I like the way you categorized them into various phases. It can easily guide policy". P9

7.12.2 Question Two: How relevant and user-friendly is the framework in enhancing clinical nursing education?

This question explored the views of the experts on the significance and applicability of the implementation plan of the framework to guide clinical nursing education. In response to this question, the clinical experts were of the view that the framework was relevant and the activities were easy to follow.

7.12.2.1 The Framework is Relevant

The framework appeared a welcome idea that promised an improvement in clinical education. The clinical experts indicated that the framework will play an important role in enhancing clinical education if implemented. Some comments made by the participants include:

"The framework is very relevant in enhancing clinical placement and teaching of students P1

The framework is very relevant. It spells out all the indicators of effective clinical nursing education". P11

"I view this framework as very relevant to enhance the teaching and training on clinical skills of nursing students in the undergraduate programmes". P3

7.12.2.2 Easy-to-Follow Steps

Some of the clinical experts indicated that the implementation plan of the framework consisted of easy-to-follow steps. This made the framework user-friendly since NEIs will be able to understand and implement it.

Some comments by participants to support their assertion include:

"It lays out practical and step-by-process for sound clinical education. It is easy to follow, hence user-friendly". P5

"One strength is that it largely can be implemented. It also points out what should be done". P4

"It is not complicated and can easily be used". P10

"This plan/framework is easy to follow and implementable". P3

"The steps to take to enhance clinical education is well explained". P23

7.12.3 Question Three: What are the strengths of the framework as compared to the current way of clinical nursing education?

Currently, there is no framework to guide clinical nursing education in Ghana. The conduct of clinical education is currently guided by NEIs plan or policy on clinical education. This question seeks to assess the views of the experts on the strengths of this framework as compared to the current way of clinical nursing education. The clinical experts stated several strengths of the framework which were organized into six subthemes. The strengths of the framework according to the participants include the framework will be useful in the structuring of clinical nursing education, the involvement of stakeholders, capacity building, review of activities, signing of a learning contract and improving clinical assessment.

7.12.3.1 Structuring of Clinical Education

There is currently no framework to structure the implementation of clinical nursing education in Ghana. The clinical experts explained that implementing the framework will help to organize clinical education. Some participants stated that:

> *"The framework will be useful in structuring clinical nursing education especially in Ghana where there are no existing frameworks to guide the structuring of clinical nursing education". P 21*

> *"This is well structured and will serve as a guide for all our Nursing Education Institutions. Just by looking at it, you will know all the relevant things one needs to consider when it comes to clinical nursing education". P10*

P9 added that the structuring of the framework was systematic.

> *"The strengths are many, one major one is the systematic nature in which this framework aligned the clinical education in the country. Another one is the quality control processes included". P9*

7.12.3.2 Stakeholder Involvement

The experts stated that the participation of stakeholders is necessary for the implementation of the framework. The participants regarded the involvement of the stakeholders as a major strength**.** Some comments in this regard include:

"It touches on the role of all stakeholders such as lecturers/tutor's students, clinicians, preceptors, students and nursing education institutions". P3

"The strength is that it takes into consideration stakeholder engagement". P12

"It includes a participatory approach from all the relevant stakeholders in the training of fully-fledged competent nurses in that no one is left out especially so those at the clinical level who mostly complain of not being incorporated well in seeing to the training of students". P6

Preceptors' involvement is an important step in ensuring the effective teaching and learning of clinical skills during clinical placement. A participant indicated that the formal recognition of the role of preceptors is an essential strategy to enhance the teaching and learning of skills. The participant stated that:

"The framework provides clear support for preceptors and formalizes their roles in nursing education". P5

7.12.3.3 Capacity Building

Capacity building of preceptors is very necessary to ensure that they provide effective supervision for students. The framework proposes a training programme for preceptors. The clinical experts indicated that the implementation of the best practice workshop will contribute positively towards the clinical supervision of students.

"The training of preceptors, workshops targeted at sharpening the supervision skills of preceptors is also another strength of the framework and the timely evaluation will help to always adopt the best practices whiles doing away with methods that do not work in a changing world". P6

"We have preceptors that are selected without any training, but the framework has specified all that is needed to be done". P10

7.12.3.4 Review of Activities

One way of ensuring the effectiveness of the framework was to ensure that there are checks and balances. The clinical experts pointed out that the interaction between stakeholders and the research to evaluate effectiveness were important activities to ensure effectiveness.

"The strength is the continuous interaction with the individuals who are involved in the teaching of students during clinical placement. The research to evaluate the effectiveness of implementations at various stages". P5

"It also establishes an accountability mechanism for clinical education on the part of the institutions, tutors/lecturers, students and the clinical educators. The lack of such process for support and accountability has been a major limitation in the current way of clinical education". P13

7.12.3.5 The signing of Learning Contracts

Signing a learning contract was viewed as a step that could make students getting more committed towards skills learning. A participant explained the importance of signing a learning contract as follows:

"The learning contract signed by nursing students will also make sure that they attend clinical placement and practice accordingly. Those who do not meet the acceptable clinical practice hours will be made to redo the clinical". P11

7.12.3.6 Improvement in Clinical Assessment

Clinical assessment of students is one of the components of clinical nursing education. When the clinical assessment is done in the clinical setting students are exposed to real-life situations that help build their professional skills. The framework proposed that students in the second year of their training and beyond should have their clinical assessments done in the clinical setting. The clinical experts reiterated that the move was a step in the right direction.

"More so, the shifting of assessment of students from the school's skills labs to the clinical setting is a great strategy and prudent approach in assessing the students as they are likely to do the right things expected of them after their training than always using human subjects at the NEIs". P6

7.12.4 Question four: In your opinion what are the weaknesses of the framework?

The clinical experts indicated that the weaknesses of the framework include capital intensive and regular meetings.

7.12.4.1 Capital Intensive

Funding is needed for various activities contained in the framework but there are no clear sources to obtain the funding. Two participants explained that this could be a weakness against the implementation of the framework.

"One weakness is that it is capital intensive- cost of electronic devices for tracking students and remuneration of preceptors and by extension workshops". P4

"More so, the regular meetings and the workshops to be adopted will definitely demand money which can in a way be a bottleneck for the implementation of the program". P6

7.12.4.2 Regular meetings

The framework contains activities that involve meetings. The meetings are essential but the clinical experts explained that this could be a burden on the stakeholders.

"The regular meetings if not adopted well can become an albatross on the entire program as human beings by nature can easily become bored with regular engagements". P6

7.12.5 Question five: How do you suggest we can improve the framework to make it practicable?

The suggestions made by clinical experts for improvement of the framework include the framework that should be implemented first, incentives for preceptors and formal appointment of preceptors.

7.12.5.1 Implementation First

The framework has been recognized as the first of its kind in the Ghanaian context. The implementation of the framework will be necessary to allow for gaps to be identified.

"I believe for this framework to be improved, it needs to be first implemented and then any gray areas identified can be worked on". P9

7.12.5.2 Incentives for Preceptors

Preceptors play a major role in the clinical teaching of students during clinical placement. The preceptors in the Ghanaian context often supervise students as an additional responsibility to their clinical duties. The need to motivate preceptors was indicated by two participants.

P7 indicated the need for financial incentives.

"Preceptors should be motivated with allowances". P7

Another participant suggested an alternative form of motivating preceptors. The participant indicated that preceptors could be rewarded with CPD points that can used to renew their professional license.

"There should be other forms of motivation such as certificate of preceptorship for outstanding preceptors to be used as CPD points for renewal of PIN (professional identity number) among others". P13

7.12.5.3 Appointment of Preceptors by NEIs

In the Ghanaian context, the preceptors are employees of the clinical facilities who are given the additional responsibility of supporting students with skills learning during clinical placement. Formal recognition of preceptors by NEIs was emphasized by a participant.

"The framework could also recommend that NEIs should officially appoint the preceptors and give them the due recognition as well as minimal (or token) remuneration at the end of clinical placements". P5

7.13 DELPHI PHASE TWO

The qualitative comments gathered in phase one were used to develop a modified questionnaire for phase two of the Delphi (Annexure U). The Delphi questionnaire for phase two therefore consisted of only items that the participants suggested that there was the need to modify or add to the framework.

7.13.1 Results of Phase Two

Twenty-two of the participants that responded in phase one of the Delphi were invited to participate in phase two. However, 17 responded to the questionnaire representing a response rate of 77.3%.

The results are presented under each question that was asked in this phase. Under each question, the comments made by the experts were described and the verbatim quotes presented to support the descriptions. The researcher then drew lessons from comments made by the experts and decided to either add that component to the framework or not.

7.13.1.1 Question 1: "Prepare guidelines" for Clinical Learning Forum (CLF)

The original statement was that a constitution should be written for the CLF. All the participants in phase two agreed that guidelines should be prepared for the CLF. Some participants provided comments to support their decision. The comments provided by the participants pointed out that modifying the statement was necessary for easy understanding, appropriateness and the legal basis.

Some of the experts argued that understanding the elements or ideas in the framework is a key factor in the implementation of the framework. Three of the participants were of the view that

using the term guidelines will be easier for users of the framework to understand as compared to the constitution.

> *"Guidelines may be easy for people to understand as compared with a constitution".*
>
> *P 2*
>
> *"The "prepare guidelines' is much easier to understand and a clear statement". Participant 13*
>
> *"The word "guidelines" is easily understood than constitution". P9*

Some of the participants were also of the view that using the right terminology will enhance a better understanding of the framework. Two participants support their claim with the below comments.

> *"Guidelines suits this part more than a constitution." P 7*
>
> *"Sounds more appropriate". Participant 1*

The use of the term constitution was deemed legally binding to be applied in the framework. A participant indicated that using the term guidelines will serve the same purpose without legal implications on the members of the CLF.

> *"Constitution is more legal document, hence developing guidelines is most appropriate". P 14*

Researcher's Decision/Lessons Learnt: The evidence provided by the experts indicates that the term "guidelines" are easier to understand and appropriate terminology. Therefore, the modified statement as used in phase two will be incorporated into the implementation plan of framework.

Question 2: The CLF should include sub-committees on the clinical teaching programme, the formal system of clinical supervision, clinical placements, clinical assessment, **and coordination of Nursing and Midwifery Council activities.**

The framework proposed the formation of subcommittees under the Clinical Learning Forum (CLF) to facilitate the teaching and learning of clinical skills. In phase one, the participants proposed the formation of another committee to coordinate activities related to the Nursing and Midwifery Council (NM&C). The experts indicated that NEIs collaborate with NM&C to index

and conduct licensing examinations for the students to become professional nurses. The experts also pointed out that the NM&C is responsible for monitoring the training of the students to ensure that minimum standards are followed. All the participants in phase two were of the view that forming a subcommittee to ensure effective collaboration with NM&C was necessary. Some participants made the following comments:

> *"Because the Nursing and Midwifery Council is the licensing body that issues the certificate of completion when this subcommittee is formed in relation to NM&C issues, they will be able to coordinate the entire process, from indexing to registering the student and ensuring the students receive the certificate of completion" Participant". 16*
>
> *"NM&C is an important stakeholder in clinical education hence this committee will foster stakeholder involvement." P 9*
>
> *"I agreed because, as part of the learning process, there are prescribed N&MC activities that students have to undertake under the supervision of clinicians and faculty." P7*

Researcher's Decision/Lessons Learnt: The experts unanimously agreed that a subcommittee should be formed to coordinate NM&C related activities. The experts shared that the NM&C is an important stakeholder in clinical education and effective flow of information and coordination of activities should be done by a subcommittee. The formation of the committee for coordination of NM&C related activities as a subcommittee under the Clinical Learning Forum (CLF) will therefore be added into the implementation plan of the framework.

7.13.1.2 Question 3: Discuss clinical placement objectives with the students before the clinical placement or skills laboratory sessions

In phase one, the statement was "learning needs of students should be clarified before clinical placement". All the participants agreed that modifying the statement was necessary because discussing placement objectives would give clarity and direction to learning clinical skills. Though all the participants in phase two agreed that the modified statement should be applied, only three supported their position with comments. The comments include:

> *"Gives more clarity to the point" P 1*
>
> *"This will help in self-directed learning and proper interaction with preceptors and other staff at the clinical sites" P2*

"The statement is made clear for easy understanding". P 9

Researcher's Decision/Lessons Learnt: The evidence from the experts' views indicates that stating clinical placement objectives would help students and preceptors focus on specific activities during clinical placement. The modified statement would therefore be added to the implementation of the framework.

7.13.1.3 *Question 4:* Provide cost-effective and efficient simulation aids

In phase one, the statement was to provide low-cost simulation aids. The participants in phase two were of the view that there should be a balance between cost and efficiency. The participants observed that overly focusing on low-cost equipment could compromise quality. Two of the participants whose focus was on quality had this to say:

"Low cost may not necessarily be effective or of quality". P7

"This addition is necessary because we cannot compromise low-cost for efficiency". P16

Another participant stated that the modified statement was suitable and clearer.

"More appropriate and unambiguous". P1

To ensure that cost component was considered yet the quality is not compromised a participant suggested that the statement should be:

"Cost-effective is better. The available finance must be used to purchase an aid that is robust and long-lasting". P2

Researcher's Decision/Lessons Learnt: The lessons shared by the experts suggest that sticking to low-cost simulation aids would give more focus to cost than the quality of the equipment. The statement will therefore be modified as suggested to focus on both low-cost and efficient simulation aid.

7.13.1.4 *Question 5:* A group of key informants selected from NEIs and clinical facilities should use a structured selection process to appoint preceptors.

Out of the total of 17 participants in phase two, 14 of them agreed that a group of key informants from NEIs and the clinical facilities should select the preceptors. On the other hand, two

participants indicated that the modified statement enforces collaboration in the selection of preceptors. They stated that:

> *"Collaboration is key in selecting preceptors who meet a minimum standard which will be stipulated in the structure for selection". Participant 1*
>
> *"The formation of the panel to select preceptors for appointment should include experienced clinician and faculty". P 7*

Other participants who supported the present statement added that:

> *"This statement is more directional because it specifies who should make that choice. I believe that because the selection group is also from the wards, they live with their colleagues and will be able to choose the best people to be preceptors". P 15*
>
> *"The criteria for selection must be disseminated to all prospective preceptors to help in personal training before applying for the position". Participant 2*

However, the participants that disagreed that the statement should be modified did not provide comments to support their point of view.

Researcher's Decisions/Lessons Learnt: From the experiences shared by the experts, it is necessary to constitute a panel drawn from NEI and the clinical setting to select preceptors. The researcher will therefore modify the statement to read "a *committee selected from NEIs and clinical facilities should use a structured selection process to appoint preceptors".*

7.13.1.5 Question 6: Negotiate placement dates with the service setting and incorporate the dates into the timetable for the academic year

Sixteen participants out of the 17 agreed that the modified statement should be accepted into the framework. The participants that agreed with the modifications had various reasons to support their decision. They indicated that incorporating dates for clinical placements into the timetable will serve as a reminder, enable planning and reduce disagreements between NEIs and clinical facilities.

Some of the comments they made include:

> *"A set date or timetable for clinical activities allows for planning on both the clinical and faculty sides of training". P7*

"By incorporating it into the academic calendar, it will serve as a reminder when structuring other activities of the school within an academic year". P15

"Incorporating the dates will improve collaboration and reduce disagreement among educators and clinicians". Participant 2

The participant that disagreed that the modified statement should be added to the framework was of the view that:

"In the previous statement, it could be assumed that the placement dates will be incorporated into the timetable but this is more explicit". P1

Researcher's Decisions/Lessons Learnt: The comments shared by the experts indicate that incorporating the dates into the timetable for the academic year would enable effective planning of clinical placement. The modified statement will therefore be incorporated into the implementation plan of framework.

7.13.1.6 Question 7: Constitute an expert committee consisting of experienced practical examiners, educational experts and external moderators to review and update clinical assessments tools

Modifying the statement to specify the particular type of examiners to invite for review and update of assessment tools was welcomed by all the participants. The participants stated that experienced examiners would make valuable contributions hence the need to capture this clearly in the framework. Some of the comments by the participants include:

"This is more specific on the type of examiner". P1

"This will bring the tools up to date with current practices and requirements of N&MC as well as the nursing educational institution". Participants 7

"This practical experience is important because such people would make latest recommendations based on their practical skills, experience, and knowledge". P15

Researcher's Decisions/Lessons Learnt: The lessons learnt from the experts indicate that experienced practical examiners will make valuable and unique contributions in the review and update of clinical assessment tools. The modified statement will therefore be added to the implementation plan of the framework.

7.13.1.7 Question 8: Assign staff for skills teaching in the skills laboratory

Assigning staff for skills teaching in the skills laboratory was viewed as a very important step in improving skills teaching and learning. Sixteen out of the 17 participants agreed with this idea. Some comments in support of this idea were:

> *"This will benefit students so they will have access to the skills lab and also experienced skills educators" P2*
>
> *"Good for skills acquisition". P9*

A participant indicated the need to state specifically the category of staff that should be assigned for skills teaching in the skills laboratory. The participant stated that:

> *"Need to be clear on the word 'staff'. Consider using nurse educators/lecturers instead". P1*

Another participant stated that staff with clinical experience should be engaged.

> *"Assign staff with clinical experience for skills teaching in the skills laboratory". P 10*

Only one participant disagreed with this idea. The participant explained that:

> *"All Nursing and Midwifery staff involved in student training should be responsible for teaching at the skills lab to enhance their nursing skills and not specific people". P 8*

Researcher's Decisions/Lessons Learnt: From the experiences shared by the participants, having dedicated nurse educators or lecturers assigned to skills laboratory will ensure that students receive the required guidance or support during skills laboratory sessions. Assigning dedicated staff for skills in the skills laboratory will be added to the implementation plan of the framework.

7.13.1.8 Question 9: Nursing Education Institutions should formally appoint preceptors

Sixteen of the participants agreed that this is an important step to enhance the skills training of students during clinical placement. The appointment of preceptors was viewed as necessary so that they will know what is expected of them regarding the support of students in clinical skills learning.

Some comments made by participants include:

> *"So, they know their expectations and remuneration. This should be used for promotion of nurses". P2*

> *"At the moment preceptors have no formal training and appointment, hence low motivation. Appointing them formally and giving them training will enhance the quality of preceptorship even if they are not paid". P16*

One participant who disagreed with the idea of formal appointment of preceptors stated that:

> *"All Nursing and midwifery staff should be responsible for student training and not just a few". P8*

Researcher's Decision/Lessons Learnt: In the Ghanaian context, there is currently no formal appointment and training of preceptors. The existing preceptors are employees of the clinical facilities with no formal training. From the lessons learnt, there is the need for NEIs to collaborate with clinical facilities to formally appoint preceptors. The need for NEIs to appoint preceptors will be added to the implementation plan of the framework.

7.13.1.9 Question 10: Make the clinical placement policy manual available to students and all stakeholders by placing them at vantage points

The clinical placement manual contains ward policies, and the roles and responsibilities of students, lecturers and preceptors regarding clinical placement. Ten out of the 17 participants agreed that the clinical placement manuals are placed at vantage points to enable students and stakeholders to have access to them. Some of the participants explained why they supported the idea.

> *"This will promote compliance with the guidelines". P1*

> *"Make the clinical placement manual available to students and all stakeholders by placing them at designated areas for skills training". P10*

Seven participants disagreed with the idea of placing the clinical placement policy manual at vantage points. These participants generally recognized the essence of getting the clinical placement manual to the students but they were skeptical about placing them at vantage points. Some of the comments they provided include:

"My issue is the vantage points. You need to explain that so that no one will pick it up. If it is put online, then it will be easy for students and other stakeholders to access easily". P 2

"For students, yes but for vantage points no. someone should be responsible for it". P 9

"This a good suggestion but should be rephrased as follows: Make the clinical placement manual available accessible to students and relevant". Participants 16

Researcher's Decision/Lessons Learnt: The arguments presented by the experts show that the clinical placement manual is a very important document that must be made available to students and all other stakeholders. There is the need to increase accessibility by sharing soft copies of the placement manual with students and relevant stakeholders. Also, hard copies could be placed at the wards, departmental library, and offices of the stakeholders.

7.13.1.10 Question 11: Re-arrange items in the framework to ensure the chronologic flow of activities

Eleven of the participants were of the view that this idea was not necessary. The participants that disagreed with the re-arrangement of the items in the framework supported their position using various reasons.

Some participants indicated that the framework was already well arranged.

"I think this has been done well in the framework". P5

"I thought that the flow was already okay. But I have no objection if it can be improved". P16

"It will not be very necessary since the current arrangement is based on evidence". P2

Another participant thought this will add nothing significant to the current state of the framework.

"This adds very little to the framework in meeting the desired goals.". Participant 1

The remaining six participants agreed that the items in the framework should be re-arranged. Five of the participants in this bracket did not give reasons in the comment section to support their argument. The only participant who gave reason for supporting the need to rearrange items in the framework stated that:

"This will follow a natural and expected progression of thought and opinion instead of being mixed up". P7

Researcher's Decision/Lessons Learnt: From the various arguments advanced by the participants, re-arranging the items in the framework was not necessary. The items within the framework will therefore be left in the way they are arranged already. However, the researcher is of the view that any NEI that will adopt the framework could critically analyse and re-arrange the items in the implementation plan of the framework since this does not change the substance of the framework.

7.13.1.11 Question 12: List sources of funding for activities

Funding is an essential factor in implementing the activities of the framework. Funding is required for setting skills laboratories, training of the skills educators and preceptors among others. Eight of the participants were of the view that sources of funding should be stated in the framework. They supported their position with the following reasons:

"List available sources and alternative sources of funding". P1

"This will make it transparent and others may come in to support". P2

Nine participants were of the view that listing funding sources in the framework were not necessary. They supported their stand with the following comment:

"Not too sure about its relevance in the framework". P3

"This is not necessary in the framework or guideline". P7

"It may be important for the NEIs to prioritise and allocate funds for the activities but not necessary to indicate sources of funding". P16

Researcher's Decision/Lessons Learnt: Though funding is an essential factor for the implementation of various activities of the framework, the opinion of most of the experts is that there is no need to list funding sources in the implementation plan of the framework. Funding sources will therefore not be added to the framework.

7.14 THE FINAL IMPLEMENTATION PLAN OF THE FRAMEWORK

The draft framework was presented in chapter six. The framework consists of a narrative description of five thematic areas of the framework, an implementation plan (Table 6.2), and a diagram of the roles of the key stakeholders (Annexure R). The implementation plan is a practical

reflection of the narrative description of the framework for clinical nursing education. The implementation plan is in three phases under the same five thematic areas contained in the narrative description. The experts evaluated the implementation plan for relevance and feasibility in the Ghanaian context. Following the evaluation, some of the items within the implementation plan were modified and some new items were also added to the final implementation plan of the framework. The implementation plan of the framework is presented below in Table 7.7.

Table 7. 7: Final Implementation Plan of the Framework for Clinical Nursing Education

Statements highlighted green are the modifications or additions made upon the evaluation.

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
C**ommunication and collaboration between stakeholders** provide for seamless preparation of students in the classroom and clinical areas	• Constitute a Clinical Learning Forum (CLF) with representation from NS, NEI and SS to monitor implementation of the framework • **Prepare guidelines** for Clinical Learning Forum (CLF • The CLF should include sub-committees on the clinical teaching programme, the formal system of clinical supervision, clinical placements clinical assessment, **and**	NS NEI SS NS NEI SS NS NEI SS	• Meet regularly and function as a CPF according to constitution of the CPF • Appoint members onto sub-committees • Review quarterly reports submitted by sub-committees • Provide feedback of NM&C activities and changes to all stakeholders	NS NEI SS NS NEI SS NEI NEI	• Review roles and functioning of CLF and amend as required • Continue regular meetings and activities	NS NEI SS NS NEI SS

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
	coordination of Nursing and Midwifery Council activities					
Clinical teaching programme will provide cost-effective, innovative and relevant education to prepare students for their future roles as professional nurses	• **Discuss clinical placement objectives with the students** before the clinical placement or skills laboratory sessions • Pre-test students a week prior to placement • Plan a pre-briefing and debriefing session for clinical teaching • Identify an area in the department to be used as a skills unit	NEI NEI NEI SS	• Sign learning contracts with students • Introduce students to self-directed learning • Purchase equipment for skills laboratory • Provide **cost-effective and efficient** skills laboratory or simulation aids • Develop the designated area as a skills unit	SS NEI SS NEI NEI NEI	• Purchase additional simulation equipment • Plan a yearly evaluation of the effectiveness of steps taken to improve clinical teaching • Implement changes as required	NEI NEI SS NS NEI SS NS

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
	• Work out a budget for requirements for the skills unit • Videos of skills that will be taught in the skills lab should be posted on the students learning platform for pre-skills preparation • Remind students at least 4 weeks to clinical placement	NEI NEI NEI	• Orientate students to effective use of skills unit • Provide specialised training for lecturers on high and low fidelity simulation and innovative skills teaching methods • Purchase audio visual equipment for the real-time transmission of scenario simulations and debriefing to students not in the skills unit. • Plan for embedding small group clinical skills teaching in the curricula.	NEI NEI NEI NEI	• **Assign staff for skills teaching in the skills laboratory**	NEI

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
A formal system of clinical supervision provides structure and support to students to enhance translation of theory into practice	• Develop a budget and motivate for funding for the engagement of preceptors • Develop a memorandum of understanding between the service settings and the NEI on the selection, appointment and training of preceptors for student supervision. • Determine the position and responsibilities of the existing clinical facilitators (registered nurses) in relation	NEI NEI, SS	• **A group of key informants selected from NEIs and clinical facilities should use a structured selection process to appoint preceptors** • Training dates should be agreed upon with authorities of the clinical facilities to enable the selected staff to attend. • Expose all preceptors, clinical facilitators and nurse educators to the best	NEI NEI SS NEI SS	• Review the attendance rate and feedback from the attendees at the workshops. • Conduct a research study on the translation into practice of the supervisory skills taught in the workshop • Review the success (level of attendance,	NEI NEI

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
	to the preceptors and the nursing students • Determine the position and responsibilities of the nurse educators in relation to clinical supervision. • Design a best practice workshop on clinical supervision skills. • Develop an electronic monitoring system of students during placements	NEI SS NEI SS NEI	practice workshop on clinical supervisory skills • Allocate students to preceptors that have participated in the supervision training course for ongoing clinical supervision • Develop a feedback system for both preceptors and students to discuss the level of supervision provided to the student. • Improve preceptorship by implementing lessons learnt from feedback system	NEI SS NEI	and student feedback) of the supervision training program and refine as required.	NEI

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
			• Train users on how to use the electronic platform for clinical supervision • **Nursing Education Institutions should formally appoint preceptors**	NEI, SS NS NEI SS NS		

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
The **clinical placement** system is structured to facilitate optimal exposure to practice and appropriate student assessment	• Develop a clinical placement policy manual containing ward policies, duties and responsibilities of students, lecturers, preceptors and clinical facilitators. • **Make the clinical placement manual available to students and all stakeholders by sharing soft copies and placing hard copies at the wards, departmental library and offices of the stakeholders**. • Negotiate placement dates with the service setting **and incorporate the dates into**	SS NEI NEI SS	• Make dates available to all stakeholders at least 2 months prior to placement • Schedule regular dates and times, in the academic year for lecturers from the NEIs to be present in the clinical areas to assist with supervision and clinical teaching • Send specific clinical placement objectives to clinical site and students who are attending the specific clinical site a month prior to the placement	NEI NEI NEI	• Review clinical placement policy manual with to evaluate relevance/alignment to student's clinical needs. • Review success of electronic monitoring system • Make changes as required	NEI SS NEI NEI SS NEI

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
	timetable for the academic year					NEI
A **standard clinical assessment** system will ensure effective monitoring of the skills development of students	• Constitute an expert committee consisting of experienced practical examiners, educational experts and external moderators to review and update clinical assessments tools • Expert committee should design a training programme for assessors and simulated patients	NEI NEI	• Organise a training for OSCE assessors and simulated patient's clinical assessment • Institute pre- and post-examination conferences • Train preceptors on the use of competence tools for formative assessment • Develop remedial plans for students who are unable to	NEI NEI NEI NEI	• Schedule a yearly refresher training of simulated patients and assessors • Evaluate the effectiveness of using competence tool for formative assessment • Review and update clinical assessment tools every two years • Train new assessors and simulated patients	NEI NEI NEI

Standard	Initial Phase First 6 months	SH	Intermediate Phase In the next 2nd year	SH	Final Phase 3rd, 4th & 5th year	SH
			achieve competence during clinical placement • Perform clinical assessment of students in the second year and beyond to the clinical area	SS NEI	prior to clinical assessment each time	NEI

Key: 1. *SH = Stakeholder; NEI = Nursing Education Institution; NM&C = Nursing and Midwifery Council; SS = Service setting; NS= Nursing student*

7.15 CHAPTER SUMMARY

This chapter presented the evaluation process of the implementation plan of the framework that was developed in the previous chapter. The evaluation process was done using a Delphi technique. The evaluation resulted in modifications and additions to the final implementation plan of the framework. The next chapter which is the final chapter of the study presents a summary of the study, the main findings, conclusion and recommendations.

CHAPTER 8: SUMMARY, LIMITATIONS, RECOMMENDATIONS, AND CONCLUSION

8.1 INTRODUCTION

The chapter contains a summary of the study, the main findings and limitations. The chapter ends with recommendations for nursing education, practice and research, and a conclusion

8.2 SUMMARY OF THE STUDY

Clinical education is a very important aspect of the training of nursing students. The implementation of clinical nursing education in Ghanaian universities is faced with a myriad of challenges. The lack of a clear understanding of lecturers on their roles in clinical teaching and a lack of dedicated staff for clinical teaching is a major challenge. Also, there is no educational preparation of preceptors to support students during clinical placement. Generally, clinical education is affected by student-related issues, nurse and faculty-related factors, management issues and availability of training facilities. There is currently no framework to guide the implementation of a clinical education programme in Ghana. In the absence of a framework, the teaching and learning of skills are not standardized hence students at different clinical placement sites, and even within the same site received different quality of training. The study therefore aimed to answer the research question: how can an evidence-based framework best be developed and implemented to improve the quality of undergraduate clinical nursing education in Ghana? The study followed the research and design approach and was conducted in four phases using a multimethod design. The phases of the study were consistent with the research and design approach which involves identifying a problem, defining the objectives of the study, developing an artefact to solve the problem, testing and evaluating the artefact, and communicating the results.

The objective of phase I was to conduct scoping literature review to determine practices that facilitate undergraduate clinical nursing education. An electronic search was conducted in ProQuest (Nursing and Allied Health), CINAHL, ERIC, and PubMed (Nursing Journals). The search was done using keywords: clinical nursing education, student nurse and undergraduate. The articles were screened to identify those that dealt with facilitation of clinical nursing education in the undergraduate programme. The screening involved title screening, the removal

of duplicates, assessment of abstracts and full text, and consultation with nursing education experts. Twenty-nine (29) peer reviewed articles comprising of twenty-three (23) articles from the four databases in addition to six hand searched articles that met the inclusion criteria were included. The findings of the scoping review established that clinical nursing education can be improved when students are self-confident and motivated, and clinical faculty communicate effectively, coach and serve as role models. Other factors that influence clinical education include the availability of technology, resources and arrangements to ensure effective clinical nursing education.

The objective of phase II was to conduct a situational analysis of the current clinical education programme used in undergraduate nursing education in Ghana. A survey and a qualitative study were conducted to provide this evidence. The survey assessed the perceptions of preceptors and university nursing students on three main components of clinical nursing education which included the clinical placement area, clinical teaching and learning, and clinical assessment. Overall, though the perceptions of the students and preceptors differed significantly, they generally all indicated the need for improvement in all three components of clinical education.

The qualitative study explored the perspective of key informants including lecturers, clinical coordinators, unit managers and nurse managers on factors that influence clinical nursing education. Individual face-to-face interviews were conducted for the key informants. The interviews were audio-recorded, transcribed, and analyzed using framework analysis. The results indicated that clinical nursing education is facilitated by improved academic-clinical collaboration, formal appointment and training of preceptors, clinical accompaniment, and improved clinical assessment of students.

The objective of phase III was to develop a framework for clinical nursing education applying the evidence gathered from phases I and II. The development of the framework was an iterative process in consultation with three nursing education experts. The model for clinical education developed by South African Nursing Education Stakeholders guided the framework development. The triangulation of the findings from the scoping literature review, survey and key informant interviews, and consultation with the three nursing education experts all contributed to the validity of the developed framework. The lessons learnt were integrated resulting in five thematic areas of the developed framework which include communication and collaboration, clinical teaching programme, formal clinical supervision, clinical placement, and

clinical assessment. An implementation plan of the framework was developed with each activity or role assigned to the stakeholder(s) responsible.

The final phase of the study aimed at evaluating the implementation plan of the framework for feasibility and relevance in the Ghanaian context. Experts in clinical nursing education with working experience in the Ghanaian context were invited to evaluate the implementation plan using a Delphi technique. In phase one of the Delphi, responses indicated that quantitatively there was consensus on all items in the questionnaire. However, the qualitative comments indicated that there were areas that the respondents were not satisfied. Phase two of the Delphi was conducted as a follow-up based on the comments indicating dissatisfaction in phase one. Phase two allowed for modifications and additions to the final implementation plan of the framework. The evaluation indicated that the clinical experts generally believed that the development and implementation plan of the evidence-based framework could improve the quality of clinical nursing education in the Ghanaian context.

8.3 MAIN FINDINGS

The elements that were found to facilitate the quality of clinical nursing education include effective communication and collaboration, clinical teaching programme, formal supervision, clinical placement and standard clinical assessment.

The study established that communication and collaboration between stakeholders such as NEIs, clinical facilities and the regulatory body are the backbone of effective clinical education. Planning and implementing clinical supervision, clinical placement and clinical assessment were all viewed as activities that require communication and collaboration of stakeholders. Communication and collaboration essentially bridge the gap between stakeholders by focusing on how they can work together to improve clinical education. Also, effective communication between students and clinical facilitators such as nurses, preceptors and clinical coordinators was established as an important means of improving the clinical learning experiences of students during clinical placement.

Implementing an effective clinical teaching programme was revealed as an important aspect of improving clinical education. The study established that to improve clinical teaching, NEIs need to set up skills laboratories, train skills educators and assign staff to the skills laboratory. The preparation of students through the use of video clips of nursing procedures before they go for skills learning in the skills laboratory or clinical facility was deemed necessary to achieving clinical learning objectives. The study also indicated that at the clinical facilities,

clinical teaching and learning could be improved through pre-briefing and debriefing, preceptorship, self-directed learning and peer learning.

The study indicated that formal supervision was an important standard in improving clinical education. Preceptors were identified as the main staff who supervise students during clinical placement. However, the situational analysis revealed that the preceptors did not have a formal appointment from NEIs to support students during clinical placement. Hence, the implementation plan of the framework captured the need for preceptors to be appointed and trained to offer support to students during clinical placement. To improve clinical supervision the study further indicated the need for NEIs to work with clinical facilities to arrive at a schedule for preceptors that will enable them to have adequate time to engage in clinical teaching of students during clinical placement.

Clinical placement was established as an essential aspect of the teaching and learning of clinical skills. The situational analysis revealed that the clinical facilities receive students from various NEIs which sometimes leads to overcrowding at the placement site. The study indicated the need to negotiate clinical placement dates with clinical facilities to enable them to plan a clinical placement schedule for NEIs. To improve the clinical placement, the implementation plan of the framework indicated the need to develop a clinical placement policy manual that spells out ward policies and the responsibilities of students, lecturers, preceptors, ward nurses and unit managers concerning clinical placement.

The study also pointed out the need to improve clinical assessment to ensure effective monitoring of the clinical skills development of students. The study revealed that effective formative and summative clinical assessment of students could be achieved through the application of the Objective Structured Clinical Examination (OSCE) and competence tool. The use of electronic feedback and assessment tools for clinical supervision of students was also reported as an effective means of monitoring students' progress during clinical placement. To ensure effective clinical assessment the study indicated the need to engage experienced practical examiners, educational experts and external moderators to review clinical assessment tools and design a training programme for assessors.

The implementation plan of the framework consisted of five standards which include communication and collaboration, clinical teaching programme, formal supervision, clinical placement and clinical assessment. The implementation plan was developed on how the

framework could be made practical in the Ghanaian context. The implementation plan was in three phases for each of the five standards. The immediate phase consisted of activities that could be implemented within the first 6months, the intermediate consisted of activities that could be implemented up to the first 2 years and the final phases consisted of activities to be implemented up to 5years.

8.4 LIMITATIONS OF THE STUDY

There was a dearth of studies on clinical nursing education in the Ghanaian context to provide prior data hence the researcher depended on international literature to identify practices that can improve clinical education in the undergraduate nursing programme. The reliance on international literature could provide data that did not reflect the Ghanaian context.

Students and lecturers who participated in the situational analysis were recruited from one public university in Ghana hence they might have shared experiences that may not represent that of other public universities. This may affect the generalizability of the findings of the situational analysis.

The evaluation of the implementation plan of the framework indicated that although all the items in the first phase of the Delphi were rated 90% or more, some participants expressed dissatisfaction with some items through the comments they shared. The inconsistency between the quantitative rating and qualitative comments could suggest that the participants gave socially desirable scores in responding to the Delphi questionnaire in the first phase.

In the midst of the COVID-19 pandemic, some experienced clinical experts could not participate in the Delphi because they were not willing or able to use the online mode in answering the Delphi questionnaire. This could lead to loss of essential experiences with a negative impact in refining the implementation plan of the framework.

Although the framework was developed for undergraduate clinical nursing education in Ghanaian universities, only lecturers from two universities participated in the evaluation of the implementation plan of the framework. It is therefore unclear if the framework will meet the needs of the other universities that did not participate in the evaluation.

8.5 RECOMMENDATIONS

Recommendations were made for improvement in nursing education, practice and research.

8.5.1 Nursing Education

The teaching of clinical skills is a major component of clinical education and skills educators need to have up-to-date knowledge on skills teaching. Given the findings that educators have limited knowledge of modern skills teaching using simulation and technology, and the evidence derived from the scoping review of the importance of using technology to promote the quality of clinical education, it is recommended that workshops are held for the educators on scenario development, debriefing practices, and critical thinking. This need has been emphasized during the course of this study which occurred during the COVID-19 pandemic when all teaching had to be done remotely.

The study established that a skills laboratory in nursing education institutions will allow students to have hands-on training in an environment that closely mimics the clinical placement area hence it is recommended that nursing education institutions plan to set up skills laboratories by earmarking an area in the department for a skills laboratory, ring fencing budget and seeking sponsorship.

Preceptors are the core staff involved in clinical supervision but the lack of formal training of preceptors in Ghana is a major barrier that was identified by this study. It is therefore recommended that the nursing education institutions collaborate with clinical facilities to appoint and train preceptors to ensure effective clinical supervision. The nursing education institutions could develop short courses which will be accredited by the Nursing and Midwifery Council for training of preceptors in the Ghanaian context.

To ensure that clinical facilities adequately prepare to receive students for clinical placement it is recommended that nursing education institutions communicate clinical placement objectives with clinical facilities at least a month before clinical placement.

Clinical assessment enables nursing education institutions to monitor the clinical skills development of students. It is recommended that the preparation and development of Objective Structured Clinical Examination (OSCE) needs to be improved. It is also recommended that alternative methods for clinical assessment identified in the scoping review such as the

application of the Competence Tool and Amalgamated Students Assessment Practice (ASAP) model should be explored for feasibility and relevance in the Ghanaian context.

8.5.2 Nursing Practice

In the Ghanaian context, preceptors are mainly employed by clinical facilities, and they perform preceptorship roles as an additional responsibility. It is recommended that the clinical facilities provide a protected time for preceptors to enable them to have adequate time to concentrate on supporting students during clinical placement.

The situational analysis revealed that clinical facilities acting as clinical placement sites receive students from nursing education institutions within the region they are located and beyond. It is recommended that the clinical facilities in consultation with the nursing education institutions plan placements of students from the different regions to ensure that not too many students are placed in the same facility at a time.

8.5.3 Nursing Research

A situational analysis of sites other than that of the research study needs to be conducted to ensure that the findings of this study can be implemented in a context specific manner and at a national level.

Technology was identified as a major facilitator of clinical education. A feasibility study should be conducted on the use of cost-effective clinical education technology in the Ghanaian context.

The implementation plan of the framework is outlined in phases that is time bound. Once the implementation plan is introduced the outcomes need to be assessed through research for improvement in the quality of clinical teaching.

The study identified the need to train preceptors to enable them to give adequate support to students. A needs analysis should be conducted on the needs of the preceptors for successful implementation of the framework and for the development of an appropriate short course for the preceptors on teaching and learning of skills.

Upon implementation of the framework, there will be the need for follow-up studies to test its suitability and assess any improvements in identified problem areas.

8.6 CONCLUSION

The Model for Clinical Education and Training (Nurse Educators Group, 2012) developed in South Africa guided the evidenced-based framework developed in the present study. The Model for Clinical Education and Training identified nursing education institutions, clinical facilities and the nursing council as essential stakeholders in ensuring effective nursing education. The evidenced-based framework developed in this study consisted of five standards which include communication and collaboration, clinical teaching programme, formal clinical supervision, clinical placement and a standard clinical assessment. The framework developed indicates that clinical nursing education can be improved through the identification and integration of the roles of the stakeholders in improving each of these standards.

The Clinical Learning Forum (CLF) proposed in the framework is fundamental in implementing an evidence-based framework to advance clinical education. The formation of a CLF will consist of subcommittees with membership drawn from all stakeholder institutions. The roles of the CLF subcommittees will essentially implement evidence gathered and spelled out in the framework. The effectiveness of the CLF subcommittees will translate into the implementation of a clinical teaching programme, formal clinical supervision, clinical placement and a standard clinical assessment system proposed in the implementation plan of the framework.

The participants in the situational analysis of the study indicated that there is ineffective collaboration between NEIs and the clinical facilities in supporting students in clinical learning. Academic-clinical collaboration is, therefore, an important step that will improve clinical teaching and supervision of students during clinical placement. The framework established the need for effective academic-clinical collaboration in appointing and training preceptors to enable them to support students during clinical placement. Preceptors who are well trained can effectively evaluate students' progress in skills development and give feedback to NEIs for improvement.

Skills laboratory training has been identified as a very important component of clinical teaching. The study established the need for the provision of a skills laboratory with the requisite equipment to enable students to have skills training before clinical placement. To ensure efficient skills teaching in NEIs, the framework further indicated the need to train and assign skills educators to skills laboratories. Training of skills educators on basic teaching skills

such as proper questioning technique, giving cues and giving feedback will enhance the teaching and learning of clinical skills.

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ANNEXURES

10.1 ANNEXURE A: APPROVAL OF TITLE

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172076

Reference: Mrs Sandra Benn
E-mail: sandra.benn@wits.ac.za

23 September 2019
Person No: 2294297
PAG

Mr GT Nachinab
307 Centre for Health Policy, Wits Educ Campus
27 st Andrews road
Parktown
2193
South Africa

Dear Mr Gilbert Nachinab

Doctor of Philosophy: Approval of Title

We have pleasure in advising that your proposal entitled *Developing a framework for clinical education programme of undergraduate nursing students in Ghana* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

10.2 ANNEXURE B: GHANA HEALTH SERVICE ETHICS CLEARANCE

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
GPS Address: GA-050-3303
Tel: +233-302-681109
Fax + 233-302-685424
Mob + 233- 050-3539896
Email: ethics.research@ghsmail.com

MyRef. GHS/RDD/ERC/Admin/App
Your Ref. No. 19/691

18th October, 2019

Gilbert Ti-enkawol Nachinab
Department of Midwifery
School of Allied Health Sciences
University of Development Studies
Tamale

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	**GHS-ERC 007/09/19**
Project Title	Developing a framework for a clinical education programme of undergraduate nursing students in Ghana
Approval Date	18th October, 2019
Expiry Date	17th October, 2020
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.
- Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
Dr. Cynthia Bannerman
(GHS-ERC Chairperson)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra

10.3 ANNEXURE C: HUMAN RESEARCH ETHICS COMMITTEE, UNIVERSITY OF WITWATERSRAND

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

R14/49 Mr GT Nachinab

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M190807

NAME: (Principal Investigator)	Mr GT Nachinab
DEPARTMENT:	School of Therapeutic Sciences Department of Nursing Education Medical School University
PROJECT TITLE:	Developing a framework for a clinical education programme of undergraduate nursing students in Ghana
DATE CONSIDERED:	2019/08/30
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Drs S Armstrong and H Thurling
APPROVED BY:	Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	2019/12/18

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the 3rd Floor, Phillip Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.
I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to submit details to the Committee. I agree to submit a yearly progress report. When a funder requires annual re-certification, the application date will be one year after the date when the study was initially reviewed. In this case, the study was initially reviewed in **August** and will therefore reports and re-certification will be due early in the month of **August** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature _____ Date _____

PLEASE QUOTE THE CLEARANCE CERTIFICATE NUMBER IN ALL ENQUIRIES

10.4 ANNEXURE D: PERMISSION TO COLLECT DATA

UNIVERSITY FOR DEVELOPMENT STUDIES

(School of Allied Health Sciences)

Tel: +233 (0)208043042
Email: mwombeogo@uds.edu.gh

P.O. Box 1883
Tamale, Ghana
2nd December, 2019

Department of Nursing

To:

The Department of Nursing Education

School of Therapeutic Sciences

Faculty of Health Sciences

University of Witwatersrand, South Africa

RE-PERMISSION TO COLLECT DATA AT THE DEPARTMENT OF NURSING, UDS

I write to give authorization to **Mr Gilbert Ti-enkawol Nachinab**, a PhD candidate of the University of Witwatersrand, South Africa to collect data in the Department of Nursing, University for Development Studies (UDS), Tamale, Ghana. The title of his study is "**developing a framework for a clinical education programme of undergraduate nursing students in Ghana**". He intends to administer a questionnaire to nursing students and also conduct individual interviews for lecturers in the department.

He has obtained ethics approval form Ghana Health Service Ethics Committee. While admonishing him to adhere to the ethical principles of research, I assure him of our full support to make the data collection process a success.

Yours Sincerely,

Dr Michael Wombeogo
(Head of Department, Nursing/SAHS/UDS)

10.5 ANNEXURE E: PERMISSION TO COLLECT DATA

Department of Research &Development
Tamale Teaching Hospital

TTH/R&D/SR/145
20/11/2019

TO WHOM IT MAY CONCERN

CERTIFICATE OF AUTHORIZATION TO CONDUCT RESEARCH IN TAMALE TEACHING HOSPITAL

I hereby introduce to you **Mr. Gilbert Ti-enkawol Nachinab,** a PhD candidate in Nursing from the University of the Witwatersrand, South Africa. The candidate has been duly authorized to conduct a study titled **"Developing a Framework for a Clinical Education Programme of Undergraduate Nursing Students in Ghana."**

Please accord the candidate the necessary assistance to enable him completes the study. If in doubt, kindly contact the Research Unit on the second floor of the administration block or on Telephone 0209281020. In addition, kindly report any misconduct of the Researcher to the Research Unit for necessary action.

The candidate is required to furnish the hospital a copy of the dissertation/Study upon completion.

Please note that this approval is given for a period of six months, beginning from 20th November, 2019 to 19th of May, 2020.

Thank You.

ALHASSAN MOHAMMED SHAMUDEEN.

(HEAD, RESEARCH & DEVELOPMENT)

10.6 ANNEXURE F: PERMISSION TO COLLECT DATA

GHANA HEALTH SERVICE

OUR CORE VALUES:
1. People-Centered
2. Professionalism
3. Team work
4. Innovation
5. Discipline
6. Integrity

My Ref No: GHS/NR/18-0/744

Your Ref No: .....

Regional Health Directorate
Ghana Health Service
P.O. BOX 99
Tamale

26th November 2019

Tel: (233) (03720) 22912, 22710, 22146
Fax: (233) (03720) 22941
Email: rdhs.nr@ghsmail.org

The Medical Superintendent, Tamale Central hospital

The Medical Superintendent, Tamale West hospital

LETTER OF INTRODUCTION

I write to introduce to you a Ph.D. student (**Mr. GILBER T. NACHINAB**) of University of Witwatersrand, South Africa. He is conducting a research on the topic "**Developing a framework for a clinical education programme for undergraduate nursing students in Ghana**".

I will be very grateful if you could grant him the necessary permission to collect the required data at your facility.

He is to ensure ethical considerations during the process of data collection and after. I hope the findings will be shared with the region so as to inform management decision making and policies to improve health service delivery in the region.

Thank you.

.....

DR. JOHN ABENYERI

DEPUTY DIRECTOR (PH)

FOR. REG. DIRECTOR OF HEALTH SERVICES

10.7 ANNEXURE G: INFORMATION SHEET FOR PRECEPTORS

Information Sheet for Preceptors

Study Title: Developing a framework for a clinical education programme of undergraduate nursing students in Ghana

Introduction: I am Mr Gilbert Ti-enkawol Nachinab an Assistant Lecturer at the University for Development Studies. I am pursuing a PhD in nursing at the Department of Nursing Education at the University of the Witwatersrand, South Africa. As part of the study, I am conducting a research that will lead to the development of a framework for clinical nursing education for undergraduate nursing students in Ghana.

Background and purpose of research: Undergraduate nursing students are expected to acquire clinical skills as part of their training programme. Clinical nursing education is therefore essential part of the training and its effectiveness will lead to well trained nurses. I intend to develop a framework to enhance the quality of clinical education in the undergraduate nursing programme in Ghana. Your views on quality of clinical nursing education will be appreciated.

Nature of research: I am interested in your views and experiences on the subject so there is no right or wrong answer. You will be given a questionnaire to complete. Participants include registered nurses with at least three years working experience (preceptors) who are working in the selected hospitals.

Participants involvement:

- **Duration /what is involved**: I am inviting you to complete a questionnaire on quality of clinical education of undergraduate nursing students in Ghana. Completing the questionnaire will last between 30-45minutes.
- **Potential Risks:** Participating in this study will not lead to emotional or psychological consequences. Similarly, there will be no penalty for individuals who do not wish to participate in the study.
- **Benefits:** There will be no direct benefits or compensation for answer the questionnaire. However, the study will lead to the development of a framework to improve the quality of clinical nursing education.
- **Costs:** You will not incur any cost by participating in this study. The questionnaire will be brought to you at your work place and collected when you are done completing it.
- **Compensation:** You will not be given any money for answering the questionnaire.
- **Confidentiality:** The information that you give in the interview will be kept confidential

- **Voluntary participation/withdrawal:** Your participation in this study is voluntary and you are free to withdraw from the study at any time without penalty and without having to give any reasons.
- **Outcome and Feedback:** Data collected will provide evidence for framework development for clinical nursing education. The developed framework will be shared with the institution you work to improve clinical nursing education.
- **Funding information:** Study is self-funded by the principal investigator and Postgraduate Merit Award of Faculty of Health Sciences.
- **Sharing of participants information/data:** The Principal investigator owns data, and it will be protected according to data protection policy outlined by ethics review committee. The resulting framework will be shared with the participant's institution and the University for Development Studies to improve clinical nursing education.
- **Provision of information and consent for participants:** A copy of the Information Sheet and Consent Form will be given to you after it has been signed or thumb-printed to keep.

Who to Contact for Further Clarification/Questions

If you have questions about the research, you may also contact me or my supervisors.

Gilbert T. Nachinab Department of Nursing University of the Witwatersrand Tel. +233 249787993 gilbertnaknab@gmail.com	Dr. Sue J. Armstrong Department of Nursing University of the Witwatersrand Tel: +27(0)11 4884061 Sue.Armstrong@wits.ac.za	Dr Hilary Thurling Centre for Health Sciences Education University of the Witwatersrand Tel: 0825557003	Dr (Mrs) Josephine Kyei School of Nursing and Midwifery University of Ghana, Legon Tel: +2332081554212

If you have any question about your rights as a participant you may contact any of the following:

Human Research Ethics Committee (HREC), Chair
The University of the Witwatersrand,
Prof C. Penny
Email: Clement.Penny@wits.ac.za
Tel (011) 717-2301

Ghana Health Service Ethics Review Committee, Administrator
Nana Abena Kwaa Ansah Apatu,
0503539896, ethics.reasearch@ghsmail.org

10.8 ANNEXURE H: INFORMED CONSENT FOR PRECEPTORS

Informed Consent for Preceptors

Study Title: Developing a framework for a clinical education programme of undergraduate nursing students in Ghana

Participants' Statement

I have been given the information sheet on this study "Developing a framework for a clinical education programme of undergraduate nursing students in Ghana''. I have read and understood the Information Sheet and all my questions have been answered satisfactorily".

I understand that it is up to me whether or not I would like to complete the questionnaire and that there will be no negative consequences if I decide not to respond. I understand that the researchers involved in this project will make every effort to ensure confidentiality and that my name will not be used in the study reports, and that comments that I make will not be reported back to anybody else. I consent voluntarily to complete the questionnaire. I have been given telephone numbers that I may call if we have any questions or concerns about the research.

Participants signature/initials:

..... Date.....

Interviewer's Signature ..... Date.....

Investigator Statement and Signature

I certify that the participant has been given enough time to read the information sheet on the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name.....

Signature .... Date.....

1

This is to Certify that this Study's Inform Consent Form Has Been Approved by GHS-ERC for the Period 18.10.19 to 17.10.20 Sign Date 18.10.19 Name Nana Abena Agyei GHC-ERC Administrator

10.9 ANNEXURE I: INFORMATION SHEET FOR STUDENTS

Participants Information Sheet for Student

Study Title: Developing a framework for a clinical education programme of undergraduate nursing students in Ghana

Introduction: I am Mr Gilbert Ti-enkawol Nachinab an Assistant Lecturer at the University for Development Studies. I am pursuing a PhD in nursing at the Department of Nursing Education at the University of the Witwatersrand, South Africa. As part of the study, I am conducting a research that will lead to the development of a framework for clinical nursing education for undergraduate nursing students in Ghana.

Background and Purpose of research: Undergraduate nursing students are expected to acquire clinical skills as part of their training programme. Clinical nursing education is therefore essential part of the training and its effectiveness will lead to well trained nurses. I intend to develop a framework to enhance effective clinical nursing education in the undergraduate programme in Ghana. Your views on quality of clinical nursing education will be appreciated.

Nature of research: I am interested in your views and experiences on the subject so there is no right or wrong answer. You will be given a questionnaire to complete. Participants will include student nurses in the University for Development Studies who are in their second, third and fourth year.

Participants involvement:

- **Duration /what is involved**: I am inviting you to complete a questionnaire on quality of clinical education of undergraduate nursing students in Ghana. Completing the questionnaire will last between 30-45minutes.
- **Potential Risks:** Participating in this study will not lead to emotional or psychological consequences. Similarly, there will be no penalty for individuals who do not wish to participate in the study.

1

This is to Certify that this Study's Informed Consent Form Has Been Approved by GHS – EIRC for its Period: From 18.10.19 to 17.10.20
Sign: [signature] Date: 18.10.19
Name: Nana Akua Apitsa
GHS- EIRC Administrator

- **Benefits:** There will be no direct benefits or compensation for answer the questionnaire. However, the study will lead to the development of a framework to improve the quality of clinical nursing education.
- **Costs:** You will not incur any cost by participating in this study. The questionnaire will be brought to you after your lectures for the day. You will the questionnaire whether answered or not into a container placed at the back of your class for research assistants to retrieve them.
- **Compensation:** You will not be given any money for answering the questionnaire.
- **Confidentiality:** The information that you give in the interview will be kept confidential
- **Voluntary participation/withdrawal:** Your participation in this study is voluntary and you are free to withdraw from the study at any time without penalty and without having to give any reasons.
- **Outcome and Feedback:** Data collected will provide evidence for framework development for clinical nursing education. The developed framework will be shared with the institution you work to improve clinical nursing education.
- **Funding information:** Study is self-funded by the principal investigator and Postgraduate Merit Award of Faculty of Health Sciences.
- **Sharing of participants Information/Data:** The Principal investigator owns data, and it will be protected according to data protection policy outlined by ethics review committee. The resulting framework will be shared with University for Development Studies to improve clinical nursing education.

- **Provision of Information and Consent for participants:** A copy of the Information Sheet and Consent Form will be given to you after it has been signed or thumb-printed to keep.

Who to Contact for Further Clarification/Questions

If you have questions about the research, you may also contact me or my supervisors.

Gilbert T. Nachinab	Dr. Sue J. Armstrong	Dr Hilary Thurling	Dr Josephine Kyei
Department of Nursing	Department of Nursing	Centre for Health	School of Nursing and
University of the	University of the	Sciences Education	Midwifery
Witwatersrand	Witwatersrand	University of the	University of Ghana,
Tel. +233 249787993	Tel: +27(0)11 4884061	Witwatersrand	Legon
gilbertnaknab@gmail.com	Sue.Armstrong@wits.ac.za	Tel: 0825557003	Tel: +2332081554212

If you have any question about your rights as a participant you may contact any of the following:

Human Research Ethics Committee (HREC), Chair
The University of the Witwatersrand,
Prof C. Penny
Email: Clement.Penny@wits.ac.za
Tel (011) 717-2301

Ghana Health Service Ethics Review Committee, Administrator
Ms Hannah Frimpong
+233 507041223

This is to Certify that this Study's Inform Consent Form Has Been Approved by GHS-ERC for the Period 18.10.19 to 17.10.20 / 18.10.21
Sign [signature] Date [signature]
Name Hannah Adams
GHC-ERC Administrator

10.10 ANNEXURE J: INFORMED CONSENT FOR STUDENTS

Informed Consent for Students

Study Title: Developing a framework for a clinical education programme of undergraduate nursing students in Ghana

Participants' Statement

I have been given the information sheet on this study "Developing a framework for a clinical education programme of undergraduate nursing students in Ghana''.

". I have read and understood the Information Sheet and all my questions have been answered satisfactorily".

I understand that it is up to me whether or not I would like to complete the questionnaire and that there will be no negative consequences if I decide not to respond. I understand that the researchers involved in this project will make every effort to ensure confidentiality and that my name will not be used in the study reports, and that comments that I make will not be reported back to anybody else. I consent voluntarily to complete the questionnaire. I have been given telephone numbers that I may call if we have any questions or concerns about the research.

Participants signature/initials: ..... Date.....

Interviewer's Signature ..... Date.....

Investigator Statement and Signature

I certify that the participant has been given enough time to read the information sheet on the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name.....

Signature .... Date.....

10.11 ANNEXURE K: INFORMATION SHEET FOR KEY INTERVIEWS

Information Sheet for Key Informants Interviews

Study Title: Developing a framework for a clinical education programme of undergraduate nursing students in Ghana

Introduction: I am Mr Gilbert Ti-enkawol Nachinab an Assistant Lecturer at the University for Development Studies. I am pursuing a PhD in nursing at the Department of Nursing Education at the University of the Witwatersrand, South Africa. As part of the study, I am conducting a research that will lead to the development of a framework for clinical nursing education for undergraduate nursing students in Ghana.

Background and Purpose of research: Undergraduate nursing students are expected to acquire clinical skills as part of their training programme. Clinical nursing education is therefore essential part of the training and its effectiveness will lead to well trained nurses. I intend to develop a framework to enhance effective clinical nursing education in the undergraduate programme in Ghana. Your views on quality of clinical nursing education will be appreciated.

Nature of research: I am interested in your views and experiences on the subject so there is no right or wrong answer. You will participate in a face-to-face individual interview. Participants for key informant interviews will include nursing lecturers, nurse managers and clinical coordinators.

Participants Involvement:

- **Duration /what is involved**: I am inviting you to complete a questionnaire on quality of clinical education of undergraduate nursing students in Ghana. Completing the questionnaire will last between 30-45minutes.
- **Potential Risks:** Participating in this study will not lead to emotional or psychological consequences. Similarly, there will be no penalty for individuals who do not wish to participate in the study.
- **Benefits:** There will be no direct benefits or compensation for answer the questionnaire. However, the study will lead to the development of a framework to improve the quality of clinical nursing education.
- **Costs:** You will not incur any cost by participating in this study. The interviews will be done at a time and place convenient to you.
- **Compensation:** You will not be given any money for after the interview.
- **Confidentiality:** The information that you give in the interview will be kept confidential.

1

This is to Certify that this Study's Inform Consent Form Has Been Approved by GHS-ERC
Period 18.10.19 to 17.10.20
Sign Date 18.10.19
Name Nana Abena Apatu
GHS-ERC Administrator

- **Voluntary participation/withdrawal:** Your participation in this study is voluntary and you are free to withdraw from the study at any time without penalty and without having to give any reasons.
- **Outcome and Feedback:** Data collected will provide evidence for framework development for clinical nursing education. The developed framework will be shared with the institution you work to improve clinical nursing education.
- **Funding information:** Study is self-funded by the principal investigator
- **Sharing of participants Information/Data:** The Principal investigator owns data, and it will be protected according to data protection policy outlined by ethics review committee. The resulting framework will be shared with the participant's institution and the University for Development Studies to improve clinical nursing education.
- **Provision of Information and Consent for participants:** A copy of the Information Sheet and Consent Form will be given to you after it has been signed or thumb-printed to keep.

Who to Contact for Further Clarification/Questions

If you have questions about the research, you may also contact me or my supervisors.

Gilbert T. Nachinab Department of Nursing University of the Witwatersrand Tel. +233 249787993 gilbertnaknab@gmail.com	Dr. Sue J. Armstrong Department of Nursing University of the Witwatersrand Tel: +27(0)11 4884061 Sue.Armstrong@wits.ac.za	Dr Hilary Thurling Centre for Health Sciences Education University of the Witwatersrand Tel: 0825557003	Dr Josephine Kyei School of Nursing and Midwifery University of Ghana, Legon Tel: +2332081554212

10.12 ANNEXURE L: INFORMED CONSENT FOR KEY INFORMANT

Informed Consent for Key Informants

Study Title: Developing a framework for a clinical education programme of undergraduate nursing students in Ghana

Participants' Statement

I have been given the information sheet on this study "Developing a framework for a clinical education programme of undergraduate nursing students in Ghana". I have read and understood the Information Sheet and all my questions have been answered satisfactorily".

I understand that I can decide whether or not the interview should be voice-recorded and that there will be no consequences for me if I do not want the interview to be recorded.

I understand that voice-recorded information will be transcribed and transcripts will be given a code and my name will not be mentioned. I understand that the device used for the voice recording will be destroyed two years after publication of the findings.

I understand that I can ask the person interviewing me to stop voice-recording, and to stop the interview altogether, at any time.

Participants signature/initials:

..... Date.....

Interviewer's Signature ..... Date.....

Investigator Statement and Signature

I certify that the participant has been given enough time to read the information sheet on the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name.....

Signature ..... Date.....

This is to Certify that this Study's Inform Consent Form Has Been Approved by GHS-ERC
Period 18.10.19 to 17.10.20
Sign [signature] Date 18.10.19
Name Nana Akua Arthur
GHC-ERC Administrator

1

10.13 ANNEXURE M: INFORMATION SHEET FOR CLINICAL EXPERTS

Information Sheet for Clinical Experts

Study Title: Developing a framework for a clinical education programme of undergraduate nursing students in Ghana

Introduction: I am Mr Gilbert Ti-enkawol Nachinab an Assistant Lecturer at the University for Development Studies. I am pursuing a PhD in nursing at the Department of Nursing Education at the University of the Witwatersrand, South Africa. As part of the study, I am conducting a research that will lead to the development of a framework for clinical nursing education for undergraduate nursing students in Ghana.

Background and Purpose of research: Undergraduate nursing students are expected to acquire clinical skills as part of their training programme. Clinical nursing education is therefore essential part of the training and its effectiveness will lead to well trained nurses. I intend to develop a framework to enhance effective clinical nursing education in the undergraduate programme in Ghana. Your views on quality of clinical nursing education will be appreciated.

Nature of research: I am interested in your views and experiences on the subject so there is no right or wrong answer. You will participant in an expert review process where about twelve participants will review a draft framework developed for clinical nursing education.

Participants involvement:

- **Duration /what is involved**: I am inviting you to complete a questionnaire on quality of clinical education of undergraduate nursing students in Ghana. Completing the questionnaire will last between 30-45minutes.
- **Potential Risks:** Participating in this study will not lead to emotional or psychological consequences. Similarly, there will be no penalty for individuals who do not wish to participate in the study.

1

- **Benefits:** There will be no direct benefits or compensation for answer the questionnaire. However, the study will lead to the development of a framework to improve the quality of clinical nursing education.
- **Costs:** You will not incur any cost by participating in this study. The questionnaire will be brought to you at your work place and collected when you are done completing it.
- **Compensation:** You will not be given any money for answering the questionnaire.
- **Confidentiality:** The information that you give in the interview will be kept confidential
- **Voluntary participation/withdrawal:** Your participation in this study is voluntary and you are free to withdraw from the study at any time without penalty and without having to give any reasons.
- **Outcome and Feedback:** Data collected will provide evidence to finalise a framework for clinical nursing education. The developed framework will be shared with the institution you work to improve clinical nursing education.
- **Funding information:** Study is self-funded by the principal investigator
- **Sharing of participants Information/Data:** The Principal investigator owns data, and it will be protected according to data protection policy outlined by ethics review committee. The resulting framework will be shared with the participant's institution and the University for Development Studies to improve clinical nursing education.
- **Provision of Information and Consent for participants:** A copy of the Information Sheet and Consent Form will be given to you after it has been signed or thumb-printed to keep.

Who to Contact for Further Clarification/Questions

If you have questions about the research, you may also contact me or my supervisors.

Gilbert T. Nachinab	Dr. Sue J. Armstrong	Dr Hilary Thurling	Dr (Mrs) Josephine Kyei
Department of Nursing	Department of Nursing	Centre for Health	School of Nursing and
University of the	University of the	Sciences Education	Midwifery
Witwatersrand	Witwatersrand	University of the	University of Ghana,
Tel. +233 249787993	Tel: +27(0)11 4884061	Witwatersrand	Legon
gilbertnaknab@gmail.com	Sue.Armstrong@wits.ac.za	Tel: 0825557003	Tel: +2332081554212

If you have any question about your rights as a participant you may contact any of the following:

Human Research Ethics Committee (HREC), Chair

The University of the Witwatersrand,

Prof C. Penny

Email: Clement.Penny@wits.ac.za

Tel (011) 717-2301

Ghana Health Service Ethics Review Committee, Administrator

Nana Abena Kwaa Ansah Apatu, 0503539896, ethics.reasearch@ghsmail.org

This is to Certify that this Study's Inform Consent Form Has Been Approved by GHS – ERC for the Period 18.10.19 to 17.10.20
Sign ..... Date 18.10.19
Name Nana Abena Apatu
GHC-ERC Administrator

10.14 ANNEXURE N: QUESTIONNAIRE ON PERCEPTION OF CLINICAL NURSING EDUCATION (PRECEPTORS)

Section A

Demographic Information		✓ **Tick in the appropriate space**
1.	**Gender**	
1.1	Female	
1.2	Male	
2.	**Age**	
2.1	20-29years	
2.2	30 -39 years	
2.3	40 -49years	
2.4	50 -59 years	
2.5	≥60 years	
3.	**Years of service (if applicable)**	
3.1	3-6years	
3.2	7 – 10years	
3.3	≥11 years	
4.	**Facility**	
4.1	Tamale Teaching Hospital	
4.2	Tamale Central Hospital	
4.3	Tamale West Hospital	
5	**Academic Qualification**	
5.1	Diploma	
5.2	Bachelor	
5.3	Masters	

SECTION B

Each item has 5 possible responses, they range from O= Neither Agree nor Disagree to 4=strongly agree. Please tick the response that clearly represents your degree of agreement or disagreement with the statement. Please respond to all statements

Key: O= Neither Agree nor Disagree 1= Strongly Disagree 2= Disagree 3=Agree 4= Strongly Agree

STATEMENT	0	1	2	3	4
Clinical Placement area					
1. Placement dates are pre-published before the placement of students to the clinical facilities.					
2. Students get enough clinical exposure in the clinical placements					

3. There is sufficient clinical accompaniment by clinical instructors in the placement area.					
4. There is an effective communication between clinical facilitators and staff in the clinical facilities.					
5. Students and clinical facilitators have effective communication					
6. There is effective communication between clinical facilitators and clinical staff					
7. Students and clinical facilitators have effective communication					
8. Lecturers also visit the clinical area for accompaniment of students.					
9. The learning needs of students are clarified to the students.					
10. There is a joint responsibility between the lecturers and the clinical staff to develop the student nurses.					
11. The development and teaching of the student nurses is only the responsibility of the university.					
12. The clinical facilities are supportive of professional growth, skills development and practice of students.					
13. There is a good relationship between clinical facilitators and the clinical staff in clinical placements.					
14. There are enough clinical placement facilities to place students for clinical practice.					

SECTION C: Clinical teaching and learning

15. The university has enough space for clinical teaching and learning activities.					
16. The university has enough equipment and material resources for demonstration and feedback of clinical skills.					
17. The clinical placement areas have enough equipment and material resources for demonstration and feedback of clinical skills.					
18. Students are theoretically prepared before they are sent to clinical facilities.					
19. Nursing students are willing to learn.					
20. Students accept constructive criticism.					
21. All students know the limitations of clinical teaching and learning process.					
22. A remedial plan is implemented if a student fails to master a skill					
23. Clinical facilitators get full support from the lecturers.					
24. Clinical accompaniment does benefit students.					
25. Please comment on any way you think we could improve clinical teaching and learning					

SECTION D: Clinical assessment

26. Students are informed of the specific criteria and standards for each clinical placement against which they will be assessed.					
27. All students sign an assessment contract before being assessed.					
28. Students are informed in time before clinical assessments starts.					
29. Students avail themselves for clinical practice before they are assessed.					
30. The assessment tools facilitate the integration of theory and practice.					
31. There is confidentiality of the assessment outcome for each student.					
32. Student and the facilitator discuss and evaluate performance against each competency thereby identifying areas of strength and areas needing improvement.					
33. Preceptors have an input in the development of assessment tools.					
34. As preceptors we are involved in clinical assessments of students.					

10.15 ANNEXURE O: QUESTIONNAIRE ON PERCEPTION OF CLINICAL NURSING EDUCATION (STUDENTS)

Section A

Demographic Information		✓ ***Tick in an appropriate space***
1.	**Gender**	
1.1	Female	
1.2	Male	
2.	**Age**	
2.1	18 – 19 years	
2.2	20 -24 years	
2.3	25 – 29 years	
2.4	30 – 34 years	
2.5	≥35 years	
3.	**Level of training**	
3.1	Fourth year of study	
3.2	Third year of study	
3.3	Second year of study	

SECTION B

Each item has 5 possible responses, they range from O= Neither Agree nor Disagree to 4=strongly agree. Please tick the response that clearly represents your degree of agreement or disagreement with the statement. Please respond to all statements

Key: O= Neither Agree nor Disagree 1= Strongly Disagree 2= Disagree 3=Agree 4= Strongly Agree

STATEMENT	0	1	2	3	4
<u>Clinical Placement area</u>					
1. Placement dates are pre-published before the placement of students to the clinical facilities					
2. We receive a manual containing all rules regarding clinical practice, procedures, forms and strategies prior to commencement of clinical placements					
3. I get sufficient clinical exposure in the clinical placements					
4. There is enough clinical accompaniment by clinical instructors when we are in the placement area					

5. Students and clinical facilitators have effective communication					
6. There is an effective communication between clinical facilitators and staff in the clinical facilities					
7. We as students and clinical facilitators have effective communication					
8. There is effective communication between clinical facilitators and clinical staff					
9. We as students and clinical facilitators have effective communication					
10. Student's learning outcomes are distributed to the placement area before placement of students					
11. The learning needs of students are clarified to us as students					
12. The clinical facilities are supportive of professional growth, skills development and practice of students.					
13. There are enough clinical placement facilities to place students for clinical practice					

SECTION C: Clinical teaching and learning

14. The university has enough space for clinical teaching and learning activities					
15. The university has enough equipment and material resources for demonstration and feedback of clinical skills					
16. The clinical placement areas have enough equipment and material resources for demonstration and feedback of clinical skills					
17. The term "self-directed learning" is clear to us as nursing students					
18. As a student I understand my responsibilities regarding clinical facilitation					
19. We are theoretically prepared before we go for clinical facilitation.					
20. As a nursing student I am willing to learn.					

21. Students accept constructive criticism.					
22. All students know the limitations of clinical teaching and learning process.					
23. A remedial plan is implemented if we as students are not yet competent in a certain skill.					
24. As a student I benefit from clinical accompaniment when allocated in different clinical facilities.					
25. Student clinical accompaniment should only be done by clinical facilitators.					
26. Lecturers should not be involved in clinical accompaniment of students.					
27. Lecturers are involved in student clinical facilitation and accompaniment.					

SECTION D: Clinical assessment					
28. As a student I am informed of the specific criteria and standards for each clinical placement against which I will be assessed					
29. All students sign an assessment contract before being assessed					
30. We are informed in time before clinical assessments starts					
31. I avail myself for clinical practice before I am assessed					
32. We are informed in time of the skills we will be assessed on					
33. The assessment tools facilitate the integration of theory and practice					
34. There is confidentiality of the assessment outcome for each student					
35. Student and the facilitator discuss and evaluate performance against each competency thereby identifying areas of strength and areas needing improvement					

10.16 ANNEXURE P: SEMI STRUCTURED INTERVIEW GUIDE FOR KEY INFORMANTS

SECTION A: BACKROUND INFORMATION

Please tell me about yourself

Probes: Age, gender, highest academic qualification, years of experience, position

SECTION B: Current State of Clinical Nursing Education

1. In your opinion how well do you think we are currently doing in relation to clinical nursing education?

   Probes:

   - Time spent in the clinical area
   - Planning of schedules (intra and inter-semester)
   - Clinical accompaniment
   - Outlining clinical objectives/competencies

2. In your opinion how is the current clinical learning environment affecting clinical nursing education?

   Probes:

   - Staff
   - Availability of resources

3. In your opinion how does the role of the preceptor impact on clinical nursing education?

   Probes:

   - Can you explain a bit more?

4. In your opinion how does the role of the clinical supervisor impact on clinical nursing education?

   Probes:

   - Can you explain a bit more?

5. How well do you think classroom teaching and clinical practice are linked?

   Probe:

   - Please explain your opinion.

6. How well do you think clinical skills are taught in the skills laboratory?

Probe:

- Why do you think this happens?

7. In your opinion, is clinical assessment effective?

   Probe: Please explain your answer.

Section C: The way forward

8. In your opinion how do you think clinical nursing education can be improved?

   Probes:

   Nursing education institution

   Clinical settings

   Nursing and Midwifery Council of Ghana

   Students

10.17 ANNEXURE Q: INTEGRATION OF FINDINGS FROM PHASE I AND PHASE II

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
Support from NEI	• A training programme should be developed for preceptors • NEIs should collaborate with clinical institutions in drawing clinical curriculum • Utilise videos in teaching nursing skills • Improve the application of stimulation • Put students in groups for skills laboratory training • Students should spend adequate time in each ward • There should be pre-briefing and debriefing sessions with students during clinical placement • Electronic feedback platform should be used for monitoring	• Pre-publish placement dates to students and clinical facilities • Ensure adequate duration of clinical placement • Lecturers should visit the clinical site for supervision • Lecturers should be involved in clinical facilitation • Introduce students to "self-directed learning" in the classroom • Communicate clinical placement	• Intake of students should be according to lecture hall space, facilities for skills training and number of lecturers • There should be formative assessment of students during clinical placement by preceptors • Appoint adequate number of lecturers for classroom and skills laboratories • Implement preceptorship • Training of simulated patients • Capacity building of assessors • Lecturers should take part in clinical supervision • There should effective transportation system • There should be adequate duration for clinical placement	• Improving teaching and learning of clinical skills • communication and collaboration between NEI and service setting • clinical supervision of students • Planning of clinical placement for students • Ensuring effective clinical assessment

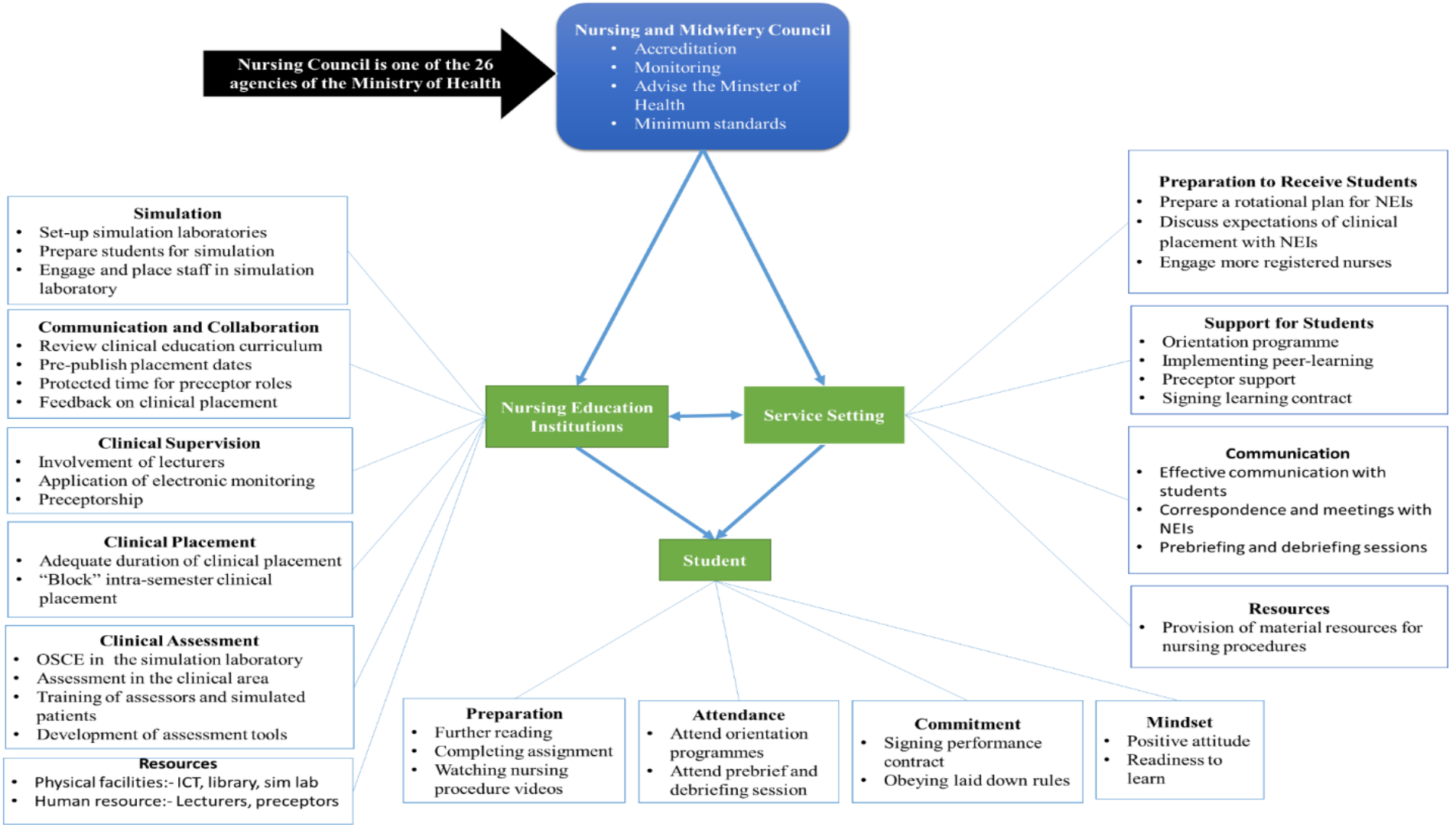
Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
	students while they are in clinical placement area • Objective Structured Clinical Examination (OSCE) should be used in assessing students • Competence tool is effective in monitoring students progress in skills development	objectives with clinical facilities before clinical placement • Provide skills laboratories with adequate space and materials • Engage staff for clinical teaching of students in the skills laboratory • Involve preceptors in the development of clinical assessment tools	• Clinical placement should be in "block" • NEIs should be adequately equipped skills laboratory	

Support from service setting	• There should be constructive feedback from clinical faculty (nurses, preceptors and clinical supervisors) • Provide material resources for nursing procedures • Engage an adequate number of registered nurses • Take steps to enlist the support of nurses and clinical supervisors in clinical teaching of students • There should be effective communication with student • Preceptors should have characteristics such as effective communication skills, coaching skills and role modeling. • Peer learning i.e. pairing of students from same level of study for the same shift during clinical placement should be encouraged	• Clinical facilities should develop a clinical manual containing all rules regarding clinical practice and procedures • Preceptors should clarify the learning needs of students • Provide adequate equipment for demonstrations and return demonstration • Preceptors should have effective communication with students • Develop a remedial plan for students who are unable to gain competence in a particular skill • Sign learning contracts with students	• Effective communication with academic institutions • Rotational plan for various academic institutions that send students for clinical placement • Engaging more registered nurses • Provision of material resources • Encouraging nurses to initiate personal strategies to enhance clinical learning at the ward level • Peer learning i.e. the pairing of students who are at the same level of study but in different schools to enable them to learn from each • Preceptors should performative assessment • Organise clinical meetings with students during clinical placement	• Preparation to receive students • Communication between service settings and NEI, and service setting and students • Support of Students during clinical placement • Provide material and human resources • Clinical assessment

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
Student in clinical for role	• Students should indicate readiness for clinical learning through observation, listening and asking questions • Attend pre-briefing and debriefing sessions • Students should be self-confident and motivated	• Accept constructive criticism • Sign a performance contract before clinical assessment • Students should communicate effectively with clinical staff • Students should available themselves for assessment	• Attend clinical conferences and ask questions • Students should seek counseling when they have problems in the placement area • Obey laid down rules of clinical placement	• Attendance • Positive mindset • Commitment • Communication

Components of the Model for Clinical Education and Training	Lessons Learnt from Scoping Review	Lessons Learnt from Survey	Lessons Learnt from Qualitative Findings	Common Lessons Learnt from Phase I and Phase II
Support from Nursing Council	• Monitor academic institutions through scheduled visits	• Ensure academic institutions set-up skills laboratories that have essential equipment and materials	• NM&C should set-up an accreditation system for clinical facilities • NM&C should make recommendations for student intake based on availability of facilities • Monitor NEIs to provide adequately equipped skills laboratory • NM&C should improve conduct of Licensing Examination	• Monitoring to ensure that NEIs meet and maintain minimum • Minimum standard • Advise to the Minister of Health • Clinical assessment

10.18 ANNEXURE R: ROLES OF STAKEHOLDERS IN CLINICAL NURSING EDUCATION PROGRAMME



10.19 ANNEXURE S: IDENTIFICATION OF THEMATIC AREAS OF THE FRAMEWORK

Stakeholders	Common Lessons Learnt from Phase I and Phase II	Thematic Areas of the Framework
Nursing Education Institutions	• Improving teaching and learning of clinical skills • Communication and collaboration between NEI and service setting • Clinical supervision of students • Planning of clinical placement for students • Ensuring effective clinical assessment	
Service Setting	• Preparation to receive students • Communication between service settings and NEI, and service setting and students • Support of Students during clinical placement • Provide material and human resources • Formative and summative clinical assessment	
Nursing Students	• Attendance • Positive mindset • Commitment • Formative and summative clinical assessment	• Communication and Collaboration • Clinical Teaching • Clinical supervision • Clinical placement • Clinical assessment
NM&C	• Monitoring to ensure that NEIs meet and maintain a minimum • Minimum standard • Advice to the Minister of Health • Clinical assessment	

10.20 ANNEXURE T: PHASE ONE DELPHI QUESTIONNAIRE

The purpose of the framework is to improve clinical education in the undergraduate nursing programme in Ghana. The framework is organized in five thematic areas. The Delphi questionnaire is based on the plan that has been developed for the implementation of the framework.

PART 1:

Please indicate whether each aspect is feasible and/or relevant. Please score both relevance and feasibility for each. Score 0 if you do not believe the aspect is relevant/feasible; 1 if you are not sure, and 2 if you do believe it is feasible/relevant.

The immediate phase will take place in the first 6 months of implementation, intermediate in next the 2 years and the final phase is beyond 2 years thereafter.

Standard 1: C**ommunication and collaboration between stakeholders** is essential in the preparation of students in the classroom and clinical area.

Immediate Phase	**Feasible**	**Relevant**	**Intermediate Phase**	**Feasible**	**Relevant**	**Final Phase**	**Feasible**	**Relevant**
Constitute a Clinical Learning Forum (CLF) with representation from Nursing Students (NS), Nursing Education Institutions (NEIs) and Service Settings (SS) to monitor implementation of the framework			Meet regularly and function as a CLF according to the constitution of the CLF			Review roles and functioning of CLF and amend as required		
Write constitution for a Clinical Learning Forum (CLF)			Appoint members onto sub-committees			Continue regular meetings and activities		
The CLF should include sub-committees on the clinical teaching programme, the formal system of clinical supervision, clinical placements and clinical assessment			Review quarterly reports submitted by sub-committees Maintain communication with the Statutory Council					

Immediate Phase	Feasible	Relevant	Intermediate Phase	Feasible	Relevant	Final Phase	Feasible	Relevant
The representatives should meet to establish ground rules and plans			Provide feedback on NM&C activities and changes to all stakeholders					

Comments if you do not agree with the statement/criterion and any additions you believe should be made to this part of the implementation plan:

_____

_____

_____

_____

Standard 2**: Clinical teaching programme** will provide cost-effective, innovative and relevant education to prepare students for their future roles as professional nurses

INITIAL PHASE	**Feasible**	**Relevant**	**INTERMEDIATE PHASE**	**Feasible**	**Relevant**	**FINAL PHASE**	**Feasible**	**Relevant**
Clarify the learning needs of the Student before clinical placement or skills laboratory sessions			Sign learning contracts with students			Purchase additional simulation equipment		
Plan a pre-briefing and debriefing session for clinical teaching			Introduce students to self-directed learning			Continue regular meetings and activities		
Identify an area in the department to be used as a skills unit			Purchase equipment for skills laboratory			Plan a yearly evaluation of the effectiveness of steps taken to improve clinical teaching		

Work out a budget for requirements for the skills unit			Provide low-cost simulation aids			Implement changes as required		
Video skills that will be taught in the skills lab should be posted on the students learning platform for pre-skills preparation			Develop the designated area as a skills unit					
Remind students at least 4 weeks to clinical placement			Orientate students to effective use of skills unit					
			Provide specialised training for lecturers on high and low fidelity simulation and					

			innovative skills teaching methods					
			Purchase audio visual equipment for the real-time transmission of scenario simulations and debriefing to students not in the skills unit					
			Plan for embedding small group clinical skills teaching in the curricula.					

Comments if you do not agree with the statement / criterion and any additions you believe should be made to this part of the implementation plan:

_____

_____

Standard 3**: A formal system of clinical supervision** provides structure and support to students to enhance the translation of theory into practice

Initial Phase	**Feasible**	**Relevant**	**Intermediate Phase**	**Feasible**	**Relevant**	**Final Phase**	**Feasible**	**Relevant**
Develop a budget and motivate for funding for the engagement of preceptors			Select and appoint preceptors			Review the attendance rate and feedback from the attendees at the workshops		
Develop a memorandum of understanding between the service settings and the NEI on the selection, appointment, training and finding a protected time for preceptors to engage in student supervision.			Training dates should be agreed upon with authorities of the clinical facilities to enable the selected staff to attend.			Conduct a research study on the translation into practice of the supervisory skills taught in the workshop		

Determine the position and responsibilities of the existing clinical facilitators (registered nurses) in relation to the preceptors and the nursing students			Expose all preceptors, clinical facilitators and nurse educators to the best practice workshop on clinical supervisory skills			Conduct a research study on the translation into practice of the supervisory skills taught in the workshop		
Determine the position and responsibilities of the nurse educators in relation to clinical supervision.			Allocate students to preceptors that have participated in the supervision training course for ongoing clinical supervision			Review the success (level of attendance, and student feedback) of the supervision training program and refine as required		
Design a best practice workshop on clinical supervision skills			Develop a feedback system for both preceptors and students to discuss the level of supervision provided to the student.					

Develop an electronic monitoring system of students during placements			Improve preceptorship by implementing lessons learnt from feedback system					
			Train users on how to use the electronic platform for clinical supervision					

Comments if you do not agree with the statement/criterion and any additions you believe should be made to this part of the implementation plan:

_____

_____

Standard 4: The **clinical placement** system is structured to facilitate optimal exposure to practice and appropriate student assessment

Initial Phase	**Feasible**	**Relevant**	**Intermediate Phase**	**Feasible**	**Relevant**	**Final Phase**	**Feasible**	**Relevant**
Develop a clinical placement policy manual containing ward policies, duties and responsibilities of students, lecturers, preceptors and clinical facilitators.			Make dates available to all stakeholders at least 2 months before placement			Review clinical placement policy manual to evaluate relevance/alignment to student's clinical needs		
Negotiate placement dates with the service setting			Schedule regular dates and times in the academic year for lecturers from the NEIs to be present in the clinical areas to assist with			Review success of electronic monitoring system		

			supervision and clinical teaching					
			Send specific clinical placement objectives to clinical site and students who are attending the specific clinical site a month prior to the placement			Make changes as required		

Comments if you do not agree with the statement / criterion and any additions you believe should be made to this part of the implementation plan:

_____

_____

Standard 5: A **standard clinical assessment** system will ensure effective monitoring of the skills development of students

Initial Phase	Feasible	Relevant	Intermediate Phase	Feasible	Relevant	Final Phase	Feasible	Relevant
Constitute an expert committee consisting of experienced examiners, educational experts and external moderators to review and update clinical assessments tools			Organise a training for OSCE assessors and simulated patients' clinical assessment			Schedule a yearly refresher training of simulated patients and assessors		
The expert committee should design a training programme for assessors and simulated patients			Institute pre- and post-examination conferences			Evaluate the effectiveness of using competence tool for formative assessment		
			Train preceptors on the use of competence tools for formative assessment			Review and update clinical assessment tools every two years		

.			Develop remedial plans for students who are unable to achieve competence during clinical placement			Train new assessors and simulated patients before clinical assessment each time		
			Move clinical assessment of students in the second year and beyond to the clinical area					

Comments if you do not agree with the statement / criterion and any additions you believe should be made to this part of the implementation plan:

_____

Part 2: General Views on the Framework

To improve the framework, please answer the questions below.

1. What is your view on the content of the framework?
2. How relevant and user friendly is the framework in enhancing clinical nursing education?
3. What are the strengths of the framework as compared to the current way of clinical nursing education?

4. In your opinion what are the weaknesses of the framework?

5. How do you suggest we can improve the framework to make it practicable?

10.21 ANNEXURE U: PHASE TWO DELPHI QUESTIONNAIRE

DELPHI QUESTIONNAIRE

Dear Participant,

Thank you for participating in the first round of the Delphi study. There was a remarkable degree of consensus but quite a few comments were made that indicated that the framework can be further improved. Where consensus was reached and no comments or suggestions made for amendment, I will incorporate these aspects into the framework. The aspects below indicate where suggestions for modification were made. The questionnaire is divided into Part I and Part II.

Section A

This part consists of a modified Delphi questionnaire based on the qualitative comments made by some of the participants in round one of the Delphi survey. I have stated the statement that was made in the original document that you reviewed in the first column, and in the second column I have stated the suggestion or comment made by one or more participants. The words in red indicate the specific part of the statement that participants in round one would like changed. I would appreciate your further input in this round by reviewing the suggestion and indicating your choice by writing "Yes" under the agree or disagree column and providing a comment or explanation under the comment section for your choice.

S/N	Original Suggestion	Modified Suggestion	Agree	Disagree	Comments
1.	Write constitution for a Clinical Learning Forum (CLF)	**Prepare guidelines** for Clinical Learning Forum (CLF)			
2.	The CLF should include sub-committees on the clinical teaching programme, the formal system of clinical supervision, clinical placements, and clinical assessment	The CLF should include sub-committees on the clinical teaching programme, the formal system of clinical supervision, clinical placements, clinical assessment, **and coordination of Nursing and Midwifery Council activities**			
3.	Clarify the learning of the students before clinical placement or skills laboratory sessions with students	**Discuss clinical placement objectives with the students** before the clinical placement or skills laboratory sessions			
4.	Provide low-cost simulation aids	Provide **cost-effective and efficient** simulation aids			
5.	Select and appoint preceptors	**A group of key informants selected from NEIs and clinical facilities should use a structured selection process to appoint preceptors**			

6.	Negotiate placement dates with the service setting	Negotiate placement dates with the service setting **and incorporate the dates into the timetable for the academic year**			
7.	Constitute an expert committee consisting of experienced examiners, educational experts and external moderators to review and update clinical assessments tools	Constitute an expert committee consisting of experienced **practical examiners**, educational experts and external moderators to review and update clinical assessments tools			

State any comment based on the above modification:

Section B

This part consists of entirely new ideas that were suggested by the participants in the Delphi phase one. Indicate "**Yes"** under the **Agree** column if you think the ideas should be added to the framework or **"Yes"** under the **Disagree** column if you think the ideas should not be added to the framework. Please, add an explanation under the comment box to justify your choice.

	New Suggestion	**Agree**	**Disagree**	**Comments**
8.	Assign staff for skills teaching in the skills laboratory			

9.	Nursing Education Institutes should formally appoint preceptors			
10.	Make the clinical placement manual available to students and all stakeholders by placing them at vantage points			
11.	Re-arrange items in the framework to ensure the chronologic flow of activities.			
12.	List sources of funding for activities			

Please state any other comment you may have: