NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT

NURSING STUDENTS CLINICAL LEARNING EXPERIENCES IN SELECTED COLLEGES IN MALAWI: A MODEL TO FACILITATE CLINICAL LEARNING

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A thesis submitted to North West University in fulfilment of the requirements of the degree of
Doctor of Philosophy in Nursing Education

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August 2015

DECLARATION

I declare that this thesis "NURSING STUDENTS CLINICAL LEARNING EXPERIENCES IN SELECTED COLLEGES IN MALAWI: A MODEL TO FACILITATE CLINICAL LEARNING" submitted for the degree of Doctor of Philosophy in Nursing Education at the North West University, has not been previously submitted anywhere in fulfilment of this degree at this or any other university. All the materials used from other sources contained in the thesis have been indicated and acknowledged.

In addition, part of this thesis has been published titled: *Analysis of Nursing Students Learning Experiences in Clinical Practice: Literature Review*. Journal of Ethno Medicine, volume 7, issue 3: pages 181-185, (2013).

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……day of August, 2015

DEDICATION

"*To my mother for her sacrifice for my basic education that enabled me to succeed in life".*

"To my children; Chisomo Kizito and Chimwemwe Andrew"

"In memory of my husband Didier who instilled in me the spirit of hard work and learning"

ACKNOWLEDGEMENTS

First and foremost I thank Almighty God for life, good health, wisdom and strength through his grace I was able to complete the programme.

I would like to extend my sincere gratitude and appreciation to the following people for their support and assistance that attributed to the success of my research study:

My supervisor, Professor Ushotanefe Useh PhD, for his professional advice, guidance and support that enabled me to complete the study.

Nursing Education Partnership Initiative (NEPI) through the Malawi College of Health Sciences for providing financial support that enabled me to complete this Doctoral degree programme.

The executive management of Malawi College of Health Sciences for granting me study leave.

Kennedy Machira, for providing with an expert statistical advice associated with this work.

The Nursing educational management, for authorising me to conduct interviews at their institutions that made this study possible.

The North-West University, for offering financial assistance for this study.

My sincere appreciation and gratitude towards Prof Hellen P. Drummond for the language editing and advice.

All the participants of this study for their cooperation, understanding and patience, without them this study would not have been possible.

The research assistants; Deborah Phiri, Peter Amos Phiri and Mercy Mapemba for their assistance and contribution during data collection.

The management and staff of the sampled hospitals for their cooperation during data collection.

Special thanks to my children Chimwemwe, Chisomo, Chikhulupiliro, Joyce, Eunice, Jacqueline and Olive for their love, untiring support and encouragement and endurance during my absence from home, all relatives for their support and encouragement.

I also extend sincere gratitude to the following: Professor Lobina Palamuleni, Professor Lucy Mkandawire Valhmu, Dr Ellen Materechera, Dr Evelyn Chilemba and Dr Deepa Pullanikkitil, Benjamin Kaneka, Elizabeth Nansubuga, Nosipho Dladlu, Thuso Moemi, for their continuous support and encouragement through this entire professional journey. I could not have accomplished this work without your support I am extremely grateful to you all for your time.

My sister Professor Linda Semu ‘thank you for your support, spiritually words of encouragement and random conversations that invigorated me to finish this project”

Thereza Glyceria Chikwawa my spiritual sister, thank you for your prayers and encouragement.

Finally, to all friends and colleagues too numerous to mention for their prayers and support throughout the period of study.

God bless you all.

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LIST OF ABBREVIATIONS

ADN	Associate Diploma in Nursing
ANOVA	Analysis Of Variance
ART	Aids Related Therapy
BSc	Bachelor of Science
BSN	Bachelor of Science in Nursing
BT MCHS	Blantyre Campus Malawi College of Health Sciences
CAQDAS	Computer Assisted Qualitative Data Analysis Software
CHAM	Christian Hospital Association of Malawi
CLE	Clinical Learning Environment
CNO	Chief Nursing Officer
ELT	Experiential Learning Theory
GTZ	German Technical Corporation
HDU	High Dependence Unit
ICAP	International Centre for Aids care and treatment Programmes
ICU	Intensive Care Unit
KCH	Kamuzu Central Hospital
LPN	Licensed Practical Nurses
MCHS	Malawi College of Health Sciences
MDG	Millenium Development Goals
MOH	Ministry Of Health
MZCH	Mzuzu Central Hospital
MZUNI	Mzuzu University
NCA	Norwegian Church Aid
NE	Nurse Educator
NEPI	Nursing Education Partnership Initiative
NGO	Non-Governmental Organization
NMCM	Nurses and Midwives Council of Malawi
NMT	Nurse Midwife Technician
OPD	Out Patient Department
OSCE	Objective Structured Clinical Examination
OT	Operating Theatre
PBL	Problem Based Learning

PNO	Principle Nursing Officer
QECH	Queen Elizabeth Central Hospital
RN	Registered Nurse
PEPFAR	Presidential Emergency Plan For Aids Relief
SI	Student Instructors
SL	Service Learning
SNO	Senior Nursing Officer
WHO	World Health Organization
ZA MCHS	Zomba Campus Malawi College of Health Sciences
ZCH	Zomba Central Hospital

ABSTRACT

This study examined nursing students' clinical learning experiences in selected nursing colleges in Malawi. The importance of clinical practice cannot be overemphasized in nursing education, as nursing is a practice based profession. The quality of nurse education largely depends on clinical experience that nursing students receive in their operating clinical environment which can have a profound impact on their learning either positively or negatively.

The objectives were to investigate i) the effectiveness of clinical learning across different levels, within and between training institutions. ii) the challenges experienced by nursing students in clinical practice.

Concurrent triangulation design was used to explore nursing students' clinical experiences from eight (8) selected nursing education institutions from first, second and third year students pursing Bachelor's degree, Diploma and Nurse Midwife Technicians (NMT) nursing education programmes selected purposively. Quantitative data was collected using self-administered questionnaires from 590 participants recruited through simple random sampling. Through purposive sampling, 144 students were involved in sixteen focus groups of nine participants in each group. Quantitative data was analysed using Statistical Package for Social Sciences (SPSS) computer software (version 22.0). Data were analysed at univariate, bivariate and multivariate levels. Univariate analysis was used to measure socio-demographic characteristics of participants and independent variables. Bivariate analysis (One-way ANOVA) was performed to examine the association between independent and dependent variables. Binary logistic regression was used to develop logistic model showing the odds of independent variables having the probability effect on the dependent variables. Computer Assisted Qualitative Data Analysis Software (CAQDAS; Atlas ti (version 7) was used to analyse data collected from focus groups discussions.

Results showed that about 73% of the students in this study indicated that there was no integration of theory and practice. The odds of Integrating theory and practice was less likely in almost all variables, including programme $p < 0.010$, institution $p < 0.001$ and level of study $p < 0.001$, hospital and duration of study $p < 0.001$ and $p < 0.001$ respectively and number of times students met with the NE $p < 0.001$. RN diploma ($\bar{x}$) -0.1810, $p < 0.03$ was less likely to integrate theory and practice compared to those in the BSc programme. Students

in third year ($\bar{x}$) 0.1518, $p < 0.005$ were less likely to integrate theory and practice compared to those in their first year. About 75% of students were not given feedback on their performance in the clinical setting. These variables contributed significantly; institution of study $p < 0.005$, level of study $p < 0.001$, duration of placement $p < 0.009$ and number of times students met the NE $p < 0.016$.

The results from the qualitative data showed that students were not adequately supervised as they learned on their own. The study also found from the discussions that there were poor student-staff relationships.

In conclusion, in spite of the importance of clinical practice in preparing the nursing students for the work they do as practicing nurses after graduation, this study has shown that clinical practice had inadequately prepared students for the nursing profession in selected institutions in Malawi. These findings may have implications on the policies and practice of nursing education in Malawi.

Further research would be recommended to analyze the curricula in relation to the quality of clinical learning.

Key words: Clinical learning, clinical practice, clinical learning environment, student nurse, experiential learning, Malawi

CHAPTER ONE

1. INTRODUCTION AND BACKGROUND

Learning in clinical practice is an important component of nursing education considering that nursing is a practice-based profession (Jonsen et al., 2013). The quality of nurse education largely depends on clinical experience that nursing students receive in their operating clinical environment (Twentyman et al., 2006). Hoffman and Donaldson (2004), describe clinical learning as "acquisition of knowledge, language, nursing skills, problem-solving strategies as well as immersion in the culture of nursing". Such clinical practice takes place in a dynamic social complex environment in which patient care and students learning are concurrently administered (Ip and Chan, 2005). As such students' experience in a clinical learning environment has a profound impact on them, affecting them either in a positive or negative manner.

In a recent nursing education study by Ralph et al. (2009), clinical experiences involve factors including an application of theory to practice, effective mentoring and constructive feedback associated with clinical practice aimed at enhancing positive learning and practice adaptation. However, poor relationships with clinical staff, lack of support from Nurse Educators (NE) and lack of challenging learning opportunities are some of the negative experiences affecting student nurses learning (Ip and Chan, 2005). According to Saarikoski et al. (2013), such challenging learning experiences are context based and hence differ from one clinical learning environment to another and are quite common in most developing countries around the world including Malawi (Aston and Molassiotis, 2003, Msiska et al., 2014).

The researcher observed some clinical practice challenges experienced by the nurses in the form of inadequate skills and knowledge for performing their duties effectively. The Nurses and Midwives Council of Malawi report indicated that the challenges are due to the increased numbers of nursing students admitted by the institutions responsible for educating student nurses. In addition, the report indicated that levels of congestion in clinical learning environments' coupled with inadequate Nurse Educators (NEs) and other clinical nursing

staff mean that these cannot be effective delivery of nursing students' clinical learning. In view of these seemingly related challenges, students receive inadequate support and supervision, and this negatively affects their clinical learning (Aston and Molassiotis, 2003, Evans et al., 2013, Msiska et al., 2014). Additionally, such challenges as students' congestion result in inadequate clinical learning opportunities, thereby affecting their clinical learning (Evans et al., 2013, Msiska et al., 2014).

Previous studies have extensively discussed the understanding of the clinical practice among student nurses (Löfmark and Wikblad, 2001, Lambert and Glacken, 2006, Mannix et al., 2006). Following such studies, it has been postulated that clinical practice assists in preparing student nurses to gain requisite knowledge to effectively and efficiently practice their nursing duties after they have qualified (Mills et al., 2005, Reid-Searl and Dwyer, 2005, MacFarlane et al., 2007, Croxon and Maginnis, 2009, Franklin, 2013). On the same note, Croxon and Maginnis (2009), assert that clinical learning provides students with opportunities to acquire extensive experience in a clinical setting. According to World Health WHO (2005) report, it has been augmented that such hands on learning experience not only prepares the student nurses to become competent practitioners but also capacitates them for effective and efficient quality of health care delivery, translating into better health outcomes of the people they serve (WHO, 2010).

Fitzgerald et al. (2012), documented issues related to standards, principles, rules and values as paramount nursing professional values acquired during nurse-student life. On the same issues, an earlier study by Evans et al. (2010) postulates that clinical practice is crucial in comparison to theory learnt in the classroom, which they strongly believe cannot be substituted for clinical practice with real patients. This indicates the importance of clinical practice in nursing education. Therefore, learning in the clinical practice should be effectively facilitated, in order to adequately prepare nursing students for the work they do after qualifying.

Sharif and Masoumi (2005), assert that clinical learning takes place in the clinical setting if student nurses apply what they have learnt in class and practiced in the skills laboratory into practice. Students learn the skills as they are caring for clients and patients in the clinical

setting by testing the theory. Therefore, if students learn the correct procedures during placement, learning occurs and outcomes are achieved for them to become competent (Morgan, 2006).

It is also known that in order for nursing students to be adequately prepared for practice, they need to be guided and supervised (Baxter, 2007, Pillay and Mtshali, 2008). Supervised clinical practice plays a significant role in the nursing profession, as it has an influence on the students' clinical learning of knowledge and skills. Accordingly, clinical supervision promotes wellbeing of the students and positive attitudes towards professional development and assists in the need for lifelong learning (Häggman-Laitila et al., 2007). Previous studies have revealed that students lack clinical teaching while in clinical practice resulting in learning without guidance (Henderson et al., 2006, Mntambo, 2009, Msiska et al., 2014). This may have a negative effect on their learning in the clinical practice. For example, students may not only be incompetent in their nursing skills but may also have a negative attitude towards the profession (Eta et al., 2011). Although assumptions are made that nurse educators are competent clinical practitioners (Little and Milliken, 2007), nonetheless, studies have revealed that educators may fail to supervise and teach students in the clinical area, because they lack clinical competences (Cheraghi et al., 2008, Eta et al., 2011). In cases such as these where there is a shortage of nursing educators and clinical staff, nursing students may receive inadequate clinical teaching and supervision, thereby hindering their clinical learning.

Studies reveal that if students are given opportunities to practice different tasks, they become confident, accurate and learn from their mistakes (Löfmark et al., 2009). As much as this postulate is ideal, the increased enrollment of nursing students has resulted in inadequate learning opportunities among students, a factor that affects effective clinical learning. Thus, increased numbers of students in the clinical area may lead to students not having adequate opportunities to practice different tasks. This may lead to some of them not being competent in some tasks when completing their training and therefore being unable to provide quality care (Heller et al., 2005).

One of the expectations in clinical learning is effective and constructive feedback. In order for the student to benefit fully from the experience, performance feedback is required. Feedback provides the student with information on current practice and offers practical

advice for improved performance and reflective learning. Although the importance of feedback is widely acknowledged, it appears that there is inconsistency in its provision to students (Clynes and Raftery, 2008). This is exacerbated by the shortage of nurse educators and clinical staff, which may lead to a lack of the feedback required to improve performance and optimize learning. The benefits of feedback include, increased student confidence, motivation and self-esteem, as well as improved clinical practice (Clynes and Raftery, 2008). Benefits such as enhanced interpersonal skills and a sense of personal satisfaction also accrue to the supervisor (Plakht et al., 2013).

Effective clinical learning takes place if the nurse educators use different teaching and learning strategies in the clinical practice, as students have different learning needs. The strategies include demonstration, Problem Based Learning (PBL), reflection, case studies and clinical conferences. Students develop group dynamics, confidence, self-motivation and caring attitudes and become responsible for their own learning if these methods are used (Khan et al., 2012). However, lack of support and guidance on these methods, as well as lack of knowledge of their use on the part of the facilitators may render them ineffective.

A good learning environment leads to meaningful and optimal learning. An environment that is welcoming, willing to teach, friendly, approachable and available influences learning positively. A conducive clinical learning environment with adequate opportunities is necessary for the development of confidence and competence, and with a focus on student learning needs rather than only health care service delivery (Croxon and Maginnis, 2009). For instance, in Malawi it has been observed by both the regulatory body and the public at large that nurses lack certain skills in performing their duties in clinical practice. This study was conducted to investigate, from the students` perspective, their learning experiences and the challenges they may encounter in clinical practice, as they prepare to practice as nurses.

In Malawi, there exist two nursing education models, defined as Registered Nurses (RN) and Enrolled Nurses, which are currently known as Nurse Midwife Technicians (NMT). Registered Nursing education model moved from hospital based to Higher Education institutions in 1979 with the principle aim of offering a four year Bachelor of Science in

Nursing (BSN) degree. On one hand, higher education institutions like Kamuzu College of Nursing, as state owned institutions were mandated to offer such higher qualification in nursing education (UNIMA, 1974). On the other hand, the mission body Christian Hospital Association of Malawi (CHAM) had colleges that offer a three year Diploma in nursing programme. However in addition, RN is offered as a three year Diploma nursing programme at a state and a CHAM institution. Nine (9) CHAM nursing colleges administer Nurse Midwife Technician programme that are hospital-based (these are colleges that are attached to a hospital). CHAM is an umbrella of all Christian health training and service provider institutions.

Malawi has been experiencing a shortage of nurses leading to poor nursing care (Muula, 2006). To mitigate this challenge, the government of Malawi in collaboration with the donors and other health development partners, intensified investments on programmes aimed at increasing intake of students in the nursing colleges (Government, 2004, Merson et al., 2012). Subsequently, the colleges, that include those under the universities (Mzuzu University and University of Malawi- Kamuzu College of Nursing) increased their intake from 2004 to the present year (Palmer, 2006). Bandazi et al. (2013), pointed out that as a precursor to solving the puzzle the intake of both student nurses and nursing educators increased by 119% and 26% respectively. Additionally, Malawi government embarked on various nursing education improvement programmes aimed at scaling up infrastructure development, and other related capacity building enhancement programmes among nursing education institutions, as a hard way of infrastructure change accompanied by soft changes in syllabus, in order to be in line with the emerging and changing issues in nursing science education (Palmer, 2006, Bandazi et al., 2013). At the same time, with the support from German Technical Corporation (GTZ), other incentives associated with solving nurse educator turn-over were implemented, which targeted CHAM institutions, in order to increase the recruitment base and retention levels. In supporting this effort, International Centre for Aids care and treatment Programmes (ICAP) through Nursing Education Partnership Initiative (NEPI) in 2010 launched a capacity building strengthening programme in order to enhance teaching and learning in both classroom and clinical setting environments. Furthermore, the Norwegian Church Aid (NCA) started on a project aimed at infrastructure development and capacity enhancement with the aim of improving the quality of nurse midwife education focusing on NMTs in 2005. Due to these supportive student nurse training initiatives, the NMCM revised curricular and

developed standards to direct nursing education systems and clinical practice to improve the quality of nursing education (NMCM, 2006).

Despite numerous initiatives and copious programmes by government and developmental partners to improve the quality of nurses educated, they still lack critical skills necessary for the nursing profession. Poor quality of nursing service delivery persists as indicated by complaints from the general public, nursing errors and critical incidences, for example. Additionally, nurses lack critical skills of nursing profession, including critical thinking and problem solving skills. Therefore, based on this background the need to study nursing students' clinical learning experiences in selected colleges in Malawi could not be overemphasized as the quality of clinical learning was questionable.

1.1 Problem statement

In Malawi, the quality of administered nursing practice is inadequate. According to Muula and Maseko (2006), there have been extensive brain drains of nurses to other well-paying nursing jobs or other non-practising jobs either within the country or outside. This consequently lead to not only extensive workload on the remaining health workers but also low quality of care (Benner et al., 2009, Mueller et al., 2011). Further to this, such situations translate into vulnerability on the side of patients' well-being which creates unsafe environments often resulting in worse health outcome (Hickey, 2009). The situation results in increased levels of resignation and laxity in performance, thus, creating extensive challenges in the nursing environment (Cheraghi et al., 2008, Lauder et al., 2008).

Secondly, there has been a perceived lack of clinical management skills among the newly recruited nurses in practice. This is caused by inadequate understanding of the students by the delivered clinical management tutorials during their student years, which results in lack of integration of theory and practice (Hoffman and Donaldson, 2004, Cheraghi et al., 2008). This consequently lowers patient management skills, which in the long term results in unethical practices which cause an increase in mortality of patients (Kongnyuy et al., 2009). Additionally, this contributes to high levels of incompetence amongst students after graduation (Cheraghi et al., 2008, Hickey, 2009, Hickey, 2010) and inadequate preparation towards work in the clinical practice thus resulting in high levels of vulnerability of the served patients (Lauder et al., 2008).

In another aspect, there have been inadequate adaptations of the newly graduated nurses, regardless of whether they are educated using RN model or NMT model in Malawi. Anecdotally, qualified nurses show high levels of poor patient care, limited clinical reasoning and rational judgement to handle clinical complicated cases (NMCM, 2006). Additionally, such lack of critical thinking creates an imbalance in which the nurses are expected to think to meet new dimensions of the changing environment (Kachiwala, 2006, Msiska et al., 2014).

Therefore the study sought to investigate nursing students' clinical learning experience in selected colleges in Malawi in order to contribute to the level of knowledge that Malawi has in nursing education.

1.2 Significance of the study

The findings in this study contribute to the body of existing knowledge in nursing education in Malawi. This study is significant to understand teaching and practice environment, operation setup and management. This is very significant to both future student nurses in understanding factors affecting their operation, competence and to nurse educators to better understand modalities in handling student nurses in order to improve their performance.

Secondly, findings would assist policy makers in nursing education to foster policies that would scale-up the existing challenges experienced by the students in clinical learning environments in Malawi. Additionally, the policy makers would acquire empirical evidence to aid in decision–making in as far as nursing education is concerned, based on the study findings and recommendations.

Another aspect that the study contributed was provision of evidence based essentials for decision making for the nursing education institutions in as far as aspiration to improve clinical nursing education is concerned. In addition, the study provides an understanding for nurse educators to use innovative strategies to improve students clinical learning in order to manage the integration of theory and practice, thereby enacting an effective performance after the students qualify.

The study has also informed the regulatory body NMCM on what is really happening on the ground in clinical nursing education in order to review and reinforce nursing standards in the clinical area. In addition, it provided evidence-based data for curricula review where innovative teaching approaches, assessment and evaluating of students in the clinical setting may be incorporated.

Addressing the challenges in the clinical learning environment would be of benefit to nursing students. Thus this study assists training institutions and service facilities to create a conducive clinical learning environment effective for students' clinical learning. This would be done by facilitating aspects in the clinical learning environment that are supportive, friendly and promote team spirit, to improve the quality of clinical experience provided to students so that they are adequately prepared to become competent for promotion and improvement of health care delivery in Malawi.

1.3 Research aims and objectives

1.3.1 Research aim

The aim of this study was to investigate and explore nursing students' clinical learning experiences in selected nursing colleges in Malawi.

1.3.2 Specific objectives

This study aims:

1) To assess effectiveness of clinical learning at different levels, within and between training institutions in the following aspects:

    a) Integration of theory and practice
    b) Opportunities for clinical learning
    c) Supervision and support given to nursing students during clinical practice
    d) The quality of feedback nursing students receive in clinical practice
    e) The methods of clinical teaching deployed in clinical learning
    f) Conducive clinical learning environment
    g) Satisfaction with clinical learning

2) To explore challenges experienced by nursing students in clinical practice

3) To develop a model for facilitating clinical learning in Malawi.

1.3.3 Research Hypothesis

The following hypotheses were tested:

1) Integration of theory and practice was not significantly associated with Programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with the NE.

2) Programme, place and level of study, hospital, ward and duration of placement and number of times students meet with NE do not significantly influence opportunities for clinical learning.

3) Programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with NE does not significantly influence clinical supervision.

4) Feedback provided was not significantly associated with programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with the NE.

5) Relationships in the clinical learning environment was not significantly associated with Programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with NE.

6) There was no significant difference between satisfaction with clinical learning environment and Programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with NE.

1.4 Theoretical framework

The conceptual framework for this study was based on Kolb`s Experiential Learning and Service Learning theories which are part of experiential education. Recognizing that nursing is a practice based profession, experiential learning theory and service learning emphasizes learning by doing and reflection.

Kolb (1984), viewed learning as "the process whereby knowledge is created through the transformation of experience". Learning is a continuous process which entails creation of knowledge through transforming experience in the form of: changing the person's behaviour, feelings and thinking. Additionally, learning has been defined as a "relatively permanent change of knowledge, attitude and behaviour occurring as a result of formal education or training or as a result of informal experiences" (Beard and Wilson, 2002, Beard and Wilson, 2006)**.** On the same note it considers a learner as an adult with vast experience which can be a basis for generating new knowledge. According to Kolb (1984), theory is cyclic in nature. Students have to go through it multiple times in order to improve their skills iteration. Furthermore, one of the principles of adult learning is that learners adapt better based on their application of experience to new ideas and skills (Knowles et al., 2014). Therefore, this thinking is significant in understanding the attributes the students must have to become competent and lifelong learners.

Experiential is whereby "learning and development are achieved through personally determined experience and involvement rather than on received" which is expressed as hands-on (Healey and Jenkins, 2000). Beard and Wilson (2006), described experiential learning as "client-focused, supported approach to individual, group and organizational development which engages the young or adult learner using the elements of action, reflection and transfer". Boud et al. (1993), in simple terms, express experiential learning as "learning by doing" rather than listening, thinking or reading about the phenomenon. This form of learning is determined by the individual that comes from internal rather than being controlled from external (Healey and Jenkins, 2000). Learning through experience can be defined as planned experience to facilitate learning as students acquire knowledge, skills and attitudes in a relevant setting where students directly encounter the phenomenon. It is

learning that occurs in our day to day life as direct participation in events through reflection (Quinn, 2000). Experiential learning differs from other behaviorist theories in which traditional teaching methods are based because of the important role experience plays in learning (Kolb, 1984). This experience through reflection facilitates students in acquiring critical thinking and clinical judgment skills which are lacking in most students when they qualify (Williams and Bihan, 2012).

Kolb (1984) proposed six characteristics of experiential learning:

Learning is a process rather than outcomes- To facilitate learning students must be engaged in a continuous learning process that does not end once outcomes and performance are achieved, but should be a lifelong process. There should be continuous transformation of new experiences through reflection and feedback on their learning thus generating new knowledge. Since nursing is dynamic, lifelong learning is required for nurses to respond to different situations (Kolb, 1984).

Learning is a holistic process- Learning from experience should be aimed at changing the student as a whole, including feelings, thinking, behaviour, perception and adaptation to the world, and not only attainment of cognitive knowledge. Given the importance of these in nursing, experiential learning is useful to facilitate behavioral and affective learning (Kolb, 1984)**.**

All learning is re-learning- Learning should be organised around students` ideas, beliefs and previous experience of their life as well as those gained in the clinical environment, classroom and skills laboratory which are analysed and integrated into new experiences thereby facilitating clinical learning (Kolb, 1984)**.**

Learning is interactive- Students have to interact, not only with the nurse educators, but with all those around them. Students are required not only to interact but also to develop relationships with each other, their clients, their patients as well as the overall environment. Through discussions, presentations, simulations and decision making new experiences emerge, thereby resulting in clinical learning (Kolb, 1984).

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Learning is analytical- Experiential learning is based on the student's ability to analyze, contrast and differentiate the situation and come up with new ideas, concepts and

actions. Additionally learning occurs when there is reflection on the chosen experiences. For students to be able to reflect on their experiences they need feedback from the supervisors (Kolb, 1984).

Learning is a process of creating knowledge- experiential learning is viewed as a transaction between social and personal knowledge which is for individual growth. Individual development increases confidence, self-esteem, personal value and lifelong learning (Kolb, 1984).

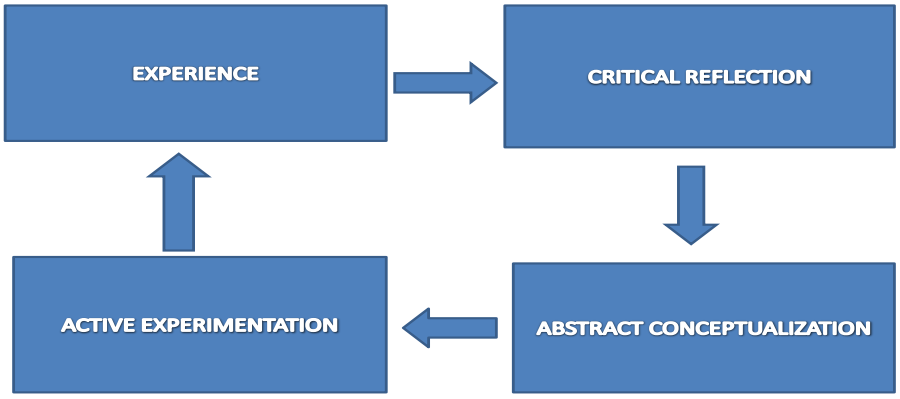


Figure 1.1 Kolb's Experiential Learning Cycle (Kolb, 1984)

1.4.1 Kolb's Experiential Learning Theory

Figure 1 illustrates Kolb`s cycle which consists of four stages, including concrete experience, reflective observation, abstract conceptualization and active experimentation. Kolb`s theory describes experiential learning as a cyclic process that begins anywhere in the cycle but in a sequence for acquisition of knowledge based on experiences. The curriculum, course or content, if designed following the cycle, may facilitate clinical learning. Effective learning takes place when students go over the cycle on each stage several times and link the stages (Healey and Jenkins, 2000).

i) *Concrete experience*

The students take their experiences gained from the classroom and practised in the simulation laboratory into the real situation in the clinical setting by being involved in doing a particular

action, thus integrating theory and practice. However, for students to achieve this they require clinical learning opportunities and involvement in the tasks that are being carried out in the clinical learning (Kolb, 1984).

ii) *Reflective observation*

The students make an observation and reflect on the experience that they have gone through from different angles, understand the effects and significance of the experience and anticipate the consequences if the same is repeated. The students may either maintain the experience or correct it or abandon it completely. Therefore, by doing so, learning takes place as students develop confidence, clinical judgment and become lifelong learners. In addition, nurses are able to respond to any situation that arises in the clinical setting after graduation because they are able to reflect all the time (Kolb, 1984).

iii) *Abstract conceptualization*

The students analyze the experiences and create concepts and general principles from their observations and construct their own meaning of the whole experience. They start to make connections between their experience and how they can apply them in different circumstances (Kolb, 1984).

iv) *Active experimentation*

The students apply the general principles in new situations they may come across in making decisions and solving problems, thereby gaining more new experiences (Kolb, 1984).

1.4.2 Service Learning (SL)

Service learning is a form of experiential education which is defined as "a teaching and learning approach, whereby students are involved in an organized course-based learning experience in the community" (Groh et al., 2011, Fairchild, 2012, Williams and Bihan, 2012). Through a process of actions and reflection on the service activity the students are able to acquire a sense of responsibility and an interest in the course content and discipline of their study.

1.4.2.1 Typologies of service learning

There are several types of service learning that have been described in literature, and institutions can choose which one to adopt. Mouton and Wildschut (2005), outlined several typologies of Service learning;

1) *Pure service learning* this is where the courses allow students purely to provide service to the community (Mouton and Wildschut, 2005).

2) *Discipline-based Service learning* the students are required to be in the communities through a specified period, for instance a semester. Students would frequently be required to reflect on their experiences in relation to the course content (Mouton and Wildschut, 2005)

3) *Problem-based Service learning* in this typology the students work with community members to identify and understand problems as well as the needs of the community. The students through their knowledge provide solutions or make recommendations to the community on the identified problems or needs (Mouton and Wildschut, 2005).

4) *Capstone courses* this model is used when students are in the final year of their discipline. Students provide an account of the knowledge gained through theoretical work and service learning (Mouton and Wildschut, 2005).

5) *Service internships* Students are required to work in the community more intensely and produce work that benefits the community. In this type of internship, the students reflect on the experience to gain knowledge. In addition, the internship programme does not only benefit the students but also the community as well, unlike the traditional internship (Mouton and Wildschut, 2005).

6) *Undergraduate community-based action research* in this model as they are serving in the community as advocates, they also learn research methodology by working closely with the academics (Mouton and Wildschut, 2005).

1.4.2.2 Characteristics of service learning

Literature has revealed several characteristics associated with effective service learning.

1) *Curriculum and objective based* Service learning must be incorporated in the curriculum and be linked to the course objectives. Students must be aware and understand the link in order to facilitate learning (Tannenbaum and Berrett, 2005, Seifer and Connors, 2007b).

2) *Incorporates reflection* SL emphasizes reflection which is paramount for learning to take place. Students are encouraged to engage in reflection throughout the service experience and credit must be based on learning through reflection rather than completion of the service or attainment of the objectives (Mouton and Wildschut, 2005, Tannenbaum and Berrett, 2005, Seifer and Connors, 2007a). Reflection in SL enhances application of subject matter and problem solving, consequently facilitating learning.

3) *Meeting needs of the community* The experience should be organized in such a way that the needs of the community are met so that it benefits all parties concerned (Mouton and Wildschut, 2005, Brescia et al., 2009).

4) *Enhance student academic learning* SL should be a two way process, serving the community and at the same time reinforcing learning as students are providing the services (Gillis and Mac Lellan, 2010). Placement in the community for service experience should provide conducive situations to students for learning to take place (Wiegand and Strait, 2000).

5) *Active participation* As a form of experiential education, SL is learning by doing. It is based on the principle of active participation for both serving and those being served. Hence, students must be actively involved and participate in the service for learning to take place (Astin et al., 2000, Tannenbaum and Berrett, 2005, Gillis and Mac Lellan, 2010).

6) *Purposeful civic learning* SL should not only facilitate learning but also prepare the students for future responsibility in a diverse and democratic society (Howard, 2001).

1.4.3. The relevance of experiential learning theory and service learning in this study

Experiential Learning Theory (ELT) and Service Learning (SL) provide a wide range of benefits to the institutions, faculty, students as well as the community. ELT and SL allow students to link their course work to their work context and roles after qualifying, therefore enhancing their learning, as students are aware of the environment in which they will be working (Seifer and Connors, 2007a). In service learning, students' involvement with the community allows them to apply what is learned in the classroom to practice in order to solve real life problems (Erickson, 2004, Groh et al., 2011, Fairchild, 2012, Williams and Bihan, 2012). Furthermore, service learning not only increases understanding of the community but also helps faculty to change direction and become confident in their teaching. As a result, the faculty will be able to teach what is relevant in the work place thus reducing the theory-practice gap and promoting learning (Seifer and Connors, 2007a, Gemmel and Clayton, 2009).

Similarly, through reflection students are able to relate theory and practice. Reflection is integral in learning from experience and service learning provides opportunity for critical reflection which leads to lifelong learning required in nursing practice in order for nurses to respond to new situations. So, to facilitate clinical learning through service learning, reflection should be incorporated in all courses as well as clinical practice (Astin et al., 2000, Bentley and Joellison, 2005).

In service learning, there is consideration of the needs of the students in higher education, thus facilitating their learning as appropriate methods and resources are used (Seifer and Connors, 2007a, Fairchild, 2012). In comparison between Service learning and Community service, studies found that there was significant academic performance with service learning. Students acquired skills in writing, critical thinking, problem solving, communication, interpersonal skills, leadership and increased awareness of personal values. Additionally, students develop positive attitudes towards the communities' cultural beliefs and values (Reising et al., 2006, Amerson, 2010, Loewenson, 2011, Vogt et al., 2011, Williams and Bihan, 2012). Acquisition of these skills and understanding their own values and beliefs are essential in nursing practice in order to become competent for practice and provide quality

nursing care. It has also been shown that ELT and SL enhance personal, moral, social and cognitive development in students which is necessary for nursing as a caring profession. Student become independent learners, develop social skills, team spirit, self-certainty, self-esteem and interest in civic participation (Healey and Jenkins, 2000, Melchior and Bailis, 2002, Tannenbaum and Berrett, 2005, Williams and Bihan, 2012). For these reasons ELT and SL can assist students effectively to learn clinical nursing skills as well as attain educational objectives and increased understanding of the course content, having a positive impact on their learning.

Both ELT and SL are student centered and emphasize active participation and learning by doing, which are required for students to be actively involved in nursing activities for learning to take place. Nursing is a profession that requires learning by doing the skills and not only observing or listening to the nurse educator (Quinn, 2000).

ELT and SL theories are influenced by learning style. The use of different learning styles at each stage of the experiential learning cycle is effective, as each student's learning styles are recognized. The use of these theories as a framework in this study will enhance nursing students' clinical learning, while giving them the support, encouragement, information, and skills to be effective so that they acquire knowledge, skills and attitudes to enable them to become competent after qualifying and able to provide quality care.

1.5 Operational definition of terms

Learning

Learning has been defined as a "relatively permanent change of knowledge, attitudes or behaviour occurring as a result of formal education or training" (Beard and Wilson, 2002). In this study learning is referred as an active interaction between an individual, teacher and environment in which the individual acquires knowledge, skills and attitudes necessary for nursing and midwifery practice.

Clinical practice

Practice has been defined as a deliberately planned sequence of actions carried out by highly skilled individuals in response to particular needs of clients (Gaberson et al., 2014) and clinical nursing practice as "the integration of knowledge and skills which contribute to the character and development of practice" (Benner et al., 2009).
Throughout this study, the term clinical practice shall mean performance of clinical nursing skills and activities in the real clinical setting pertaining to the nursing profession, including patient or client care.

Nurse Educator

Throughout this study, the term nurse educator will refer to a nurse who has been academically and professionally trained to provide nursing education to nursing students in order to become competent practitioners. The term nurse educator has been used synonymously with nurse tutor, nurse teacher and nurse lecturer.

Experiential learning

In simple terms it is learning knowledge, skills and attitudes by doing rather than listening, thinking or reading about the phenomenon (Boud et al., 1993).

For the purpose of this study experiential learning will be referred to as a process whereby nursing students acquire knowledge, skills and attitudes by doing, or through active involvement in the activities of the nursing profession in the clinical setting, including total patient care.

Clinical learning environment

The learning environment has also been described as conditions, forces and external stimuli that surround the nursing students in the clinical setting including staff, patients and educators which influence their learning (Papp et al., 2003).

While a variety of definitions of the term clinical learning environment have been suggested, in this study clinical learning environment refers to the hospital setting where the nursing students are placed for acquisition of knowledge, skills and attitudes which will prepare them for nursing practise after qualifying.

Student Nurse

A student nurse in this study is an individual who has enrolled in a nursing training institution studying to be a nurse. These students have been indexed by the Nurses and Midwives Council of Malawi under any of these programmes: Bachelor of Science in Nursing, Diploma in Nursing and Nurse Midwife Technician (Enrolled Nurse).

1.6 Thesis outline

The outline of the Thesis report is as follows:

Chapter One

Chapter One has the overview of the study. It outlines the introduction, problem statement, significance of the study, research aims and objectives, theoretical framework and definitions of terms.

Chapter Two

Chapter Two, presents a review of the literature that has been undertaken on the study area. The literature review informs the study on what has been done and methods used. It is an analysis of the aspects that nursing students experience in clinical learning. The literature review focused on what constitutes effective clinical learning, including integration of theory and practice, opportunities for clinical learning, clinical supervision and support, feedback provided to students in clinical practice, innovative methods used for clinical teaching, conducive clinical environment and challenges experienced by nursing students in the clinical setting. In addition, different models that are used to facilitate clinical learning have been described.

Chapter Three

Chapter Three, describes the context of the study. It also explains the methods undertaken to achieve the objectives and test the hypotheses. It includes the research design, the study paradigm, the population, sample, how participants were recruited, a description of the variables used in the study, data collection instruments and procedures, data analysis and

ethical considerations that were used during the implementation of the study, as well as the validity and reliability of the study has been described.

Chapter Four

Chapter Four, presents the univariate, bivariate and multivariate results of the research study that has been undertaken after analysis by SPSS version 22. The following variables were outlined: integration of theory and practice, opportunities for clinical learning, clinical supervision and support, feedback provided to students in clinical practice, innovative methods used for clinical teaching, conducive clinical environment and challenges experienced by nursing students in the clinical setting.

Chapter Five

Statistical model development has been presented in this chapter. Results of the model included models on integration of theory and practice, opportunities for clinical learning, clinical supervision feedback, conducive clinical environment and satisfaction with clinical learning. Model testing and hypothesis testing has also been described.

Chapter Six

Chapter Six, outlines the results from focus group discussions and open-ended questions from the questionnaire using Atlas - ti version 7. The focus was on the themes that came out during the discussions, including lack of integration of theory and practice, inadequate opportunities for clinical learning, inadequate clinical supervision and support, lack of feedback provided to students in clinical practice, non-use of innovative methods used for clinical teaching, non-conducive clinical learning environment and challenges experienced by nursing students in the clinical setting.

Chapter Seven

Chapter Seven, includes the integration of the results from questionnaires and focus group discussions.

Chapter Eight

Chapter Eight, describes the graphical model of facilitation of clinical learning. It includes the purpose of the model, assumptions, context of the model, gaps and limitations of the model.

Chapter Nine

Chapter Nine, presents discussion and interpretation of the research findings.

Chapter Ten

Chapter Ten concludes the study by outlining the summery of key findings, the implications of these findings on policy and nursing education. It consists of study limitations, recommendations for interventions and suggestions for further research based on the findings of this study and the overall conclusion.

1.7 Summary

In Chapter One the researcher provided an overview of the study on nursing students` clinical learning experiences. In addition the background, research problem, purpose, design and methods were outlined. The conceptual frame work of the study which is based on Experiential Learning Theory (ELT) and Service Learning (SL) has been discussed. Chapter Two presents a review of the literature that informed the current study on what was already known; design and methods used pertaining to nursing students' clinical learning experience. Furthermore, different clinical teaching models have been presented.

CHAPTER 2

LITERATURE REVIEW

2 Introduction

This study explored nursing students' experiences in the clinical practice. The literature on assessment of clinical learning and exploration of challenges experienced by nursing students in clinical education was reviewed.

The focus of this literature review was based on areas relevant to the study objectives, which include assessment of effectiveness of clinical learning, exploration of challenges experienced by students in clinical practice and models that are used in clinical teaching. A review of literature was performed using the following electronic data bases: Elton B Stephens Company (EBSCO Host), Cumulative Index to Nursing and Allied Health Literature (CINAHL), OVID, Education Resources Information Centre (ERIC), Academic search elite, Pubmed and Science Direct. The search was limited to research articles published from 2003 to 2014. The search keywords included, Clinical learning and clinical practice, clinical teaching, clinical nursing, nursing education and experiential learning (Anderson and Erickson, 2003).

Clinical practice which is an integral part of the curriculum is a vital component of nursing education. Nursing students' experiences in clinical learning are very important in the teaching and learning of nursing education. Despite a wealth of research on clinical education, learning in clinical practice is still a problem. Literature has revealed that there are many aspects that play a role in the effectiveness of learning in the clinical environment.

2.1. Effective learning

Effective learning is described as when the learner constructs a meaning from the experience in which the learner is actively involved in the learning process in a supportive and challenging environment through interaction with others to shape the learner to respond to the

variety of social and cultural contexts (Lowenstein and Bradshaw, 2004). Effective learning is achieved when the nurse educator structures learning in a dynamic and creative manner, so that the student gains insight. Furthermore, teaching results in effective learning if nurse educators are knowledgeable and use different strategies to obtain the learning outcomes (Lowenstein and Bradshaw, 2004). Ip and Chan (2005), Sharif and Masoumi (2005), Kelly (2007) and Grealish and Ranse (2009) added that effective learning is achieved, if there is integration of theory to practice, task involvement or availability of opportunities for learning, feedback, clinical supervision and support provided to students and conducive environment for clinical practice. Exploring nursing students' experiences in the learning environment may help to determine whether such aspects are facilitating students learning.

2.1.1 Theory-practice gap

The theory-practice gap has been described as the disparity between what has been learnt in the classroom setting and what is practised in the clinical environment. Conflicting practises between the ideal nursing taught and that of clinical settings result in students being confused, stressed and anxious, thereby having a negative impact on learning (Evans and Kelly, 2004). Evidence from literature suggests that there is a gap in integrating theory and practice which has been of concern for a long time in nursing education. The theory-practise gap has been attributed to the move of nursing education from the hospital-based system to Higher Education Institutions (HEI) with the aim of increasing the theoretical knowledge, therefore having an impact on students` learning of clinical skills (Ip and Chan, 2005, Sharif and Masoumi, 2005, Kelly, 2007, Longley et al., 2007). However, the move of nursing education to higher education has been criticised, as it has inadequately prepared nurses to acquire the necessary skills to become competent (Longley et al., 2007, Papastavrou et al., 2010).

In Iran, Sharif and Masoumi (2005) reported disparities between what was learnt in class and the actual practise in clinical practice. Nursing students expressed concern about practicing something different from that which they learnt in class and doing non-nursing and basic tasks, causing professional role confusion, as they could not differentiate their role from that of a nurse aid. This was supported by Elcigil and Sari (2007) in Turkey and Safadi et al.

(2011) in Jordan where students perceived differences between what was learnt in class and simulation laboratory and what existed in the clinical setting.

Several studies have illustrated measures to try and close the theory-practice gap. Studies suggest the use of pedagogical approaches such as guided reflection and Problem Based Learning (PBL) can close the gap (Sharif and Masoumi, 2005, Ehrenberg and Häggblom, 2007, Dlamini, 2011). PBL and reflective process which focuses on both cognitive and affective aspects allow students to learn from their practice experience through discussions and meetings with other students under the guidance of the preceptor. Students become independent self-learners, thereby developing critical thinking and problem solving skills (Ehrenberg and Häggblom, 2007). Learning is enhanced if students became responsible for their learning. In PBL students search for answers to scenarios given, through asking questions, discussions and searching information from different sources, thereby becoming self-learners and developing confidence. Papp et al. (2003), in Finland found that effective supervision by nurse teachers in clinical environments was vital for students` learning. Nurse teachers know about the theory students learnt, what skills they should learn and what should be covered in a particular period of clinical placement.

Provision of adequate supervisory measures such as use of mentors and preceptors and support in the clinical setting can facilitate translation of theory to practice, thus facilitating learning (Sharif and Masoumi, 2005, Maben et al., 2006, Elcigil and Sari, 2007, Löfmark et al., 2009, Chuan and Barnett, 2012b). According to Prescott (2009), application of theory to practise is possible if experienced staff is available to students, who are able to teach them the realities of nursing and clinical thinking through their expertise. Furthermore, the involvement and participation of students in a real environment with timely and immediate support of a link facilitator has been found to bridge the theory-practice gap. The faculty has to plan and communicate the clinical placements for students' clinical learning in advance, including their expectations, roles and students` expected outcomes.

Similarly, Chuan and Barnett (2012b) claim partnership between the school and the clinical setting is essential for the establishment of a conducive learning environment. This was

supported by Ousey and Gallagher (2007), that a way of bridging the theory-practice gap is to emphasize establishment of a strong mutual relationship with open communication between the faculty and the clinical area. Congruent with these findings, Dlamini (2011) found that poor communication between the faculty and the clinical setting is a barrier to bridging the theory-practice gap, thereby affecting students` learning. This shows the importance of collaboration between the faculty and the clinical area which is essential for optimising students` learning. It is suggested that partnership between the colleges and health care facilities and improved communications influence learning as both parties know their roles and expectations towards students` learning (Scully, 2011). Learning takes place when students apply what they have learned in a classroom situation and practised in a simulation laboratory into the reality of nursing (Wall et al., 2014). The faculty should be able to guide and teach the clinical staff about the curriculum and students` learning outcomes. In addition, the faculty, as researchers, should be able to share with the clinical staff the new knowledge generated, so that their practise is congruent with what is taught in class (Andersson and Edberg, 2012). Moreover, providing students with adequate and appropriate supervision and opportunities for learning may bridge the gap.

Preparation of students in the classroom helps students to have an idea of what to expect in the clinical setting (Benner et al., 2009, Chan et al., 2009). Students who are poorly prepared for clinical practise are more likely to become stressed, therefore demotivated to learn (Andrews et al., 2006). Additionally, a heavy workload in the wards turns the focus towards finishing the tasks, denying students the opportunity to learn (Chuan and Barnett, 2012b). Utley-Smith (2004), asserts that opportunities to practise leadership, critical and clinical judgement skills should be made available to students, so that they learn from such experiences.

Literature reveals that theory-practice gap exists, which is a source of concern and affects students` learning. Experts in nursing education are striving to find solutions to bridge the gap. The different findings in the studies on solutions to close the gap can be explained in terms of different organisation and teaching approaches used in the clinical practice in different countries. The theory-practise gaps also exist in Malawi. Therefore, it was important to conduct this study to assess effectiveness of clinical learning in the context of Malawi. A

model to facilitate effective clinical learning of students can be developed to improve nursing education. In addition, the theory-practice gap can be reduced; consequently nursing students become competent lifelong learning practitioners. Furthermore, Ferguson and Day (2007) state the importance of evidence-based practice in clinical nursing education. They maintain that evidence-based information provides justification for decisions taken and for use of scarce resources. Thus, this study will providing evidence base which is essential for decision-making and justification for funding, and on the actions to be taken to improve clinical nursing education in Malawi.

2.1.2 Task involvement, participation and opportunities for clinical learning

Task participation can be referred to as students being offered opportunities to learn and get involved in providing holistic patient care and not merely doing a list of tasks (Henderson et al., 2012). Grealish and Ranse (2009), in an integrative study, stated that task participation and accomplishment facilitates learning more than mere application of theory to practice. It can be argued that if students are able to participate and accomplish a task that is challenging then theory has been translated into practice. Studies have revealed that task participation and accomplishment facilitate learning, as it leads to development of clinical skills and confidence (Smedley and Morey, 2010, Scully, 2011, Henderson et al., 2012). According to Mntambo (2009), acquisition of knowledge and experience for nurses to become competent is dependent on the availability of opportunities to learn in the clinical practise. However, lack of this, may mean students may not be able to learn to take up challenging tasks in future. Similar findings were reported by Hickey (2010) where learning was not only focused on non-nursing tasks but also lacked challenging opportunities to practise ideal nursing. Students doing non-nursing as well as basic tasks have also been reported in other studies (Sharif and Masoumi, 2005, Mntambo, 2009, Chuan and Barnett, 2012b).

Providing students with opportunities to care for patients in a supportive, safe, non-life threatening environment, under indirect supervision and feedback, will lead to effective learning, as they visualize being a nurse (Smedley and Morey, 2010, Scully, 2011, Henderson et al., 2012). Ip and Chan (2005), revealed that well organised ward activities where students are greatly involved in their practise leads to students' satisfaction. Organisation of the ward

activities should be made in such a way to include students` learning. Participation in a task enables students to reflect on the experience in terms of how the task was done, the outcome, whether successful or not and how to implement the experience practised on a new situation, hence becoming critical thinkers and able to make clinical judgements. Students learn when they are assigned challenging practices and are encouraged to ask questions about their practise, thus becoming responsible for their own learning. Studies have revealed the importance of involving students actively in task participation and providing them with opportunities to learn. In addition students require clinical learning opportunities to gain concrete experience which they can later reflect on (Grealish and Ranse, 2009, Mntambo, 2009).

2.1.3 Clinical supervision and support

2.1.3.1 Clinical supervision

Clinical supervision is when a professional expert provides support, guidance and feedback to nursing students or novice nurses to develop skills of nursing practice (Saarikoski et al., 2007, Hickey, 2009, Papastavrou et al., 2010). Hickey (2009), maintains that clinical supervision is an important element in facilitating learning in the clinical setting. Some authors assert that clinical supervision enhances integration of theory and practice, personal and professional growth, provides support and reduces errors thus ensuring patients' safety (Arvidsson et al., 2008, Holmlund et al., 2010, Lindgren and Athlin, 2010). The clinical nurse educator's role is to enhance learning through provision of opportunities for learning, supporting, guiding and conducting timely and fair evaluations. However, this role is not fulfilled as clinical nurse educators take a role more of evaluation than of supervision, which is mainly done by nursing staff who lack teaching experience and may not know the needs of the students (Sharif and Masoumi, 2005). In addition, heavy workloads and attitudes of staff may compromise supervision (Maben et al., 2006, Chuan and Barnett, 2012b). Clinical performance increases if students are given necessary support in the clinical environment (Elcigil and Sari, 2007).

Warne et al. (2010) point out the importance of supervisory relationships in facilitating students' learning in the clinical environment, which is supported by Papastavrou et al.

(2010) and Saarikoski et al. (2008). In eight European countries Warne et al. (2010) found that students were satisfied with supervisory discussions and mentorship which provided individualised supervision. This was also emphasized by Papastavrou et al. (2010). However, variations on supervisory models from country to country were evident in the study, as some of the European countries were still using group supervision (Warne et al., 2010). Individualised supervision facilitates learning on the premise that a one to one relationship with the mentor or preceptor allows students to talk about their learning experiences and feelings in the practice, thus leading to self-confidence, promoting role socialization, professional development and independence, thereby attaining clinical competency (Sharif and Masoumi, 2005, Saarikoski et al., 2007, Papastavrou et al., 2010, Warne et al., 2010).

Contrary to one-to-one supervision, studies have revealed that students prefer group supervision and cluster facilitation as it promotes their personal and professional growth (Croxon and Maginnis, 2009, Holmlund et al., 2010, Walker et al., 2011). This suggests other factors may play a role in facilitating supervision of students. A study by Mntambo (2009) revealed that students were not sufficiently supervised when performing nursing activities. This implies that the students are not provided with specific learning situations, guidance, clear directions, guidelines and feedback on their practical experience, which may have a negative impact on learning (Benner, 2004). The nurse educators play a significant role in facilitating clinical learning of students in the clinical environment. The nurse educators have to work with mentors, providing them with support, direction and information about the students' theoretical learning and their needs.

2.1.3.2 Peer support

Peer support is described as a group of pre-registration nursing students learning from each other (Roberts, 2008). She maintains that peer support in the clinical environment which is often overlooked, is a vital element in facilitating students` learning. Her findings reveal that students' relationships are important for learning. Students support each other, discuss their practise, share knowledge, skills and experiences, thus being socialised in the profession. Bourgeois et al. (2011), found that students working together share experiences, support each other, and discuss problems and issues about practise together. Lack of peer support in the clinical environment is manifested by conflicts, tensions and competition for opportunities for

practices which is detrimental for learning (Chuan and Barnett, 2012a). The importance of peer support and supervision should be considered and incorporated when planning clinical learning. Tensions and anxieties are reduced in a clinical learning environment where students are friendly towards each other (Roberts, 2009).

2.1.4 Feedback

Feedback is a prerequisite for effective learning. Clynes and Raftery (2008), define feedback as a collaborative process of providing insight to learners about their performance. Kelly (2007), maintains that the importance of students getting timely, balanced, respectful feedback from nurse educators and clinical teachers facilitates learning. A study by Elcigil and Sari (2007), showed that students felt demotivated with feedback from educators, while feedback from patients and their families motivated them. Negative feedback from educators was demonstrated through tone of voice and body language. It is envisaged that the manner in which feedback is given to students plays a role in either facilitating or inhibiting learning. Students prefer teachers who are good listeners, calm, use good language and allow students to tell their side of the story when giving feedback (Kelly, 2007). Feedback helps students to develop confidence, self-development, self-esteem, and increases motivation to learn. Students know their progress and deficiencies in their practise, and work on the weaknesses leading to growth (Clynes and Raftery, 2008, Sirima Komaratat MNS, 2009). Feedback also benefits the clinical facilitators as they develop interpersonal skills, and this gives them a sense of satisfaction. However, educators find it difficult to provide feedback to students (Ironside and McNelis, 2010) due to their busy schedules. Nurse educators and mentors have to reflect on the way they give feedback so that it is timely, constructive, based on observations made, in an unbiased manner and provides options (Clynes and Raftery, 2008). In addition, giving feedback in the presence of patients in a harsh or shouting manner may demotivate students.

The importance of feedback in clinical learning has been highlighted in some studies (Bourgault et al., 2013). Since feedback can be informal or formal, it is envisaged that it takes place throughout day to day learning of the students and at the end of the clinical placement (Clynes and Raftery, 2008). Therefore, it was important in this study, to explore if students

get feedback from lecturers, preceptors and staff concerning their practise so that they can maintain the positive and improve on their weaknesses. Feedback given to students can help them to reflect critically on their practise, thereby learning from the experience.

2.1.5 Innovative teaching and learning strategies

Learning takes place if nurse educators use different teaching and learning innovative strategies in the clinical practise as students have different learning needs. According to Phillips and Vinten (2010) innovative strategies encourage the students to be actively involved in their learning. Nurse educators play the role of facilitation for students to acquire professional knowledge, attitudes and skills. Innovative strategies discussed in literature include demonstration, Problem Based Learning (PBL), reflective learning, case studies, Concept Mapping and Clinical conferences among others. Students develop confidence, better patient management skills and critical reasoning if demonstration is used in clinical teaching. For nurses to be assertive and advocate for their patient in a multidisciplinary environment they have to be confident (Khan et al., 2012). Reflection in clinical teaching does not only help students to integrate past experiences in a new situation, develop critical thinking, problem solving and writing skills but also leads to personal and professional development and change in students' attitude towards the profession. Students are able to integrate theory and practice (Ayan and Seferoğlu, 2011, Maree and Van Rensburg, 2013). Implementation of Concept maps has also been found to enhance integration of theory to practice, development of critical thinking skills, organization of information and prioritisation of patient care (Horne et al., 2007). Rakhudu (2011), found that students valued the use of Problem Based Learning (PBL) as it enhanced teamwork, communication skills and critical thinking. Additionally, other studies have revealed that PBL, apart from helping students develop group dynamics, personal and professional problem solving and caring attitudes, also leads them to become confident, self-motivated, independent and self-directed. As such students become responsible for their own learning (MacLaren, 2006, Horne et al., 2007, Koh et al., 2008, Khan et al., 2012). Potgieter (2012), asserts that students develop problem-solving, critical thinking, self-confidence, inquiring minds and increased nursing knowledge and clinical skills if case studies are deployed in clinical practice. She maintains that students also develop similar skills with the use of clinical conference as a teaching strategy. Hence,

use of various clinical methods can enhance students' learning to be fit for practice after qualifying.

2.1.6 Conducive Clinical learning environment

A conducive clinical learning environment is one that is supportive with good ward atmosphere and good relationships and is perceived to produce positive learning outcomes (Papp et al., 2003, Edwards et al., 2004, Dale et al., 2013). Studies have described the learning environment as all that surrounds the student nurses in the clinical setting, including staff, patients, mentors and nurse educators (Papp et al., 2003, Ip and Chan, 2005, Chuan and Barnett, 2012b). The clinical learning environment can influence the learning of nursing students positively or negatively (Frankel, 2008). An environment that positively influences learning is where staff are happy, friendly, with good morale and attitude, cooperative and willing to teach and guide students and provide quality patient care (Edwards et al., 2004, Lewin, 2007, Papastavrou et al., 2010). Levett-Jones and Lathlean (2008), emphasize students' feeling of belongingness as a motivation for learning. He maintains that students develop confidence and independent learning skills when they are respected and recognized as part of the team. Additionally, students develop confidence and professional socialisation when they are involved in the discussions of the ward (Papp et al., 2003). Related studies reveal that confidence is increased and students are motivated to learn in an environment where there is mutual respect, support, teamwork, positive regard for others and they are appreciated (Chesser-Smyth, 2005, Ip and Chan, 2005, Kelly, 2007). Similarly, in a clinical setting where staff are understanding, empathetic, approachable and polite, with good communication, students developed mutual trusting relationships (Chesser-Smyth, 2005, Levett-Jones and Lathlean, 2008, Hickey, 2009, Henderson et al., 2010). In contrast, behaviours such as staff being unfriendly, with a bad attitude, denying the students opportunities to learn, are barriers to learning (Chuan and Barnett, 2012b). Likewise, relationship problems that students encounter were reported by Mntambo (2009) such as staff being hostile, rude and shouting at students in front of patients. In such an atmosphere, students feel unwelcome, unappreciated and not part of the team, therefore leading to frustration and demotivation, and creating a barrier to acquisition of knowledge and skills to become competent practitioners.

The literature has revealed behaviours that are effective and ineffective to learning. Students expect to be respected, valued and recognised in Clinical Learning Environment (CLE). This implies that good interpersonal relationships, support and good communication are essential in the clinical environment for students` learning. Good behaviour reduces anxiety and fosters socialisation process, confidence and self-esteem, thus promoting learning. In addition students become self-directed and are able to learn in a dynamic challenging environment as they develop independent learning skills. On the other hand ineffective behaviour is unfavourable to learning, as it causes stress, frustration and tension.

Analysis of the studies reveals that most of them were descriptive surveys using Clinical Learning Environment Inventory (CLEI) or Clinical Learning Environment and Supervision (CLES) questionnaires. One study involved eight countries, yet the sub-samples from these countries were small (Warne et al., 2010).Though the same instrument was used, different results in different countries emerged. This implies that clinical learning environments are unique and may be influenced by changes in the human, environment and overall organisation and values of the hospital. This may either positively or negatively impact on students` learning, which needed to be investigated. Understanding the clinical learning environment is important to determine if effective learning takes place to prepare students for practice when they qualify. Furthermore, these studies have mainly used quantitative approaches, whereby participants` experiences cannot be described or explained as their voices are not heard. Therefore, in this study a significant sample was used. Additionally, a triangulation design was used in which quantitative and qualitative approaches were used to complement each other and to assess the reality of the environment, evaluate and validate findings from these other research methods. Most studies were from single site, thus results cannot be transferable to another setting (Ip and Chan, 2005, Sharif and Masoumi, 2005, Kachiwala, 2006, Warne et al., 2010, Msiska et al., 2014).

Another important element for students` learning is the leadership style of ward managers, as they have an educational role, which is often neglected due to role conflict with that of a supervisory role (Papastavrou et al., 2010). The educational role of ward managers has been identified as promoting supervision of students and establishing a good learning environment for students (Saarikoski et al., 2007). Additionally, ensuring learning opportunities to develop

clinical skills and to ensure nursing practice is consistent with theory learnt in the classroom (Chesser-Smyth, 2005). Managers can negatively or positively influence learning of students in the clinical environment.

The nurse managers can create a positive learning environment by organizing a well-functioning ward with a stipulated ward philosophy. Alternatively, they can facilitate the culture and behaviour for students` learning. A manager who acts as role model and motivates staff influences them to supervise the students. According to Papastavrou et al. (2010) in Cyprus the leadership style of the managers was perceived as having a negative impact on students` learning because of the historical background of the country. The country was under oppressive foreign rule for many years and management positions were occupied by foreigners. Therefore, this had negative implications in nursing clinical education as students viewed any type of management with a sense of mistrust, fear and suspicion. This implies that type of leadership in the clinical environment can have an effect on students' clinical learning.

In contrast, Tilley et al., (2007), and Andrews et al. (2006) reported that ward managers influenced students` learning as they were supportive, willing to assist, would assign mentors to students and were able to explain and discuss with students regarding their learning actions. This shows that the type of leadership in the ward is important for students` learning. A ward manager has a role in organising the ward as a good learning environment for students. It is important to take into account that different placements may have different styles of leadership which may be perceived differently by students. Therefore, leadership style and influence on learning in the clinical environment should be looked into as unique in each place or country, since other forces such as historical, political, and socio-economic policies may influence the managers' leadership style and perception of students.

The studies reviewed were mainly conducted in Australia, Canada, the United Kingdom and the United States of America, where other factors may have played a role in their findings therefore having implications on nursing education of a low resource country such as Malawi. The curriculum is based on the needs and demands of the society and is implemented using

available resources, thus being different from other countries. In view of these limitations this study was necessary to explore experiences of nursing students in a clinical learning environment in the context of Malawi.

2.2 Challenges experienced by nursing students in the clinical practice

A challenge has been defined as something that by its nature or character serves as a serious test and requires thought and skill for resolution (Online Dictionary). Clinical education occurs in a complex socio-context environment which students are not familiar with, as a result, they experience some challenges in learning the practise of nursing (Papp et al., 2003). The challenges that students may encounter may have an impact on their learning. Understanding these challenges will assist the faculty to use strategies that will improve clinical education.

Studies have mentioned acute lack of resources including equipment and supplies in the clinical setting as compromising clinical learning (Evans et al., 2013, Msiska et al., 2014). If students lack resources, they cannot be able to practice the skills they learnt in class. In addition to lack of equipment and materials, severe shortage of clinical and nurse educators has been mostly mentioned as negatively impacting on students' clinical learning. Courtney-Pratt et al. (2012) and Pillay and Mtshali (2008), assert that students are not adequately supervised if there is shortage of staff. Students may also be taken as a pair of hands if there is shortage of clinical staff and thus be unable to attain their clinical outcome, hence negatively impacting on their clinical learning (Robinson et al., 2007, Chuan and Barnett, 2012b, Msiska et al., 2014). Adequate resources, both material and human, are essential for optimal clinical learning. Shortage of nurses has been of concern worldwide, and many countries have responded by increasing numbers of students in nursing education institutions. Malawi had also been hit with shortages of nursing staff. The increased intake of students caused congestion in the clinical placement. Congestion of students in the clinical setting may lead to competition of opportunities for clinical learning and tensions among students. Additionally, it causes an increased burden on the clinical environments which are mainly designed for a few students, thus the clinical staff are unable to adequately support and

provide supervision to students (Tache et al., 2009, Evans et al., 2013). Consequently, students may not be able to achieve their clinical outcomes and learn effectively to become competent practioners.

Several studies have revealed that the biggest problem students encounter in their clinical education is stress and anxiety, which is experienced most by students going for the first time, therefore having a negative impact on learning (Sharif and Masoumi, 2005, Chan et al., 2009). Evident in the literature as causes of stress and anxiety include fear of harming patients, making errors, not belonging to the clinical setting, feeling abandoned, feeling incompetent, work overloads and disparities between what is learnt and practised (Sharif and Masoumi, 2005, Levett-Jones and Lathlean, 2008, Chan et al., 2009, Hickey, 2009, Houghton, 2014). Additionally, other studies have mentioned rotation of students from one clinical area to another as everything is new, that is, place, preceptors and procedures (Benner et al., 2009). Increased levels of stress and poor relationships can affect students` thinking and performance of nursing activities in the clinical setting, leading to errors and loss of confidence. Nursing students have to develop confidence which is essential for clinical practise (Sharif and Masoumi, 2005). Students encounter problems in the clinical setting because they are not adequately prepared in the classroom setting for practise (Andrews et al., 2006, Benner et al., 2009). Students have to be actively prepared by practising, rather than mere observation and listening. Practising in the simulation laboratory will allow students to acquire knowledge and skills for clinical learning. Lack of knowledge and skills are a source of stress in the clinical setting (Chan et al., 2009).

In busy wards where there are excessive workloads, students may fail to achieve their clinical objectives (Msiska et al., 2014). Workloads may also compromise students' ability to link theory into practice (Cheraghi et al., 2008, Higgins et al., 2010a). In circumstances where staff and students are busy they may not be able to follow the professional practices which are deemed to take a long time, so they may opt for shortcuts. Therefore, heavy workloads for students may negatively impact on students' clinical learning.

Another challenge that has been noted in the literature is interpersonal relationships, behaviour of staff and facilitators in the clinical setting, such as being unwelcoming, not empathetic, lacking understanding and making students feel they are blocking their way, are some of the interpersonal problems they encounter. In such circumstances students are not free to ask questions and this has an impact on learning (Elcigil and Sari, 2007). In a survey by Benner et al. (2009), students expressed meeting nurses in the clinical setting who had bad attitude and were hostile and rude. Similarly Mntambo (2009) reported ineffective communication, such as shouting at students and calling them "stupid" in front of patients, which was disturbing, leading to poor interpersonal relationships. Good interpersonal relationships between the students, nurse educators and staff in the clinical setting are vital for effective learning to take place. Effective learning takes place in a clinical setting that allows for discussion, questioning and clarification around the clinical practise, thus students reflect on their learning, leading to development of critical thinking skills (Chan et al., 2009, Henderson et al., 2010).

These findings imply that students experience challenges that can be a barrier to clinical learning. Although stress can stimulate students to learn, high levels of stress can affect their thinking and performance of activities in the clinical setting leading to errors and therefore loss of confidence. There is a need to prepare students before they go for clinical practise so that they should not have the shock of their lives about the realities of a clinical setting. Nurse educators and training institutions have to be aware of these challenges, in order to develop strategies to prevent them and optimise learning.

2.3 Clinical education models

Literature has shown that several models have been developed in order to improve nursing education in the clinical practice. The models include Preceptorship, Mentorship, Cluster and Dedicated Education Units and Faculty Supervised Practicum (Budgen and Gamroth, 2008, Croxon and Maginnis, 2009, Udlis, 2008).

2.3.1 Preceptorship

The preceptor is, an experienced Registered Nurse (RN) who is employed by the health services assigned to provide students with the guidance and experience in the clinical setting for a limited time (Henderson et al., 2010). Precentorship is a model that has been in use for a long time (Udlis, 2008). The students are assisted to experience the realities of nursing profession they are provided with opportunities to integrate theory to practice thereby developing confidence and become independent learner. It implies that the preceptor facilitates learning in the clinical setting through role modelling and feedback. Thus fostering acquisition of critical thinking skills and socialization of students into the nursing professional (Budgen and Gamroth, 2008, Croxon and Maginnis, 2009, Hickey, 2009, Udlis, 2008). Preceptorship was found to be important in acquisition of midwifery skills in Africa countries under the International Confederation of Midwives (ICM) and United Nations Population Fund (UNFPA) programme. To demonstrate its effectiveness there is a need for clear guidelines for preceptors, improved clinical sites for the students, equipment and suppliers. It is argued that in the absence of these aspects, preceptorship is more or the same as traditional methods of clinical teaching (Dennis-Antwi, 2011). Studies have revealed that shortage of staff, heavy workload and lack of experience on teaching and evaluation by the preceptors renders this method ineffective in facilitating learning (Budgen and Gamroth, 2008, Croxon and Maginnis, 2009, Udlis, 2008, Dennis-Antwi, 2011, Sedgwick and Harris, 2012).

Preceptorship which is commonly used as one to one with a student is cost effective and the preceptor is from within the clinical setting. However, this cannot be used where there is shortage of staff and heavy work load as pointed out in the literature. Therefore, it serves better in terms of financial constraints but where there is shortage of staff preceptorship cannot work. Therefore, the models have to be examined before being implemented in other settings.

2.3.2. Mentorship

Similar to preceptorship is mentorship. According to Saarikoski et al. (2007), a mentor is a qualified nurse who facilitates learning and supervises nursing students to develop necessary skills and become competent and knowledgeable practitioner. The supportive mutual relationship that exists in mentorship facilitate learning on one to one basis and help students to get feedback which they use to reflect on their activities and develop skills thereby becoming experienced practitioners (Gidman et al., 2011). Studies on newly graduate nurses

showed significant increase in their competency after going through mentorship in the practical setting. Skills such as clinical communication, decision making, problem solving, self-evaluation and assurance are developed (Komaratat, 2009). Nonetheless, problems such as change in the relationship especially where the mentor had to work shifts that are not in line with students practice time and role conflict due to insufficient training have been associated with mentorship (Andrews et al., 2006, Saarikoski et al., 2007). The relationship of the mentor and the student is critical for the success of this model. Thus, any break in the relationship between the mentor and student would lead to mistrust frustrations and stress on the students thus having negative impact on learning (Komaratat, 2009). In Malawi there is considerable large numbers of students in the clinical area which does not much with the numbers of clinical staff. Therefore, this model may need to be examined and modified to suit the Malawian context.

2.3.3 Cluster model

In a cluster model, a Registered Nurse (RN) from the clinical setting where students are placed is assigned to supervise up to eight students. The RN is paid by the university from where the students are coming from Students are involved in ward activities therefore they feel being part of the team which motivates them to learn. Learning is also improved as the clinical teacher is always with the students giving inputs and direction (Papp et al., 2003, Smedley and Morey, 2010, Bourgeois et al., 2011). The model allows students to work together thereby supporting each other and sharing experiences and workload. Students are able to integrate theory into practice, learn time management and share experiences as cluster model provide supportive environment and opportunities for learning. The model has been proved to be successful for clinical teaching of students (Bourgeois et al., 2011). However, cluster model is time consuming as more time is spent on one student and may cause overcrowding in small rooms and patient's bedside (Croxon and Maginnis, 2009, Bourgeois et al., 2011).

2.3.4 Dedicated Education Unit. (DEU)

Dedication Education Unit Model (DEU) was recently introduced in Australia at Flinders University (Moscato et al., 2007). A unit is set up solely for clinical education and patient care. Students are assigned to the DEU for two to three days per week during any time of their programme and all clinicians are responsible for students learning. In Canada DEU was modified where students are assigned to the clinical unit six to twelve weeks and it is called

Collaborative Learning Unit (CLU) (Budgen and Gamroth, 2008). DEU eases the problem of using many clinical sites which is costly as a large number of students can be allocated into the unit (Moscato et al., 2007). Students are able to integrate theory to practice, learn leadership styles, clinical skills, ability to work as a team, make decisions and nurse educators are available and involved which means learning is facilitated (Budgen and Gamroth, 2008, Benner et al., 2009). However, in other cases DEU and preceptorship have been found to facilitate learning equally in different skills (Callaghan et al., 2009). Nonetheless, administrative costs and work overload on the students as they have to balance between clinical and classroom time limits the effectiveness of DEU. Besides, it is also difficult for students to get feedback as nobody is accountable for students learning therefore lack of progress and continuity thus having negative impact on learning (Moscato et al., 2007, Budgen and Gamroth, 2008). Feedback is important as it facilitates learning since the students know their progress and deficiencies (Happell, 2009).

2.3.5 Faculty Supervised Practicum

This is regarded as a traditional clinical teaching model. In this model, a nursing faculty member provides direct supervision to a group of nursing students at the ratio of 8 to 10 in the clinical setting where the faculty member has experience (Hickey, 2010). Students from the other units depending on the capacity may also be supervised by the same faculty member. Faculty member being knowledgeable on the curriculum and evaluation focuses on student learning as they know the needs of the students. However, the model has limitations, students lose their learning opportunities as faculty members are not always available and they may not be an expert in all areas of clinical practice where students are placed (Mannix et al., 2006, Budgen and Gamroth, 2008, Udlis, 2008). Moreover, faculty members feel isolated in the clinical setting leading to lack of trust therefore unable to contribute their views and opinions. The ratio of 8-10 students in the clinical setting is very prohibitive to effective teaching as faculty members fail to meet the needs of each student (Mannix et al., 2006, Benner et al., 2009). In view of these limitations nurse educators need innovative ways to make this model more effective.

Literature has revealed the effectiveness of the models. However, the models have their own limitations which need to be examined to fit a different environment than where the model was tested and implemented. The studies were conducted to measure the effectiveness of the models used different research methods in different settings. The approach that was used mainly was qualitative and literature review.

Literature represents a wide spectrum of culture of developed countries. These countries have different social, economic environmental and political factors from those in Africa including Malawi, hence having implications. The curricula are different in different countries since the curricula are planned in response to the demands of the society, including burden of disease of the country, educational expectations and it is offered using available resources. In addition, the organisation of the clinical settings is different from country to country. Therefore, there is a need to conduct research using mixed methods to compare clinical teaching approaches across cultures. Formulating a clinical teaching model relevant to Malawian context is essential as other factors may be playing a part in the effectiveness of these models. Analysis of these models will assist on the formulation of the model to suit Malawian context.

2.4 Summary

In this chapter the literature that informed this study has been discussed. Literature has revealed that effective clinical learning takes place when students are able to integrate theory and practice, opportunities for learning are available, they are supervised and supported, are provided with feedback on their performance, innovative clinical learning methods are used and the clinical learning environment is conducive for learning. In addition, students encounter challenges in the clinical learning environment which can have a negative impact on their learning. Although studies were conducted in Malawi, one focused students' opinions in the clinical learning environment and supervision was done at a mission Hospital (Kachiwala, 2006). The students reported satisfaction with the learning environment and good relationships with staff and supervisors. Nevertheless, supervision by nurse educators was minimal and students lacked feedback on performance. The other study conducted by Msiska (2012) explored students' clinical learning experiences. Nonetheless, because of the qualitative nature of the study the results were not generalizable to all nursing education institutions and programmes in Malawi as it only focused on BSc students from one single college. Besides these two studies, most of the studies were conducted in Australia, Canada, United Kingdom and United States of America where other factors may have played a role in their findings, therefore having implications on nursing education of a poor resource country like Malawi.

Despite these studies, gaps exist on the impact of learning in clinical practice. Participants in these studies were mostly from one institution. The present study closed those gaps by using mixed methods with large sample size to explore the effectiveness of learning in the clinical learning environment in addition to supervision focused on students ability to apply theory to practice, availability of learning opportunities, the quality of feedback, supervision and support nursing students receive, innovative teaching methods deployed in clinical teaching and the relationships in clinical placements in preparation for clinical practice after graduation. Additionally, this study included public and Christian Hospitals Association of Malawi (CHAM) colleges and all programmes which provide nursing education in Malawi to make it more representative of all nursing institutions. The next chapter outlines the methods that were used to achieve the objectives.

CHAPTER 3

RESEARCH METHODOLOGY

3 Introduction

This chapter presents the research methodology that was used to conduct the study which was mixed methods. It includes the following: research setting, sample, sampling frame and population of study, research design, analytical approach, and description of the variables used in the study. Additionally, how data quality was maintained in the study has been explained. Furthermore, ethical considerations observed throughout the study were also included.

3.1 Study Paradigm

Bryman (2012), described a paradigm as a cluster of beliefs and dictates, which influence scientists in different disciplines on what to study, how to conduct the study and interpret the results. Paradigms are patterns of beliefs, assumptions, values and practices that influence inquiry and direction for conducting research and interpretation (Quinn, 2000). The underlying philosophical assumption that guided the researcher in this study, to build on knowledge, is pragmatism, which is the foundation of mixed methods research (Creswell, 2013).

Pragmatists are problem centred as they embrace the importance of addressing research problems. In addition, they are pluristic as their focus is on the use of multiple data collection methods. Further, pragmatists uphold the truth and meaning of ideas according to their practical value and consequences (Creswell and Clark, 2007. In this study, to understand the problem of incompetency of clinical nurses in the clinical practice, clinical learning experiences were explored to gain an insight into the level of competencies of nurses in training.

Pragmatism implies that the overall approach to research is that of mixing data collection methods and analysis procedures within the research process. Hence, in this study pragmatic strategies involved were collecting data and analysing, using methods that were drawn from both quantitative and qualitative approaches, that best addressed the research problem, which was effectiveness of clinical learning (Creswell, 2013).

3.2 Study setting

Pollit and Beck (2009), describe research settings as specific places where data collection occurs which can be hospitals, work places, homes, communities. They recommend that selection of an appropriate setting is important because the nature of the setting can influence the way people behave, feel and respond to questions. The study was conducted in Malawi, which is situated in southern Africa. Malawi is divided into four administrative regions, namely: the Northern, Central, Southern and Eastern regions (Figure 3.1).

The research settings for this study were selected nursing institutions and teaching hospitals where students attend their clinical learning in Malawi. The study was conducted in southern, eastern, central and northern regions of Malawi. In southern Malawi there are six nursing education institutions. Five of these institutions are offered by CHAM which educate Nurse Midwife Technician (NMT) (enrolled nurse). The sixth one is a public institution, which offers Diploma for Registered Nurses. However, there is also a University of Malawi satellite campus which offers a four year Bachelor of Science in Nursing (BSN) programme. The Eastern region has two colleges which offer NMT programme, one college is run by CHAM while the other is a public institution. Central region has one university college, one CHAM college offering a diploma in nursing (RN) and one CHAM college offering NMT programme, while northern region has one university and two CHAM colleges offering NMT programme.

Clinical placements for students from different institutions and programmes are in a variety of settings, including first level hospitals (Central hospitals), second level (District hospitals) and third level community referred to rural hospitals and health care centres. Students from

Christian Hospital Association of Malawi (CHAM) colleges are also placed for practicum in their respective attached hospitals. Although all nursing education institutions are close to a hospital, due to large numbers of students, placement is sometimes done in districts far from the institutions. The Nurses and Midwives Council of Malawi audits the hospitals where students have to be placed for their clinical learning (Act., 1995). Students from almost all institutions including CHAM colleges are frequently placed in central hospitals as these are tertiary, referral hospitals with different specialized departments and large numbers of caseloads (MOH, 2012).

In Malawi, there are four central hospitals, one located in each region. In the Southern region, Queen Elizabeth Central Hospital (QECH) located in Blantyre, in the Eastern region, Zomba Central Hospital (ZCH) in Zomba. In the Central region, Kamuzu Central Hospital (KCH) in Lilongwe and in the Northern region, Mzuzu Central Hospital (MZCH) in Mzuzu. In this study, the focus was on these four central hospitals. These hospitals were chosen purposively because students from almost all institutions are placed there and they are referral hospitals with many caseloads, hence they are very important for adequate practical experience by student nurses.

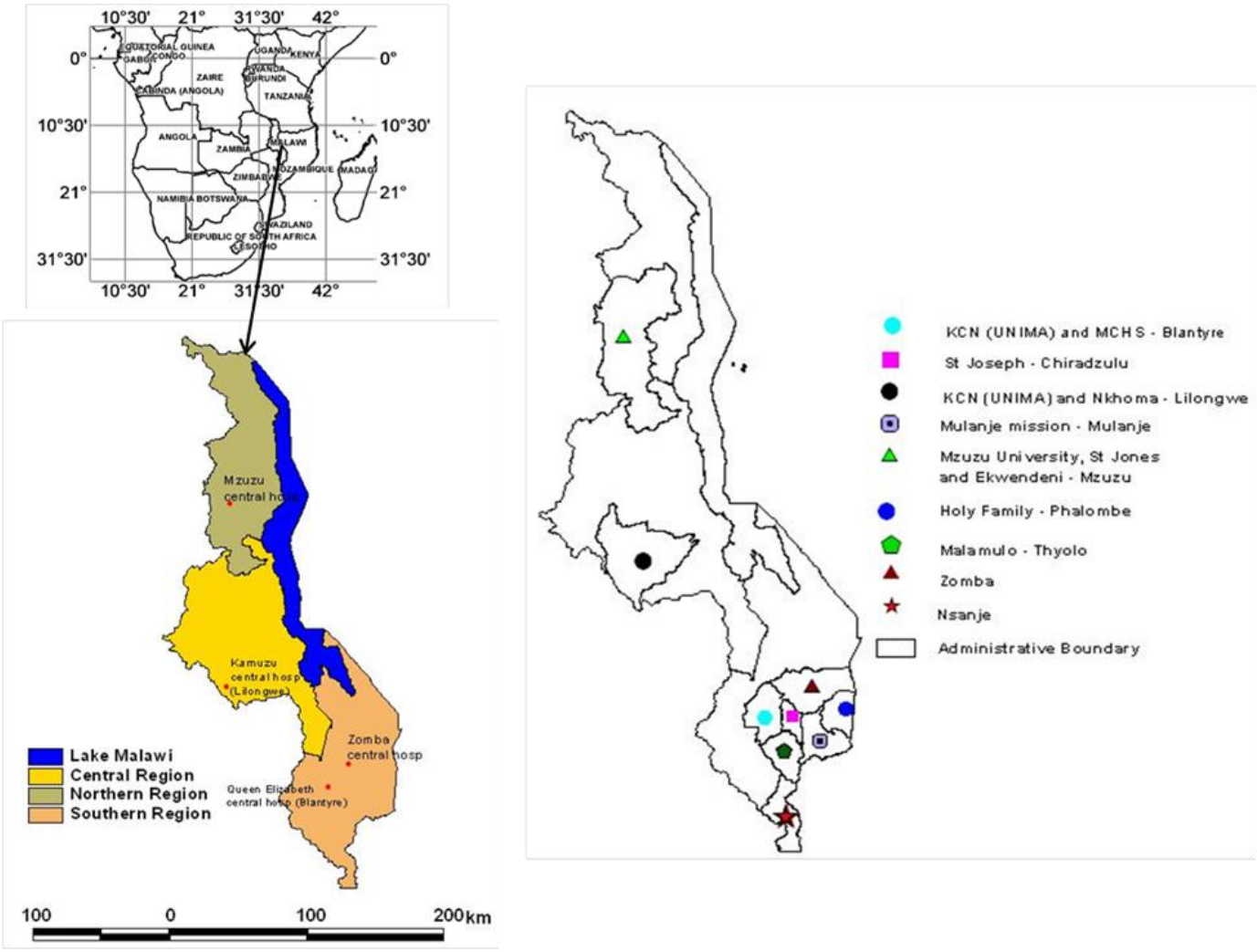


Figure 3.1 map of Malawi showing regions, tertiary hospitals and nursing institutions (Source, author)

3.2.1 Description of nursing education institutions

The description of the study sites includes geographical location and programmes offered numbers of staff and clinical instructors at each institution.

3.2.1.1 Mzuzu University (Mzuni)

Mzuzu University is one of the two public Universities in Malawi which provide nursing education at Bachelor's degree level. It is situated in the Northern part of Malawi. The faculty

of nursing has three departments which include nursing, biomedical sciences and optometry. The faculty is responsible for training registered nurses at Bachelor's Degree level which is a four year programme. There were ten lecturers, three staff associates and a dean in the faculty, but no clinical instructors, and the preceptors are the hospital staff. The nursing department had 157 students. The lecturers all had Master's degrees and the staff associates had bachelor's degrees. Most of their students are sent to Mzuzu Central Hospital (MZCH) and some to Zomba Central Hospital (ZCH) for clinical practice.

3.2.1.2 Deayang Nursing College

The college provides nursing education for registered nurses at Diploma level. It is one of the colleges under an umbrella of CHAM. Situated in the Central region of the country, the college had one principal with a Master's degree, fourteen lecturers, three with Master's degrees and the others with Bachelor's degrees, one part time lecturer and two clinical instructors, against sixty-seven students. Students from this college are usually placed at Kamuzu Central Hospital, which is about five kilometers from the college.

3.2.1.3 Malawi College of Health Sciences Blantyre Campus

It is the state institution which is one of the three campuses of Malawi College of Health Sciences and offers nursing education for registered nurses at Diploma level and abridging course for NMTs to registered nurse. The institution has a dean with a Master's degree, sixteen lecturers on campus; three of them with Master's degrees, the others with Bachelor's degrees, while seven lecturers were on study leave. It has one clinical instructor, and uses hospital staff as preceptors against 135 students. The college sends their students to Queen Elizabeth Central Hospital (QECH) which is located in Blantyre.

3.2.1.4 Malawi college of Health Sciences, Zomba Campus

The college situated in Zomba is a public institution under Malawi College of Health Sciences (MCHS) and offers a Diploma to Nurse Midwifery Technicians (NMT) (Enrolled nurses) and a post basic course in Diploma in nursing psychiatry. The college has one

principal with a Master's degree, one dean of faculty with a Master's degree, ten lecturers on campus, one with a Master's degree and nine with Bachelor's degrees and seven lecturers on study leave, as well as one instructor, and the preceptors were hospital staff. The college had 211 students and these are mainly placed at ZCH for their clinical practice which is about five hundred meters away.

3.2.1.5 St Johns Nursing College

The college is situated in Mzuzu city in the northern part of Malawi. The College sends students mainly to Mzuzu Central Hospital (MZCH). They had principal, nine tutors, two of whom have Masters degrees, one assistant tutor, four clinical instructors with Bachelor's degrees and one skilled laboratory instructor, against 179 students. The students from St Johns hospital are mainly placed at MZCH which is about five kilometers away from the college.

3.2.1.6 St Lukes Nursing College

It is situated in Machinga district in Eastern region of Malawi. They send their students mostly to Zomba Central Hospital which is about a distance of ten kilometers. The college had one principal and one deputy principal, one dean, eleven lecturers, three instructors and two preceptors against 290 students.

3.2.1.7 Holy Family Nursing College

The college is situated in the southern part of Malawi in Phalombe district. The college has one principal, seven lecturers, one with a Master's degree, two associate lecturers, three instructors and the preceptors are hospital staff. There were 163 students at the college. The college sends their students mostly to ZCH which is seventy kilometers away from the college.

3.2.1.8 St Joseph's Nursing College

It is situated in Blantyre about twelve kilometers from the commercial city of Blantyre. The college has one principal, sixteen lecturers on campus; six lecturers on study leave, but no

instructor and they use hospital staff as preceptors. At the time of data collection they had 271 students. Students from this college are mostly placed at ZCH which is 78 kilometers away and QECH, which is about twelve kilometers from the college.

St Johns, St Lukes, Holy Family and St Joseph's are under the umbrella of Christian Hospital Association of Malawi (CHAM) and they all provide nursing education at diploma level for Nurse Midwife Technicians (NMT) (Enrolled nurse). All lecturers not specified had Bachelor's degrees, associate lecturers had diplomas and all principals and their deputies have Master's degrees. The CHAM colleges send students to the central hospitals as well as other hospitals, and each college has a hospital based nearby which is also run by CHAM.

3.2.2 Description of the central hospitals

The hospitals are described in terms of location, different departments available, number of different cadres of staff who have an impact on students clinical learning and also statistics of in and out patients, to demonstrate the caseload at each hospital. The statistics provided were correct at the time of data collection, which was from October 2013 to July 2014, changes may have occurred afterwards.

3.2.2.1 Queen Elizabeth Central Hospital (QECH)

QECH is the largest of the four central hospitals in Malawi and is situated in Blantyre, the industrial city of Malawi. It provides primary, secondary and tertiary care services. It has around 1300 beds and in 2012 the average number of patients who visited the hospital during the year was about 600,000, and about 100,000 were admitted with an average inpatient stay of about four (4) days. The in-patient rate is 42.1%. QECH has the following departments: Surgery, internal medicine, obstetrics and gynaecology, oncology, ophthalmology, anaesthesia, paediatrics, maternity, leprosy and dermatology, dentistry, physiotherapy and occupational therapy, diagnostic laboratory, pharmaceutical, orthopaedic appliances, Out Patient Department (OPD) and emergency, operating theatre, Intensive Care Unit (ICU), High Dependency Unit (HDU), radiology, pharmacy, environmental and mortuary,

administration, catering, laundry and maintenance. QECH is also a teaching hospital, affiliated to the University of Malawi, College of Medicine and nursing colleges. The hospital has one (1) hospital director, two (2) deputy hospital directors, one (1) for nursing and one (1) for clinical, twelve (12) specialists, 89 medical doctors, four (4) Chief Nursing Officers (CNO), eleven (11) Principle Nursing Officer (PNO), four Senior Nursing Officers (SNO), sixty-five (65) registered nurses, 172 Nurse Technicians and Midwives, thirty-one (31) Auxiliary nurses, one (1) Nutrition officer and nine (9) Public Health workers, thirty (30) clinical officers and 123 clinical technicians.

3.2.2.2 Zomba Central Hospital (ZCH)

ZCH is situated in the Eastern region of Malawi and targeted to serve people from six districts: Zomba, Chiradzulu, Mangochi, Balaka, Machinga and Phalombe. It also provides three levels of care, namely primary, secondary and tertiary. It has the bed capacity of 514 with an occupancy rate of 100% and average inpatient stay of about five (5) days. The hospital had an outpatient attendance of 226,382 in 2012. Departments / wards available at ZCH are the same as those at QECH although smaller, with the exception of oncology and dermatological ward. The hospital has one (1) director, two (2) deputy directors, one (1) for nursing and the other for clinical, twenty (20) medical doctors and specialists, one (1) Chief Nursing officer (CNO), three (3) Principle Nursing Officers (PNO), six (6) Senior Nursing Officers (SNO), forty-two (42) registered nurses, 138 Nurse Midwife Technicians, nine (9) Auxiliary nurses, fifty-five (55) clinical technicians, thirty-three (33) Clinical officers and one (1) Medical assistant. Almost all colleges in the Southern and Eastern regions and Mzuni University College from Northern region sent students to ZCH.

3.2.2.3 Kamuzu Central Hospital (KCH)

Kamuzu Central Hospital is the second biggest central hospital situated in the capital city of Malawi, Lilongwe. The hospital targets to service nine districts as a referral health care centre. Therefore due to challenges in health care systems availability, KCH assists referral patients from the Northern region of Malawi. KCH has a bed capacity of 1,200 with bed occupancy rate by department of 120% with an average inpatient stay in the wards of five (5) days. The patients' statistics for 2013 was 51,548 admissions and 180,488 outpatients. The

departments that are available at KCH are the same as those at QECH with the exception of Oncology. Nonetheless, KCH has an HIV/ AIDS unit attached to the hospital. There is one (1) hospital director, two (2) deputy directors one (1) for nursing and the other for clinical, 84 medical doctors and sixteen (16) specialists, one Chief Nursing officer (CNO), six (6) Principle Nursing Officers (PNO), six (6) Senior Nursing Officers (SNO), 259 nurses, although the hospital was not able to give the number of these who were RN`s, sixty (60) clinical technicians and twelve (12) Clinical officers. Students from colleges in the central region go to this hospital for their clinical practicum.

3.2.2.4 Mzuzu Central Hospital (MZCH)

Mzuzu central hospital is situated in Mzuzu in the Northern region of Malawi. It serves people mainly from six districts. Patients from this hospital are also referred to QECH which is the biggest central hospital. Like all other hospitals, primary, secondary and tertiary care services are also provided at this hospital. It has a bed capacity of 352 with a total of 17,546 admissions and 288,190 out patients in 2013. The bed occupancy rate is 110% with an average stay of patients of four (4) days. The hospital has similar departments / Wards with those at QECH, however, slightly smaller and without oncology and dermatology wards. There was one (1) Hospital director, one (1) deputy hospital director (nursing), three (3) Principle nursing officers, nine (9) medical doctors, one (1) specialist, seven (7) clinical officers, thirty-eight (38) clinical technicians, forty-two (42) registered nurses, 122 Nurse Midwife Technicians (NMT) and seven (7) Chinese medical team. Students from colleges situated in the Northern region mainly go to this hospital for their practical experience apart from being sent to other central hospitals.

3.3 Population, sample and sampling frame of the study

3.3.1 Study population

A population is the entire aggregation of cases in which a researcher is interested (Pollit and Beck, 2009, Burns and Grove, 2010). The study population which the researcher was interested in was pre-registration student nurses pursuing a qualification of Bachelor's

degree, Diploma for registered and Nurse Midwife Technicians (NMT) certificates. Additionally, these student nurses were enrolled and registered full time students at the time of data collection. The researcher chose to include first year students due to their earlier participation in clinical practical activities. Among these student populations, we collected both quantitative and qualitative data used for this study.

In order to get an assurance of unbiased sampling challenges, a sampling frame was devised as an aide to select a representative sample. To increase generalizability (in the quantitative arm of this study) of findings to a larger target population, the nursing students who were included in the study were year one, two and three doing pre-registration programmes at degree and diploma level and Nurse Midwife Technicians (NMT). Questionnaires were self-administered towards the end of placement. Students must have completed clinical placement not more than two weeks before data collection, so that the memory of the experience was still fresh in their minds, therefore the hawthorn effect was reduced and the validity of the study was strengthened (Pollit and Beck, 2009).

3.3.2 Criteria for selection of sample

To increase generalizability of findings to a larger target population, nursing students in their first, second and third years in pre-registration programmes at degree and diploma level and Nurse Midwife Technicians (NMT) were included in this research. Participants from different institutions and levels were chosen to obtain different views and opinions from students on clinical learning experiences about learning in the clinical practice. In addition the study included students from the sampled institutions who had their clinical experience at any of the four central hospitals. Students studying post basic courses were excluded as they had already been registered as nurses and have worked before coming back to college, thus their previous experience may have had an influence on the findings.

3.3.3 Sampling methods

Sampling is a process of selecting a portion of the population to represent the entire population. It is economical and practical to work with the sample rather than the entire population, in this case all nursing students (Pollit and Beck, 2009). Time and resource constraints made it impossible to work with the entire population. Purposive sampling technique was used to select a cluster of colleges that are in CHAM colleges. To further select colleges from these clusters, simple random sampling method was used. Names of the colleges for CHAM were written down on a piece of paper and placed in a container, mixed and drawn out one at a time until the required sample was achieved (Burns and Grove, 2005). The same was also done to select one university, since they are only two. There is only one CHAM college, one public RN diploma and enrolled colleges so these were picked up purposively. This sampling technique was used as the researcher is knowledgeable about the institutions' characteristics thereby meeting the purpose of the study (Rebar et al., 2010). The researcher chose clinical learning environments, in this case hospitals, in order to ensure that the sample covered a full range of possible characteristics.

Simple random sampling allowed all nursing students in the sampled nursing education institutions to have an equal chance of being selected into the sample, therefore making the sample representative and the results generalizable to the entire population of nursing students and institutions (Parahoo, 2014). All students in first, second and third years were used as a sampling frame. A Table of random numbers obtained from the appendices of Burns and Grove (2005) was used to select participants. Class registers were used where each student was assigned a number. The researcher used a random number table to select who would be in the study. The individuals whose numbers corresponded to the random numbers were drawn and included in the sample (Burns and Grove, 2005). However; participation in the study was voluntary.

3.3.4 Sample size

The sample size refers to the number of subjects in a sample (Bryman, 2012). In this study, both quantitative and qualitative sample size was determined to increase precision and reduce sampling errors and considering that resources are always limited.

To obtain quantitative data, the sample size was calculated in order to make it more representative and to reduce sampling errors (Pollit and Beck, 2009).

Sample size was calculated with Raosoft sample size calculator (Raosoft, 2012). This is a computer based technique. Sample size was calculated by taking the total student population 2719 at a 95% confidence thus defining a confidence critical limit of ± 1.96. The sample size generated for this study was 337. Further, upon simulating with large sample of population size, it was observed that from a range of 2000 students to about 20 000, the recommended sample size computed was 337, thus was deemed suitable for this study which had an aggregate total student nurse population of 2719. Therefore to define robust representative of the student population in the sample, students from both public and CHAM institutions were randomly selected to participate in this study. The formula below illustrates how students were selected at each chosen college into our sample.

$$Survey\ student\ participants = \frac{Total\ Enrolled\ Students}{Total\ Number\ of\ Student\ Nurse\ in\ Malawi} \times Sample\ size..(\mathbf{i})$$

Illustratively, Daeyang College which had a student population of 67 students of which 9 student participants were selected, the following computation was applied to derive to total student participants at the college:

$$Daeyang\ College\ (9\ students\ participants) = \frac{67\ \ Enrolled\ Students}{2719\ aggregate\ student\ nurses\ in\ Malawi} \times 337..(\text{ii})$$

Nonetheless, the sample size was reached to 590 as 10% non-despondence rate was taken into consideration. Additionally, after analyzing the pilot study results the sample was small for the method used in analysis. To have an adequate sample for the study, the computed sample size was doubled.

3.4 Research approach

Research approach is the techniques that are used to structure a study, to gather and analyze information in a systematic way (Burns and Grove, 2005, Polit and Beck, 2013). Mixed method is the technique that guided this study in collecting and analysing data that generated knowledge on what affects nursing students' clinical learning, in order to improve learning in

the clinical practice. The researcher combined techniques of quantitative and qualitative approaches to collect, analyse and integrate data in this single research study in order to investigate nursing students' clinical learning experiences (Creswell and Clark, 2007, Creswell, 2013). Thus in this study the self-administered questionnaire and the focus group discussion were used to collect data, which was analysed, integrated and interpreted. The researcher chose the self-administered questionnaire over other quantitative methods as it was quicker to administer large quantities at the same time, since a large sample could take a long time to administer (Bryman, 2012). Therefore, in this study, clinical learning was explored using a large sample between and within training institutions. The results can be generalised to all nursing colleges in Malawi which could not be possible with qualitative data only.

Focus group discussion was selected in this study as it allowed the researcher to get more realistic information, since the participants were more relaxed to express their views and opinions, but they also argued and challenged each other's views, providing a wide variety of different views in relation to clinical learning experiences, thus meeting the objectives of the study (Pollit and Beck, 2009). In addition, this method included many participants which would not be possible with in-depth interviews (Bryman, 2012).

The researcher being aware of the weaknesses of each method therefore used mixed methods to supplement each other (Johnson and Christensen, 2008). This integration provided additional information where information obtained from quantitative methods was insufficient. This helped to get a deeper understanding of the issues that positively or negatively affected nursing students' clinical learning. Additionally, combining two methods provided stronger evidence for the results through convergence and corroboration of both quantitative and qualitative findings. Furthermore, the quantitative data helped to increase the level of generalizability of the results on students' experiences about clinical learning to all nursing colleges in Malawi.

3. 5 Study design

The structural framework or blueprint of study that was used to address the objectives of the nursing students clinical learning experiences, including specifications for enhancing the study`s integrity, was concurrent triangulation (Burns and Grove, 2005, Polit and Beck,

2013). A cross-sectional, concurrent design was used to collect quantitative data through a self-administered questionnaire and qualitative data through focus group discussions among the nursing students in the following selected institutions: Mzuzu University, Daeyang, Malawi College of Health Sciences Blantyre Campus (BT MCHS) and Zomba campus (ZA MCHS), St Johns, St Lukes, Holy Family and St Joseph's colleges in Malawi. The data collected was designed to be analysed using both approaches. The results were integrated and interpretation done in order to provide a comprehensive analysis of nursing students' clinical learning (Creswell and Clark, 2007, Bryman, 2012).

A concurrent mixed method was used to strengthen knowledge claims on clinical learning experiences in relation to the variables that were under investigation. In addition, the data collection process was faster in concurrent design compared to other mixed methods designs, as data from questionnaires and focus group discussions were collected simultaneously which was cost effective as data collection is done in one phase.

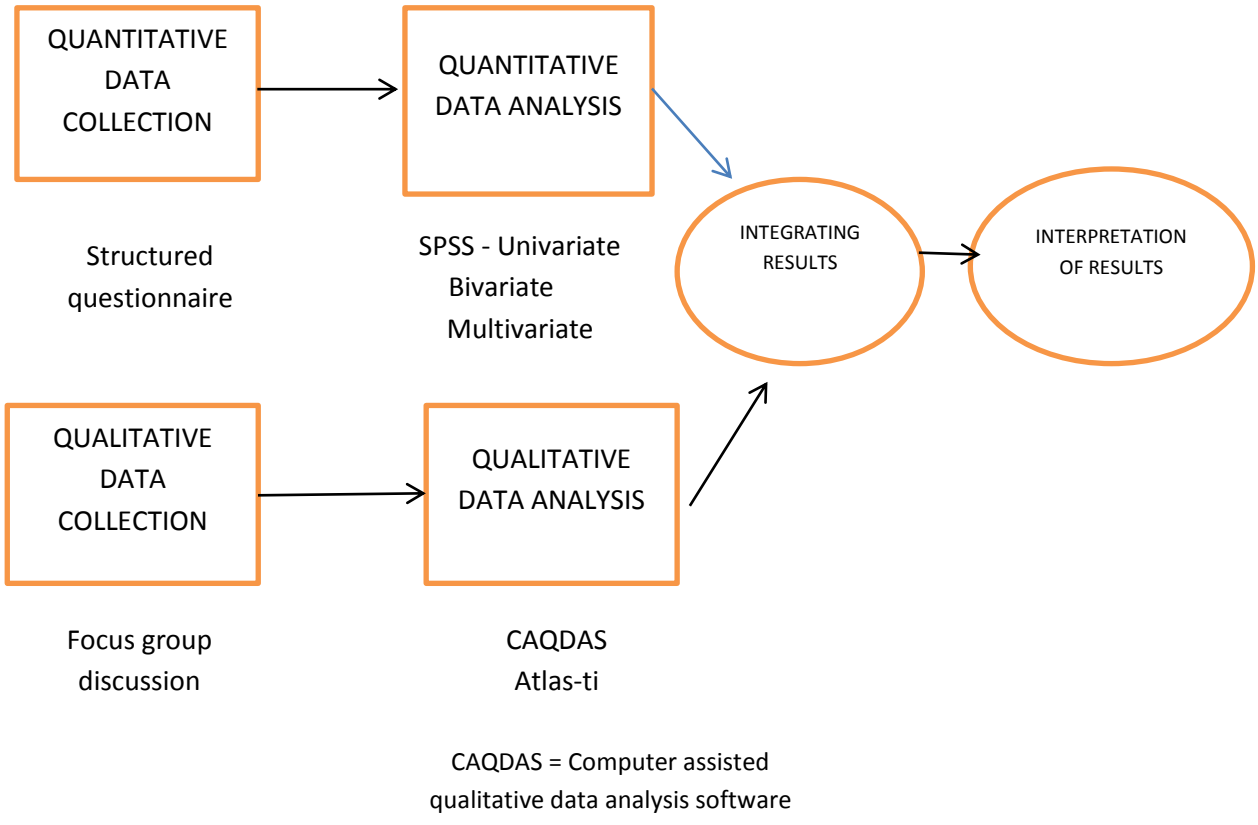


Figure 2.2 Triangulation design visual model (Creswel, 2007)

Figure 3.2 illustrates how the quantitative and qualitative data were collected, analysed, integrated and interpreted. Self-administered questionnaire was used as an instrument to collect quantitative data. In addition, Focus Group Discussions (FGD) was used to capture the qualitative data required by using guiding questions (Appendix B). Quantitatively, we used SPSS (version 22.0) for data analysis and Atlas ti (version 7) for qualitative approach.

In this study the researcher collected data during the same time frame, and both qualitative and quantitative data were given equal weight as they supplemented each other. Quantitative data from questionnaires was used to measure the relationship of clinical learning and variables, including integration of theory to practice, opportunities for learning, support and supervision, feedback given to students, methods used for clinical teaching and clinical learning environment whether they positively or negatively influenced clinical learning. Concurrently, nursing students' clinical learning experiences was explored through focus group discussions (Figure 3.2). Comparison of the results from quantitative and qualitative methods which is called corroboration (Creswell, 2013) was done to determine similarities or differences with the purpose to support each other.

3.6 Research assistants training and preparation

Two research assistants who were university graduates with some experiences helped in data collection. The research assistants were briefed on overall design, background information, purpose of the study, questionnaire training and administration and topic guide to develop understanding of each section of these instruments. The briefing helped to explain difficult areas of the topic guide and to suggest ways in which questions might be phrased or approached. They were also reminded on research ethics that have to be observed.

3.7 Quantitative Approach

A self-administered questionnaire was used to collect quantitative data from the participants.

3.7.1 Quantitative data collection tool development

The structured questionnaire to evaluate nursing students' clinical learning experiences was developed by the researcher and items and questions included were informed from the literature (Hosoda, 2006, Chuan and Barnett, 2012b) and part of supervision adopted from Saarikoski et al. (2007). The questionnaire was developed to achieve the objectives of this study and test the null hypothesis (Appendix A). The questionnaires were in English since the students were literate and the mode of instruction is English so there was no need for translation. Questionnaire is a method of gathering self-report information from respondents through self- administration of questions in a paper and pencil format. Self-administered questionnaire is where no interviewer is required to ask questions, instead participants read and answered the questions themselves by completing the questionnaire (Bryman, 2012). This method was not expensive and was quicker to administer because it saved time since questionnaires were distributed at the same time to a large sample, which would have taken a long time if face to face structured interviews were conducted (Pollit and Beck, 2009, Bryman, 2012).

The items on the questionnaire included socio demographic information, such as age, year of study, programme of study, name of the college and hospital placed. In addition, the questionnaire included the Likert scale items which measured students' perceptions on aspects of clinical learning which includes theory-practice gap, task involvement/ opportunities for learning, clinical supervision and support, feedback, innovative teaching approaches, ward environment, such as quality of nursing care provided, leadership style of the nurse manager, premises of learning and student satisfaction. The questionnaire consisted of agreement Likert scale with 84 items grouped into 9 scales. The items had four Likert scaled responses namely; strongly agree (4), agree (3), disagree (2) and strongly disagree (1). The four Likert point responses had been opted for and the uncertain category was omitted to ensure that participants made a clear choice on the positives or negatives of clinical learning. The participants were asked to choose the answer that best represented their views on clinical learning by ticking in the appropriate box. There were no omissions, the participants had to answer all questions.

3.7.2 Validity and reliability test of the instrument

The measuring instrument was tested to determine the validity and reliability.

3.7.2 .1 Validity

The quality of research is determined by the validity of the collected data and the results. Validity implies to what extent the questionnaire is going measure on nursing students clinical learning experiences in Malawi and get the expected outcome of the study (Pollit and Beck, 2009). Validity was maintained as correct and complete since quantitative data was collected by using a piloted questionnaire. Additionally, all elements that measured the aspects of clinical learning were clearly included in the questionnaire (Creswell and Clark, 2007) . Furthermore, a large sample was also obtained which covered the targeted groups.

Construct validity was achieved by examining the differences between the conceptual and operational definitions of variables and determining whether the questionnaire actually measured the concepts that facilitate clinical learning which were supposed to be measured (Burns and Grove, 2005). The researcher fostered construct validity by defining and explaining the meaning of the concepts of interest in the study, including learning, clinical practice, clinical learning, nursing education, experiential learning and student nurse, as well as variables, including theory-practice gap, opportunities for learning, clinical supervision and support, feedback, innovative teaching approaches, ward environment, including quality of nursing care provided, leadership style of the nurse manager premises of learning and student satisfaction so that the questionnaire measures the concepts that were supposed to be measured. Furthermore, to ensure face validity, experts in nursing education and an expert in statistics reviewed the questionnaire. Their comments were incorporated in the final questionnaire to ensure face validity. Some comments required rewording of statements and others were deleted.

3.7.2.2. Reliability

Reliability refers to the consistency of a research instrument. It measures the extent to which, if the study is repeated using the same methods under the same conditions and circumstances, it will yield the same results (Holloway and Wheeler, 2013, LoBiondo-Wood and Haber,

2014). In this study the questionnaire was pilot–tested to ensure reliability so that if reused at a later time in similar conditions the results will be more or less the same.

In addition, Coefficient reliability test using Cronbach`s alpha was carried out to determine internal consistency of the items in the instrument if they were reliable in measuring the dependent variables. This ensured that by using the questionnaire reliable responses were obtained. Cronbach alpha coefficient was conducted for each of the subscales on the results of the pilot study. Some of the items were dropped, since they had coefficient of less than 0.6 and re-testing was done. Cronbach alpha coefficient on the data set were as follows for items on these subscales: integration of theory and practice was 0.61, opportunities for clinical learning 0.6, Innovative approaches used for clinical teaching 0.7, peer support, 0.74, clinical supervision of students 0.8, supervisory relationship 0.81 feedback given to students 0.79, clinical learning environment 0.8, and students satisfaction with clinical learning environment 0.61. The coefficient ranged from 0.6 to 0.81. Although in most Social Science research the required coefficient cut off point is 0.7, coefficient of 0.6 has been used in literature and is acceptable (Nunnally Jum and Bernstein Ira, 1978). However, some of the subscales have been previously tested and used in other countries including Malaysia, (Chuan and Barnett, 2012b), this was for local validation. In addition some subscales in the questionnaire had coefficient higher than 0.6.

3.7.2.3 Pilot testing

Pilot study is a small-scale of the proposed study, research interview or observation (Holloway and Wheeler, 2013). Pilot testing was done to determine if the study was feasible in terms of availability of participants, time and financial resources. It also gave the researcher an opportunity to have an experience with the participants and setting (Burns and Grove, 2005). The pilot study was conducted by administering the questionnaire to five students who were not part of the study but with similar characteristics with the participants to determine validity and reliability of the questionnaire (Burns and Grove, 2005). Thus the researcher was able to identify ambiguous items on the questionnaire that needed clarification and that the questionnaire was measuring the intended purpose (Creswell and Clark, 2007). The pilot test also assisted in determining the amount of time needed to complete the questionnaire, which was about 20-30 minutes. Corrections and adjustments were done. The

following were the changes made: items on family support to students, those that were giving the same answers and those duplicated were removed, three items on method of supervision changed instead of "The student did not know a named supervisor it read "Did you have a named supervisor"? Yes or no, followed by "What was the occupational title of the supervisor"? The following was added". Were you supervised by several supervisors"? Yes or no**.** Researcher also conducted one focus group discussion to test the topic guide to identify any problem areas and see if important information regarding aspects of clinical learning will be collected, thereby ensure validity and reliability.

3.7.3 Procedure for data collection and questionnaire administration

Data was collected over a period of ten months from October 2013 to July 2014 using self-administered questionnaires. The participants had to answer the questions by completing the questionnaires themselves, which consisted mainly of closed questions of the variables to be measured, with one open ended question to elaborate on anything they wanted to add and on challenges they encountered in the clinical practice. Hence the questionnaires were easy to follow and its questions easy to answer. The students were asked by the research assistants to assemble in a class where questionnaires were handed out for them to fill in and were collected after they had been completed. This arrangement helped to increase the response rate which was at 84% as 700 questionnaires were distributed and 590 were returned. In addition, it was easy to make clarifications on problems that participants encountered with the questionnaire. However, in some colleges questionnaires were left with the dean of students or programme coordinators. Each questionnaire took 20-30 minutes for the participants to complete. Quantitative data was collected from 590 participants: Mzuzu University (n = 89), Daeyang (n = 36), MCHS BT (n = 49), St Johns (n=68), St Lukes (n = 69), MCHS ZA (n =104), Holy family (n = 64) and St Joseph's (n = 111). Data collection was done by research assistants rather than the researcher in those colleges where she is known, to avoid any influence on the participants. However, the researcher had an immersion in the data collected. Furthermore, since data collection for quantitative and qualitative data were done concurrently, the researcher made the qualitative data collection interview guide slightly different from questionnaire to eliminate any biases (Bergman, 2008).

3.7.4 Analytical approach for quantitative data

3.7.4.1 Univariate analysis

Quantitative data was analysed using Statistical Package for Social Sciences (SPSS) computer software (version 22.0). Initially the researcher intended to use Friedman test for statistical comparison between different colleges and programmes. To test the null hypothesis Spearman correlation coefficient was to be used, because some categories had few responses, therefore they were combined into two categories namely strongly disagree and disagree were combined to become disagree, and strongly agree and agree were combined as agree. Univariate analysis was then used to measure socio-demographic characteristics of participants including age, year of study, gender and duration of placement, through frequency, means, standard deviations and range of scores.

3.7.4.2 Bivariate analysis

Bivariate analysis was performed to determine significant differences between the means of the independent and the dependent variables. The researcher analysed the means of integration of theory and practice, opportunities for clinical learning, clinical supervision of students, feedback given to students, students-staff relationships and satisfaction with clinical learning using One-way Analysis Of Variance (ANOVA) to examine the association between these dependent variables and independent variables; namely programmes, colleges and years of study, hospital, wards / units and duration of placement and number of times students met with nurse educators. To establish differences between and within the means of the independent and dependent variables F-ratio statistics was used. Additionally, it was also used to test the null hypothesis that there will be no significant association between socio-biographic data, place of study and integration of theory and practice, opportunities for clinical learning / task involvement, clinical supervision provided, peer support received, feedback provided and conducive clinical learning environment. Chi-squared test was carried out to determine statistical significance of the variables. A p-value was used to test statistical significance and the level of confidence was $p \leq 0.05$. The values were rounded at 3 significant figures. Once the F-ratio was determined as significant between the means of independent and dependent variables, Scheffes post hoc test was done to allow multiple

comparisons between means of the group variables in order to find out where differences exist among the groups. The effect of each predictor variable on the dependent variable was also measured by means of multivariate analysis. All variables included in the bivariate analysis were also included in multivariate linear regression.

3.7.4.3 Multivariate analysis

The following logistic model was developed using Logistic regression.

$$logit\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 x_1 +, \ldots, \beta_n x_n + \varepsilon$$

Where p_i is the probability that an event i is to occur and $1 - p_i$ is the probability that the event i is not occurring, β_0 is the constant term on condition that all other terms in the equation are zeroed, β_n is the odds ratio coefficient showing the effect of the explanatory variable x_n and ε is unobserved error.

To assess the goodness-of-fit of variables in the model, Hosmer-Lemeshow test was conducted and a p-value of more than 0.05 indicated good fit. In addition, to test the accuracy of the variables in the model classification was carried out on the variables and correctly classified model was based on the overall percentage of all cases. To answer the questions about the association of the independent and dependent variables, the variables in the equation displayed the output of all predictors in the equation. The significance of each predictor variable in the model was measured using Wald statistics and a p value of less than (<) 0.05 was significant. Where the p-value was above one it was represented with a dash. The odds ratio (Exp β) was used to explain the probability of an event occurring or not. Coefficients were rounded up to four significant figures.

3.7.4.4 Model testing and assumptions

Logistic regression was used on the assumption that the dependent variables were in two categories: either the dependent variables were met, coded as 1, or were not met coded as 0. In addition the variances of the independent variables were measured using Levene's test and were found to be of equal variance and were not intervals. Further, the sample was large enough (N=590) to allow likelihood coefficient estimates. The model was developed using

step by step of the logistic regression. The "goodness test of fitness" on each model was conducted. An assessment of the fitness of the model (goodness-of-fit) whether by including the independent variables to predict the outcome was done using Hosmer-Lemeshow and the cut-off point of significance was 0.05.

3.8 Description of variables used in the study

The dependent and independent variables that were used in the study have been described in detail.

3.8.1 Dependent variables

To assess effectiveness of clinical learning six variable outcomes were selected based from literature. These included integration of theory and practice, availability of opportunities for clinical learning, clinical supervision, and feedback provided during clinical practice, the clinical learning environment and satisfaction with clinical learning environment.

3.8.1.1 Integration of theory and practice

This was translated as the ability of students to practice in the clinical area including care provided to clients / patients, management of conditions and performance of procedures the way the students learnt in the classroom and practiced in the skills laboratory. Four statements were asked to determine integration of theory and practice and Likert scale was used to measure this variable (Appendix 1). The responses were scored and scores above 50% meant that there was integration of theory and practice and was recorded as one (1) scores less than 50% were regarded as no integration and was recorded as zero (0).

3.8.1.2 Opportunities for clinical learning

Similarly, this variable was interpreted as availability of cases, procedures and conditions according to their level of study and clinical learning objectives for students to learn the practice of nursing profession. Six statements were used to ascertain if opportunities for

clinical learning were available or not. Scoring of responses and computation was done to have two categories, either availability of opportunities for clinical learning recorded as one (1) or not recorded as zero (0).

3.8.1.3 Clinical supervision

Participants were asked whether they received supervision or not. Clinical supervision occurred if students were guided, accompanied by a qualified nurse during the practice of skills and competences as they are applying the theoretical knowledge into practice. Clinical supervision was categorized as participants who received clinical supervision and who did not. Those who received clinical supervision answered yes and was recorded as one (1) and those who did not receive clinical supervision answered as no and was recorded as zero (0).

3.8.1.4 Feedback given to students

This referred to a situation where students are given comments of their performance on care of patients, procedures conducted and their progress on clinical learning, whether their performance was good or not and needed improvement. Several statements were used to measure this variable (Appendix 1). The statements were scored and computed into dichotomous category, yes if feedback was given in the clinical practice was recorded as one (1) if not as zero (0).

3.8.1.5 Clinical learning environment

Several statements were used to measure if the clinical environment was conducive for clinical learning. This was determined from the relationships between students and staff in the clinical area. If relationships were good then one (1) was recorded and the environment was regarded as conducive for clinical learning. Zero (0) was recorded for poor relationships which were viewed as being non-conducive for clinical learning.

3.8.1.6 Satisfaction with clinical learning

To determine satisfaction with clinical learning, students were asked how satisfied they were with clinical learning. This was in four Likert scale namely; very satisfied, satisfied, dissatisfied and very dissatisfied. Very satisfied and satisfied were combined to satisfied and very dissatisfied and dissatisfied were combined to dissatisfied because there were few responses in some categories. Therefore, if the participant was satisfied with clinical learning, it was recorded as one (1) and dissatisfied as zero (0).

3.8.2 Independent variables

The variables that were used as independent variables included, programme, college and year of study, hospital, ward / unit and duration of placement and number of times students met with the nurse educator. All of the independent variables were categorical.

3.8.2.1 Programme of study

The variable programme measured participants' nursing education programmes. The participants belonged to Bachelor of Science in nursing (BSc), Registered nurses at Diploma level (RN Diploma) and Nurse Midwives Technicians (NMT) which is equivalent to Enrolled nurses. If participants belonged to BSc, it was recorded as one (1), RN Diploma as two (2) and NMT as three (3).

3.8.2.2 Institutions

The institutions included the university and the colleges which provide nursing education and hospitals where students are placed for clinical learning experience. Within the hospitals there are wards and units where students are allocated.

3.8.2.2.1 Educational institutions

These are the institutions where participants were undergoing nursing education. There were eight institutions where the study was carried including, Mzuzu University (Mzuni) recorded as one (1), Deayang as two (2), Blantyre Campus Malawi College of Health Sciences (BT MCHS) as three (3), St Johns as four (4), St Lukes as five (5), Zomba Campus Malawi College of Health Sciences (ZA MCHS) as six (6), Holy Family as seven (7) and St Joseph's as eight (8).

3.8.2.2.2 Hospital of placement

These are hospitals where students go for clinical practice. Only the four tertiary hospitals based in each region of Malawi were included, because of high caseloads at referral hospitals. The variable hospital was regarded as Mzuzu Central Hospital (MZCH), which was recorded one (1), Kamuzu Central Hospital (KCH) as two (2), Zomba Central Hospital (ZCH) as three (3) and Queen Elizabeth Central Hospital (QECH) as four (4).

3.8.2.3 Ward /unit of placement

These are the wards where students in this study were allocated for clinical practice. The variable was classified as surgical which was recorded as one (1), medical as two (2), pediatric as three (3), maternity wards as four (4), community department as five (5) and "Other" as six (6). Participants under "Other" were those who were allocated to Operating Theater (OT), Intensive Care Unit (ICU), Antiretroviral Therapy unit (ART), and Outpatient Department (OPD).

3.8.2.4 Level of study

Year of study was classified as first, second and third year. First year was recorded as one (1), second year as two (2) and third year as three (3).

3.8.2.5 Duration of placement

This is the length of time students are allocated in the clinical area. Duration of placement was categorized into five as 2 weeks and below recorded as one (1), 3-4 weeks as two (2), 5-6 weeks as three (3), 7-8 weeks as four (4) and 9 weeks and above as five (5).

3.8.2.6 Number of times students meet nurse educator

This is the frequency with which students met the Nurse Educator (NE) in the clinical area to provide guidance and supervision. The categories for this variable included; those that did not meet NE recorded as zero (0), those met 1-2 times as one (1), 3-4 times as two (2), 5-6 times as three (3) and 7 times above as four (4).

3.9 Qualitative approach

In order to understand the experiences of the nursing students in the clinical practice the phenomenological method was used (Rebar et al., 2010). This study used the phenomenological method in order to understand the experiences of the nursing students in the clinical practice. The researcher familiarized herself with the participants and their settings to be able to get their real experience of clinical learning. Field notes were collected to enrich the data after explaining the expectations of the participants regarding clinical learning experiences (Brockopp and Hastings-Tolsma, 2003).

Focus group discussions were used to collect qualitative data. The participants were involved in organized interactive discussions, whereby information was collected about their views and opinions on effectiveness of learning in the clinical practice. A total of 144 students were involved in sixteen focus groups with 9 participants, three from each year of study recruited through random sampling. The discussions were tape-recorded after obtaining permission from the participants and notes were taken on any clarifications required and observations made on non-verbal behaviours. A topic guide with open-ended questions (Appendix 2) was used to guide and generate discussions.

3.9.1 Sample size for qualitative data

To acquire quality information from the nursing participants sample size has to be obtained. Therefore, the sample size was determined by the saturation of information achieved in order to gain a deeper understanding on clinical learning of students in Malawi. Saturation of data was achieved when the students no longer provided any new information during focus group discussions. The selected students met the following criteria: they were pre-registered nursing students who were in first, second and third year at the time of the study. This study comprised of sixteen focus groups, two focus groups from each college, with nine students per group three from each year of study which were selected through purposive sampling and a total of 144 students participated in this study through focus group discussions. The sixteen focus groups with nine participants in each group ensured that rich data was collected to be able to understand nursing students experiences in clinical learning, therefore the quality of data determined saturation.This ensured adequate sample size thus generating adequate data, alternatively literature recommends the use of four to six focus groups to achieve data saturation (Johnson and Christensen, 2008, Bryman, 2012, Jayasekara, 2012).

The groups were heterogeneous as they consisted of male and female students of different age groups and year of study with different experiences. Three colleges namely Daeyang, BT MCHS and ZA MCHS, did not have first years at the time of data collection, the reason being that these colleges had not yet recruited first year students at the time data was being collected. The reasons for non-recruitment included inadequate nurse educators, accommodation for students and lack of funding. This could be the reason why first years were fewer in number compared to second and third years, although it was expected that there would be more first years as the numbers decrease in each year of study because of drop outs. The main reason for leaving the profession is loss of interest after being exposed to the profession. Some lose interest preferring to join other professions. Additional reasons for drop outs are beyond the scope of this study. Students were able to reflect on their clinical learning experiences during focus group discussions indicating that quality data were collected. That is why in this study data collection was done up to two weeks after being in the clinical area to reduce recall bias. Two focus groups were conducted in each institution. As data was collected in the second group no more new information on clinical learning was generated which indicated data saturation.

3.9.2 Qualitative data collection

Qualitative data was collected through focus group discussions. "Focus group is a research technique which is in a form of group interview that collects data through group interaction on a topic determined by the researcher so that upon interaction within the group there is joint construction of meaning (Bryman, 2012). Focus group discussions were used in order to collect information for the following themes; Integration of theory and practice, availability of opportunities for clinical learning, clinical supervision and support students received in clinical practice, feedback given to students in clinical practice, the clinical learning environment and relationships with clinical staff and satisfaction with clinical learning. The researcher organized an interactive group discussion whereby information was obtained about their different views and opinions related to the themes. The focus group discussions facilitated exchange of ideas and debate amongst participants since they argued and challenged each other's views on clinical learning. Thus in such debates students were able to express and clarify their views on the reality of clinical learning as it occurred in the clinical learning environment, therefore rich data was obtained (Bryman, 2012, Jayasekara, 2012, Holloway and Wheeler, 2013). Open-ended questions (Appendix B) which link to the study objectives were used to guide and generate the discussions.

3.9.3 Procedure for qualitative data collection

Two focus groups were arranged from each sampled institution to achieve data saturation. Each group had nine nursing students with three students drawn from each year of study, with the exception of three nursing colleges which did not have first year at the time of data collection, thus students were recruited from other levels of study to make a group of nine. It was envisaged that a group of nine students was large enough to create discussion and easier to manage during discussions and reduced challenges during analysis. On the same note, such a group would adequately allow each participant to share their insights in the discussions within the available time (Jayasekara, 2012). The students from first, second, and third year were mixed to encourage participation and group dynamics in order to obtain adequate data. The students in the focus group were recruited using simple random sampling (Burns and Grove, 2005) as sub sample from the quantitative sample. Selection was based on group size (an ideal focus group size is six to ten people), gender, age, cultural background, and working

experiences (Polit and Beck, 2013). Therefore, different views were obtained from the participants. Additionally, other users of the results would easily be able to follow how the researcher reached conclusions.

The researcher and the research assistants were called moderators, and acted as instruments in data collection by leading and facilitating the discussions to assess how the participants thought and felt about clinical learning in the clinical setting (Johnson and Christensen, 2008). Additionally, the moderators controlled and guided the discussions so that students had to focus on the topic clinical learning experiences, stimulated discussions and responded to issues of potential interest regarding clinical learning. The participants were contacted well in advance and reminded a few days before the discussions about the date and time. On the day of the discussions as the participants arrived at the venue they were welcomed to make them feel at ease. During group meetings, the researcher and the participants were relaxed and sitting comfortably in a circle so that there was eye contact among all individuals in the group (Burns and Grove, 2005, Holloway and Wheeler, 2013). In addition the discussions were held in a quiet spacious room within the college premises to reduce anxiety as the participants were in their natural environment. A 'do not disturb' sign was placed on the door so that all interviews were conducted in a quiet non-intimidating room allowing each participant to feel relaxed and comfortable during the interview process.

Introductions were made to familiarize participants with each other. For easy identification of participants numbers were used instead of names during the discussions. Information on the purpose of the Focus Group Discussion as well as research topic, background, purpose and objectives of the study was explained to the participants. Although consent was already obtained before the discussions, participants were reassured on confidentiality and anonymity. Since the participants for each group were from the same college they were asked to treat what other participants have said as confidential and not to be reported outside the session. Furthermore an explanation was given on what was to happen to the data provided and also on proposals for reporting (Bryman, 2012). The researcher informed the participants on the purpose for recording the discussions that it was to assist in capturing all the data as it was extremely difficult to write down exactly what participants said in a discussion, and how they say it. It was also to assist the researcher to verify with the participants later if the views were from them (Bryman, 2012). Participants were also notified that during the discussions the researcher and the moderators took notes on any important observations, including non-

verbal behaviours made by participants that required further clarifications. Consent was given by the participants to record and write notes during the discussions. For the discussions to be successful the researcher established ground rules, including not everyone talking at the same time.

The tape recorder was placed on a table in the middle of the circle where all could be heard and recorded the discussions. Each interview began with open-ended questions (Appendix B) which linked to the study questions to guide and generate discussions. The researcher was looking for information on learning in the clinical practice, including theory-practice gap, clinical supervision and support, task involvement / opportunities for learning, feedback provided, innovative approaches to clinical teaching, conducive clinical learning environment and challenges that students encountered in the clinical practice. The researcher and moderators facilitated the discussion by probing, questioning and drawing out the group to bring everybody into the discussion and prevent dominance, so that relevant discussion was possible and data was collected to meet the aim of the research. Furthermore, the moderator helped in taking notes and observing students non-verbal behaviour during the discussions. There were sixteen focus groups in order to obtain data saturation, this is where no more new information on clinical learning was generated.

Towards the end of the discussions participants were asked to say anything they felt was left out and their suggestions on how they felt clinical learning would be improved. The participants were thanked for their participation in the discussions, issues of confidentiality and anonymity were reaffirmed and the purpose of the study was repeated. The participants were reminded to keep the discussions confidential. Each session of the discussions took one and a half to two hours which was adequate for obtaining the required data. The tape recorder was switched off the participants left the venue.

3.9.4 Analytical approach for qualitative data

Computer Assisted Qualitative Data Analysis Software (CAQDAS; Atlas ti version 7) was used to analyse data collected from focus group discussions. Atlas ti is a computer programme that supports the qualitative analysis of large bodies of textual, graphical, audio

and visual data (Creswell, 2007). Data collected from focus group discussions which was tape recorded was transcribed word for word to become the raw data. The transcripts were entered into the computer for Atlas ti to process in a form of primary document. There were 9 primary documents, eight from the focus groups and one from the open-ended questions. Since the themes were known, analysis was done deductively from the primary documents. Atlas ti was used to categorize the responses containing similar context as codes which were combined to form categories. The researcher scrutinized the code families and the codes to have an in-depth understanding of nursing students clinical learning to be able to interpret the findings.

3.9.5 Rigor for qualitative data

Rebar et al. (2010), described rigor as the "overall quality of data collection, analysis, interpretation, trustworthiness of the data, transferability of the themes and credibility". The aim of the rigor is to ensure that the study findings are the true representation of the participants' experiences (Holloway and Wheeler, 2013). In this study the following was observed in order to ensure rigor:

3.9.5.1 Trustworthiness

This refers to the credibility, dependability and reliability of the data collected from participants (Lincoln and Guba, 1985). The researcher ensured that participation in the focus group discussion was voluntary so that participants were able to share their experiences without coercion. An interview guide was used to ensure consistency in obtaining information about participants' experiences throughout all the sessions. These experiences have been accurately presented in the results. The Nurse Educators who were already in established relationship with the participants introduced the researcher to them in order to develop trust in the researcher. However, the NE were not present during the discussions to enable the participants to express themselves freely (Rebar et al., 2010).

3.9.5.2 Credibility

Credibility means that the researchers' findings have to reflect the participants` ideas and meanings of their experiences which are not distorted but the truth has been reported

(Holloway and Wheeler, 2013). In this study, the researcher ensured credibility by showing the summary of the findings to some participants to confirm whether it was a true reflection of their perceptions and experiences. The researcher also presented the findings to peers for review of any biases and misinterpretations on the analysis thus increasing the credibility of the study. In addition, prolonged engagement with the participants and the data was done in order to ensure understanding of their views and opinions through questioning and clarification (Holloway and Wheeler, 2013, LoBiondo-Wood and Haber, 2014).

3.9.5.3 Transferability

This refers to the extent of how the findings of the study have meaning to another group in similar situation. If one group did not mention certain themes, these were introduced to them to determine if they agreed with them. The researcher ensured that the information collected was meaningful and credible so that the users of findings from this study can make valid decisions on the applicability of the results io other similar settings (Holloway and Wheeler, 2013).

3.9.5.4 Confirmability

It is the degree of consistency in the decision made on the data collected, and clearly presenting the evidence that leads to the conclusion made to attain the aim of the study (Holloway and Wheeler, 2013). The researcher established confirmability by conducting 16 focus group discussions to achieve data saturation so that adequate data was collected for meaningful interpretation. Data was tape recorded and transcribed verbatim without any alterations. Additionally data was organized and analyzed where quotes and codes were identified for the determined themes using computer software Atlas ti to provide audit trail. Therefore, others could be able to confirm the results by using this audit trail. The researcher achieved confirmability also by maintaining the credibility and transferability of the findings (Rebar et al., 2010).

3.9.5.5. Dependability

This is how much confidence the users of the research can have in the findings. The researcher achieved this by maintaining credibility of the results. The researcher randomly gave the report to participants so that they could recognize their own experiences (Holloway and Wheeler, 2013).

3.9.5.6. Triangulation

This is the extent to which multiple research approaches and used in the same study to answer the research question. In this study two methods of data collection were used simultaneously through questionnaire, focus group discussions and open-ended question to have an in-depth understanding of students experiences of clinical learning (Creswell, 2013).

3. 10 Ethical considerations

3.10.1 Permission to conduct the study

The research proposal was submitted to North West University Committee for Research on Human Subjects in South Africa and the National Health Science Research Committee, Ministry of Health in Malawi who granted ethical clearance (Appendix 4). Permission to conduct the study at the colleges was obtained from the authorities of the relevant institutions and was granted (Appendix 5). In addition permission to obtain information on caseloads and staffing in the clinical setting was also sought and was given (Appendix 6).

The researcher paid considerable attention to the ethical issues regarding the study. (Burns and Grove, 2010), assert that ethical research is essential for generating sound empirical knowledge for evidence based practice. Legal rights and ethical aspects have to be considered in all research methods regardless of the type. Researchers, therefore, have to apply ethical principles and follow legal rules as laid down in the code of conduct and research guidelines and exercise care that the rights of the participants are protected in research and that participants are also protected from harm or risks (Holloway and Wheeler, 2013). When

humans are used as study participants, as they are in nursing research, care must be exercised in ensuring that the rights of those humans are protected (Holloway and Wheeler, 2013). In this study, the researcher used the following principles to ensure that the rights of the participants are protected and to ensure the generation of sound knowledge.

3.10.2 Right to anonymity and confidentiality

The researcher was aware of the ethical obligations to adequately protect rights of confidentiality and privacy of the participants (Burns and Grove, 2010). The information provided by the participants through questionnaires and tape recorder were kept confidential under lock and key, accessible only to the researcher, and the information was not divulged to anyone without prior consent of the participant. The participants and the institutions' identity remained anonymous and are not identifiable even by the researcher in the research report as numbers have been used instead of names (Burns and Grove, 2010).

3.10.3 Principle of justice

The selection of participants and their treatment throughout the study was fair (Burns and Grove, 2010). In addition, participants who declined to participate or withdrew from the study after agreeing to participate did not experience any negative consequences. Contact details were given to the participants so that they had access to the researcher anytime they had questions or needed clarification about the study. The participants' beliefs, views and opinions regarding clinical learning were respected and participants were treated in a courteous manner at all times. Furthermore, the researcher selected participants using random sampling so that everybody had a chance of being selected, and participants were selected because they were nursing students, which was the requirement for the study which is Nursing Students clinical learning experiences (Polit and Beck, 2013).

3. 10.4 Principle of beneficence

The researcher avoided psychological harm by carefully phrasing the questions so as not to embarrass or offend the participants during focus group discussions. Assurance was given to

the participants that the information they provided would not be divulged to anyone and would not be used against them in any way (Polit and Beck, 2013). The use of the tape recorder in the focus group discussions was explained to the participants to allay anxiety thereby eliminating psychological harm. The participants voluntarily consented to participate in the study without any coercion.

Participants were informed that they would be expected to fill out a questionnaire which would take about 20 to 30 minutes and that they would also participate in an interactive discussion group which would take about $1\frac{1}{2}$ to 2 hours. Physical harm was minimised as the participants were sitting comfortably in a quiet non-intimidating room, allowing each participant to feel relaxed during the interview process and focus group discussions (Burns and Grove, 2010, Holloway and Wheeler, 2013). The participants were communicated that there were no direct or monetary benefits for their participation in the study but that information provided would help to improve nursing education in Malawi thereby improving quality of health care provided to the people of Malawi.

3.10.5 Principle of respect for human dignity

The participants' right to self-determination was protected as participants were aware that research data was being collected and were given information on the nature, purpose of the study and their participation in the study (Polit and Beck, 2013). Written consent from the participants was obtained after they had been informed, therefore participants had the right to decide voluntarily to participate in the study, the right to decline participation, and to withdraw from the study at any given time if they felt uncomfortable, without coercion or risking any penalty or prejudicial treatment or affecting their education. Prior to commencement of data collection briefing sessions were conducted so that participants had a chance to ask questions and seek clarifications from the researcher. Therefore, participation in the study was voluntary (Holloway and Wheeler, 2013). One of the requirements for nursing education in Malawi is that one should be above 18 years of age, thus all nursing students were treated as adults who had control over themselves (Polit and Beck, 2013). Furthermore, in observing this principle the researcher was objective, accurate and honest in

reporting the findings, considering that false findings may have an effect not only on the participants but also on the institutions. The findings were communicated to the institutions and participants were informed that if need be they could request the findings.

3.10.6 Informed consent

According to Burns and Grove (2010) informed consent is a written document which entails all the information related to the purpose of the study, data collection and participants' role in the study, and ensures that the participants have understood this information and are capable of making informed decisions and voluntarily consent to participate in the study. Voluntary participation means that the participants are not in any way coerced or influenced to participate in the study (Burns and Grove, 2010). Prior to the study participants were given an information sheet explaining the purpose of the study, the process of data collection and their role as participants in the study for them to make an informed decision. The participants were informed in writing that participation was entirely voluntary, and that they could decline to participate. If they chose to participate, they had the right to withdraw from participating in the study any time they wished and their education would not be affected and they would not be penalised/ prejudiced in any way by the researcher or the institution. The participants voluntarily consented to participate in the study through a written informed consent (Appendix 3).

3.11 Summary

In Chapter Three, materials, methods and procedures for achieving the purpose of the study have been presented. Sampling, data collection methods and the instruments used have been described. Reliability and validity of the instrument were described and ethical issues relevant to the study have been outlined. The research setting was presented and significant changes in the major study as a result of the pilot study were described. Chapter Four presents the results of the data collected through questionnaires.

CHAPTER FOUR

CHARACTERISTICS OF THE RESPONDENTS AND THEIR ASSOCIATION WITH EFFECTIVENESS OF CLINICAL LEARNING

4 Introduction

This section includes the description of univariate, bivariate and multivariate linear regression of independent variables including programme, college and year of study, hospital, ward/unit and duration of placement, number of times students met with the Nurse Educator (NE) and dependent outcome variables includes variables that describe effective clinical learning, including integration of theory and practice, opportunities for learning, supervision and support, feedback, methods of clinical learning, relationship with staff in the clinical learning environment and satisfaction with clinical learning. In addition the demographic characteristics of participants, which provides information about their age and gender, has also been described. Tables and graphs were used to illustrate the results.

4.1. Description of participants' characteristics

4.1.1. Age of participants

Table 4.1 presents the characteristics of the participants. A total of 590 participants returned the self-administered questionnaire and their ages ranged from 18 to 41 with a mean age of 23.5 years and standard deviation (SD) of 3.9. The highest proportion n = 351 (59.5%) of the participants were in the age range of 20 to 24 years old. These characteristics are in line with age entry requirement into these three programmes which is between 18 and 45 years, that is why all participants are within this age range.

Table 4. 1: Participants characteristics

Background Characteristics	Number (N)	(%)
Age group		
19 and below	122	(20.7)
20-24	351	(59.5)
25-29	84	(14.2)
30-34	21	(3.6)
35 and above	12	(2.0)
Sex		
Male	232	(39.3)
Female	358	(60.7)
Programme of Study		
BSc Nursing	89	(15.1)
RN Diploma	85	(14.4)
Enrolled (NMT)	416	(70.5)
Levels of study		
Year 1	154	(26.1)
Year 2	230	(39.0)
Year 3	206	(34.9)
Hospital of Placement		
Mzuzu central	150	(25.4)
Kamuzu central	36	(6.1)
Zomba central	292	(49.5)
QECH	112	(19.0)
Ward / Unit	163	(27.6)
Medical	142	(24.1)
Paediatric	43	(7.3)
Maternity	118	(20.0)
Community	13	(2.2)
Other	111	(18.8)
Total	**590**	**100**

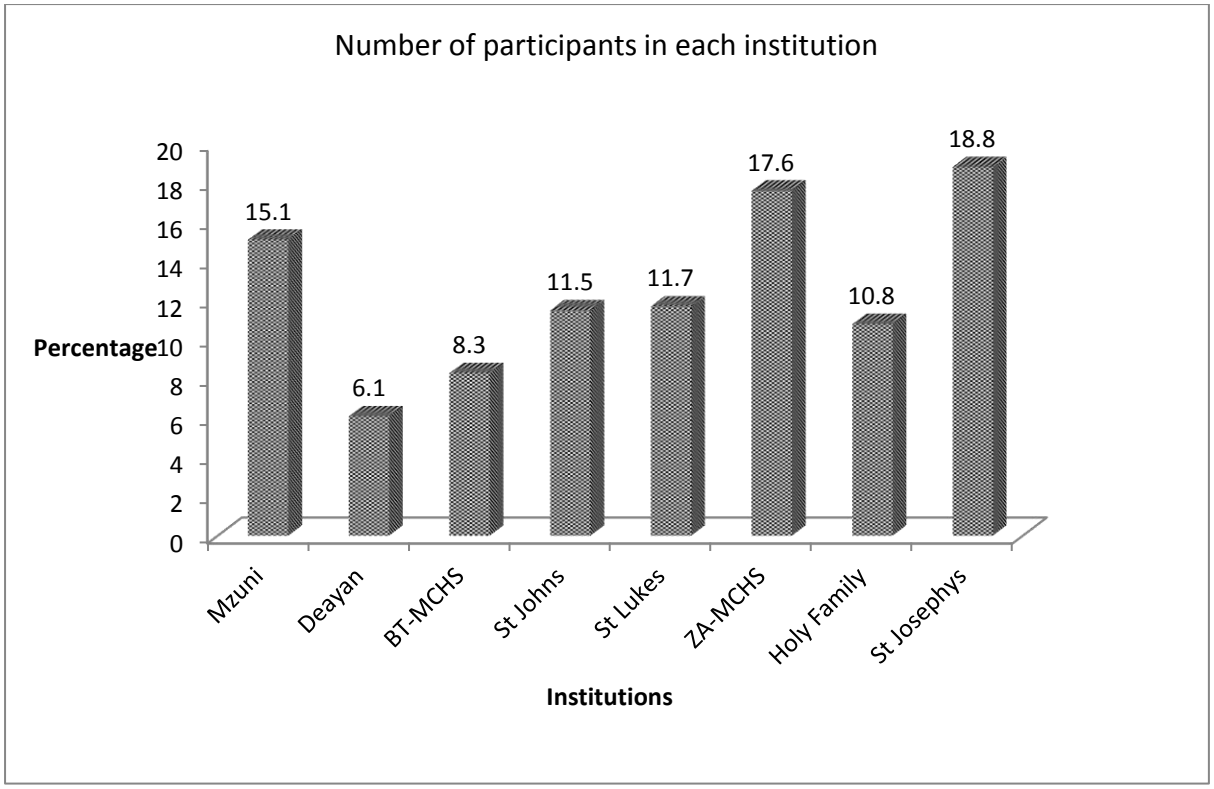


Figure 3.1 Number of participants in each institution of study

4.1.1.2 Distribution of the participants by gender

Table 4.1 shows that out of the 590 participants, about 61% (n= 358) of the participants were female while 39.3% (n = 232) were males. The high proportion of female participants in this study is because of the government policy that the intake should be at a ratio of 2 females to 1 male to increase the intake of females, since the nursing profession is dominated by females.

4.1.1.3 Programme of study

The study was conducted across three programmes, namely Registered Nurse (RN), Bachelor of Nursing Science (BSc) and Diploma (RN diploma) and diploma NMT (Enrolled). Table: 4.1 show that most of the participants 70.5% (n = 416) were in the NMT programme while about 15% (n = 89), were enrolled in BSc and RN diploma constituted 14.4%. The results

show more NMT participants because there are more NMT colleges (10) compared to BSc (2) and RN diploma (2) (Appendix 3).

4.1.1.4 Nursing Education Institutions

Figure 4.1 shows that the highest proportion 18.8% (n = 111) of participants came from St Joseph's and ZA-MCHS 17.6% (n = 104).

4.1.1.5. Levels of study

Table 4.1 indicates that participants in first year constituted about 26%, (n = 154), second year 39% (n = 230), and third year 34.9% (n = 206).

4.1.1.6. Hospitals of placement for clinical learning

Table 4.1 reveals that 49.5% (n = 292), of participants were attached to ZCH who were mainly NMTs 97.6% (n = 285), MZCH had 25.4% (n = 150), of the participants, the majority 54.7 (n = 82) being the BSc, QECH had 19% (n = 112), of participants with about 56% (n = 63) RN diploma, while KCH had the least 6.1% (n = 36) (participants and were all 100% (n = 36) RN diploma.

4.1.1.7 Ward / unit of clinical placement

Table 4.1 shows that 50% of participants were allocated to surgical 27.6% (n = 163) and medical 24.1% (n= 142) wards and the majority (73.6%) of them being in the NMT programme. The reason for the high number of participants being in surgical and medical wards is that out of the 590 participants, first year and second year students were in the majority and these are mainly allocated to the surgical and medical wards for all programmes. Third year participants were mainly allocated to maternity wards because in third year NMTs study midwifery science.

Table 4. 2: Duration of placements in clinical setting and frequency that the students met with Nurse Educator (NE)

Frequency on duration of placement and number of times students met NE

Duration of placement (weeks)	Number (N)	(%)
< = 2	78	(13.2)
3 - 4	203	(34.4)
5 - 6	162	(27.5)
7 - 8	47	(8.0)
9+	100	(16.9)
Total	**590**	**100**

Frequency of students meeting with Nurse Educator (NE)

Frequency (Number of times)	Number (N)	(%)
0	89	(15.1)
1 -2	216	(36.6)
3 - 4	152	(25.8)
5 - 6	65	(11.0)
7+	68	(11.5)
Total	**590**	**100**

4.1.1.8 Duration of placement

The duration of placement in the clinical area ranged from 1 week to 12 weeks with the mean duration being 5.8 ± 3 (Table 4.2). The number of weeks was grouped into five, ranging from two weeks and below to 9 weeks and above. About 34.4% (n = 203) of the participants were placed for between 3 to 4 weeks and 27.5% (n = 162) between 5 to 6 weeks. The Nurses and Midwives Council of Malawi prescribes the number of hours for each programme and for each ward / unit. However, duration of placement differs from college to college and programme to programme and how the numbers of hours are achieved is the colleges' responsibility.

4.1.1.9 Number of times students met with Nurse Educator (NE) in clinical area for supervision and guidance

Table 4.2 shows variations in the frequency with which participants met NEs. About 37% (n = 216) of participants met with the NE 1-2 times during the period of clinical allocation whereas 15% (n = 89), did not meet with the NE at all.

4.1.2 Description of dependent variable

The univariate results of the dependent variables have been illustrated using graphs and tables.

Table 4.3 The descriptive characteristics of the respondents

Description of dependent variables	Yes N (%)	No N (%)
Integration of theory and practice	162 (27.5)	428 (72.5)
Opportunities for clinical learning	370 (62.7)	220 (37.3)
Received supervision	443 (75.1)	147 (24.9)
Satisfied with clinical supervision	109 (18.5)	481 (81.5)
Received and given peer support	437 (74.1)	153 (25.9)
Received feedback	150 (25.4)	440 (74.6)
Satisfied with clinical learning environment	243 (41.2)	347 (58.8)
Satisfied with clinical learning	410 (69.5)	180 (30.5)

4.1.2.1 Integration of theory and practice

Table 4.3 showing descriptive results of dependent variables indicates that the majority, 72.5 % (n = 428) of the participants show that there was no integration of theory and practice with (n = 162) 27.5 % having integration.

4.1.2.2 Opportunities for clinical learning

Table 4.3 also shows that almost 63% (n = 370) of participants had opportunities for clinical learning in the clinical area.

4.1.2.3 Clinical supervision

About 75% (n = 443) of the participants indicated that they received supervision from both clinical staff and NE during their last clinical placement.

4.1.2.3.1 Satisfaction with clinical supervision

Table 4.3 show that the majority 82% (n = 481) of participants who received supervision were dissatisfied with the supervision they received.

4.1.2.3.2 Attitude of staff towards clinical supervision of students

Figure 4.2 shows that about 80% (n = 469) of participants indicated that the staff had negative attitude towards clinical supervision of students.

4.1.2.3.3 Peer support

About 74% (n = 437) of participants received and gave peer support in clinical practice. Although participants in all programmes indicated having peer support, the majority 81.2% (n = 69) of participants in RN Diploma had maximum peer support.

4.1.2.4 Feedback given to students during clinical learning

Table 4.3 displays that about 75% (n = 440) of participants did not receive feedback during clinical placement.

4.1.2.5 Innovative clinical teaching methods used in clinical setting

Figure 4.3 shows that the method of clinical teaching that the majority 78.6% (n = 464) of participants in this study indicated as most commonly used was case study, whereas almost three quarters 75% (n = 439) of the participants indicated that reflection was not used as a method of clinical teaching.

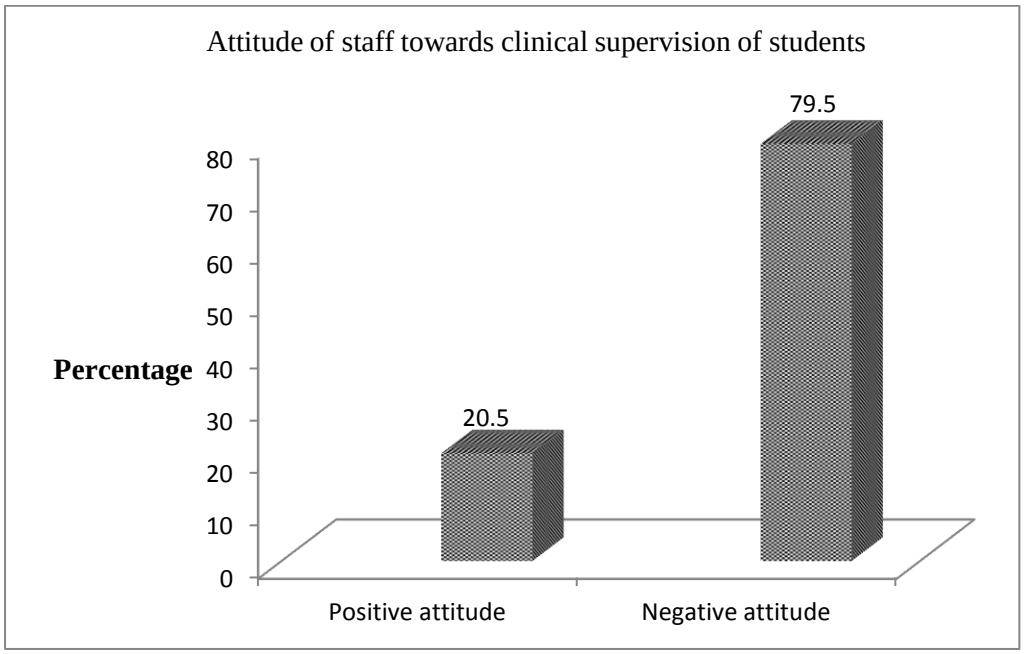


Figure 4.2 Attitude of staff towards clinical supervision as perceived by students

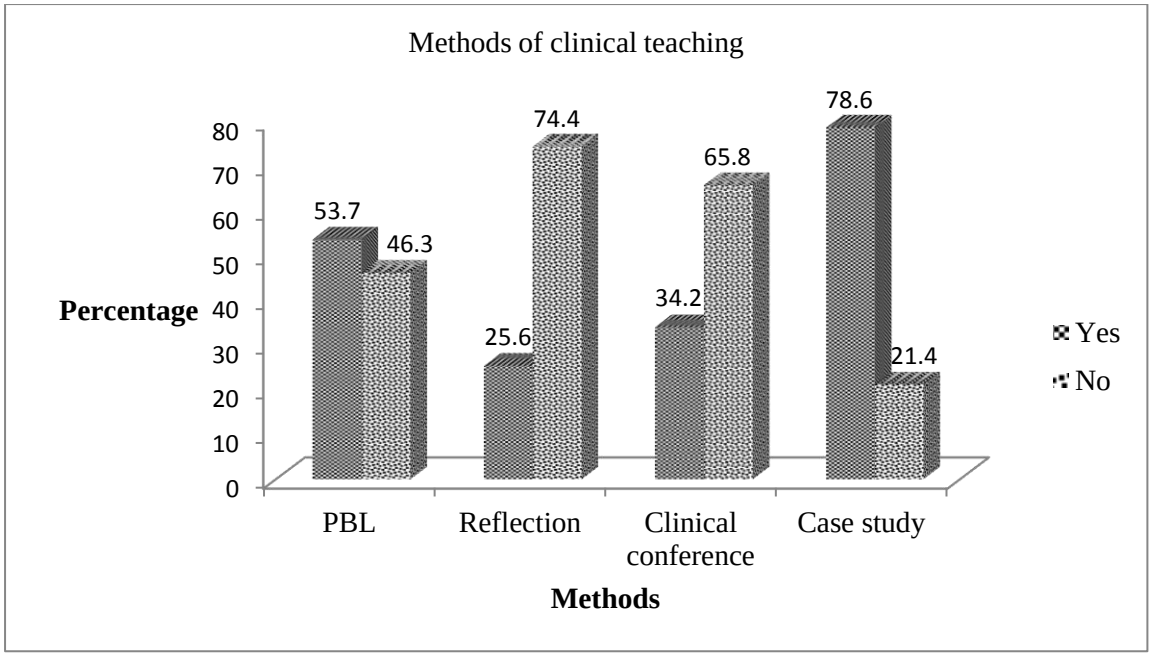


Figure 4.3 Methods of clinical teaching

4.1.2.6 Clinical learning environment

4.1.2.6.1 Students-staff relationship in the clinical setting

In this study Figure 4.4 shows that almost half 53% (n = 310) of participants indicated that they had poor relationship with students.

4.1.2.6.2 Satisfaction with clinical learning environment

About 59% (n = 347) of the participants were dissatisfied with the clinical learning environment.

4.1.2.7 Satisfaction with clinical learning

The study found that the majority 70% (n = 410) of participants were satisfied with clinical learning.

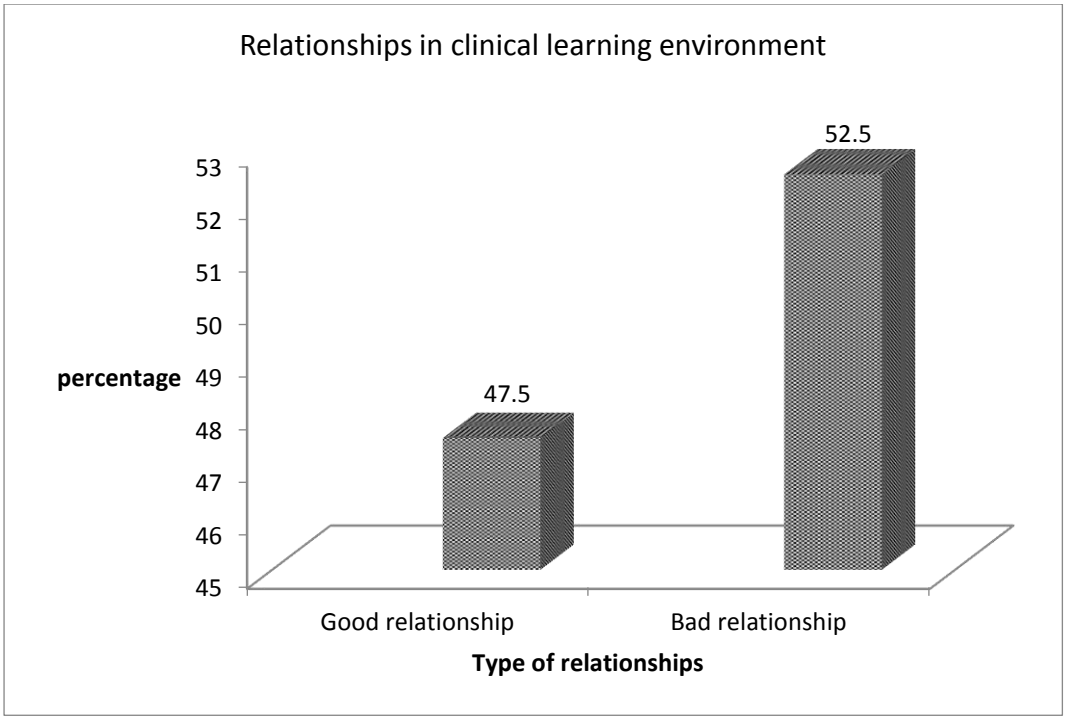


Figure 4.4 Students-staff relationship in the clinical area

4.2 Bivariate results

4.2.1 Integration of theory and practice

Integration of theory and practice among students were presented within programmes, institutions and levels of study, hospitals, wards, duration and contacts with nurse educators.

4.2.1.1 Integration of theory and practice by programmes of study

BSc programme had the highest number 40.4% (n = 36) of participants compared to RN Diploma 22.4% (n = 19) and NMT 25.7% (n = 107) (Table 4.4) who were able to integrate theory and practice. The F- Statistics test showed that there was a significant difference between programmes of study and integration of theory and practice (F (2, 587), 4.692, $p < 0.010$). The statistical significant differences within the programme was between BSc and RN Diploma ($\bar{x}$) 0.1810, $p < 0.03$ and between BSc and NMT ($\bar{x}$) 0.1473, $p < 0.018$ (Table 4.5). This suggests that participants in BSc programmes were more likely to integrate theory and practice compared to RN Diploma and NMT programmes.

Table 4. 4 : Integration of theory and practice by programmes, institutions and levels of study

	Integration of theory and practice		
	Yes	**No**	**P-value**
	N (%)	N (%)	
BSc Nursing	36 (40.4)	53 (59.6)	
RN Diploma	19 (22.4)	66 (77.6)	
NMT (Enrolled)	107 (25.7)	309 (74.3)	0.010*
Institutions			
Mzuni	36 (40.4)	53 (59.6)	
Daeyang	10 (27.8)	26 (72.2)	
BT MCHS	9 (18.4)	40 (81.6)	
St Johns	25 (36.8)	43 (63.2)	
St Lukes	14 (20.3)	55 (79.7)	
ZA MCHS	20 (19.2)	84 (80.8)	
Holy family	9 (14.1)	55 (85.9)	
St Joseph's	39 (35.1)	72 (64.9)	0.001**
Levels of study			
First year	63 (40.9)	91 (59.1)	
second year	46 (20.0)	184 (74.3)	0.001**
Third year	53 (25.7)	153 (74.3)	

N = Number, % = percentage,* = $p < 0.05$, ** = $p < 0.001$

4.2.1.2 Integration of theory and practice by institution of study

The results of integration of theory and practice by institution of study are presented in Table 4.4. Mzuni had a high proportion 40.4 % (n = 36) of participants compared to the other colleges in integrating theory and practice. About 86% (n = 55) of participants from Holy Family were not able to integrate theory and practice compared to the other colleges. The integration of theory and practice by institution was significant F (7,582), 3.971, $p < 0.001$). However, Scheffe post hoc test of comparison showed no significant differences in integrating theory and practice between the colleges.

Table 4. 5: Scheffe`s post hoc multiple comparisons on integration of theory and practice by programme of study

Programme of study		$(\bar{x})$	p	CI	F-statistics
BSc Nursing	RN Diploma	0.1810*	0.028	[0.0158 – 0.3462]	4.692**
	Enrolled (NMT)	0.1473*	0.018	[0.0201 – 0.2745]	
RN Diploma	BSc Nursing	-0.1810*	0.028	[-0.3462 – -0.0158]	
	Enrolled (NMT)	-0.0337	0.816	[-0.1633 – -0.0960]	
Enrolled (NMT)	BSc Nursing	-0.1473*	0.018	[-0.2745 – -0.0102]	
	RN Diploma	0.0337	0.816	[-0.0960 – 0.1633]	

* = significance at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance CI = 95% Confidence Interval

Table 4. 6: Scheffe's post hoc multiple comparisons on integration of theory and practice by levels of study

Level of study		$(\bar{x})$	P	CI	F-statistics
Year 1	Year 2	0.2091**	0.001	[0.0968 – 0 .3214]	10.683**
	Year 3	0.1518**	0.005	[0.0369 – 0.2667]	
Year 2	Year 1	-0.2091**	0.001	[-0.3214 – - 0.0968]	
	Year 3	-0.0573	0.398	[-0.1607 – 0.0462]	
Year 3	Year 1	-0.1518**	0.005	[-0.2667 – -0.0369]	
	Year 2	0.0573	0.398	[-0.0462 – 0.1607]	

* = Significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance CI = 95% Confidence Interval

4.2.1.3 Integration of theory and practice by levels of study

The level of study of participants and integration of theory and practice was also significant as determined by the one-way ANOVA, F (2,587) 10.683, p < 0.001). Table 4.6 shows Scheffé post hoc comparisons test was statistically highly significant between students in first and second year ($\bar{x}$) 0.2091, p < 0.001 and between first and third year ($\bar{x}$) 0.1518, p < 0.005

in integration of theory and practice. The results interestingly show that participants in their first year were more likely to integrate theory and practice compared to those in second or third year.

4.2.1.4 Integration of theory and practice by hospital of placement

The results showed that there was highly statistical significant difference between integration of theory and practice and hospital of placement F (3, 586) 9.320, $p < 0.001$). The table 4.8 displays highly statistical significant difference between participants allocated at MZCH (bigger than ZCH) and ZCH ($\bar{x}$) 0.2052, $p < 0.001$ and between ZCH and QECH (biggest of all hospitals with more services) ($\bar{x}$) -0.1846, $p < 0.003$ in integration of theory and practice. Integration of theory and practice was associated with hospital of placement. Participants allocated at ZCH were less likely to integrate theory and practice compared to those allocated at MZCH and QECH.

Table 4. 7: Scheffe`s post hoc multiple comparisons on hospital of placement and integration of theory and practice

Hospital of placement		($\bar{x}$)	p	C I	F-statistics
Mzuzu	Kamuzu Central	0.1089	0.616	[-0.1188 – 0.3365]	9.320**
	Zomba Central	0.2052**	0.001	[0.0819 – 0.3284]	
	QECH	0.0206	0.986	[- 0.1326 – 0.1738]	
Kamuzu	Mzuzu Central	-0.1089	0.616	[- 0.3365 – 0.1188]	
	Zomba Central	0.0963	0.671	[-0.1204 – 0.3129]	
	QECH	-0.0883	0.775	[-0.3233 – 0.1467]	
Zomba	Mzuzu Central	-0.2052**	0.001	[-0.3284 – -0.0819]	
	Kamuzu Central	-0.0963	0.671	[-0.3129 – 0.1204]	
	QECH	-0.1846**	0.003	[-0.3209 – -0.0482]	
QECH	Mzuzu Central	-0.0206	0.986	[-0.0986 – 0.1326]	
	Kamuzu Central	0.0883	0.775	[-0.0775 – 0.3233]	
	Zomba Central	0.1846**	0.003	[0.0003 – 0.3209]	

* = Significant at $p < 0.05$, ** $p < 0.001$, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

Table 4. 8: Integration of theory and practice by hospital and ward / unit of placement

	Integration of theory and practice		
	Yes	No	
Hospital	**N (%)**	**N (%)**	**P-value**
Mzuzu	58 (38.7)	92 (61.3)	
KCH	10 (27.8)	26 (72.2)	
ZCH	53 (18.2)	239 (81.8)	0.001**
QECH	41 (36.6)	71 (63.4)	
Ward / unit			
Surgical	47 (28.8)	116 (71.2)	
Medical	35 (24.6)	107 (75.4)	0.083
Paediatric	14 (32.6)	29 (67.4)	
Maternity	24 (20.3)	94 (79.7)	
Community	7 (53.8)	6 (46.2)	
Other	35 (31.5)	76 (68.5)	

4.2.1.5 Integration of theory and practice by ward / unit of placement

Table 4.8 shows that about half 54% (n = 7) of participants in the community department indicated ability to integrate theory and practice while the majority 79.7% (n = 94) of participants allocated to the maternity ward were unable to apply theory to practice. The results showed that there was no significant difference between integration of theory and practice and ward / unit of placement ($p > 0.082$).

4.2.1.6 Integration of theory and practice by duration of clinical placement

Table 4.9 Shows that there was statistical significant difference between duration of clinical placement and integration of theory and practice $F(4, 585) = 4.915$, $p = 0.001$). The post hoc Scheffe`s test showed that the significant differences were between participants allocated 5-6 weeks and between 3-4 weeks ($\bar{x}$) 0.1672, $p < 0.012$ and between 9 weeks and above ($\bar{x}$) 0.2089, $p < 0.008$ in integration of theory and practice. Participants allocated for duration of 5-6 weeks were more likely to integrate theory and practice compared to those allocated for duration of 3-4 weeks.

Table 4. 9 Scheffe`s post hoc multiple comparisons on duration of placement and integration of theory and practice

Duration		($\bar{x}$)	p	CI	F-statistics
2 weeks and below	3-4 weeks	0.0988	0.587	[-0.0826 - 0.2803]	4.915**
	5-6 weeks	-0.0684	0.867	[-0.2561 - 0.1194]	
	7-8 weeks	0.0865	0.890	[-0.1651- 0.3380]	
	9 weeks and above	0.1405	0.349	[-0.0653 - 0.3463]	
3-4 weeks	2 weeks and below	-0.0988	0.587	[-0.2803 - 0.0826]	
	5-6 weeks	-0.1672*	0.012	[-0.3107- -0.0237]	
	7-8 weeks	-0.0124	-------	[-0.2329 - 0.2081]	
	9 weeks and above	0.0417	0.963	[-0.1248 - 0.2081]	
5-6 weeks	2 weeks and below	0.0684	0.867	[-0.1194 - 0.2561]	
	3-4 weeks	0.1672*	0.012	[0.0237 - 0.3107]	
	7-8 weeks	0.1549	0.344	[-0.0709 - 0.3805]	
	9 weeks and above	0.2089**	0.008	[0.0356 - 0.3821]	
7-8 weeks	2 weeks and below	-0.0865	0.890	[-0.3380 - 0.1651]	
	3-4 weeks	0.0124	------	[-0.2081 - 0.2329]	
	5-6 weeks	-0.1549	0.344	[-0.3805 - 0.0709]	
	9 weeks and above	0.054	0.975	[-0.1869 - 0.2950]	
9 weeks and above	2 weeks and below	-0.1405	0.349	[-0.3463 - 0.0653]	
	3-4 weeks	-0.0417	0.963	[-0.2081 - 0.1258]	
	5-6 weeks	-0.2089**	0.008	[-0.3821- -0.0356]	
	7-8 weeks	-0.054	0.975	[-0.2950 - 0.1869]	

* = significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence interval

Table 4. 10: Integration of theory and practice by duration of clinical placement and number of times students met with nurse educator

	Integration of theory and practice		
	Yes	No	p-value
Duration of placement(Weeks)	**N (%)**	**N (%)**	
<=2	25 (32.1)	53 (67.9)	
3-4	45 (22.2)	158 (77.8)	0.001**
5-6	63 (38.9)	99 (61.1)	
7-8	11 (23.4)	36 (76.6)	
9+	18 (18.0)	82 (82.0)	
Frequency (Times met with NE)			
0	13 (14.6)	76 (85.4)	
1-2	46 (21.3)	170 (78.7)	0.001**
3-4	52 (34.2)	100 (65.8)	
5-6	21 (32.3)	44 (67.7)	
7 +	30 (44.1)	38 (55.9)	

N = Number, % = percentage,* = $p < 0.05$, ** = $p < 0.001$

4.2.1.7 Integration of theory and practice by number of times students met with Nurse Educator (NE)

Table 4.10 shows that the majority 85.4% (n = 76) of participants who had not met the NE during clinical placement had no integration of theory and practice. The highest number 44.1% (n = 30) of participants who had integration of theory and practice had met with the NE 7 times and above. The results on one-way ANOVA between integration of theory and practice and number of times the student met with the NE showed statistical significant difference ($F4, 585) = 6.530$, $p < 0.001$). Table 4.11 on Scheffe's post hoc test indicated that integration of theory and practice was less likely to occur in participants who had never met the NE compared to those who had met the NE 3-4 times ($\bar{x}$) - 0.1961, p 0.025 and it was also less likely to occur in participants who had met the NE 1-2 times compared to those who met the NE 7 times or more ($\bar{x}$) - 0.2282, $p < 0.008$. This indicates that the more times students met with the nurse educator the more likely they were able to apply theory into practice. Thus, integration of theory and practice was more likely to occur if participants had met the nurse educators more often.

Table 4. 11 Scheffe`s post hoc multiple comparisons on number of times students met with nurse educator (NE) and integration of theory and practice

Times met NE		($\bar{x}$)	p	CI	F-statistics
Not met with NE	Met 1-2 times	-0.0669	0.832	[0-.2376 - 0.1038]	6.530**
	Met 3-4 times	-0.1960	0.025	[-0.3769 - -0.0152	
	Met 5-6 times	-0.1770	0.192	[-0.3981 - 0.0441]	
	Met 7 times above	-0.2951**	0.002	[-0.5134 - 0.0769]	
	Not met	0.0669	0.832	[-0.1038 - 0.2376]	
Met NE 1-2 times	Met 3-4 times	-0.1291	0.103	[-0.2726 - 0.0143]	
	Met 5-6 times	-0.1101	0.533	[-0.3018 - 0.0816]	
	Met 7 times above	-0.2282**	0.008	[-0.4166- -0.0398]	
Met NE 3-4 times	Not met	0.1960*	0.025	[0.0152 - 0.3769]	
	Met 1-2 times	0.1291	0.103	[-0.0143 - 0.2726]	
	Met 5-6 times	0.0190	0.999	[-0.1818 - 0.2199]	
	Met 7 times above	-0.0991	0.663	[-0.2968 - 0.0986]	
Met NE 5-6 times	Not met	0.1770	0.192	[-0.0441 - 0.3981]	
	Met 1-2 times	0.1101	0.533	[-0.0816 - 0.3018]	
	Met 3-4 times	-0.0190	0.999	[-0.2199 - 0.1818]	
	Met 7 times above	-0.1181	0.661	[-0.3532 - 0.1170]	
Met NE 7 times above	Not met	0.2951**	0.002	[0.0769 - 0.5144]	
	Met 1-2 times	0.2282**	0.008	[0.0398 - 0.4166]	
	Met 3-4 times	0.0991	0.663	[-0.0986 - 0.2968]	
	Met 5-6 times	0.1181	0.661	[-0.1170 - 0.3582]	

* = Significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

4.2.2 Opportunities for clinical learning

Clinical learning opportunities among students were presented as opportunities within programmes, institutions and levels of study, hospitals, wards, duration and contacts with nurse educators.

4.2.2.1 Clinical learning opportunities by programme

Table 4.12. Shows that the majority 71.9 % (n = 64) of participants in BSc programme compared to the other programmes had opportunities for clinical learning. There was no

statistical significant difference between opportunities for clinical learning and programme of study (F 2, 587) = 2.697, p > 0.05.

Table 4. 7: Clinical learning opportunities by programmes, institutions and levels of study

	Opportunities for clinical learning		
	Yes	**No**	**P-value**
Programme	N (%)	N (%)	
Bsc Nursing	64 (71.9)	25 (28.1)	
RN Diploma	57 (67.1)	28 (32.9)	
Enrolled (NMT)	249 (59.9)	167 (40.1)	0.001**
Institutions			
Mzuni	64 (71.9)	25 (28.1)	
Daeyang	28 (77.8)	8 (22.2)	
BT MCHS	29 (59.2)	20 (40.8)	
St Johns	29 (42.6)	39 (57.4)	
St Lukes	59 (85.5)	10 (14.5)	
ZA MCHS	52 (50.0)	52 (50.0)	0.001**
Holy family	41 (64.1)	23 (35.9)	
St Joseph's	68 (61.3)	43 (38.7)	
Levels of study			
First year	109 (70.8)	45 (29.2)	
second year	143 (62.2)	87 (37.8)	
Third year	88 (42.7)	118 (57.3)	0.032**

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

4.2.2.2 Clinical learning opportunities by institutions

Table: 4.12 displayed that among the eight colleges the majority 85.5 % n = 59 of participants from St Lukes indicated that they had opportunities for clinical learning whereas at St Johns about 58 % (n = 39) of the participants had no opportunities for clinical learning.

The results of ANOVA showed statistical significant difference between opportunities for clinical learning and institution of study (F7, 582) = 6.267, p < 0.001). Scheffes test in Table 4.13 show that the differences in these institutions were between St Johns and Mzuni ($\bar{x}$) -0.2926, p .038, between St Lukes and St Johns ($\bar{x}$) -0.4286, p 0.000 and St Lukes and ZA MCHS ($\bar{x}$) 0.3551, p 0.001. These results demonstrate that participants from Mzuni institution were more likely to have opportunities for clinical learning compared to St Johns. Likewise St Lukes was more likely to have more opportunities compared to St Johns and ZA MCHS.

Table 4. 13 Scheffe`s post hoc multiple comparisons on institutions of study and opportunities for clinical learning

Institutions		($\bar{x}$)	p	CI	F-statistics
Mzuni	Deayan	-0.0587	1.000	[-0.4079 –0 2905]	6.267**
	BT-MCHS	0.1273	0.940	[-0.1872 – 0.4417]	
	St Johns	0.2926*	0.038	[0.0079 – 0.5774]	
	St Lukes	-0.1360	0.859	[-0.4195 – 0.1476]	
	ZA-MCHS	0.2191	0.167	[-0.0362 – 0.4744]	
	Holy Family	0.0785	0.994	[-0.2113 – 0.3682]	
	St Joseph's	0.1065	0.924	[-0.1450 – 0.3580]	
St Johns	Mzuni	-0.2926*	0.038	[-0.5774 – -0.0079]	
	Deayan	-0.3513	0.070	[-0.7157 – 0.0131]	
	BT-MCHS	-0.1654	0.831	[-0.4966 – 0.1659]	
	St Lukes	-0.4286**	0.001	[-0.7307 – -0.1265]	
	ZA-MCHS	-0.0735	0.995	[-0.3492 – 0.2022]	
	Holy Family	-0.2142	0.445	[-0.5220 – 0.0937]	
	St Joseph's	-0.1861	0.470	[-0.4584 – 0.0861]	
St Lukes	Mzuni	0.1350	0.859	[-0.1476 – 0.4295]	
	Deayan	0.0773	0.999	[-0.2862 – 0.4408]	
	BT-MCHS	0.2632	0.254	[-0.0670 – 0.5935]	
	St Johns	0.4286**	0.001	[0.1265 – 0.7307]	
	ZA-MCHS	0.3551**	0.001	[0.0806 – 0.6296]	
	Holy Family	0.2145	0.438	[-0.0923 – 0.5212]	
	St Joseph's	0.2425	0.127	[-0.0286 – 0.5135]	
ZA-MCHS	Mzuni	-0.2191	0.167	[-0.4744 – 0.0362]	
	Deayan	-0.2778	0.230	[-0.6196 – 0.0641]	
	BT-MCHS	-0.0918	0.989	[-0.3982 – 0.2145]	
	St Johns	0.0735	0.995	[-0.2022 – 0.3492]	
	St Lukes	-0.3510**	0.001	[-0.6296 – -0.0806]	
	Holy Family	-0.1406	0.829	[-.4215 – 0.1402]	
	St Joseph's	-0.1126	0.876	[-.3539 – 0.1286]	

*= Significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

4.2.2.3 Clinical learning opportunities by levels of study

Table 4:12 shows that the majority 70.8% (n = 109) of participants in their first year had opportunities for clinical learning compared to other years of study. Participants in their third year had the highest proportion 57.8 % (n = 118) who had no opportunities for clinical learning. The results indicated that there was a statistical significant difference between

opportunities for clinical learning and level of study (F2, 587) 3.479, p < 0.031). Table 4.14 shows that significant differences occurred between first year and third year ($\bar{x}$) 1350, p < 0.032. Participants in their first year were more likely to have opportunities for clinical learning compared to those in their third year.

Table 4. 14 Scheffe`s post hoc multiple comparisons on levels of study and opportunities for clinical learning

Level of study		($\bar{x}$)	p	CI	F-statistics
Year 1	Year 2	0.0861	0.231	[-0.0371 – 0.2092]	3.479 **
	Year 3	0.1350*	0.032	[0.0090 – 0.2610]	
Year 2	Year 1	-0.0861	0.231	[-0.2092 – 0.0371]	
	Year 3	0.0482	0.572	[-0.0645 – 0.1624]	
Year 3	Year 1	-0.1350*	0.032	[-0.2610 – -0.0090]	
	Year 2	-0.0489	0.572	[-0.1624 – 0.0645]	

* = Significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

4.2.2.4 Clinical learning opportunities by hospital of placement

Table 4.15 displays that the majority 77.8 % (n = 28) of participants allocated to KCH (larger with more facilities) had more opportunities for clinical learning compared to those allocated to other hospitals. The highest numbers of participants with no opportunities for clinical learning were those allocated at MZCH 40.7%. (n = 61). However, the results show that hospital of placement did not significantly affect opportunities for clinical learning (p > 0.216).

4.2.2.5 Clinical learning opportunities by ward / unit of allocation

Table 4.15 also shows that about three quarters 73.2 % (n = 104) of participants in medical wards had opportunities for clinical learning whereas the highest proportion 51.2% (n = 22)

of participants in paediatrics had no opportunity for clinical learning. Contrary to hospital of placement, there was significant difference between clinical learning opportunities and ward / unit of placement (F 5, 584) = 3.355, p < 0.005). However, no differences occurred between the wards regarding opportunities for clinical learning.

Table 4. 15 Opportunities for clinical learning by hospital and ward / unit of clinical placement

	Availabilities of opportunities for learning		
	Yes	**No**	**p-value**
Hospital	N (%)	N (%)	
Mzuzu	89 (59.3)	61 (40.7)	0.215
KCH	28 (77.8)	8 (22.2)	
ZCH	185 (63.4)	107 (36.6)	
QECH	68 (60.7)	44 (39.3)	
Ward / unit			
Surgical	94 (57.7)	69 (42.3)	0.006**
Medical	104 (73.2)	38 (26.8)	
Paediatric	21 (48.8)	22 (51.2)	
Maternity	66 (55.9)	52 (44.1)	
Community	8 (61.5)	5 (38.5)	
Other	77 (69.5)	34 (30.6)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

4.2.2.6 Clinical learning opportunities by duration of placement

Table: 4.16 shows that the majority 90 % (n = 63) of participants who were allocated for a period of 2 weeks and below surprisingly had opportunities for clinical learning compared to those who were placed for more than 2 weeks. Statistical test using one-way ANOVA indicated significant difference between duration of placement and opportunities for learning (F 4, 585) = 4.366, p < 0.002). The significant differences existed between duration of 2 weeks and below and 3-4 weeks ($\bar{x}$) 0.2412, p < 0.007 and between 2 weeks and below and 7-8 weeks ($\bar{x}$) 0.2971, p < 0.024 (Table 4.17). Thus, participants placed for 2 weeks and below were more likely to have opportunities for clinical learning compared to those placed for 3-4 weeks and 7-8 weeks.

4.2.2.7 Clinical learning opportunities by number of times students met Nurse Educator (NE)

Table: 4.16 shows that the highest proportion 65.2 % (n = 58) of participants who had more opportunities for learning were those who had not met the NE. Even so, about 40% (n = 60) 39.5% of participants who had no opportunity were those who had met the NE 3-4 times. However, there was no statistical significant difference between opportunities for clinical learning and number of times student met with the NE F (4, 585) =, p > 0.968).

Table 4. 8: Duration of placement and number of times students met NE and opportunities for clinical learning

	Availabilities of opportunities for learning		
	Yes	**No**	**p-value**
Duration (weeks)	**N (%)**	**N (%)**	
<=2	63 (80.8)	15 (19.2)	
3 - 4	115 (56.7)	88 (43.3)	0.002**
5 - 6	105 (64.8)	57 (35.2)	
7 - 8	24 (51.1)	23 (48.9)	
9+	63 (63.0)	37 (37.0)	
Frequency (Times met with NE)			
0	58 (65.2)	31 (34.8)	0.968
1 - 2	136 (63.0)	80 (37.0)	
3 - 4	92 (60.5)	60 (39.5)	
5 - 6	41 (63.1)	24 (36.9)	
7 +	43 (63.2)	25 (36.8)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

NE = Nurse Educator

Table 4. 9 Scheffe`s post hoc multiple comparisons on duration of clinical placement and opportunities for clinical learning

Duration (weeks)	weeks	($\bar{x}$)	p	CI	F-statistics
<= 2	3-4 weeks	0.2412**	0.007	[0.0442 – 0.4382]	4.366*
	5-6 weeks	0.1595	0.212	[-0.0443 – 0.3633]	
	7-8 weeks	0.2971*	0.024	[0.0240 – 0.5701]	
	9 weeks and above	0.1777	0.198	[-0.0457 – 0.4011]	
3-4	2 weeks and below	-0.2412**	0.007	[-0.4382– -0.0442]	
	5-6 weeks	-0.0817	0.623	[-0.2374 – 0.0741]	
	7-8 weeks	0.0559	0.971	[-0.1835 –0.2952]	
	9 weeks and above	-0.0635	0.881	[-0.2442 – 0.1172]	
5-6	2 weeks and below	-0.1595	0.212	[-0.3633 – 0.0443]	
	3-4 weeks	0.0817	0.623	[-0.0741 – 0.2374]	
	7-8 weeks	0.1375	0.557	[-0.1075 – 0.3825]	
	9 weeks and above	0.0182	0.999	[-0.1699 – 0.2062]	
7-8	2 weeks and below	-0.2971*	0.024	[-0.5701– -0.0240]	
	3-4 weeks	-0.0559	0.971	[-0.2952 – 0.1835]	
	5-6 weeks	-0.1375	0.557	[-0.3825 – 0.1075]	
	9 weeks and above	-0.1194	0.738	[-0.3809 – 0.1422]	
9 +	2 weeks and below	-0.1777	0.198	[-0.4011 – 0.0457]	
	3-4 weeks	0.0635	0.881	[-0.1172 – 0.2442]	
	5-6 weeks	-0.0182	0.999	[-0.2062 – 0.1699]	
	7-8 weeks	0.1194	0.738	[-0.1422 – 0.3809]	

* = significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

4.2.3 Clinical supervision and support

4.2.3.1 Clinical supervision by programme of study

Table: 4.18 shows that RN diploma programme had the highest number 84.7% (n =72) of participants who received supervision. The results indicated that there was no statistical significant difference on clinical supervision of students and the programme of study (F 2, 587) 2.479, p > 0.085).

Table 4. 10: Clinical supervision by programmes, institutions and levels of study

	Received clinical supervision		
	Yes	**No**	**p-value**
Programmes	**N (%)**	**N (%)**	0.085
Bsc Nursing	66 (74.2)	23 (25.8)	
RN Diploma	72 (84.7)	13 (15.3)	
Enrolled (NMT)	305 (73.3)	111 (26.7)	
Institutions			
Mzuni	66 (74.2)	23 (25.8)	
Daeyang	31 (86.1)	5 (13.9)	
BT MCHS	41 (83.7)	8 (16.3)	
St Johns	50 (73.5)	18 (26.5)	
St Lukes	45 (65.2)	24 (34.8)	
ZA MCHS	60 (57.7)	44 (42.3)	0.001**
Holy family	59 (92.2)	5 (7.8)	
St Joseph's	91 (82.0)	20 (18.0)	
Levels of study			
First year	124 (80.5)	30 (19.5)	
second year	160 (69.6)	70 (30.4)	0.036*
Third year	159 (77.2)	47 (22.8)	

N = Number, % = percentage,*= p < 0.05, **= p < 0.001

4.2.3.2 Clinical supervision by institution of study

Table 4.18 displays that among the colleges the majority 92.2% (n = 59) of participants from Holy Family received supervision with ZA- MCHS having the highest proportion 42.3% (n = 44) of participants who did not receive supervision. There was significant association between institution of study and clinical supervision (F 7,582) 5.665, p < 0.001). Scheffe`s post hoc multiple comparison test revealed significant differences occurred between ZA MCHS and Holy Family ($\bar{x}$) 0.3450, p < 0.001 and between ZA MCHS and St Joseph's ($\bar{x}$) -0.2430, p < 0.014 (Table 4.19). Participants from ZA MCHS received less supervision compared to those from Mzuni. The results suggest that students from ZA MCHS may be receiving less supervision compared to other institutions (p 0.001). This can be related to the hospital of placement as students placed at ZCH were less likely to receive supervision (p < 0.001) compared to MZCH. Since ZA MCHS College was close to ZCH, the majority of students were allocated there.

4.2.3.3 Clinical supervision by level of study

Table 4.18 show the majority 80.5% (n = 124) of participants in their first year received supervision. There was significant relationship between clinical supervision and year of study (F 2, 587) 3.352, p < 0.036). Scheffes test of multiple comparisons showed no statistical difference between the years of study, in other words clinical supervision was the same in all years of study. However, although there was no significance difference, participants in first year received more supervision $\bar{x}$ 0.8052, σ 0.3973 than those in second $\bar{x}$ 0.6957, σ 0.46113 and third $\bar{x}$ 0.7718, σ 0.4207 years.

Table 4. 11: Scheffe`s post hoc multiple comparisons on institution of study and clinical supervision

Institutions		($\bar{x}$)	p	CI	F-statistics
ZA MCHS	Mzuni	-0.1647	0.398	[-0.3937 – 0.0644]	5.665**
	Deayang	-0.2842	0.098	[-0.5910 – 0.0226]	
	BT-MCHS	-0.2598	0.083	[-0.5347 – 0.0151]	
	St Johns	-0.1584	0.563	[-0.4058 – 0.0891]	
	St Lukes	-0.0753	0.988	[-0.3216 – 0.1711]	
	Holy Family	0.3450**	0.001	[-0.5970 – 0.0929]	
	St Joseph's	-0.2429*	0.014	[-0.4594 – 0.0264]	
Holy Family	Mzuni	0.1803	0.449	[-0.0797 – 0.4403]	
	Deayang	0.0608	------	[-0.2698 – 0.3913]	
	BT-MCHS	0.0852	0.992	[-0.2160 – 0.3863]	
	St Johns	0.1866	0.488	[-0.0897 – 0.4629]	
	St Lukes	0.2697	0.061	[-0.0056 – 0.5450]	
	ZA-MCHS	0.3450**	0.001	[0.0929 – 0.5970]	
	St Joseph's	0.1021	0.935	[-0.1470 – 0.3511]	
St Joseph's	Mzuni	0.0783	0.974	[-0.1475 – 0.3040]	
	Deayan	-0.0413	------	[-0.3456 – 0.2630]	
	BT-MCHS	-0.0169	------	[-0.2890 – 0.2552]	
	St Johns	0.0845	0.974	[-0.1598 – 0.3288]	
	St Lukes	0.1677	0.458	[-0.0756 – 0.4109]	
	ZA-MCHS	0.2429*	0.014	[0.0264 – 0.4594]	
	Holy Family	-0.1021	0.935	[-0.3511 – 0.1470]	

* = significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

4.2.3.4 Clinical supervision by hospital of placement

Table 4.20 shows that the majority (86%, n = 31) of students who received supervision were those placed at KCH. Results showed that hospital of placement was statically significant with clinical supervision received (F3, 586) = 3.714, p < 0.011). The significant differences existed between ZCH and QECH ($\bar{x}$) -0.1391, p < 0.038 (Table 4.21). Participants allocated to ZCH received less supervision compared to those placed at QECH (bigger hospital with more services compared to ZCH).

Table 4. 12 Clinical supervision by hospital and ward / unit of clinical placement

	Received clinical supervision		
	Yes	**No**	**p-value**
Hospital	**N (%)**	**N (%)**	
Mzuzu	110 (73.3)	40 (26.7)	
KCH	31 (86.1)	5 (13.9)	
ZCH	207 (70.9)	85 (29.1)	0.012*
QECH	95 (84.8)	17 (15.2)	
Ward / unit			
Surgical	122 (74.8)	41 (25.2)	0.022*
Medical	114 (80.3)	28 (19.7)	
Paediatric	37 (86.0)	6 (14.0)	
Maternity	90 (76.3)	28 (23.7)	
Community	7 (53.8)	6 (46.2)	
Other	73 (65.8)	38 (34.2)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

4.2.3.5 Clinical supervision by Wards / units and duration of placement

Table 4.20 displays that the majority 86% (n = 37) of participants in the paediatric ward received supervision. The relationship between ward / unit of placement and duration was found to be significant with clinical supervision (F 5, 584 = 2.672, p < 0.021). Scheffes post hoc test showed no statistically significant differences between the wards / units of placement. There was no association of clinical supervision and duration of placement (p > 0.395).

Table 21: Scheffe's post hoc multiple comparisons on hospital of placement and clinical supervision

Hospital		($\bar{x}$)	p	CI	F-statistics
Mzuzu Central	Kamuzu Central	-0.1278	0.464	[-0.3515 – 0.0959]	3.714*
	Zomba Central	0.0244	0.956	[-0.0967 – 0.1455]	
	QECH	-0.1149	0.207	[-0.2654 – 0.0356]	
Kamuzu Central	Mzuzu Central	0.1278	0.464	[-0.0959 – 0.3515]	
	Zomba Central	0.1522	0.261	[-0.0607 – 0.3651]	
	QECH	0.0129	0.999	[-0.2180 – 0.2438]	
Zomba Central	Mzuzu Central	-0.0244	0.956	[-0.1455 – 0.0967]	
	Kamuzu Central	-0.1522	0.261	[-0.3651 – 0.0607]	
	QECH	-0.1393**	0.038	[-0.2733 – 0.0053]	
QECH	Mzuzu Central	0.1149	0.207	[-0.0356 – 0.2654]	
	Kamuzu Central	-0.0129	0.999	[-0.2438 – 0.2180]	
	Zomba Central	0.1393**	0.038	[0.0053 – 0.2733]	

* = Significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

Table 4. 22: Clinical supervision by duration of placement and number of times students met with the NE

	Received clinical supervision		
	Yes	No	
Duration	**N (%)**	**N (%)**	**p-value**
2 weeks below	58 (74.4)	20 (25.6)	0.393
3 - 4 weeks	143 (70.4)	60 (29.6)	
5 - 6 weeks	127 (78.4)	35 (21.6)	
7 - 8 weeks	37 (78.7)	10 (21.3)	
9 weeks above	78 (78.0)	22 (22.0)	
Times met with NE			
Not met	50 (56.2)	39 (43.8)	0.001**
1 - 2 times	160 (74.1)	56 (25.9)	
3 - 4 times	124 (81.6)	28 (18.4)	
5 - 6 times	51 (78.5)	14 (21.5)	
7 above times	58 (85.3)	10 (14.7)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

4.2.3.6 Clinical supervision by number of times students met Nurse Educator (NE)

Table 4.22 shows that about 85% (n = 58) of participants who met with the NE seven (7) times and above received supervision. There was significant relationship between clinical supervision and number of times students met with the NE F (4, 585), 6.399, p < 0.001). Scheffe's statistics indicated significant differences between students who did not meet the NE and those who met the NE 1-2 times ($\bar{x}$) 0.179, p < 0.026, 3- 4 times ($\bar{x}$) 0.254, p < 0.001, 5- 6 times ($\bar{x}$) 0.223, p < 0.036 and 7 times and above ($\bar{x}$) 0.291, p < 0.001. Thus, participants who received clinical supervision were those who met the NE regardless of frequency (Table 4. 23).

Table 4. 13: Scheff`s post hoc multiple comparisons on number of times students met with Nurse Educator (NE) and clinical supervision

Times met with NE		($\bar{x}$)	p	CI	F-statistics
Not met with NE	Met 1-2 times	-0.1789*	0.026	[-0.3444 – -0. 0135]	6.399**
	Met 3-4 times	-0.2540**	0.001	[-0.4293 – -0.0786]	
	Met 5-6 times	-0.2229*	0.036	[-0.4372 - -0.0085]	
	Met 7 times above	-0.2911**	0.001	[-0.5028 - -0.0795]	
	Not met	0.1790*	0.026	[0.0135 - 0.3444]	
Met NE 1-2 times	Met 3-4 times	-0.0751	0.596	[-0.2141 – 0.0640]	
	Met 5-6 times	-0.0439	0.970	[-0.2297- 0.1420]	
	Met 7 times above	-0.1122	0.463	[-0.2949- 0.0705]	
Met NE 3-4 times	Not met	0.0568	0.001	[0.0786 – 0.4293]	
	Met 1-2 times	0.0450	0.596	[-0.0640 – 0.2141]	
	Met 5-6 times	0.0630	0.993	[-0.1635 – 0.2259]	
	Met 7 times above	0.0620	0.986	[-0.2288 – 0.1545]	
Met NE 5-6 times	Not met	0.2228*	0.036	[0.0085 – 0.4372]	
	Met 1-2 times	0.0439	0.970	[-0.1420 – 0.2297]	
	Met 3-4 times	-0.0312	0.993	[-0.2259 – 0. 1635]	
	Met 7 times above	-0.0683	0.930	[-0.2962 – 0.1596]	
Met NE 7 times above	Not met	0.2911**	0.001	[0.0795 – 0.5028]	
	Met 1-2 times	0.1122	0.463	[-0.0705 – 0.2949]	
	Met 3-4 times	0.0372	0.986	[-0.1545 – 0.2288]	
	Met 5-6 times	0.0683	0.930	[-0.1596 – 0.2962]	

* * p < 0.05, *** p < 0.001, F = 6.399***, ($\bar{x}$) = Mean Difference, p = Significance C I = 95%

Confidence Interval

4.2.3.7 Satisfaction with clinical supervision

4.2.3.7.1 Satisfaction with clinical supervision by Programme of study

Satisfaction with clinical supervision and programme of study was found to be significant F (2,587) 3.541, p < 0.030). Participants from BSc programme were less satisfied with clinical supervision than those in RN Diploma ($\bar{x}$) -0.1454, p < 0.047 whereas satisfaction with clinical supervision was the same between BSc and NMT programmes (p 0.069).

Table 4. 144: Scheffe`s post hoc multiple comparisons on programme of study and satisfaction with clinical supervision

Programme of study		($\bar{x}$)	p	CI	F-statistics
BSc Nursing	RN Diploma	-0.1454*	0.047	[-0.2893 – -0.0015]	3.541*
	Enrolled (NMT)	-0.1042	0.069	[-0.2157 – 0.0060]	
RN Diploma	BSc Nursing	0.1454*	0.047	[0.0015 – 0.2893]	
	Enrolled (NMT)	0.0406	0.678	[-0.0724 – 0.1536]	
Enrolled (NMT)	BSc Nursing	0.1048	0.069	[-0.0060 – 0.2157]	
	RN Diploma	-0.0406	0.678	[-0.1536 – 0.0724]	

* = significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance CI = 95% Confidence Interval

4.2.3.7.2 Satisfaction with clinical supervision by institutions of study

Although there was a significant relationship between institutions and satisfaction (F 7, 582) 2.642, p < 0.011), there was no significant relationship between the institutions of study and clinical supervision. Clinical supervision between the institutions was the same.

4.2.3.7.3 Satisfaction with clinical supervision by levels of study

The results showed that there was no significant relationship between satisfaction with clinical supervision and year of study F (2, 587), 713, p > 0.491). Nonetheless, first year $\bar{x}$ 0.2143, σ .41166 was more satisfied compared to second year $\bar{x}$ .1826, σ .38719 and third $\bar{x}$ 0.1650, σ .37213 years. One-way ANOVA showed that there was a statistical significant difference between satisfaction with clinical supervision and hospital of placement F (3, 586) 0.2726, p < 0.043).

4.2.3.7.4 Wards / units and satisfaction with clinical supervision

There was no significant relationship between ward / unit of placement and clinical supervision F (5, 584) 0.154, p > 0.175). Clinical supervision between ward / unit of placement was the same.

4.2.3.7.5 Duration of placement and satisfaction with clinical supervision

Similarly, there was no significant association between satisfaction with clinical supervision and duration of placement F (4, 585), 0.583, p > 0 .675).

4.2.3.7.6 Number of times students met with Nurse Educators (NE) and satisfaction with clinical supervision

Statistical significant difference was shown in one-way ANOVA between satisfaction with clinical supervision and number of times student met with the NE F (4, 585), 2.854, p < 0 .023). Participants who did not meet the NE were less satisfied compared with those who met with the NE 7 times and above ($\bar{x}$) 0.0748, p < 0.026.

4.2.3.7.7 Attitude of staff towards clinical supervision of students

Table 4.25 shows that the highest number 22.4% (n = 93) of participants who thought that clinical staff had positive attitudes towards supervision were those in the NMTs. The results showed that the attitude of staff towards clinical supervision was the same across all

programme of study (p > 0.105), colleges (p > 0.073), year of study (p > 0.092), hospital of placement and duration of placement (p > 0.05).

However, there was significant relationship between ward / unit of placement and attitude of staff towards clinical supervision F (5, 584) 10.370, p < 0.001. Scheffe's post hoc tests showed that significant differences were between community department and medical wards ($\bar{x}$) 0.7752, p < 0.001, between community and surgical wards ($\bar{x}$) 0.7390, p < 0.001, between community and paediatric wards ($\bar{x}$) 0.7835, p < 0.001, between community and maternity wards ($\bar{x}$) 0.6604, p > 0.001 and between community and "other" wards / units ($\bar{x}$) 0.7339, p < 0.001. This indicates that the attitude of staff towards supervision of students was positive in the community department compared to the rest of the wards / units (Table 4.26).

In addition there was also a significant relationship between number of times students met with NE and attitude of staff towards clinical supervision F (4, 585) 3.699, p < 0.006 (Table 4.26). The post hoc Scheffe's test showed that attitude of staff towards students was positive to participants who met their NE 7 times and above compared to those who did not meet the NE during the period of clinical placement ($\bar{x}$) 0.2155, p < 0.026 (Table 4. 27).

Table 4. 15 Attitude of clinical staff towards supervision by programmes and colleges of study

	Attitude of staff towards supervision		
	Positive	Negative	
Programmes	**N (%)**	**N (%)**	**p-value**
Bsc Nursing	11 (12.4)	78 (87.6)	0.105
RN Diploma	17 (20.0)	68 (80.0)	
Enrolled (NMT)	93 (22.4)	323 (77.6)	
Institutions			
Mzuni	11 (12.4)	78 (87.6)	
Daeyang	12 (33.3)	24 (66.7)	0.073
BT MCHS	5 (10.2)	44 (89.8)	
St Johns	15 (22.1)	53 (77.9)	
St Lukes	15 (21.7)	54 (78.3)	
ZA MCHS	21 (20.2)	83 (79.8)	
Holy family	18 (28.1)	46 (71.9)	
St Joseph's	24 (21.6)	87 (78.4)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

4.2.3.7.8 Peer support in clinical supervision

Although participants in all programmes indicated having peer support, the majority 81.2% (n = 36) of participants in RN Diploma had maximum peer support (Table 4.28).

The results showed no relationship between peer support students received in clinical practice and all the independent variables, including programmes, colleges, year of study, hospital of placement, ward / unit of allocation, duration of placement and number of times students met the nurse educator ($p > 0.05$) (Table 4,29). This implies that peer support was the same in all programmes, colleges, year of study, hospital and ward / unit on allocation regardless of duration of placement or number of times students met with the NE.

Table 4 . 26 Scheffe`s post hoc multiple comparisons on ward / units and attitude of clinical staff towards supervision of students

Ward / units		$(\bar{x})$	p	CI	F-statistics
Surgical	Medical	0.0362	0.985	[-0.1129 – 0.1852]	10.370**
	Paediatric	0.04451	0.994	[-0.1781 – 0.2671]	
	Maternity ward	-0.0787	0.731	[-0.2356 – 0.0783]	
	Community Department	-0.7390**	0.001	[-1.1133–-0.3648]	
	Other	-0.0051	------	[-0.1690 - 0.1547]	
Medical	Surgical	-0.0362	0.985	[-0.1852 – 0.1129]	
	Paediatric	0.0084	------	[-0.2177 – 0.2344]	
	Maternity ward	-0.1148	0.347	[-0.2766 – 0.0469]	
	Community Department	-0.7752**	0.001	[-1.1515–-0.3989]	
	Other	-0.0413	0.983	[-0.2058 – 0.1232]	
Paediatric	Surgical	-0.0445	0.994	[-0.2671 – 0.1781]	
	Medical	-0.0084	-----	[-0.2344 – 0.2177]	
	Maternity ward	-0.1232	0.675	[-0.3545 – 0.1081]	
	Community Department	-0.7835**	0.001	[-1.1945–-0.3725]	
	Other	-0.0497	0.992	[-0.2829 –0 .1836]	
Maternity	Surgical	0.0787	0.731	[-0.0783 – 0.2356]	
	Medical	0.1148	0.347	[-0.0469 – 0.2766]	
	Paediatric	0.1232	0.675	[-0.1081– 0.3545]	
	Community Department	-0.6604**	0.001	[-1.398 –-0.2809]	
	Other	0.0735	0.843	[-0.0982 – 0.2452]	
Community Department	Surgical	0.7390**	0.001	[0.3648 – 1.1133]	
	Medical	0.7752**	0.001	[0.3989 – 1.1515]	
	Paediatric	0.7836**	0.001	[0.3725 – 1.1945]	
	Maternity ward	0.6604**	0.001	[0.2809 – 1.0398]	
	Other	0.7339**	0.001	[0.3532 – 1.1145]	
Other	Surgical	0.0051	-----	[-0.1547 – 0.1649]	
	Medical	0.0413	0.983	[-0.1232 – 0.2058]	
	Paediatric	0.0497	0.992	[-0.1836 – 0.2829]	
	Maternity ward	-0.0735	0.843	[-0.2452 – 0.0982]	
	Community Department	-0.7339**	0.001	[-1.1145–-0.3532]	

* Significant at $p < 0.05$, ** $p < 0.001$, $(\bar{x})$ = Mean Difference, p = Significance C I = 95% Confidence Interval

Table 4. 16: Scheffe`s post hoc on number of times students met with the NE and attitude of clinical staff towards supervision of students

Times met with NE		$(\bar{x})$	p	CI	F-statistics
Not met with NE	Met 1-2 times	-0.1112	0.304	[-0.2670 – 0.0447]	3.699*
	Met 3-4 times	-0.1582	0.069	[-0.3234 – 0.0070]	
	Met 5-6 times	-0.1829	0.099	[-0.3848 – 0.0190]	
	Met 7 times above	-0.2157*	0.026	[-0.4148 – -0.0162]	
	Not met	0.1112	0.304	[-.0447 – 0.2670]	
Met NE 1-2 times	Met 3-4 times	-0.0470	0.873	[-.1780 – 0.0840]	
	Met 5-6 times	-0.0717	0.808	[-.2468 – 0.1033]	
	Met 7 times above	-0.1043	0.477	[-.2764 – 0.0678]	
Met NE 3-4 times	Not met	0.1582	0.069	[-.0070 – 0.3234]	
	Met 1-2 times	0.0470	0.873	[-.0840 – 0.1780]	
	Met 5-6 times	-0.0247	0.996	[-.2081 – 0.1587]	
	Met 7 times above	-0.0573	0.916	[-.2378 – 0.1233]	
Met NE 5-6 times	Not met	0.1829	0.099	[-.0190 – 0.3848]	
	Met 1-2 times	0.0717	0.808	[-.1033 – 0.2468]	
	Met 3-4 times	0.0247	0.996	[-.1587 – 0.2081]	
	Met 7 times above	-0.0326	0.994	[-.2472 – 0.1821]	
Met NE 7 times above	Not met	0.2155*	0.026	[.0162 – 0.4148]	
	Met 1-2 times	0.1043	0.477	[-.0678 – 0.2764]	
	Met 3-4 times	0.0573	0.916	[-.1233 – 0.2378]	
	Met 5-6 times	0.0326	0.994	[-.1821 – 0.2472]	

* = Significant at $p < 0.05$, ** $p < 0.001$ $(\bar{x})$ = Mean Difference, p = Significance C I = 95% Confidence Interval

Table 4. 17 Peer support by programmes, institutions and levels of study

	Students had peer support		
	Yes	No	
Programme	N (%)	N (%)	p-value
BSc Nursing	67 (75.3)	22 (24.7)	0.230
RN Diploma	69 (81.2)	16.18.8	
Enrolled (NMT)	301 (72.4)	115 (27.6)	
Institutions			
Mzuni	67 (75.3)	22 (24.7)	0.307
Daeyan	32 (88.9)	4 (11.1)	
BT MCHS	37 (75.5)	12 (24.5)	
St Johns	53 (77.9)	15 (22.1)	
St Lukes	52 (75.4)	17 (24.6)	
ZA MCHS	69 (66.3)	35 (33.7)	
Holy family	47 (73.4)	17 (26.6)	
St Joseph's	80 (72.1)	31 (27.9)	
Levels of study			
First year	119 (77.3)	35 (22.7)	0.532
second year	166 (72.2)	64 (27.8)	
Third year	152 (73.8)	54 (26.8)	

N = Number, % = percentage,* = $p < 0.05$, ** = $p < 0.001$

4.2.4 Feedback given to students during clinical learning

4.2.4.1 Programme of study and feedback given to students during clinical learning

Table 4.30 shows that the highest proportion 26.9% (n = 112) of participants who received feedback were in the NMT programme. There was no significant difference between programme of study and feedback given F (2, 587) 1.607, $p < 0.210$).

4.2.4.2 Feedback given to students during clinical learning and institutions of study

Table 4.30 displays that the highest number 37.5% (n = 24) of participants who received feedback were from Holy Family College. There was significant difference between feedback given to students during clinical placement and college of study F (7, 5820 2.912, $p < 0.005$). Scheffe`s post hoc test of multiple comparisons among the colleges indicated that feedback

given was the same in all colleges although the means showed that Holy Family $\bar{x}$ 0.3750, σ 0.4880 received more feedback compared to the other colleges.

Table 4. 18 Peers support by hospital, wards / units, duration of placement and number of times students met with the NE

	Students had peer support		
	Yes	No	
Hospital	**N (%)**	**N (%)**	**p-value**
Mzuzu	113 (75.3)	37 (24.7)	0.138
KCH	32 (88.9)	4 (11.1)	
ZCH	208 (71.2)	84 (28.8)	
QECH	84 (75.0)	28 (25.0)	
Ward / unit			
Surgical	119 (73.0)	44 (27.0)	0.661
Medical	105 (73.9)	37 (26.1)	
Peadiatric	36 (83.7)	7 (16.3)	
Maternity	86 (72.9)	32 (27.1)	
Community	11 (84.6)	2 (15.4)	
Other	80 (72.1)	31 (27.9)	
Duration			
2 weeks below	55 (70.5)	23 (29.5)	0.756
3 - 4 weeks	148 (72.9)	55 (27.1)	
5 - 6 weeks	126 (77.8)	36 (22.2)	
7 - 8 weeks	34 (72.3)	13 (27.7)	
9 weeks above	74 (74.0)	26 (26.0)	
Times met with NE			
Not met	65 (73.0)	24 (27.0)	0.656
1 - 2 times	161 (74.5)	55 (25.5)	
3 - 4 times	108 (71.1)	44 (28.9)	
5 - 6 times	48 (73.8)	17 (26.2)	
7 above times	55 (80.9)	13 (19.1)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

4.2.4.3 Feedback given to students during clinical learning by level of study

Table 4.30 shows that the highest 39.6% (n = 61) of participants who received feedback were those in their first year. Feedback given to students during clinical placement and level of study was significant F (2, 587) 11.433, p < 0. 001). Table: 4.31 shows multiple comparison of the level of study done using Scheffe's test indicated significant differences between first year and second ($\bar{x}$) 0.1918, p < 0.001) and between first year and third year ($\bar{x}$) 0.1922, p <

0.001). This indicates that first year participants were more likely to receive feedback compared to second and third years.

Table 4. 19 Feedback received during clinical learning by programmes, institutions and levels of study

	Feedback given during clinical learning		
	Yes	No	
Programme	**N (%)**	**N (%)**	**p-value**
Bsc Nursing	23 (25.8)	66 (74.2)	0.201
RN Diploma	15 (17.6)	70 (82.4)	
Enrolled (NMT)	112 (26.9)	304 (72.1)	
Institutions			
Mzuni	23 (25.8)	66 (74.2)	
Daeyang	8 (22.2)	28 (77.8)	
BT MCHS	7 (14.3)	42 (85.7)	
St Johns	19 (27.9)	49 (72.1)	
St Lukes	24 (34.8)	45 (65.2)	
ZA MCHS	14 (13.5)	90 (86.5)	
Holy family	24 (37.5)	40 (62.5)	
St Joseph's	31 (27.9)	80 (72.1)	0.006**
levels of study			
First year	61 (39.6)	93 (60.4)	0.001**
second year	47 (20.4	183 (79.6)	
Third year	42 (20.4)	164 (79.6)	

N = Number, % = percentage,* = $p < 0.05$, ** = $p < 0.001$

4.2.4.4 Hospitals of placement and feedback given to students during clinical learning

Table 4.32 displays that the highest number 27.7 (n = 31) of participants who received feedback were those placed at QECH. There was no significance difference between feedback given and hospital of clinical placement F (3, 586) 0.367, $p > 0.777$). Nonetheless, the mean of QECH was bigger compared to the other hospital. Thus it implies that participants at QECH were receiving feedback more than the other hospitals.

4.2.4.5 Wards / units of placement and feedback given to students during clinical learning

Table 4.32 displays that the highest proportion 27.6% (n = 45) of participants who received feedback were those allocated to the surgical ward. Furthermore, there was no significant association between feedback given to students during clinical practice and ward / unit on placement F (5, 584) 0.394, p > 0.853), though those placed in surgical wards $\bar{x}$ 2761, σ 44843 were more likely to get feedback compared to the rest of the wards / unit.

Table 4. 31 Scheffes post hoc multiple comparisons on years of study and feedback given

Level of study		($\bar{x}$)	p	CI	F-statistics
Year 1	Year 2	0.1918**	0.001	[0.0823 – 0.3012]	11.433 *
	Year 3	0.1922**	0.001	[0.0803 – 0.3042]	
Year 2	Year 1	-0.1918**	0.001	[-0.3012 – -0.0823]	
	Year 3	0.0005		[-0.1004 – 0.1013]	
Year 3	Year 1	-0.1922**	0.001	[-0.3042 – -0.0803]	
	Year 2	-0.0005		[-0.1013 – 0.1004]	

* = Significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

Table 4.32 Feedback given to students by hospital and wards / units of placement

	Feedback given during clinical learning		
	Yes	**No**	
Hospital	**N (%)**	**N (%)**	**p-value**
Mzuzu	41 (27.3)	109 (72.7)	0.775
KCH	8 (22.2)	22 (77.8)	
ZCH	70 (24.0)	222 (76.0)	
QECH	31 (27.7)	81 (72.3)	
Ward / unit			
Surgical	45 (27.6)	118 (72.4)	0.851
Medical	39 (27.5)	103 (72.5)	
Peadiatric	10 (23.3)	33 (76.7)	
Maternity	25 (21.2)	93 (78.8)	
Community	3 (23.1)	10 (76.9)	
Other	28 (25.2)	83 (74.8)	

N = Number, % = percentage

4.2.4.6 Duration of placement and feedback given to students during clinical learning

Table 4.33 shows that the highest number 33.3% (n = 26) of participants who received feedback were those allocated for a duration of 2 weeks and below. There was significant difference between feedback given to students during clinical practice and duration of placement F (4, 585) 3.413, $p < 0.009$). Table: 4.34 on Scheffe's test showed that significant differences occurred between duration of 3-4 weeks 5-6 weeks ($\bar{x}$) 0.1424, $p < 0.042$. These results demonstrate that students who are allocated 3-4 weeks were less likely to get feedback during clinical placement compared to those allocated 5-6 weeks.

Table 4. 33 Duration and number of times students met with the NE and feedback given

	Feedback given during clinical learning		
	Yes	No	
Duration	**N (%)**	**N (%)**	**p-value**
2 weeks below	26 (33.3)	52 (66.7)	0.009**
3 - 4 weeks	35 (17.2)	168 (82.8)	
5 - 6 weeks	51 (31.5)	111 (68.5)	
7 - 8 weeks	14 (29.8)	33 (70.2)	
9 weeks above	24 (24.0)	76 (76.0)	
Times met with NE			
Not met	16 (18.0)	73 (82.0)	0.016*
1 - 2 times	50 (23.1)	166 (76.9)	
3 - 4 times	40 (26.3)	112 (73.7)	
5 - 6 times	16 (24.6)	49 (75.4)	
7 above times	28 (41.2)	40 (58.8)	

N = Number, % = percentage,*= $p < 0.05$, ** = $p < 0.001$

4.2.4.7 Number of times students met Nurse Educator (NE) and feedback given to students during clinical learning

Table 4.33 displays that the highest proportion 41.2% (n = 28) of participants who received feedback were those who met with the NE 7 times and above during the time they were in the clinical setting. There was significant difference between feedback given to students during clinical placement and the number of times students met with the NE F (4, 585) 3.082, $p < 0.016$). Table 4.35 shows multiple comparison on the number of times students met with NE and discloses significant difference between those who did not met with the NE and those who met 7 times and above ($\bar{x}$) -0.23199, $p < 0.027$. This suggests that participants who did not meet with the NE during clinical placement were less likely to receive feedback compared to those who met with the NE 7 times and above.

Table 4. 20: Scheffe`s post hoc multiple comparisons on duration of placement and feedback given

Duration of placement		$(\bar{x})$	p	CI	F-statistics
2 weeks and below	3-4 weeks	0.1609	0.100	[-0.0170 – 0.3389]	3.413*
	5-6 weeks	0.0185	0.999	[-0.1656 – 0.2026]	
	7-8 weeks	0.0355	0.995	[-0.2112 – 0.2821]	
	9 weeks and above	0.0933	0.728	[-0.1085 – 0.2951]	
3-4 weeks	2 weeks and below	-0.1609	0.100	[-0.3389 – 0.0170]	
	5-6 weeks	-0.1424*	0.046	[-0.2831 – -0.0017]	
	7-8 weeks	-0.1255	0.523	[-0.3417 – 0.0908]	
	9 weeks and above	-0.0676	0.802	[-0.2308 – 0.0956]	
5-6 weeks	2 weeks and below	-0.0185	0.999	[-0.2026 – 0.1656]	
	3-4 weeks	0.1424*	0.046	[0.0017 – 0.2831]	
	7-8 weeks	0.017	-----	[-0.2044 – 0.2382]	
	9 weeks and above	0.0748	0.763	[-0.0951 – 0.2447]	
7-8 weeks	2 weeks and below	-0.0355	0.995	[-0.2821 – 0.2112]	
	3-4 weeks	0.1255	0.523	[-0.0908 – 0.3417]	
	5-6 weeks	-0.017	-----	[-0.2382 – 0.2044]	
	9 weeks and above	0.0579	0.966	[-0.1784 – 0.2941]	
9 weeks and above	2 weeks and below	-0.0933	0.728	[-0.2951 – 0.1085]	
	3-4 weeks	0.0676	0.802	[-0.0956 – 0.2308]	
	5-6 weeks	-0.0748	0.763	[-0.2447 – 0.0951]	
	7-8 weeks	-0.0579	0.966	[-0.2941 – 0.1784]	

* = Significant at $p < 0.05$, ** $p < 0.001$, $(\bar{x})$ = Mean Difference, p = Significance C I = 95% Confidence Interval

Table 4. 21 Scheffe`s post hoc multiple comparisons on number of times students met with the NE and feedback given

Times met with NE		($\bar{x}$)	p	CI	F-statistics
Not met with NE	Met 1-2 times	-0.0517	0.924	[-.2201– .1167]	3.082**
	Met 3-4 times	-0.0834	0.720	[-.2619 – .0951]	
	Met 5-6 times	-0.0664	0.927	[-.2846 – .1518]	
	Met 7 times above	-0.2320*	0.027	[-.4474 – -.0166]	
	Not met	0.0517	0.924	[-.1167 – .2201]	
Met NE 1-2 times	Met 3-4 times	-0.0317	0.976	[-.1733 – .1099]	
	Met 5-6 times	-0.0147	-----	[-.2039 – .1745]	
	Met 7 times above	-0.1803	0.063	[-.3662 – .0057]	
Met NE 3-4 times	Not met	0.0834	0.720	[-.0951 – .2619]	
	Met 1-2 times	0.0317	0.976	[-.1099 – .1733]	
	Met 5-6 times	0.0170	0.999	[-.1812 – .2152]	
	Met 7 times above	-0.1486	0.238	[-.3437 – .0465]	
Met NE 5-6 times	Not met	0.0664	0.927	[-.1518 – .2846]	
	Met 1-2 times	0.0147	-----	[-.1745 – .2039]	
	Met 3-4 times	-0.0170	0.999	[-.2152 – .1812]	
	Met 7 times above	-0.1656	0.302	[-.3976 – .0664]	
Met NE 7 times above	Not met	0.2320*	0.027	[.0166 – .4474]	
	Met 1-2 times	0.1803	0.063	[-.0057 – .3662]	
	Met 3-4 times	0.14861	0.238	[-.0465 – .3437]	
	Met 5-6 times	0.16561	0.302	[-.0664 – .3976]	

* = Significant at $p < 0.05$, ** $p < 0.001$ ($\bar{x}$) = Mean Difference, p = Significance, C I = 95% Confidence Interval

4.2.5 Innovative clinical teaching methods used in clinical setting

Among the programmes the most commonly used method was case study. As well as being the commonest method used in clinical teaching, it was also the most common method used for clinical teaching in all colleges.

There was significant difference in means between BSc and NMT in use of Problem Based Learning (PBL) ($\bar{x}$) -0.213, $p < 0.001$. This, indicated that participants in the BSc programme were less likely to use PBL compared to NMT. In addition, participants in NMT were more likely to use PBL compared to those in the RN programme. Among the colleges, use of PBL was the same, although St Johns scored high means $\bar{x}$ 1.59, σ 0.499 compared to those from other colleges. Similarly, use of PBL was also the same among all years of study

even though participants in first year had higher means $\bar{x}$ 1.49, σ 0.502 compared to those in second and third year.

Participants in NMT programme were more likely to use reflection methods compared to those in BSc ($\bar{x}$) 0.252, p < 0.001 and to RN ($\bar{x}$) 0.144, p < 0.018 programmes. Participants from Mzuni were less likely to use reflection compared to those from St Johns ($\bar{x}$) -0.258, p 0.049, St Lukes ($\bar{x}$) -0.290, p < 0.012, ZA MCHS ($\bar{x}$) -0.257, p < 0.015 and St Joseph's ($\bar{x}$) -0.242, p < 0.026. Additionally, participants from Daeyang College were less likely to use reflection compared to those from St Lukes College ($\bar{x}$) -0.341, p < 0.035. Among the years of study, use of reflection was the same with no significant differences.

Participants in BSc programme ($\bar{x}$) -0. 171, p < 0.008 were less likely to use clinical conference compared to those in the NMT programme. Among the colleges, there was no significance relationship in the use of clinical conference between the colleges. However, Holy Family scored high $\bar{x}$ 1.75, σ 0.436 compared to other colleges. Equally, use of clinical conference method of clinical teaching was the same in all years of study, though participants in third year scored high $\bar{x}$ = 1.66, σ 0 .472 compared to other years of study.

There was no significant association on the use of case study as clinical teaching method between programmes. However, participants in the RN programme had high means $\bar{x}$ 1, 18, σ 0.383 compared to those in other programmes. Participants from St Lukes scored high $\bar{x}$ 1.29, σ 0.457 compared to those in other colleges and those in year one $\bar{x}$ 1.24, σ 0.429 also scored high compared to other years of study.

4.2.6 Clinical learning environment

4.2.6.1 Students-staff relationship in the clinical setting

4.2.6.1.1 Students-staff relationship in the clinical setting by programmes of study

Table 4.36 shows that the majority 54% (n = 48) of participants had good relationships with staff. There was no significant difference between type of relationship with staff in the clinical placement and programme of study F (2, 587) 1.421, p > 0.242.

Table 4. 22 Programmes, institutions and levels of study and students-staff relationship

	Student-staff relationship		
	Good	Poor	
Programmes	**N (%)**	**N (%)**	**p-value**
BSc Nursing	48 (53.9)	41 (46.1)	0.241
RN Diploma	35 (41.2)	50 (58.8)	
Enrolled (NMT)	197 (47.4)	219 (52.6)	
Institutions			
Mzuni	48 (53.9)	41 (46.1)	0.001**
Daeyang	18 (50.0)	18 (50.0)	
BT MCHS	17 (34.7)	32 (65.3)	
St Johns	31 (45.6)	37 (54.4)	
St Lukes	47 (68.1)	22 (31.9)	
ZA MCHS	26 (25.0)	78 (75.0)	
Holy family	29 (45.3)	35 (54.7)	
St Joseph's	64 (57.7)	47 (42.3)	
Levels of study			
First year	95 (61.7)	59 (38.3)	0.001**
second year	102 (44.3)	128 (55.7)	
Third year	83 (40.3)	123 (59.7)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

4.2.6.1.2 Students-staff relationship in the clinical setting by Institutions of study

Table 4.36 shows that the majority 68.1% (n = 47) of participants who had good relationships were from St Lukes nursing College. The analysis showed that there was significant difference between students-staff relationships and institutions of study F (7, 582), 6.451, p < 0.001. Table: 4.37 Displays the results of the Scheffe`s post hoc test which shows that

statistically significant difference existed between ZA MCHS and Mzuni ($\bar{x}$) -0.2893, p < 0.018, between ZA MCHS and St Lukes ($\bar{x}$) -0.4312, p < 0.001 and between ZA MCHS and St Joseph's ($\bar{x}$) -0.3266, p < 0.001. Thus, based on these results participants from ZA MCHS College were more likely to have poor relationship with clinical staff compared to those from Mzuni, St Lukes and St Joseph's.

Table 4. 23: Scheffe`s post hoc multiple comparisons on institutions of study and students-staff relationship

Institutions		($\bar{x}$)	p	CI	F-statistics
Mzuni	Deayang	0.0393	-----	[-0.3209 – 0.3995]	6.451**
	BT-MCHS	0.1924	0.662	[-0.1320 – 0.5168]	
	St Johns	0.0834	0.992	[-0.2103 – 0.3772]	
	St Lukes	-0.1418	0.852	[-0.4343 – 0.1507]	
	ZA-MCHS	0.2893*	0.018	[0.0260 – 0.5527]	
	Holy Family	0.0862	0.991	[-0.2127 – 0.3851]	
	St Joseph's	-0.0373	-----	[-0.2967 – 0.2222]	
St Lukes	Mzuni	0.1418	0.852	[-0.1507 – 0.4343]	
	Deayang	0.1812	0.854	[-0.1938 –0.5561]	
	BT-MCHS	0.3342	0.060	[-0.0065 –0.6749]	
	St Johns	0.2253	0.389	[-0.0863 –0.5369]	
	ZA-MCHS	0.4312**	0.001	[0.1480 – 0.7143]	
	Holy Family	0.228	0.394	[-0.0884– 0.5445]	
	St Joseph's	0.1046	0.960	[-0.1750 – 0.3842]	
ZA MCHS	Mzuni	0-.2893*	0.018	[-0.5527 – -0.0260]	
	Deayang	-0.25	0.417	[-0.6026 – 0.1026]	
	BT-MCHS	-0.0969	0.987	[-0.4129 – 0.2190]	
	St Johns	-0.2059	0.387	[-0.4903 – 0.0785]	
	St Lukes	-0.4312**	0.001	[-0.7143 – -0.1480]	
	Holy Family	-0.2031	0.433	[-0.4929 – 0.0866]	
	St Joseph's	-0.3266**	0.001	[-0.5755 – -0.0777]	
St Joseph's	Mzuni	0.0373	-----	[-0.2222 – 0.2967]	
	Deayang	0.0766	0.998	[-0.2732 – 0.4263]	
	BT-MCHS	0.2296	0.367	[-0.0831 – 0.5424]	
	St Johns	0.1207	0.917	[-0.1601 – 0.4015]	
	St Lukes	-0.1046	0.960	[-0.3842 – 0.1750]	
	ZA-MCHS	0.3266**	0.001	[0.0777 – 0.5755]	
	Holy Family	0.1235	0.916	[-0.1628 – 0 .4097]	

* = Significant at p < 0.05, ** p < 0.001 ($\bar{x}$) = Mean Difference, p = Significance CI = 95% Confidence Interval

4.2.6.1.3 Students-staff relationship in the clinical setting by level of study

Table 4.36 shows that the highest number 33.3% (n = 26) of participants who received feedback were those allocated for a duration of 2 weeks and below. The association between year of study and staff was significant F (2. 587) 9.047, p < 0.001. Table 4.38 show Scheffes post hoc test was statistically significant differences was between first year and second year ($\bar{x}$) 0.1734, p < 0.004 and between first year and third year ($\bar{x}$) 0.2140, p < 0.001. This implies that first year participants had a good relationship with staff compared to second and third years. Additionally, the relationship of students and staff was the same between second and third year.

Table 4. 38 Scheffe`s post hoc comparisons on level of study and students-staff relationship

Level of study		($\bar{x}$)	p	CI	F-statistics
Year 1	Year 2	0.1734**	0.004	[0.0474 – 0.2994]	9.047**
	Year 3	0.2140**	0.000	[0.0510 - 0.3429]	
Year 2	Year 1	-0.1734**	0.004	[-0.2994 – -0.0474]	
	Year 3	0.0406	0.692	[-0.0755 – 0.1566]	
Year 3	Year 1	-0.2140**	0.000	[-0.3429 – -0.0851]	
	Year 2	-0.0406	0.692	[-0.1566 – 0.0755]	

* = Significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance CI = 95% Confidence Interval

4.2.6.1.4 Hospitals of placement and students-staff relationship in the clinical setting

Table 4.39 shows that the majority 59% (n = 66) of participants who received feedback were those placed at QECH. There was a significant association between relationship of students and staff and hospital of placement F (3, 586) 3.836, p < 0.010. Table 4.40 displays significant differences between QECH and ZCH ($\bar{x}$) 0.1783, p < 0.016. The result indicates

that participants at QECH had a good relationship with staff compared with those placed at ZCH. Nonetheless there was no significant difference in relationship between participants placed at MZCH and KCH ($p > 0.05$).

Table 4. 24: Hospital and wards / units of placement and students-staff relationship

	Student-staff relationship		
	Good	Bad	
Hospital	**N (%)**	**N (%)**	**p-value**
Mzuzu	76 (50.7)	74 (49.3)	0.010*
KCH	18 (50.0)	18 (50.0)	
ZCH	120 (41.1)	172 (58.9)	
QECH	66 (58.9)	46 (41.1)	
Ward / unit			
Surgical	72 (44.2)	91 (55.8)	0.247
Medical	76 (53.5)	66 (46.5)	
Paediatric	15 (34.9)	28 (65.1)	
Maternity	55 (46.6)	63 (53.4)	
Community	8 (61.5)	5 (38.5)	
Other	54 (48.6)	57 (51.4)	

N = Number, % = percentage,* = $p < 0.05$, ** = $p < 0.001$

Table 4. 25: Scheffe`s post hoc multiple comparisons on hospital of placement and students-staff relationship

Hospital of placement		$(\bar{x})$	p	CI	F-statistics
Mzuzu Central	Kamuzu Central	0.0067	-----	[-0.2515 – 0.2649]	3.836*
	Zomba Central	0.0957	0.298	[-0.0440 – 0.2355]	
	QECH	-0.0826	0.620	[-0.2564 – 0.0911]	
Kamuzu Central	Mzuzu Central	-0.0067	-----	[-0.2649 – 0.2515]	
	Zomba Central	0.089	0.794	[-0.1567 – 0.3348]	
	QECH	-0.0893	0.830	[-0.3558 – 0.1772]	
Zomba Central	Mzuzu Central	-0.0957	0.298	[-0.2355 – 0.0440]	
	Kamuzu Central	-0.089	0.794	[-0.3348 – 0.1567]	
	QECH	-0.1783*	0.016	[-0.3329- -0.0237]	
QECH	Mzuzu Central	0.0826	0.620	[-0.0911 – 0.2564]	
	Kamuzu Central	0.0893	0.830	[-0.1772 – 0.3558]	
	Zomba Central	0.1783*	0.016	[0.0237 – 0.3329]	

* = Significant at $p < 0.05$, ** $p < 0.001$ $(\bar{x})$ = Mean Difference, p = Significance C I = 95% Confidence Interval

4.2.6.1.5 Wards / units of placement and Students-staff relationship in the clinical setting

Table 4.39 shows the highest number 61.5% (n = 8) of participants who received feedback were those allocated to community department. There was no significant difference between relationship of staff and students and ward / unit of placement F (5, 584) 1.333, p > 0.249. However, the means of the wards / units reveals that participants allocated to community department $\bar{x}$ 0.6154, σ 0.5064 had a good relationship with staff compared to those allocated in other wards.

Table 4. 26 Duration of placement and number of times students met with the NE and students-staff relationship

	Student-staff relationship		
	Good	Poor	
Duration of placement	**N (%)**	**N (%)**	**p-value**
2 weeks below	48 (61.5)	30 (38.5)	0.001**
3 - 4 weeks	74 (36.5)	129 (63.5)	
5 - 6 weeks	85 (52.5)	77 (47.5)	
7 - 8 weeks	21 (44.7)	26 (55.3)	
9 weeks above	52 (52.0)	48 (48.0)	
Times met with NE			
Not met	28 (31.5)	61 (68.5)	0.010*
1 - 2 times	101 (46.8)	115 (53.2)	
3 - 4 times	84 (55.3)	68 (44.7)	
5 - 6 times	33 (50.8)	32 (49.2)	
7 above times	34 (50.0)	34 (50.0)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

NE = Nurse Educator

4.2.6.1.6 Duration of placement and Students-staff relationship in the clinical setting

Table 4.41 shows that the highest number 61.5% (n = 48) of participants who received feedback were those allocated for a duration of 2 weeks and below. There was significant difference between relationship of staff and students and duration of placement F (4, 585) 4.778, p < 0.001. Table: 4.40 shows significant differences between duration of 2 weeks and below and 3-4 weeks ($\bar{x}$) 0.2509, p < 0.006. Therefore, based on these results participants

allocated 2 weeks and below were more likely to have a good relationship compared to those allocated 3-4 weeks.

Table 4. 27: Scheffe`s post hoc multiple comparisons on duration of placement and students-staff relationship

Duration of placement		($\bar{x}$)	p	CI	F-statistics
2 weeks and below	3-4 weeks	0.2509**	0.006	[0.0477 – 0.4540]	4.778**
	5-6 weeks	0.0907	0.776	[-0.1195– 0.3009]	
	7-8 weeks	0.1686	0.490	[-0.1130– 0.4502]	
	9 weeks and above	0.0954	0.802	[-0.1350– 0.3257]	
3-4 weeks	2 weeks and below	-0.2509**	0.006	[-0.4540 – -0.0477]	
	5-6 weeks	-0.1602	0.051	[-0.3208– 0.0005]	
	7-8 weeks	-0.0823	0.900	[-0.3291- 0.1646]	
	9 weeks and above	-0.1555	0.157	[-0.3418– 0.0308]	
5-6 weeks	2 weeks and below	-0.0907	0.776	[-0.3009– 0.1195]	
	3-4 weeks	0.1602	0.051	[-0.0005– 0.3208]	
	7-8 weeks	0.0779	0.923	[-0.1748– 0.3305]	
	9 weeks and above	0.0047	-----	[-0.1892– 0.1986]	
7-8 weeks	2 weeks and below	-0.1686	0.490	[-0.4502– 0.1130]	
	3-4 weeks	0.0823	0.900	[-0.1646– 0.3291]	
	5-6 weeks	-0.0779	0.923	[-0.3305– 0.1748]	
	9 weeks and above	-0.0732	0.951	[-0.3429– 0.1965]	
9 weeks and above	2 weeks and below	-0.0954	0.802	[-0.3257– 0.1350]	
	3-4 weeks	0.1555	0.157	[-0.0308– 0.3418]	
	5-6 weeks	-0.0047	-----	[-0.1986– 0.1892]	
	7-8 weeks	0.0732	0.951	[-0.1965– 0.3429]	

* = significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = SignificanceC I = 95% Confidence Interval

4.2.6.1.7 Number of times students met with Nurse Educator (NE) and students-staff relationship in the clinical setting

Table 4.41 shows that the highest proportion 55.3% (n = 84) of participants who received feedback were those who met with the NE 3-4 times. Student-staff relationship and number of times students met with the Nurse Educator were significant F (4, 585) 3.386, p < 0.009. The post hoc test indicated that significant differences occurred between those who did not met with the NE and those who met 3-4 times ($\bar{x}$) = -0.2380, p < 0.012 (Table 4.43). Hence, participants who did not meet the NE during clinical placement were likely to have poor relationships compared to those who met the NE 3-4 times.

Table 4. 28: Scheffe`s post hoc multiple comparisons on number of times students met with the NE and students-staff relationship

Times met with NE		($\bar{x}$)	p	CI	F-statistics
Not met with NE	Met 1-2 times	-0.1530	0.201	[-0.3460 – 0.0400]	3.386*
	Met 3-4 times	-0.2380*	0.012	[-0.4425 – -0.0335]	
	Met 5-6 times	-0.1931	0.224	[-0.4430 – 0.0569]	
	Met 7 times above	-0.1854	0.251	[-0.4321 – 0.0614]	
	Not met	0.1530	0.201	[-0.0400 – 0.3460]	
Met NE 1-2 times	Met 3-4 times	-0.0850	0.623	[-0.2472 – 0.0772]	
	Met 5-6 times	-0.0401	0.988	[-0.2568 – 0.1766]	
	Met 7 times above	-0.0324	0.994	[-0.2454 – 0.1806]	
Met NE 3-4 times	Not met	0.2380*	0.012	[0.0335 – 0.4425]	
	Met 1-2 times	0.0850	0.623	[-0.0772 – 0.2472]	
	Met 5-6 times	0.0449	0.985	[-0.1821 – 0.2720]	
	Met 7 times above	0.0526	0.971	[-0.1709 – 0.2761]	
Met NE 5-6 times	Not met	0.1931	0.224	[-0.0569 – 0.4430]	
	Met 1-2 times	0.0401	0.988	[-0.1766 – 0.2568]	
	Met 3-4 times	-0.0450	0.985	[-0.2720 – 0.1821]	
	Met 7 times above	0.0077	-----	[-0.2581 – 0.2734]	
Met NE 7 times above	Not met	0.1854	0.251	[-0.0614 – 0.4321]	
	Met 1-2 times	0.0324	0.994	[-0.1806 – 0.2454]	
	Met 3-4 times	-0.0526	0.971	[-0.2761 – 0.1709]	
	Met 5-6 times	-0.0077	-----	[-0.2734 – 0.2581]	

* = Significant at $p < 0.05$, ** $p < 0.001$ ($\bar{x}$) = Mean Difference, p = Significance C I = 95% Confidence Interval

4. 2.6. 2 Satisfaction with clinical learning environment

4. 2.6. 2.1 Satisfaction with clinical learning environment by programmes of study

Table 4.44 displays that the majority 50.6% (n = 45) of participants in the BSc programme were satisfied with the clinical learning environment. There was no significant difference between satisfaction with clinical learning and programme of study F (2, 587), 2.102, p > 0.123. However, participants in the BSc programme $\bar{x}$ 0.5056, σ 0.5028 were more satisfied compared to RN $\bar{x}$ 0.3647, σ 0 .4842 and NMT $\bar{x}$ 0.4014, σ 0.4908 programmes.

4. 2.6. 2.2 Satisfaction with clinical learning environment by institutions of study

Satisfaction with the clinical learning environment and institution of study was significant F (7, 582) 2.039, p < 0.048. There was no statistical significant difference between the institutions. Thus, participants' satisfaction with the clinical environment was the same in all institutions.

Table 4.29 Programmes, institutions and levels of the study and satisfaction with clinical learning environment

	Satisfied with clinical environment		
	Yes	No	
Programme	**N (%)**	**N (%)**	**p-value**
Bsc Nursing	45 (50.6)	44 (49.4)	0.123
RN Diploma	31 (36.5)	54 (63.5)	
Enrolled (NMT)	167 (41.1)	249 (59.9)	
Institutions			
Mzuni	45 (50.6)	44 (49.4)	
Daeyang	13 (36.1)	23 (63.9)	
BT MCHS	18 (36.7)	31 (63.3)	
St Johns	25 (36.8)	43 (63.2)	
St Lukes	35 (50.7)	34 (49.3)	
ZA MCHS	31 (29.8)	73 (70.2)	0.049*
Holy family	31 (48.4)	33 (51.6)	
St Joseph's	45 (40.5)	66 (59.5)	
level of study			
First year	81 (52.6)	73 (47.4)	
second year	88 (38.3)	142 (61.7)	0.003**
Third year	74 (35.9)	132 (64.1)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

4. 2.6. 2.3 Satisfaction with clinical learning environment by level of study s

Table 4.44 displays that the majority 52.6% (n = 81) of participants in first year were satisfied with clinical learning environment.

Satisfaction with the clinical environment and year of study was significant F (2, 587) 5.807 p < 0.003. The post hoc test on multiple comparison on level of study showed significant difference between first and second year ($\bar{x}$) 0.1434, p < 0.019 and between first and third year ($\bar{x}$) 0.1668, p < 0.006. Thus, participants in their first year were more satisfied with the clinical environment compared to those in their second year and third year.

4. 2.6.2.4 Hospitals of placement and satisfaction with clinical learning environment

Table 4.45 displays that the highest number 44.7% (n = 67) of participants in their first year were satisfied with the clinical learning environment. There was no significant association between satisfaction with the clinical learning environment and hospital of placement F (3, 586) 0.586, p >0.685.

4. 2.6.2.5 Wards / units and duration of placement and number of times students met with NE and satisfaction with clinical learning environment

Table 4.45 display that the highest proportion 47.9% (n = 68) of participants in the BSc programme were satisfied with clinical learning environment.

Similarly, there was no significant difference between satisfaction with the clinical environment and ward / unit of study F (4, 584) 0.726, p > 0.604, duration of study F (4, 585) 2.124, p > 0.076 and number of times students met with the Nurse Educator F (4, 585) 0.872, p > 0.480.

Table 4.30 Hospital and wards / units of clinical placement and satisfaction with learning environment

	Satisfied with clinical environment		
	Yes	No	p-value
Hospital	**N (%)**	**N (%)**	
Mzuzu	67 (44.7)	83 (55.3)	0.684
KCH	13 (36.1)	23 (63.9)	
ZCH	120 (41.1)	172 (58.9)	
QECH	43 (38.4)	69 (81.6)	
Ward / unit			
Surgical	62 (38.0)	101 (62.0)	0.602
Medical	68 (47.9)	74 (52.1)	
Paediatric	17 (39.5)	26 (60.5)	
Maternity	46 (39.0)	72 (61.0)	
Community	5 (38.5)	8 (61.5)	
Other	45 (40.5)	66 (59.5)	

N = Number, % = percentage,* = p < 0.05, ** = p < 0.001

Table 4. 31 Duration of placement and number of times students met with the NE and satisfaction with clinical learning environment

	Satisfied with clinical environment		
	Yes	No	
Duration	**N (%)**	**N (%)**	**p-value**
2 weeks below	41.(52.6)	37 (47.4)	0.077
3 - 4 weeks	70 (34.5)	133 (65.5)	
5 - 6 weeks	70 (43.2)	92 (56.8)	
7 - 8 weeks	21 (44.7)	26 (55.3)	
9 weeks above	41 (41.0)	59 (59.0)	
Times met with NE			
Not met	34 (38.2)	55 (61.8)	0.478
1 - 2 times	86 (39.8)	130 (60.2)	
3 - 4 times	59 (38.8)	93 (61.2)	
5 - 6 times	31 (47.7)	34 (52.3)	
7 above times	33 (48.5)	35 (51.5)	

N = Number, % = percentage,* = $p < 0.05$, ** = $p < 0.001$

NE = Nurse Educator

Table 4. 32 Scheffe`s post hoc multiple comparisns on institutions of study and satisafction with clinical learning

Institutions		$(\bar{x})$	p	CI	F-statistics
St Lukes	Deayang	0.1212	0.901	[-0.1504 – 0.3927]	5.225**
	BT-MCHS	-0.0387	-----	[-0.3868 – 0.3095]	
	St Johns	0.1473	0.878	[-0.1690 – 0.4636]	
	St Lukes	0.1362	0.871	[-0.1531 – 0.4255]	
	ZA-MCHS	0.1718	0.534	[-0.0911 – 0.4347]	
	Holy Family	-0.0890	0.988	[-0.3828 – 0.2048]	
	St Joseph's	-0.1077	0.931	[-0.3673 – 0.1519]	
ZA MCHS	Mzuni	-0.0507	0.999	[-0.2952 – 0.1939]	
	BT-MCHS	-0.2105	0.557	[-0.5379 – 0.1169]	
	St Johns	-0.0245	-----	[-0.3179 – 0.2689]	
	St Lukes	-0.0356	-----	[-0.2997 – 0.2284]	
	ZA-MCHS	-0.1718	0.534	[-0.4347 – 0.0911]	
	Holy Family	-0.2608	0.067	[-0.5298 – 0.0082]	
	St Joseph's	-0.2795**	0.005	[-0.5106 – -0.0485]	
Holy Family	Mzuni	0.2102	0.323	[-0.0674 – 0.4876]	
	Deayan	0.0504	-----	[-0.3024 – 0.4031]	
	St Johns	0.2339	0.365	[-0.0851 – 0.5577]	
	St Lukes	0.2252	0.312	[-0.0697 – 0.5201]	
	ZA-MCHS	0.0890	0.988	[-0.2048 – 0.3828]	
	Holy Family	0.2608	0.067	[-0.0082 – 0.5298]	
	St Joseph's	-0.0187	-----	[-0.2845 – 0.2470]	
St Joseph's	Mzuni	0.2289	0.079	[-0.0120 – 0.4698]	
	Deayan	0.0691	0.999	[-0.2557 – 0.3938]	
	BT-MCHS	0.2550	0.144	[-0.0354 – 0.5454]	
	St Lukes	0.2439	0.090	[-0.0168 – 0.5046]	
	ZA-MCHS	0.1077	0.931	[-0.1519 – 0.3673]	
	Holy Family	0.2795**	0.005	[0.0485 – 0.5106]	
	St Joseph's	0.0187	-----	[-0.2470 – 0.2845]	

* = Significant at $p < 0.05$, ** $p < 0.001$, $(\bar{x})$ = Mean Difference, p = Significance C I = 95% Confidence Interval

4.2.7 Satisfaction with clinical learning

4.2.7.1 Satisfaction with clinical learning by programmes of study

There was no significant difference between satisfaction with clinical learning and programme of study. Nonetheless, the mean of the programmes showed that NMT programme $\bar{x}$ 0.7163, σ 0.4513 were more satisfied equated to BSc $\bar{x}$ 0.6180, σ 0 .4886 and RN-Diploma $\bar{x}$ 0.6706, σ 0.4728 programmes.

4.2.7.2 Satisfaction with clinical learning by institutions of study

There was a significant difference between satisfaction with clinical learning and institutions of study F (7, 582) 5.225, p < 0.001. Scheffes test showed that the significant difference was between St Joseph's and ZA MCHS ($\bar{x}$) 0.2795, p < 0.005. Based on these results participants from St Joseph's were more satisfied with clinical learning compared to ZA MCHS (Table 4.47).

Table 4. 33 Scheffe`s post hoc multiple comparisons on levels of study and satisfaction with clinical learning

Level of study		($\bar{x}$)	p	CI	F-statistics
Year 1	Year 2	0.2182**	0.001	[0.1026 – 0.3339]	11.845**
	Year 3	0.0722	0.327	[-0.0461 – 0.1905]	
Year 2	Year 1	-0.2182**	0.001	[-0.3339 – -0.1026]	
	Year 3	-0.1461**	0.004	[-0.2526 – -0.0395]	
Year 3	Year 1	-0.0722	0.327	[-0.1905 – 0.0461]	
	Year 2	0.1461**	0.004	[0.0395 – 0.2526]	

* = Significant at p < 0.05, ** p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance CI = 95% Confidence Interval

4.2.7.3 Satisfaction with clinical learning by level of study

There was significant difference between satisfaction with clinical learning and year of study F (2, 587) 11.845, p < 0.001. Table 4.48 shows Scheffe`s post hoc test that there was significant difference between first and second year participants ($\bar{x}$) -0.2182, p < 0.001 and between second and third year ($\bar{x}$) -0.1461, p < 0.004. This demonstrates that participants in their second year were less satisfied with clinical learning compared to those in their first and third year.

4.2.7.4 Satisfaction with clinical learning by hospitals of placement

There was no significant association between hospital of placement and satisfaction with clinical learning F (3, 586) 2.306, p > 0.076. Thus, satisfaction with clinical learning was the same among participants placed in all hospitals.

4.2.7.5 Satisfaction with clinical learning by Wards / units of placement

Satisfaction and ward / unit of placement were statistically significant F (5, 584) 3.021, p < 0.011. The significant difference as revealed by Scheffes test was between participants allocated to medical wards and "Other" wards ($\bar{x}$) -0.1981, p < 0.040 (Table 4.49). This finding indicates that participants allocated to the medical ward were less satisfied with clinical learning compared to those allocated to Other" wards / units.

4.2.7.6 Satisfaction with clinical learning by duration of placement

There was no significant difference between satisfaction with clinical learning and duration of clinical placement F (4, 585) 1.063, p > 0.374. However, the means of the duration of placement showed that participants allocated 2 weeks and below ($\bar{x}$) = .7308, σ -0.44643 were more satisfied with clinical learning compared to those allocated above 2 weeks.

Table 4. 34: Scheffe`s post hoc multiple comparisons on wards / units of allocation and satisfaction with clinical learning

Ward / units		$(\bar{x})$	p	CI	F-statistics
Surgical	Medical	0.0499	0.970	[0.1252–0.2250]	3.021**
	Paediatric	-0.1049	0.877	[0.3664–0.1567]	
	Maternity ward	-0.0239	0.999	[0.2083–0.1605]	
	Community Department	-0.1836	0.857	[0.6232–0.2561]	
	Other	-0.1482	0.226	[0.3360–0.0395]	
Medical	Surgical	-0.0499	0.970	[0.2250–0.1252]	
	Paediatric	-0.1548	0.581	[0.4203–0.1108]	
	Maternity ward	-0.0738	0.891	[0.2638–0.1163]	
	Community Department	-0.2335	0.683	[0.6755–0.2086]	
	Other	-.1981*	0.040	[0.3914–-0.0049]	
Paediatric	Surgical	0.1049	0.877	[0.1567–0.3664]	
	Medical	0.1548	0.581	[0.1108–0.4203]	
	Maternity ward	0.081	0.963	[-0.1908–.3528]	
	Community Department	-0.0787	0.998	[-0.5616–.4041]	
	Other	-0.0434	0.998	[-0.3174–.2307]	
Maternity ward	Surgical	0.0239	0.999	[-0.1605–.2080]	
	Medical	0.0738	0.891	[-0.1163–.2638]	
	Paediatric	-0.081	0.963	[-0.3528–.1908]	
	Community Department	-0.1597	0.921	[0.6055–0.2861]	
	Other	-0.1244	0.516	[-0.3261– .0774]	
Community Department	Surgical	0.1836	0.857	[-0.2561– .6232]	
	Medical	0.2335	0.683	[-0.2086– .6755]	
	Paediatric	0.0787	0.998	[-0.4041– .5616]	
	Maternity ward	0.1597	0.921	[-0.2861– .6055]	
	Other	0.0353	-----	[-0.4119–.4826]	
Other	Surgical	0.1482	0.226	[-0.0395– .3360]	
	Medical	.1981*	0.040	[0.0049– .3914]	
	Paediatric	0.0434	0.998	[-0.2307– .3174]	
	Maternity ward	0.1244	0.516	[-0.0774– .3261]	
	Community Department	-0.0353	-----	[-0.4826– .419]	

* = significant at p < 0.05, ** p < 0.001, $(\bar{x})$ = Mean Difference, p = Significance C I = 95% Confidence Interval

4.2.7.7 Number of times students meet with Nurse Educator (NE) and satisfaction with clinical learning

There was significant difference between satisfaction with clinical learning and number of times students met with the NE F (4, 585) 18.419, p < 0.001. Table 4.50 displays Scheffe`s post hoc test that the significant difference was between participants who did not met with the

NE and those who met 1-2 times ($\bar{x}$) -0.2801, p < 0.001, 3-4 times ($\bar{x}$) -0.3877, p < 0.001, 5-6 times ($\bar{x}$) -0.4795, p < 0.001 and 7 times and above ($\bar{x}$) -0.5003, p < 0.001. In addition, there was significant difference between 1-2 times and 5-6 times ($\bar{x}$) -0.1995, p < 0.034 and between 1-2 times and 7 times and above ($\bar{x}$) -0.2203, p < 0.011. These findings indicate that participants who did not meet the NE during clinical practice were not satisfied with clinical learning compared to those who met the NE, regardless of frequency.

Table 4. 35 Scheffe`s post hoc multiple comparisons on number of times students met with the NE and satisfaction with clinical learning

Times met with NE		($\bar{x}$)	p)	CI	F-statistics
Not met with NE	Met 1-2 times	-0.2800**	0.001	[-0.4496–-0.1104]	18.419**
	Met 3-4 times	-0.3877**	0.001	[-0.5674–-0.2080]	
	Met 5-6 times	-0.4795**	0.001	[-0.6992–-0.2598]	
	Met 7 times above	-0.5003**	0.001	[-0.7172–-0.2834]	
	Not met	0.2800**	0.001	[0.01104–0.4496]	
Met NE 1-2 times	Met 3-4 times	-0.1077	0.246	[-0.2503 –0.0349]	
	Met 5-6 times	-0.1995*	0.034	[-0.3900–-0.0090]	
	Met 7 times above	-0.2203*	0.011	[-0.4076–-0.0331]	
Met NE 3-4 times	Not met	0.3877**	0.001	[0.2080– 0.5674]	
	Met 1-2 times	0.1077	0.246	[-0.0349 – 0.2503]	
	Met 5-6 times	-0.0918	0.732	[-0.2914 – 0.1078]	
	Met 7 times above	-0.1126	0.536	[-0.3091 – 0.0838]	
Met NE 5-6 times	Not met	0.4795**	0.001	[0.2598 – 0.6992]	
	Met 1-2 times	0.1995**	0.034	[0.0090 – 0.3900]	
	Met 3-4 times	0.0918	0.732	[-0.1078 – 0.2914]	
	Met 7 times above	-0.0208	0.999	[-0.2544 – 0.2128]	
Met NE 7 times above	Not met	0.5003**	0.001	[0.2834 – 0.7172]	
	Met 1-2 times	0.2203*	0.011	[0.0331 – 0.4076]	
	Met 3-4 times	0.1126	0.536	[-0.0838 – 0.3091]	
	Met 5-6 times	0.0208	0.999	[-0.2128 – 0.2544]	

* = Significant at p < 0.05, **p < 0.001, ($\bar{x}$) = Mean Difference, p = Significance CI = 95% Confidence Interval

Table 4.51 shows the variables that were statistically significant and the F-ratio. The variables have been ranked basing on the strength of the F-ratio. Although all variables are significant some needs, more attention to facilitate clinical learning, including the number of times students meet the Nurse Educators (NE) for them to be satisfied with clinical learning and to get feedback. The year of study has also been ranked high in most variables.

Table 4. 36 : Summary of the significant variables and their ranking according to F-ratio

Variables	p-value	F-ratio	Rank
Integration of theory and practice			
Programme of study	0.010	4.692	14
College of study	0.001	3.971	16
Year of study	0.001	10.683	3
Hospital of placement	0.001	9.320	4
Duration of placement	0.001	4.915	12
Times met with Nurse Educator (NE)	0.001	6.530	6
Opportunities for learning			
Colleges	0.001	6.267	9
Year of study	0.031	3.479	19
Ward / unit of allocation	0.005	3.354	21
Duration of placement	0.002	4.366	15
Clinical supervision			
College of study	0.001	5.665	10
Year of study	0.036	3.352	22
Hospital of placement	0.011	3.714	18
Ward / unit of allocation	0.021	2.672	24
Times met with NE	0.001	6.399	8
Feedback given to students			
College of study	0.001	5.225	11
Year of study	0.001	11.845	2
Duration of placement	0.011	3.021	23
Times met NE	0.001	18.419	1
Clinical learning environment			
College of study	0.001	6.451	7
Year of study	0.001	9.047	5
Hospital of study	0.001	3.836	17
Duration of placement	0.001	4.778	13
Times met NE	0.009	3.386	20
Satisfaction with clinical learning			
College of study	0.001	5.225	11
Year of study	0.001	11.845	2
Ward / unit of allocation	0.011	3.021	23
Times met with NE	0.001	18.419	1

4.3 Hypothesis testing

One way ANOVA and Binary logistic regression were used to test the research hypotheses in the study. Each hypothesis was discussed, whether it has been proved or not.

Hypothesis 1 *H_o2 Integration of theory and practice was not significantly associated with Programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with the NE.*

Both bivariate and multivariate results show that the programme, institution and level of study, hospital, ward and duration of placement and number of times participants meet with the NE had a significant relationship with integration of theory and practice. However, participants allocated to the community department were more likely to integrate theory and practice compared to the rest of the wards / units. Besides, the study shows that the more frequently participants meet the NE, the more likely they are to integrate theory and practice. Therefore, the hypothesis was rejected.

Hypothesis 2 *H_o2 Programme, place and level of study, hospital, ward and duration of placement and number of times students meet with NE do not influence opportunities for clinical learning.*

The findings of the study indicate there was a positive influence of the independent factors and opportunities for clinical learning. Programme and level of study had a significant positive association with opportunities for clinical learning. The results show that although all institutions of study was positively associated with opportunities for clinical learning, BT MCHS, St Johns and ZA MCHS Colleges were not statistically significant compared to Mzuni. Additionally, paediatric and maternity wards, community department and allocation of 7-8 weeks were not statistically significant. However, the results indicate that the hypothesis could not be confirmed and was therefore rejected.

Hypothesis 3 *Ho2 Programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with NE does not significantly influence clinical supervision.*

The results show that clinical supervision was positively influenced by all the factors. Nonetheless, ZA MCHS College as a place of study and being allocated to community department did not influence clinical supervision received. Participants from ZA MCHS

College and those allocated to community department were more likely to receive clinical supervision. Therefore, the hypothesis was rejected.

Hypothesis 4 *Ho2 Feedback provided was not significantly associated with programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with the NE.*

The findings of the multivariate analysis show that the relationship between feedback provided to students in the clinical area was significantly related to programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with NE. However, allocation to the community department and meeting the NE for 7 times and above did not have a significance influence on feedback received. Thus the hypothesis could not be accepted.

Hypothesis 5 *Ho2 Relationships in the clinical learning environment was not significantly associated with Programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with NE.*

The results show that relationships in the clinical environment were significantly related to coming from BT MCHS, St Lukes and ZA MCHS Colleges, being in their third year, placed at ZCH for clinical experience, allocated to the paediatric ward, duration of 3-4 weeks and students not meeting the NE for clinical supervision. Community department and students meeting the NE regardless of frequency was not significant. Participants placed at the community department and also those who met the NE irrespective of frequency were more likely to have good relationship with clinical staff compared to students placed in the rest of the wards and those who did not meet the NE during clinical placement respectively. Therefore, this hypothesis could not be accepted.

Hypothesis 6 *Ho2 There was no significant difference between satisfaction with clinical learning environment and Programme, institution and level of study, hospital, ward and duration of placement and number of times students meet with NE.*

The results show that programme of study, Deayang, St Lukes, Holy Family and St Joseph's , level of study, hospital of placement, ward of placement with exception of community department, duration of placement and number of times students met the NE were significantly related to satisfaction with clinical learning. However, BT MCHS, St Johns and

ZA MCHS Colleges and community department were not significantly associated with satisfaction with clinical learning. Hence this hypothesis was rejected.

4.4 Summary of ANOVA based on critical findings

The univariate and bivariate outcome of the results of the study have been described according to the variables in the study. The univariate and bivariate results show that there was no integration of theory and practice. The statistical hypothesis was rejected as inability to integrate theory and practice was experienced more by students in RN Diploma and NMT programmes, third years, those placed at ZCH and those who did not meet the nurse educator during their clinical placement. Univariate analysis indicated that students had opportunities for clinical learning except in rare cases. However, students from St Johns, those in third year and those allocated for the duration of 2 week and below encountered problems getting opportunities for clinical learning. The results show that although students indicated receiving clinical supervision one time or another it was not adequate, and they were not satisfied with the clinical supervision received. The students from ZA MCHS, those allocated to ZCH and those that did not meet the NE were the least likely to receive clinical supervision. Additionally, students in the BSc program were dissatisfied with clinical supervision. The attitude of clinical staff towards clinical supervision was the same across all programmes, institutions and level of study. Nevertheless, the attitude of staff towards clinical supervision was positive for those students in the community department. Students did not receive adequate feedback for self-reflection and improvement of their clinical performance. There was no significant relationship between peer support given and received and the independent variables.

The results showed that there was more likelihood of receiving feedback for students in first year, in the clinical area for a duration of 5-6 weeks and those who met the NE more frequently.. Student-staff relationships were often poor and poor relationships were experienced more by students from ZA MCHS, those students in third year, those placed at ZCH, students placed for a short duration of 2 weeks and below and those students who did

not meet the NE. The findings also indicated that students were satisfied with clinical learning. However, students from ZA MCHS, those in second year, students in medical wards and those students who did not meet the NE were dissatisfied with clinical learning. The results described in this chapter will be used throughout the other chapters. Chapter Five explains the multivariate results in detail.

CHAPTER FIVE

MULTIVARIATE LOGISTIC REGRESSION RESULTS ON INDEPENDENT BY DEPENDENT VARIABLES

5 Introduction

This chapter describes the multivariate outcome of this study. The logistic regression model has been explained in this chapter. The development of the model and tests that were done as well as results on the model has been described. The chapter examines how different independent variables including programme, institution and level of study, hospital, ward / unit and duration of placement and number of times students meet the NE affect dependent variables. These include integration of theory and practice, opportunities for clinical learning, clinical supervision students receive, feedback provided to students, relationships in the clinical learning environment and satisfaction with clinical learning which determines quality of clinical experience that students receive for effective clinical learning.

5.1 Logistic regression outcome

Table 5.1 illustrates logistic regression model output showing the integration of theory and practice, having opportunities for clinical learning, receiving clinical supervision, getting feedback in the clinical area, type of relationship with clinical staff and being satisfied with clinical learning, therefore, six models were developed. The model displays the estimates of the odds ratio showing the effects of each independent variable, including programme, college and year of study, hospital of placement, ward / unit of allocation, duration of placement and number of times students met Nurse Educators (NE) on the above outlined dependent variables.

5.2 Logistic Regression Model 1: Integration of theory and practice

Table 5.1 reveals that the logistics regression model of Integrating theory and practice was found to be statistically significant. Integration of theory and practice was consistently less likely to occur across all independent variables with the exception of community unit. It is observed from the model that RN diploma and NMT programmes were less likely to integrate theory and practice compared to those in the BSc programme. Thus, the likelihood of integration of theory and practice was significantly lower among students from RN and NMT programmes. Integration of theory and practice was significantly related to place of study.

Table 5.1 Logistic regression model

variables	Integration	Opportunities	Supervision	feedback given	Environment	Satisfaction
Programme	**Exp β (p)**	**Exp β (p)**	**Exp β (p)**	**Exp β (p)**	**Exp β**	**Exp β**
BSc [R]						
RN	0.288 **	2.036 **	5.538 **	0.214 **	0.700	2.036 **
NMT	0.346 **	1.491 **	2.748 **	0.368 **	0.900	2.525 **
Institutions						
MZUNI[R]						
Daeyang	0.385 **	0.350**	6.200 **	0.286 **	1.000	3.500**
BT MCHS	0.225 **	1.450	5.125 **	0.167 **	0.531 *	1.450
St Johns	0.581 **	0.744	2.778 **	0.388 **	0.838	1.519
St Lukes	0.255 **	5.900 **	1.875 *	0.533 *	2.136 **	2.833 **
ZA MCHS	0.238 **	1.000	1.364	0.156 **	0.333 **	1.311
Holy Fami	0.164 **	1.783 *	11.800 **	0.600 *	0.829	4.818 **
St Joseph's	0.542 **	1.581 *	0.550 **	0.388 **	1.362	5.529**
Level of study						
First year[R]						
Second yr	0.250 **	1.644 **	2.286 **	0.257 **	0.797	1.421 **
Third year	0.346 **	1.341 *	3.383 **	0.256 **	0.675 **	2.745**
Hospital						
MZCH[R]						
KCH	0.385 **	3.500 **	6.200 **	0.286 **	1.000	3.500 **
ZCH	0.222 **	1.729 **	2.435 **	0.315 **	0.698 **	2.561 **
QECH	0.577 **	1.545 *	5.588 **	0.383 **	1.435	2.500 **
Ward / unit						
Surgical [R]						
Medical	0.327 **	2.737 **	4.071 **	0.379 **	1.152	1.582 **
Pediatric	0.483 *	0.955	6.167 **	0.303 **	0.536 *	3.300 **
Maternity	0.255 **	1.269	3.214 **	0.269 9**	0.873	2.189 **
Community	1.167	1.600	1.167	0.300	1.600	5.500 *
Other	0.461 **	2.265 **	1.921 **	0.337 **	0.947	4.286 **
Duration 2 weeks below[R]						
3-4 weeks	0.285 **	1.307 *	2.383 **	0.208 **	0.574 **	2.172 **
5-6 weeks	0.636 **	1.845 **	3.629 **	0.459 **	1.104	2.682 **
7-8 weeks	0.306 **	1.043	3.700 **	0.424 **	0.808	2.615**
9 above	0.220 **	1.703 **	3.545 **	0.316 **	1.083	1.632 **
Met NE						
Not met[R]						
1-2times	0.271 **	1.700 **	2.857**	0.301 **	0.878	1.959 **
3-4times	0.520 **	1.533 **	4.429 **	0.357 **	1.235	3.343 **
5-6times	0.477 **	1.708 *	3.643 **	0.327 **	1.031	6.222**
7 above	0.789	1.720 *	5.800 **	0.700	1.000	7.500 **

* = p <0.05, ** = p < 0.001, Exp β = Odds ratio, p value = significance, "Other" = Operating Theatre (OT) R = Reference group

Participants from Daeyang, BT MCHS (colleges providing RN diploma), St Johns, St Lukes, ZA MCHS, Holy family, St Joseph's (colleges providing NMT nursing education) were less likely to integrate theory and practice compared to those from Mzuni which provides nursing education at BSc level. Similarly, participants in second and third year were less likely to integrate theory and practice compared to first years. Therefore, as the level of study increases the chances of integrating theory and practice decreases. The model indicates that hospital of placement had a significant relationship with integration of theory and practice.

Participants who were placed in KCH, ZCH and QECH were less likely to integrate theory and practice compared to those placed at MZCH. There was less likelihood of integrating theory and practice among students' allocated to medical, paediatric, maternity and "Other" wards / units compared to those allocated to surgical wards. However, participants placed in community departments, although it was not significant, were more likely to integrate theory and practice compared to those allocated to surgical ward. Integration of theory and practice was significantly related to duration of placement to the clinical area. Participants allocated in the clinical area for periods of 3 weeks and more were less likely to integrate theory and practice compared to those students allocated for 2 weeks and below. In addition, students who met the NE 1-2 time, 3-4 times, 5-6 times and 7 times and above were less likely to integrate theory and practice compared to those who did not meet the NE. However, Meeting NE 7 times and above was not statistically significant. Therefore, the greater the number of times students met the nurse educator would not determine integration of theory and practice.

5.3 Logistic Regression Model 2: Opportunities for learning

The logistic regression model showed that there was consistent likelihood of finding opportunities for clinical learning in all independent variables with exception of Deayang and St Johns among the institutions, and paediatrics under wards. Participants in the RN diploma and NMT programmes were more likely to have clinical opportunities for clinical learning compared to those in the BSc programme. Participants from St Lukes, Holy family and St Joseph's were more likely to find opportunities for clinical learning compared to students from Mzuni. Although not statistically significant, students from BT MCHS and ZA MCHS were more likely to find opportunities for clinical learning compared to Mzuni. However,

students from Daeyang and St Johns were less likely to find opportunities for clinical learning compared to those from Mzuni institution.

The model shows that second and third year participants were more likely to find opportunities for clinical learning compared to those in first year. Additionally, students placed at KCH, ZCH and QECH were more likely to find opportunities for clinical learning compared to those placed at MZCH. Similarly students allocated to medical and 'Other' wards were more likely to find opportunities for clinical learning related to those in surgical wards. Although not significant students allocated to paediatric ward were less likely to find opportunities for clinical learning equated to students placed in surgical ward. Students allocated for duration of 3-4 weeks, 5-6 weeks, 6-7 weeks and 9 weeks and above were more likely to have opportunities for clinical learning compared to those allocated for 2 weeks and below. However, allocation of 6-7 weeks was not significant. Furthermore, Opportunities for clinical learning were significantly related to the number of times students met the NE. Students who met the NE, regardless of frequency, were more likely to have opportunities for clinical learning compared to those who did not meet the NE.

5.4 Logistic Regression Model 3: Clinical supervision received in clinical area

Table 5.1 shows that clinical supervision received was significant except for those allocated to ZA MCHS, community department and students who did not meet the nurse educator. Participants in the RN diploma and NMT programmes were more likely to receive clinical supervision compared to BSc students. The odds ratio shows that students from Deayang, BT MCHS, ST Johns, St Lukes, ZA MCHS and Holy Family Colleges were more likely to receive clinical supervision related to those from Mzuni. However, ZA MCHS was not significant. Participants from St Joseph's College were less likely to receive clinical supervision compared to Mzuni. Additionally, second and third year participants were more likely to receive clinical supervision related to first years. Similarly, participants allocated at KCH, KCH and ZCH were more likely to receive clinical supervision compared to those from MZCH. The odds ratio reveals that students allocated to the medical, paediatric ward, maternity and "Other" wards were more likely to receive clinical supervision compared to

those in the surgical ward. Duration of clinical placement was significantly related to clinical supervision. Participants who were placed in the clinical area for 3 weeks and above were more likely to be supervised compared to those placed for 2 weeks and below. Likewise, the model showed that student who met the NE, regardless of frequency, were more likely to receive clinical supervision compared to those who did not meet the NE, suggesting that nurse educators' presence in the clinical area determines students' clinical supervision.

5.5 Logistic Regression Model 4: Feedback provided during clinical practice

Results of the model indicated a significant association of all predictors of feedback provided. Participants in the RN diploma and NMT programmes were less likely to get feedback compared to those students in the BSc programme. The relationship between feedback given and institution of study was significant in all institutions. Participants from Deayang, BT MCHS, St Johns, St Lukes, ZA MCHS, Holy Family and St Joseph's Colleges were less likely to receive feedback compared to those from Mzuni. Similarly, Year of study was significantly related to feedback received. Second and third year participants were less likely to get feedback compared to those in first year. Besides, hospital of placement was significantly related to feedback students received in the clinical setting. Participants placed at KCH, ZCH and QECH were less likely to get feedback compared to those placed at MZCH. Moreover, participants allocated to the medical, paediatric, maternity and "Other" wards / units were less likely to get feedback related to those in surgical ward. The relationship between feedback and duration of placement in the clinical setting was significant. Participants allocated for a period of 3 weeks or more were less likely to receive feedback compared to those who were allocated for 2 weeks and below. Similarly, irrespective of the number of times students met the NE, they were less likely to get feedback compared to those who met the NE less than 9 times, although those who met the NE 9 times and above was not significant.

5.6 Logistics Regression Model 5: Students-staff relationship

The model demonstrated that there were mixed outcomes on students relationships with clinical staff. Participants in the RN diploma and NMT programmes were less likely to have good relationships with clinical staff compared to those in the BSc programme. In addition, participants from BT MCHS, St Johns and ZA MCHS were less likely to have good relationships with clinical staff compared to those from Mzuni, although St Johns and Holy Family were not statistically significant. However, participants from Daeyang, St Lukes and St Joseph's Colleges were more likely to have good relationship with clinical staff compared to Mzuni. Conversely, the differences between Daeyang and St Joseph's Colleges were not statistically significant. Similarly, participants in their third year were less likely to have good relationship with clinical staff compared to those in their first year. Moreover, participants placed at ZCH were less likely to have good relationship with clinical staff compared to students placed at MZCH. Additionally, participants who were allocated to the paediatric ward were less likely to have good relationship with clinical staff relative to the surgical ward. However, participants placed in community departments although not significant, were more likely to have good relationships compared to those placed in the surgical ward. Likewise, participants allocated to the clinical area for duration of 3-4 weeks and 7-8 weeks were less likely to have good relationships with clinical staff compared to those placed for 2 weeks or below, although allocation of 7-8 weeks was not significant. Even though allocation of 5-6 weeks and 9 week or above were not significant, participants were more likely to have good relationships with clinical staff compared to those allocated for 2 weeks and below. Besides, participants who met the NE in the clinical area 3 times or more were more likely to have good relationships with clinical staff compared to those who did not meet the NE.

5.7 Logistics Regression Model 6: Satisfaction with clinical learning

The model showed more likelihood of satisfaction with clinical learning with the exception of BT MCHS, St Johns and ZA MCHS. Participants in the RN diploma and NMT programmes were more likely to be satisfied compared to those in the BSc programme. Additionally, participants from Daeyang, Holy Family and St Joseph's were more likely to be satisfied compared to Mzuni. Moreover, second and third year participants were more likely to be satisfied with clinical learning compared to those in first year. Similarly, satisfaction with

clinical learning had a significant relationship with hospital of placement. Participants placed at KCH, ZCH and QECH were more likely to be satisfied with clinical learning compared with those placed at MZCH. Furthermore, participants allocated to the medical, paediatric, maternity, community and "Other" wards were likely to be satisfied compared to those allocated to surgical ward. Besides, students were more likely to be satisfied if they were allocated for a period of 3 weeks or more compared to 2 weeks or below. Similarly, satisfaction with clinical learning irrespective of the frequency was significantly related to meeting with the NE.

5. 8 Summary of the model outcome results

The results in the model indicate that there was a significant difference in all independent variables. This suggests that nursing students' clinical learning is influenced by several factors in Malawi. The results on the logistic regression model show that programme, place and level of study, hospital, ward and duration of clinical placement and number of times students met the NE significantly and negatively affected integration of theory and practice. Therefore, students were unable to integrate theory and practice for effective clinical learning.

The multivariate model also reveals that independent factors influenced opportunities for clinical learning. However, programme and levels of study, St Lukes, Holy Family and St Joseph's Colleges, hospital of placement, the medical and "Other" wards, duration of placement for 3-4 weeks, 5-6 weeks and 9 weeks and above and students meeting the NE for clinical supervision regardless of frequency significantly influenced opportunities for clinical learning. Hence, students' access to opportunities for clinical learning positively influenced clinical learning.

Additionally, the logistic regression model showed that programme, place and level of study, hospital, ward and duration of clinical placement and number of times students met the NE contributed significantly to clinical supervision that students received in the clinical area. Thus, the students were more likely to receive clinical supervision.

Moreover, the multivariate analysis indicated that feedback provided to students in the clinical area was significantly and negatively affected by programme, place and level of study, hospital, ward and duration of clinical placement and number of times students met the NE. Therefore, students were less likely to receive feedback in the clinical setting.

Besides, the logistic regression model showed that BT MCHS, St Lukes and ZA MCHS as place of study, being in third year, placed at ZCH for clinical placement, allocation to paediatric ward, placed for a duration of 3-4 weeks and students not meeting the NE during clinical practice significantly and negatively affected students relationship with clinical staff. The students from BT MCHS, St Lukes and ZA MCHS were less likely to have poor relationship with clinical staff.

Likewise, the multivariate results demonstrate that satisfaction with clinical learning was significantly and positively influenced by programme and level of study, students coming from the Colleges Daeyang, St Lukes, Holy family and St Joseph's, hospital and duration of clinical placement, ward of placement, with exception of community department, and number of times students met the NE. Therefore, students were more likely to be satisfied with clinical learning.

CHAPTER SIX

QUALITATIVE RESULTS

6 Introduction

This chapter presents results from the qualitative data which was collected from 16 focus groups discussions (FGDs) and open ended questions in the questionnaire. The focus of the discussions was on nursing students' experiences that can positively or negatively impact clinical learning. Table 6.1 shows the themes that illustrate the issues identified from participants' narratives. The themes that emerged from the analysis included: disconnect between learning and practice, limited supervision and support; lack of feedback, limited opportunities for clinical learning and non-conducive clinical learning environment.

Table 6.1 Themes, categories and sub-categories

Themes	Categories	Sub-categories
Lack of integration of theory and practice	Two different things	Procedures are done differently
		We find it contrary to what we learnt in class
	Conflicting practices	We do shortcuts
		We did not know what to follow
		We do things that are not on our objectives
Opportunities for clinical learning available	Opportunities available	many cases are referred to central hospital
		Actively involved in ward activities
	Inadequate	Had no chance to conduct breech
		difficult to achieve objectives
	Missed opportunities	Scrambling for patients
		Concentrate on basics
		Challenging cases rare
		Staff prefer to perform procedures
Inadequate clinical supervision	lack of supervision	We learn on our own without qualified staff
		We feel abandoned nobody to help
		We lack guidance
	Irregular supervision	Difficult to find help when needed
		NEs come for orientation and assessments
		The NE came once in 2 months

Table 6.2 Showing themes, categories and sub-categories Cont.

Themes	Categories	Sub-categories
		I would like to be told how am doing
		Do not know my performance
	Demoralizing feedback	shouted in front of patients
		We are insulted when do it wrongly
		They laughed at me when I made a mistake
Non-conducive environment	Unwelcomed	No orientation
		You are not wanted, causing congestion
	Unfriendly	Uncomfortable to ask questions
		using harsh language
	Not included	Call us sorts of names don't know our names
		Not allowed to sit at nurses station
	Cover shortage	Taken as worker not learner
		Not allowed to do our objectives
Dissatisfied with clinical learning	Not happy with experience	Its hard to learn
		As long as we move to another level of study
		I was not able to achieve my objectives
Encounter challenges	In adequate resources	Improvise a lot
	Fear / anxiety	Not achieving goals
	Work overload	They leave everything for students

6.1 Effectiveness of clinical learning

Results from the FGDs and open-ended questions show that there are a number of factors that influence the effectiveness of clinical learning. The factors include lack of integration of theory and practice, inadequate opportunities for clinical learning, inadequate clinical supervision, lack of feedback, non-conducive clinical learning and dissatisfaction with clinical learning. These factors are discussed below:

6.1.1 Lack of integration of theory and practice

Table 6.3 shows the categories and sub-categories for integration of theory and practice

Theme	Categories	Sub-categories
Lack of integration of theory and practice	Two different things	Procedures are done differently
		We find it contrary to what we learnt in class
		Routine work
		Different protocols
	Conflicting practices	We do shortcuts
		We did not know what to follow
		We do things that are not on our objectives
		Just follow orders no questions
		When in Rome do what Romans do
		Too much information do too little in practice
		Emphasis on theory practice

6.1.1.1. Lack of integration between classroom theory and clinical education

The results show that there was disconnect between what was learnt in class and what was actually experienced in the clinical setting. It was evident that students expect to practice in the clinical setting what they have learnt in the classroom and practiced in the skills laboratory, however, that was not the case as they indicated to have found the procedures being performed differently from those learnt in the classroom. Although they knew what they had to practice in the clinical area, they found that in most instances things were done differently. This was perceived as a challenge for students in their learning, which usually led to confusion. These realities were aptly captured in these excerpts below:

> *"I wanted to perform vaginal examination. We learnt that we are supposed to use six swab techniques but there the nurses just use two swabs so they are different in practice, so to say". (C5 Y 3)*

> *" We just prepare maybe Crystalline penicillin in so many syringes and carry it without following what is required so if you try to do according to how you learnt in class, they say no! We are against time, what you are doing here you will not achieve we will not finish". (C1 Y3)*

"We learnt that we should administer drug such as quinine, LA etc. to treat malaria. We observed that staff in the clinical areas was using other drugs which were phased out which surprised us as was different with what were taught in class". (C3 Y 2)

6.1.1.1.1 Influence of clinical facility and integration of theory and clinical education

It was also found from the discussions that the application of theory into practice was dependent on hospital and the ward / unit of placement. For example, participants who were placed in the family planning unit expressed that they were more able to apply theory learnt in class compared to other wards. This demonstrates, however, that in some hospitals or wards participants were able to integrate theory and practice as captured below:

"Some of us I can say to my side I was very lucky to be allocated to a clinical area where I could put to practice what I have learned in class but to some it was really a hiccup to them because the clinical area that they were sent to, there were not able to". (C6 Y 2)

"We were sent to the medical ward, others to the surgical while others to the family planning clinic and you find that those from the family planning we were able to treat clients the way we practiced. For example, pelvic examination". (C4 Y3)

"I was in the surgical ward it was difficult practice what I learnt. We were doing short cuts, not following the procedure, it was a busy ward were doing the routine staff was directing us". (C5 Y2)

6.1.1.2: Conflict in learning:

It became clear from the FGDs that the conflicting realities between theory and practice in the clinical settings were of serious concern for students as it was confusing and challenging for their learning. It was also noteworthy that conflict arose among the students practicing what they learnt in class and according to what the NE taught them and to what they were being taught by clinical staff. Students were forced to conform to the practices of the qualified staff in the clinical setting. Such circumstances were found to confuse students as they did not know what to do. The subsequent quotes illustrate those frustrations:

"I was inserting a nasal gastric tube the staff came and told me another way. My lecturer came and cancelled me what I was told by the qualified nurse and told me you have to do this way so there is that controversy in the way how we do things, and one becomes confused". (C2 Y2)

"I'd give an example of management of malaria, we learn that we should administer drugs such as quinine, LA etc. to malaria patients but due to resistance or whatsoever we observed that people in the clinical areas are using other drugs which were phasing out."(C6 Y3)

Furthermore, the results showed that conflicting practices were not only between clinical staff and the NE but also among the NE's who were contradicting each other on performance of certain skills in the clinical area. It was clear that students would not know what the correct practice was, and this caused confusion and affected clinical learning as students would not know what to follow. As captured below:

"I was managing a patient with pneumonia came a nurse educator she asked is that the way you care for a patient with pneumonia? We said yes she said "that's not the way to do it" so I followed her way. Next day came the nurse educator who taught us theory on care of patient with pneumonia and instructed us to do her way so it was confusing for me". (C2 Y3)

"A lecturer came in and there was a clinical instructor in that ward, instead of just teaching us and supervising us together, they started shouting at each other "we do not do it like this "in presence of us students". (C3 Y2)

"I was caring for this other patient, the clinical instructor came in and at the same time the lecturer (nurse educator) came in and he asked me "who told you this?" "This person" I pointed the clinical instructor, he said "why? This is not the way it should be done, what did you learn in class?" so you see, Then I said "which one should I buy the idea from? Should I buy it from the lecturer or the clinical instructor?" so it confuses". (C6 Y3)

6.1.1.3 Absence of nurse educator in the clinical facility

It was apparent from the participants that in the absence of a nurse educator in the clinical area, students were not able to integrate theory and practice. The NEs were not available in

the clinical area to reinforce theory into practice such that students were just following what the clinical staff would tell them to do. It was found that the students would like their NE to supervise them so that they put into practice what they learnt in the classroom as expressed by these study participants:

> *"To our tutors when they came to supervise us I think it's better because we are really learning exactly what they were teaching us and we feel it that we can practice but when it comes to qualified nurse they just say go and do that and that,". (C4 Y 1)*

> *"Sometimes lecturers work with us so that each and every step is achieved. They say "do this, do that". They are also involved, that is why I am saying lecturers do help us when they come in the wards. We do the ideal" (C1 Y2).*

Some participants in the discussion expressed that clinical learning assist them to remember what is practiced in the clinical area such that they easily remember once they have practiced and it sticks in their minds. It was evident that for some participants learning occurred when they have experienced the phenomenon in the clinical setting first. These quotes support those sentiments:

> *"The clinical experience has helped me so far to try to understand the procedures that we learn in class putting them into practice then they stick into our mind and it becomes easier for us to remember, for me to remember than just learning those things like how to insert a Jadele (implant)each and every procedure when we go to the clinical areas when we do practice then we know that these procedures are very easy". (C8 Y2)*

> *"When we learn in class sometimes we don't understand the procedures we just think that these procedures are very difficult but when we go to the clinical areas we know that we can really make it and it becomes very easier for me when I do practice because it really sticks into my mind".(C5 Y3)*

The results showed that participants had perception that the lack of integration of theory and practice was because NEs were teaching out-dated information on the nursing practices. However, it was learnt that when students questioned the differences between theory and practice, they were considered rude and insubordinate. Hence, students followed what the

staff practiced for fear of being labelled rude or being reported to the NE and thereafter receiving a poor grade. In such situation students may find it difficult to practice ideal nursing. Clinical staff serves as role models so that whatever they do students emulate those practices. The following quotes capture the gist of it all:

> *"What the instructors do is assessing us and maybe giving out exams because even in the skills lab they don't demonstrate to us they don't have the time to go skills lab so the only time we meet is during assessment they do not demonstrate anything even at the hospital they don't even demonstrate anything yet they stopped being in direct contact with a patient a long time ago so they just tell us things from the books some of which are out-dated information". (C2 Y 2)*

It was also revealed in the focus group discussions that lack of integration of theory and practice was due to differences in principles of management of clients or patients and skill performance in the clinical setting from those learnt in class. In class, students learn stipulated steps to follow for managing some conditions and when they get to the clinical area they find different principles or protocols. As a result they become confused as to what to follow. The study participants recognized that nursing is dynamic and is changing every day. They realized that they could learn something from their curriculum, but in the clinical area things could be different as a result of new evidence based approaches. These experiences were captured as below:

> *"Shortcuts were not only done on procedures, even the management of the patients were totally different from what we learnt in class, on how to manage certain condition was not what we learnt in class. It was because hospital protocols for a certain condition are different from those that we learned in class. So we students get confused which one now to follow, this hospital protocol or things we learned in class" (C 7 Y 3).*

> *"It's not everything that we learn in class we put it into practice for example in management of pre-eclampsia that is severe pre-eclampsia in midwifery. In class the lecturers taught us that we should give magnesium sulphate now it happened that a certain patient had that problem of having severe pre-eclampsia instead of giving magnesium sulphate they said lets first control the high blood pressure so it really confuses us when we take the theory part and*

the clinical part the qualified they just say no forget about the theory lets concentrate on the clinical part so it's really a challenge to us we are not even applying the theory part into practice as it is the recommended as a protocol"(C6 Y2)

"You go there they have changed and they have put a poster like what is happening right now. on hand washing from my first year, second year I have learnt hand washing as what we all know, just this third year on my end of my theory that I am approaching to graduate they were telling me that's not how we do it. There is now WHO hand washing. Then it becomes confusing (C4 Y3).

It was noted from the discussions that participants particularly allocated to "Other" wards (which includes STI unit), the duration of placement was another factor that caused theory-practice gap. Students' duration of placement ranged from one (1) to twelve (12) weeks. It was noted from the discussions that such allocations of short duration was just enough for familiarizing the students with the environment, and were not adequate for practicing what they learnt in the classroom and grasping the skills in a particular ward / unit or achieving the objectives in order to become competent. When students are going to the clinical area they are given clinical objectives which are knowledge, skills and attitudes to be achieved. Therefore, they failed to attain these objectives because of the short period of time allocated to them to be in the clinical area. These quotes capture those realities:

"When it comes to clinical time we are given one week to be in STI clinic. I felt that one week was just too short. To do something competently we need time so we went there empty and we come back empty. We feel like we are moving forward, yes we can move forward by years but not knowledge because of the time of allocation is short to apply theory into practice". (C6 Y 2)

"We are expected to fulfil all our objectives, for instance 90 objectives in a period of 2 weeks which is not realistic so I think if they increased the time of allocation in the wards it would be good". (C2 Y3)

In the discussions it was revealed that BSc students cover a lot of theory but spend a short time in the clinical area. Thus, it is hard for them to transfer a lot of information learnt in class to clinical practice. It was also noted from the NMTs that there is no balance between theory and practice. Students got a lot of information in class, but did very little in the clinical area as they were allocated for short durations only which was a challenge. When students questioned the short duration of clinical practice, they were told that it was according to the NMCM required hours. It became clear that students required adequate time in the clinical area to be able to achieve their objectives as the following excerpt illustrates:

> *"When it comes to class environment we stay maybe for a maximum of 6 weeks but when we go to the clinical allocation we find that because of limitation in terms of time it's really hard to transfer the information that you have learnt in class to the practical part of it. Sometimes we were using the same time for clinical practice to cover theory content that we did not cover in class instead of helping us to learn clinical skills". (C1 Y2)*

It was apparent that the participants were allocated to placement different from their objectives. Such arrangements may have caused the theory-practice gap. Allocation of students to areas relevant to their objectives enhances immediate application of theory into practice for learning to take place as stated:

> *"We had learnt about gynaecological conditions. We found that we were allocated to male surgical, which means it was challenge for somebody to learn there because we faced the different conditions other than those we learnt in class. So it was challenge that we were sent to clinical area where those things are not practiced. So we have theoretical knowledge on one hand and practice something else on the other. It is like we are given wrong direction and I can say we are off the road thinking that we will learn but instead of doing what we learnt in class". (C6 Y 2)*

However, the discussion demonstrated that some participants, especially those allocated to paediatric and family planning sections, were able to practice ideal nursing. In addition others were able to apply knowledge gained in Anatomy and Physiology to perform skills such as insertion of intravenous infusion and Jadele (an inplant contraceptive method). Application of theory to practice was found to have helped students to remember what they have learnt, thus reinforcing learning as described below:

"We learnt basic stuff anatomy and physiology and I was able to apply that concept in clinical area. Sometimes when am trying to insert a cannula maybe to a child so, I find that the veins has collapsed so in way I use the concept of anatomy and physiology to actually find a vein you know that this is vein this is maybe this type of artery or vein so you can use that concept to apply in that area and it helps a lot". (C2 Y2)

6.1.2. Inadequate opportunities for learning

Table 6.4 The categories and sub-categories for opportunities for clinical learning

Theme	Categories	Sub-categories
Opportunities for clinical learning available	Opportunities available	Opportunities are always there
		Many cases are referred to central hospital
		Actively involved in ward activities
	Inadequate	Never had a chance to conduct breech
		Difficult to achieve objectives
		Scrambling for patients
		Challenging cases rare
	Missed opportunities	Concentrate on basics
		Staff do not give us a chance to practice
		We could not do bed making no linen

6.1.2.1 Seals gap and lack of learning opportunities

Almost all participants expressed having opportunities to learn. The participants were able to perform many procedures and being at the central hospitals they had a lot of cases. Nevertheless, although opportunities for learning were available, some cases were limited. it was revealed that participants had learnt some conditions in class, but these conditions were rare in the clinical area. Some participants felt that it was their responsibility to ensure that they had opportunities to learn and meet their objectives.

It was noted that most participants were able to find opportunities for clinical learning. As indicated from this excerpt:

"Many conditions are found only in central hospitals and we are able to practice what we have learnt and we are able to conduct some case studies" (C1 Y2).

6.1.2.2 Difficulty of practical skills and level of study

It was also noted mainly from the third years in NMT programme that as the levels of study increase it was difficult to practice challenging skills. Patients with specific conditions in relation to the clinical learning objectives were rare. Some of the skills, including manual removal of placenta, Manual Vacuum Aspiration (MVA), vacuum delivery, breech delivery among others were lacking, so that students were sometimes unable to achieve their objectives as illustrated:

"I also haven't done any vacuum extraction which is a must that I should do 2 vacuum extractions before completing the course". (C6 Y3)

"In my case I only come across a patient with colostrum once since I started from 1st year so you see it is difficult for us to be competent enough, of course we can handle the basics but in terms of handling the whole thing depends on how often you do that". (C5 Y3)

I have been in the clinical placements, I have never experienced or come across a patient who needed resuscitation, so with that I can say what I learnt in class was not practiced in the clinical area".(C1 Y3)

The study also revealed that some policies were a hindrance to opportunities for clinical learning. For instance, the midwifery course requires each student to perform two episiotomies; however, there is a policy that this procedure should not be done unnecessarily. In this respect, it was found that students ended up not practicing any episiotomy throughout their course. Hence as practicing nurses when they qualify they may not be competent to perform an episiotomy when the need arises as illustrated by this excerpt:

"We are assigned to perform at least two episiotomies during our practice but when we go to the wards we are told not to do episiotomy unnecessarily. So

when we are six in the labour ward and everybody wants to do episiotomy so you find it difficult to practice the procedure". (C7 Y3)

6.1.2.3 Unavailability of resources and hindrance to clinical learning

It was evident from the discussions that students missed some opportunities for clinical learning due to inadequate resources that prevented them from performing certain procedures. In some instances staff denied students opportunities to practice by not allowing them to use resources including gloves to perform procedures because students did not bring resources as explained below:

"Sometimes you can have a desire to learn something, on your own but you find that there are no resources. For example my experience at the hospital we could not do bed-making just because there was no linen". (C8 Y1)

6.1.2.4 Unrelated and changing roles and tasks and learning for students

The results also show that student had missed opportunities for clinical learning when they were sent to perform errands, including going to the laboratory, x-ray, laundry, among other things instead of learning. It was apparent that supervisors could not trust the students to be given challenging tasks to practice as described in the following quote:

"It happens that as student in third year I do not know how to insert a nasal gastric tube on a client because they are rare in the hospitals so the procedure is taken as a difficult task which cannot be handled by a student so they instill fear in us such that even when we graduate we will have that fear to say it is a difficult procedure. There is no flexibility in giving us a chance to practice but all they do is ask you "do you know how to insert a gastric tube?" you say no and off they go". (C8 Y3)

6.1.2.5 Lack of confidence and fear in performing tasks

The study also established that students were afraid to perform challenging tasks. Consequently they ended up not practicing some procedures throughout their nursing course.

Students learn management of conditions in the classroom and it is expected that when they get to the clinical area they should practice that under guidance of their NE. In the absence of the NE they miss the opportunity for clinical learning. For example, students could not learn some Family Planning methods because the one who knew the methods was not around to teach them. As a result, they would finish the allocation without practicing those methods as indicated from this excerpt:

> ***"****…… the opportunities to learn are there but because the supervisors are not there, we cannot perform on our own. We need the supervisors who are our teachers or clinical staff". (C3 Y2)*

6.1.2.6 Inadequate, poor attitude and lack of support from staff in clinical area

It was noted from the discussions that staff in the clinical area preferred to perform procedures themselves to save time rather than leave it to students to practice. This contributed to students' failure to practice some skills. In such cases students missed opportunities for clinical learning as indicated by this student:

> *"Having patients with conditions that we need to learn might be there. I was supposed to learn how to do catheterisation and I really needed to do that procedure to learn but another staff nurse did not want to teach me. They say it takes a lot of their time". (C1 Y2)*

From the discussions it was also revealed that some patients had poor attitudes towards students. Some staff would talk down to students in the presence of patients, calling them names. As a result patients sometimes refused for procedures to be done on them by students. In addition, culture and age differences may play a role in lack of opportunities for clinical learning. Older patients may not want to be treated by a young nurse. One student said:

> ***"****I look young. When I was asked to insert a catheter, the patient refused saying you're so young and you can't put a catheter on me. So it was really a challenge as it was the first time to put a catheter. (C1 Y3)*

"There are some staffs who call us by names and there are others who call us "ma students inu" (student) and that does not create a conducive environment. It happened at Queens there was this other patient who heard the staff call us "you students" so he refused to be treated by us because he knew that we are students, when we went there for suction he refused and said "I would rather stay like this and wait for the qualified nurse because you guys are students" so that was not good for us to learn". (C8 Y1)

6.1.2.6 Student's own attitude to learning

It was also evident from the discussions that students themselves contributed to missed opportunities for clinical learning. Students sometimes would stay away from the clinical area thus missing the chance to practice some skills. This is described below:

"*Our learning sometimes is affected if there is somebody who is eager to teach us so many things in the clinical areas, but some students always run away. I think they lose on learning some things. Opportunities are there; always there but students' eagerness to learn may not be there". (C8 Y2)*

It was noted that most of the opportunities for clinical learning were available. Further, students were actively involved in the activities of the wards / units as most of the times they were regarded as workers and the work on the wards was left to them. However, the involvement lacked resources, guidance, support and teaching as well as challenging opportunities.

6.1.3 Clinical supervision and support

Table 6.5 The categories and sub-categories for clinical supervision

Theme	Categories	Sub-categories
Inadequate clinical supervision	Lack supervision	We learn on our own without qualified staff
		We lack guidance
		We feel abandoned nobody to help
		Clinical nurses do not like teaching
		Dumped by our nurse educators
		Not eager to teach or help
		We are left on our own
	Irregular supervision	The NE came once in 2 months
		NEs come for orientation and assessments
		Difficult to find help when needed
		NE come to find faults and not to teach
		Staff too busy to assist
		We are with NE for five minutes
		Just do it I will sign for you

6.1.3.1 Lack of clinical teaching, guidance and support

Lack of clinical teaching and support in the clinical area came out frequently in the discussions as well as in the open-ended questions. It was evident that the NEs were not coming to the clinical areas frequently. They would only come for orientation of students during a new clinical allocation, for clinical assessments and sometimes for evaluation of their case studies. However, students were not guided or observed by the clinical staff or the NE when performing procedures so that they would know if they are doing the right thing and learning is taking place. These sentiments are illustrated in the excerpts

> "*For us it was difficult more especially the first three weeks because there was no tutor who came to supervise us. If we ask them they answer "Aaah we will come in the afternoon" but you see that in the afternoon they are nowhere to be seen. So it was a challenge for us to say how can we develop the competence if they are not coming to supervise us? Because if we are doing something wrong, they are there to say no we don't do it this way. You are*

supposed to do it this way. But we are having nobody who can guide us in those areas, so it was tough for us" (C2 Y2)

"Supervision always becomes a problem because there no NEs to supervise us sometimes an allocation maybe for three months you may be visited only once and the time when they are doing assessments otherwise you will not see any tutor or follow up on whatever you are doing even you may be absent for a week from work. So I think for us we think we are resting ourselves but for our knowledge and experience we are depriving ourselves, so I think there on experience we are lacking when it comes to learning". (C5 Y2)

6.1.3.2 Lack of human resources and learning support

It appeared that the students were not getting help when needed and lacked support in their clinical learning. In such situations the students were mainly with clinical staff who were not willing to teach and help them. It was clear that students would have liked their NEs to be coming to the clinical area to teach them as the following excerpt illustrates:

"I was supposed to do tracheostomy care. There wasn't any clinical instructor apart from the nurses on duty. I asked one of the nurses on duty to supervise me. He told me "Go and do it I will sign because I have other things to do". So it was difficult to find help when needed. I did it myself I don't even know whether it was effective or correct because there was nobody to correct me". (C2 Y3)

It was apparent from the participants that students were not guided or observed by the clinical staff and the NE when performing procedures so that students are aware if they are doing the right thing and learning is taken place. It was evident from the participants that shortage of NEs also contributed to the problem of lack of supervision. Students had difficulties to find help when needed. This was because of the conflicting roles of the NEs as they were supposed to provide clinical supervision but at the same time teach other students who may be in class in addition to performing other duties. They are therefore unable to come to the clinical area frequently enough to supervise students. NE`s inability to supervise students

sometimes led to conflict between the facility and training institutions as described in these excerpts from the students:

> *"Yes for us the lecturers did not come during the time we were in clinical area. The in charge asked us a number of times, "Why are your lecturers not coming to supervise you?" We said our lecturers are busy. By that time they were conducting the entrance examinations for the first years to come, so they reached at the verge of now chasing us because lecturers were not coming to supervise upon arriving to the college told our lecturers that we have been sent back by the in-charge then our lecturers still pleaded that what if you just go say so we are very busy and we will make sure that we come and supervise you, so we went back but to no avail the in-charge said "aah no, come tomorrow with your lecturers" and that's what happened and we didn't go there that day so it affected our learning in that allocation". (C6 Y2)*

> *"We lack of guidance and teaching because when we were sent in the clinical area our tutors do not visit us frequently and as a result, compromising our learning". (C3 Y2)*

The discussions revealed that first year participants who were in the clinical setting for the first time lacked support and being new in the profession they needed clinical staff and NEs to guide and supervise them to do basic tasks. They had to wait for preceptors and NEs to be able to perform skills as described by this student:

> *"As the first year student I expected to learn much of our work is bed making, taking vital signs but there was nobody to teach us those things we learnt in class and sometimes we came across certain new things we did not learn in class". (C1 Y1)*

From all the focus group sessions it was evident that students were learning without support and guidance. It was observed from the discussions that participants had a perception that the NEs mainly went to district hospitals as against central hospitals because of the incentive they get when they go to the districts. In addition, students were sometimes left alone in wards or units, even in placements which require them to be under strict supervision, including the

labour ward and Intensive Care Unit (ICU), as a result they would be stranded if a patient's condition changes. As a result, lack of supervision left students on their own without achieving any clinical learning and the safety of patients was compromised. These sentiments were expressed thus:

> *"I was with one qualified nurse, she left around 6 pm and came around 10 pm she left a patient who was burnt the whole body, I didn't know what to do but she just left the patient for me that I should clean him she was not willing to teach me, all she was thinking was I can do all the work. When I said can you just teach me first? Staff thought that I was lazy or rude or don't want to be sent. So we felt our lecturers just dump us and go without checking on us". (C8 Y2)*

> *"We are just left alone especially when we are in the labour ward which is not good and it's really important that each and every client when comes the qualified nurse should be there while admission on whatever we do they should be there to help us and correct us whenever we make mistakes but that thing doesn't happen like that". (C6 Y2)*

6.1.3.3 Availability of instructors yet not supporting learning

It was found from the participants that despite some colleges having clinical instructors' students were not being supervised. Some nursing education institutions employ staff to assist the NEs to supervise students while they are in the clinical area. Neither the NEs nor instructors went to the clinical areas frequently, if they did go they were not willing to teach but only went to check what the students had written in their patient`s files or nursing care plan, and if all students had reported for duty. Students had to take their own initiative to learn as illustrated below:

> *"And sometimes nurse educator or clinical instructors do not turn up because we have been in a midwifery set up for 6 weeks yet I have never seen any of them coming to labour ward to demonstrate, we have done it alone, and we*

have survived on our own so I think if things in nursing wasn't like this things would change". (C6 Y2)

"When we go to the clinical allocations we spent almost two months or so, but then the tutors only came just come once so sometimes it becomes hard for you to ask other nurses sometimes becomes hard for us students. So my wish would be that the tutors should be coming like more often to teach us". (C5 Y2)

"Some lecturers just come to the Clinical areas and walk out without telling us what we are really supposed to do. They come just to see our objectives and fault finding". (C3 Y3)

"I am happy sometimes when they don't come because when they come (goes silent); they are there to observe our mistakes, they just say "come, where are your objectives?" where is your nursing plan? When you don't have nursing care plan, they just write your name and tell you to report to their office". (C2 Y3)

It was apparent from participants in all focus groups that the absence of the NEs to teach the students prevented them from practicing what they learnt in class. The NEs left the responsibility of teaching students to clinical staff who were not willing to teach them. The students were not only getting stuck when confronted with problems but were also learning shortcuts which was compromising their clinical learning as described in the following:

"Our teachers just send us to the clinical area and say you will find the qualified nurses they are there they are going to teach you everything. You go there they say "Mmhh just keep this for your assessments just do a, b, c, d" the shortcut ones. So because of that we say aah what is it we are practicing here. When we go back to class and during Objective Structured Clinical Examinations (OSCE). We fail just because we follow procedures which we were taught at the clinical setting not what we were taught in class". (C4 Y 3)

"Most of the times we find that there is that difference between what we have learnt in class and what you found out while you were at clinical placement.

This is mostly due to the fact that our lecturers rarely visit our clinical placements" (C1 Y 2)

6.1.3.4 Job insecurity and lack of remuneration as reasons for lack of supervision

It was noted from the discussions that clinical staff did not want to teach or assist students because they were not being paid for supervising students, were overloaded with work and they were not employed to teach students which was perceived as the duty of the NEs. In addition, it was noticeable that qualified NMTs were reluctant to supervise the BSc students as they would become seniors to them once they qualify. The qualified NMTs were also unwilling to teach NMT students as it was perceived that they would be at the same level. This was indicated to be affecting students' clinical learning and eventually the profession as a whole as pointed out by participants:

"Some clinical staff just looked at us without helping us and when you ask them they just said "You know your tutors get paid for supervising and you want me to supervise you without getting paid? I cannot do that" so it was really affecting us," (C4 Y3)

"We were in the clinical area for a month and the lecturers just came twice. We were doing most of the things alone we ended up making some mistakes which we were not supposed to make if they were there to help us. The other day we needed the help of a certain auxiliary nurse, she answered us that it will be part time she cannot answer that question without money because our lecturers are eating a lot of money but they are not there to help us. There is no need for her to teach us unless we go to the college and tell the college that they have to pay her then she can answer and she didn't even answer us, we were demotivated". (C6 Y3)

"In the last clinical area when I had a problem and I got stuck, the right person to address my problem is the lecturer but then you find that the lecturers are not there. When you approach the qualified staffs sometimes, they just say "I am not the one to teach you that, it is your lecturer who is supposed to teach you that" so you find yourself that you are really stuck". (C3 Y2)

From the participants it was clear that supervision was mainly done by NMTs since they are in the majority in Malawi. Staff did not want the responsibility of teaching students and they allowed students to perform procedures on their own but when something went wrong they would blame the students and reprimand them. Some participants perceived that in the clinical area there is no teamwork and cooperation among staff. If some clinical staff were willing to teach students the other staff would leave the responsibility of teaching students to those willing ones. Therefore, if those staff were not available it was a challenge for students as there was nobody to supervise them as illustrated here:

> *"We messed up because of short cuts so it was the whole ward "who did this" it was students! Students! all over. We were summoned for a meeting that's when they call you for a meeting……" (C7 Y3)*

6.1.3.5 Doctors-nurses relationship and work ethics

From the discussion it showed that even the medical doctors and other health allied professionals had noted the weaknesses in the clinical supervision of nursing students. These people noted that students were not adequately supervised by the clinical instructors and NEs as stated by this student.

> *"The doctor said I don't want students I need qualified nurses" because staff always leave everything during the ward rounds to us, we had prepared for the ward round but there is no qualified nurse so the doctors refused to conduct ward rounds with us students and the doctors said "we are not doing it" and off they went until the nurses were called it is when the doctors started doing the ward rounds, so even the doctors know they can give you (the researcher) adequate information". (C4 Y2)*

6.1.3.6 Role models and student guidance despite pressure

It is worth noting from the discussions that some students indicated that despite students lacking support and supervision from the majority of NE and clinical staff, there were a few

who were willing to teach them. These were not only eager to teach but were always available for the students, despite their increasing workload. Students were taught and guided in performing procedures which benefited students. Furthermore, some nurse managers were also helpful in the students' clinical learning. They would teach students procedures step by step as said by these students:

> *"There was a procedure, bladder washout that needed to be done on a patient the nurse called me that let's go and do this thing and she was instructing us what to do it hands-on so that helped us to learn". (C1 Y3)*

> *"I was not conversant with cannulation I asked the staff nurse who was kind and approachable to assist me she helped and made sure I was conversant with cannulation. In some cases even doctors were able to teach the students and give us assignments". (C8 Y2)*

However, it was noted from the discussions that it was not only clinical staff who were willing to teach students but also some of the NEs. These were role models and were found to even teach students from other colleges by demonstrating skills to them. These NEs were approachable and available most of the time as they were willing to come and assist students without hesitation even at night, whenever students needed help. Students felt that if there were several of that kind of the NEs, they would see some changes in learning in clinical areas. These sentiments are captured below:

> *"When you talk about our tutors, they really try their best, they do their best because they supervise us often. Whenever they come they make sure that they help us so that we acquire something new so that we become competent on other skills. At least when they come they target 2 to 3 students, teach those ones so that they become competent although sometimes they do not come due to other programs. We find that the second years and us as first years are in the clinical area, lecturers are supposed to supervise all of us so when there not with us it means there are somewhere with other students and some are in class but otherwise they really help us". (C4 Y1)*

> *"We students are not motivated by qualified staff and our supervisors because we students we learn from them they are models but when we look at the*

qualified the way they do things inappropriately or the way they are dressed therefore it gets in my mind that it is normal yet when in college they tell us it is not normal therefore sometimes we get confused what is this and what is that and afterwards there is no effectiveness in our learning". (C3 Y3)

From the discussions it was also apparent that students were happy if supervisors were able to explain the procedure, so that they could do the procedures successfully. The NEs would conduct group supervision on the things that students were not familiar with, and if some had problems then the NE would concentrate on those students individually. Some clinical instructors would come to supervise them three times a week and they would discuss patient care, make presentations and learn from those presentations as illustrated by this student:

"There was a certain procedure; chest drainage of which we did not do it in class by the time I encountered it but this sister who was the In-charge, I called her to say the doctor said I must do this but I do not know how to do it. The sister assisted me to say if it is like this we do ABCD, we worked together although it was a tough task to me but we worked together and from there I learned something I was happy" (.C1 Y3)

6.1.3.7 Self-directed and peer clinical learning by students

Data collected from focus groups and open-ended questions revealed that some of the students who lacked clinical supervision helped and taught each other in the clinical setting. Such practices sometimes affected students learning negatively particularly where the students teaching others did wrong things. As much as peer support is good, the NEs have to identify those who can assist others and they need to be oriented on the procedures.

It was clear that some students preferred to be taught by their fellow students than staff who were not willing to teach and demonstrate to the students. They would correct each other if someone had made a mistake and as a result they learned from each other. In most of the focus group discussions, the participants indicated that the relationship among students was good, as a result they encouraged each other and learnt better. However, it was clear that depending totally on fellow students compromised learning as the students may have taught

each other incorrect practices. Students who were competent in certain skills helped those who had never done such procedures had problems performing them. Students felt free to interact with each other, ask questions and approach those who were competent in the skills to help them perform the procedures. Moreover, students who had been in the wards longer would help those coming for the first allocation, and senior students were able to help junior students. These experiences are shared by students as explained below:

> ***"****Whenever we have been allocated to clinical area you find students from other schools who have been there for 2 or 3 weeks, you feel relieved because most of the times we go to those students and ask them since they have experience because when you ask a sister she shouts at you. On the first day most of the tutors are not there, so just imagine the first day. Now if you find a fellow student you work together, those students will help you acquire skills". (C4 Y 2)*

> ***"****We support one another more especially during procedures. In a situation whereby I would like maybe to catheterize a patient but is based on the experience, I approach friends if they have ever done the procedure. If at all they have experience, they will always assist you on how to catheterize that patient so that's how it happens". (C3 Y)*

> *"If you tell a qualified nurse to observe us on something they would say am busy call maybe you nurse educator who may not be available thus it becomes very difficult in terms of support they don't give much support and they say you are from Mzuzu university you going to be in charges and for me am from CHAM (Enrolled nurse) I can't do that, they will answer you like that so it becomes very difficult and demotivating". (C1 Y5)*

6.1.4 Feedback given to students

Table 6.6 The categories and sub-categories for feedback

Theme	Categories	Sub-categories
Lack of feedback	No feedback received	Did not know whether am doing right
		I would like to be told how am doing
		Do not know my performance
		I just assess myself that did I achieve my objectives
		You do not know where you went wrong
		Delayed feedback
	Destructive	When make a mistake shouted at in front of a patient
		We are insulted when do it wrongly
		You want to kill the patient
		They laughed at me when I made a mistake
		Is this the way you learnt
		You are a failure
		Its better to take us to private place for feedback

6.1.4.1 Lack of feedback

It was clear from the discussions that students would only be given feedback after assessments and case study evaluations and not on their day to day clinical performance. This meant that it was hard for students to know if their performance whether was good or poor and if they were moving in the right direction. Furthermore, even after supervisors had observed their performance they were not given any feedback. In some instances qualified staff just filled students log books without telling them they were doing right or wrong things, leaving students in suspense on their performance, thus impacting negatively on their clinical learning as they may not be able to improve on performance. The quotes below capture those scenarios:

> *"If the lecturers come anytime during the allocation if there is no assessment taking place they would just come and see you and then they go back without*

giving us any word on how we were doing therefore we could not improve our performance. If they gave us feedback we would be able to improve the areas where we were not doing well". (C6 Y2)

"Should stress on the feedback, most of the times we do assessments, procedures in the clinical area but not feedbacks given, or it is delayed even in the college feedback is not given we get our results very late and it pains us". (C3 Y3)

The discussions further revealed that feedback was not timely. Students indicated that they were given feedback some months after leaving the clinical area. As a result, the supervisors could not remember how each student performed the procedure. Besides the students could not improve on the mistakes if the procedure was to be repeated. Students would have liked to be given feedback so that they knew their strengths and weaknesses on their performance and learn from the mistakes. Immediate feedback after performance was essential for effective clinical learning as described by this student:

"It takes time for the in charge to sign for example it's now up to two months since we were in another ward up to now we have not been given feedback they are still keeping our booklet so we cannot know whether we are doing something properly"(C1 Y 2).

It was revealed that feedback provision depended on the wards / unit of allocation. For instance participants allocated to Family Planning, Intensive Care Unit and operating theatre were perceived to be getting instant feedback compared to the other wards / units. These units may have been able to provide feedback as there are few patients and also they are more specialized. It was evident from the discussion sessions that students felt happy when they were appraised and corrected because their performance improved as they knew their strengths and weaknesses. Therefore, students would improve on the weaknesses when they performed the procedures again, and this helped them learn.

6.1.4.2 Types and impact of feedback received by participants

In almost all focus groups it was evident that the type of feedback students received was mostly destructive. Students were reprimanded in the presence of patients, other clinical staff and students. In addition, when students made mistakes, they were humiliated, insulted and laughed at in the presence of patients and guardians, who made students, seek for withdrawal from clinical learning sites. This also made students feel like quitting the nursing profession altogether. Such type of feedback instilled fear and caused students to refrain from performing any procedures in case they made mistakes, thus losing opportunities for clinical learning. Moreover, students felt demotivated, leading to loss of confidence in themselves, but this also led to patients losing trust in the students, thus negatively affecting their clinical learning as expressed below:

> *"Staff tends to either shout at you or to talk in your absence somewhere instead of just pointing out to you what you did wrong this psychologically demoralizes us and can't perform as you are supposed to hence cannot achieve anything. Yes they discuss at our back instead of discussing when your there and correcting you but they discuss at your back and it disturbs us psychologically."C7 Y2)*

> ***"****I was doing cannulation and our tutor came to supervise us and the way I doing he shouted "we don't do that! We don't do that! You will kill our patient"! In front of the patient.* ***……..*** *(Participants laughing) it's the way they give the feedback that puts the relationship off. And it made us all fear that we should just run away and leave nursing". (C4 Y3).*

> *"Sometimes when you do a mistake in the presence of the patient they say "what is this that you are doing kikikikkiki the staff started laughing at me, so it was bad I felt humiliated (all laughing)" (C6 Y3).*

6.1.4.3 Feedback procedure as suggested by students

Participants felt that if they have done something wrong during a procedure it was better for the supervisors to take over from the student without embarrassing them. Otherwise, the students should be called to a private place where the supervisor can give feedback to correct the mistakes. Embarrassing students in the presence of other people may negatively affect students therefore hindering their clinical learning. Furthermore, it appeared that instead of giving feedback to the students the supervisors went to other wards and started talking behind the students' backs about their failures, which affected students psychologically. The clinical staff would also provide information to the NE about the students' performance without first discussing with the students as illustrated below:

> ***"****I think I haven't seen much being told how we are doing in our work I was doing a certain procedure the lecturer just watched me and off she goes to another ward there she started saying bad things about me, he's running away from me he never did this, he never did that , so I felt terribly bad and I reached a certain point that I made a decision to go to the tutor and talk to her about that, but of course my friends told me not to, it was very hard on me and that was my bad experience it really affected me". (C7 Y2)*

> *"We get most of the support from Clinical staff but from my experience they are there only to see if you have done something but they don't come back to say you have done right or wrong but in the case of lecturers, they give you feedback that you have done it right or wrong". (C3 Y 2)*

> *" I think feedback is like a torch, it lights for you on your way so I think when you are given feedback the things that you did good you obviously delete them, the things that you did wrong you polish them up".(C4 Y3)*

Contrary to what the majority felt as bad experiences when it comes to getting feedback. There were a few participants who were able to receive constructive feedback after a procedure. These were students who were mainly supervised by NEs. From the participants it was evident that the supervisor would give praise where it was due and assisted on the weak areas for improvement. Some supervisors encouraged students to do self-evaluation

before they gave them feedback on their performance. Students performance would be observed on their performance to check for improvement from the feedback. The discussions showed that these students who were given constructive feedback were happy, and that promoted their clinical learning. Constructive feedback encourages students to learn as they may be motivated, thus facilitating clinical learning as captured below:

> *"I was in medical ward a certain sister observed me how I was catheterizing a patient then at the end she called me to a room where she was explaining to me how I conducted it, first of all she asked me how I performed that procedure, then I said aaah I explained a, b, c, d but by the end of the day she said, she even signed my competence saying that I did it better she told me my weaknesses where I need to improve and, that's all" (C4 Y2).*

> *"I want to say something on feedback there are some tutors when they come for supervision they may tell you to do a certain procedure afterwards she will give you feedback. It's like she evaluates you on whatever you were doing if you are doing the right thing, if you were doing the wrong thing she may correct you and in the presence of the patient".(C8 Y2)*

It was obvious from the discussions that feedback helped them to improve their performance hence promoting their clinical learning. Once students know their strength and weaknesses they would improve on the weak areas and when they are to perform the procedure again they would do better, as the same mistakes were not repeated, therefore they learnt from their mistakes. It was also evident that constructive feedback provided students with direction regarding their clinical learning, as they knew what they were doing as described below:

> *"Feedback is like a torch, it lights for you on your way so I think when you are given feedback the things that you did good you obviously maintain them, the things that you did wrong you polish them up, it helps in our learning process". (C3 Y 3)*

6.1.5 Methods of clinical teaching

From the discussions, the most common methods used in clinical teaching were found to be demonstration and case studies. The supervisors would use demonstration to teach students a skill or how to care for a patient. However, case studies were commonly used since it is a requirement for students to conduct a number of case studies before they qualify. Methods like reflection, role play and problem based learning were rarely mentioned except by BSc students. This shows that innovative methods of clinical learning are not commonly used in these institutions. Methods of clinical learning have to be student centred so that students are actively involved in their learning. These experiences by the students are captured below:

> *"When we were in first year demonstrations were used but as we went along, they ceased demonstrations. We just started case studies and that is what we are doing now. Some of the nurses try to demonstrate but usually we do case studies and maybe once in a while they use reflection". C2 Y3*

> "*I was allocated in Intensive Care Unit (ICU) where we used clinical conferences. It is a good thing that promotes learning. I wanted to say, if possible, if it can be introduced in different wards. It can't be formal but periodically be it an in charge or whosoever should maybe be calling students and briefing them on certain procedures and the like, giving them assignments, they go to practice anything they feel like it can help" (C1 Y3).*

6.1.6 Clinical learning environment

The discussions and open ended questions showed that clinical learning was affected by the relationships between students and clinical staff and the NEs.

6.1.6.1 Relationships between Nurse Educators and clinical staff as perceived by students

It was clear that students were not always welcomed in the clinical setting. It was perceived that the presence of students in the wards interrupted clinical staff work on patient care. This type of attitude was most evident if the clinical facility was not notified of students allocation,

so that there were problems on interaction between the students and the qualified nurses, as the following excerpts illustrate

> *"When we arrived on the first day the first day we introduced ourselves and told them what we are going to do, they did not even pay much attention to us, they did not even orient us to the hospital so they just let us practice until we ended our clinical allocation".C6 Y2*

> *"The last allocation I have been, I can say we have problems I can give you an example on the first day the in-charge said I personally have not welcomed you in other words I can say some staff members they've got bad attitude so with that kind of negative attitude towards us it instilled fear in us that we were not wanted that really affected me". (C4 Y1)*

> *"Staff don't talk to us in a proper manner that someone you can be willing to learn, because like in this situation you are trying to, a patient comes is unconscious and you go to say, "someone is unconscious", she shouts at you, "second year and you don't know how to manage that patient?" but you are just informing them not to ask for help you are just notifying the in-charge that there is somebody unconscious and you are trying to help the patient. So I think in that manner someone will not be willing to learn and just see the admission walk away just to avoid being criticized in such a way" (C5 Y2)*

Table 6.7 Categories and sub-categories for clinical learning environment

Theme	Categories	Sub-categories
Non-conducive clinical learning environment	Unwelcomed	No orientation
		You are not wanted, causing congestion
		Sent back to the institutions
		Staff did not give attention to students
	Unfriendly	Uncomfortable to ask questions
		Using harsh language
		Questions ignored or given parallel answer
		Did you not learn in class
		Shouting students in the presence of patients
	Not included	Call us sorts of names do not know our real names
		Not allowed to sit at nurses station
		Did not attend meetings
		Not appreciated
	Cover shortage	Taken as worker not learner
		Not allowed to do our objectives
		We are used as service providers

6.1.6.2 Hostile learning environment and favoritism

The discussions showed that the clinical environment was unfriendly and it gave students a bad impression, about the clinical setting especially those students in the first year of study. The clinical staffs' harsh tones and rude remarks instilled fear in the students so that they were not able to ask the staff questions. For students to be able to learn, they need clarification on issues they do not understand. In this case students because of fear, refrained from asking questions as they felt embarrassed by the way clinical staff responded as expressed below:

> *"I could not ask questions she was always shouting at us students. The staff shouted at our fellow student from one college and she ended up crying in front of the patients so we were all afraid to ask questions. The way she addressed us as students was not all that good. When she talked to first year students she could say "You first years go and get bedpans that's your job".*

So sometimes we felt like not going to the ward because it was very stressful and humiliating". (C1 Y 1)

"The nurses ... we were afraid to ask them things concerning our learning. Whenever we ask them questions they ask did you not learn in class. Go and ask your nurse educators, this is not a classroom but working place". (C2 Y2)

"And when you try to ask are we supposed to do it this way? I was told to do it this way in class, they will say when you're in Rome you should do as the Romans do. So in that situation as a student what can you do because at the end of the day you will also need them to sign for your hours and then you just follow what they are doing" (C4 Y 3).

"The last experience I had it was not that good because even the first day that we arrived at the clinical placements the way some of the qualified staff acted we already knew that we are a burden to them so it was tough for us to learn. When doing procedures, they don't tell us anything that this is how we do we just see it that, "okay they are doing this", but they don't talk to us, so it was very hard to learn in such circumstances". (C8 Y3)

The discussions showed that the students were regarded as workers to cover shortage and not learners. If they attempted to work on their objectives they were viewed as lazy or rude by staff. Students were sent to perform errands, including going to the laboratory, x-ray, laundry, among other things instead of learning. The clinical staff left all the work to students which affected their clinical learning. The following excerpts illustrate this:

"I did not achieve my objectives in the wards. It all becomes well whenever we performed the tasks assigned to us but we said excuse me I want to attend my patients for my objectives or case study they said "do this first then you work on your objectives. So it becomes sour you can't see each other with a good

eye because you are not doing what they have told you and they were an obstacle to our learning we could not do our case study, you could not finish what we went there for, we were working for them so it is that kind of thing". (C2 Y2)

It was apparent from the discussions that the environment was non-conducive for clinical learning. In some instances, the clinical staff's bad behaviour may have been due to their personal reasons. There was lack of communication at times between students and staff. Moreover, students would be belittled, not recognized and respected. It was also noted that there was no sense of belonging, as students were not allowed to sit at the nurses' station or participate in discussions concerning a patient. This attitude would cause students to feel demoralized and to lose confidence in themselves, thus negatively affecting their clinical learning experiences as illustrated below:

"When we have done something good at least those people should say thank you or say you have done it perfectly or good to reinforce you but in most cases whatever we did the staff only talked negatives about us. I was told by a certain sister that the whole allocation I have done nothing (some participants laughing) and she would tell the nurse educator so I was like wondering, I was doing my best thinking that aah am really doing my job, but the end of the day she said you are just wasting resources here, how many gloves have you used the whole day? It really demoralised me that I felt like quitting nursing". (C4 Y3)

"We are not supposed to be treated as a child but then we should treat each other with some dignity and respect. They should respect us knowing that we are at a tertiary institution not like at the secondary school and we are dealing with lives" (C8 Y3).

"Hostile environment (participants laughing) yes I am talking about the relationship that we find in the ward between the in-charge and the qualified nurse it was bad may be on the issues of locum, someone maybe have signed without working so you find in their disagreements, quarrelling over these and other issues in the ward. So it affects us you go there, you talk to them and they will not even give you a response". (C2 Y 2)

Another issue that was apparent from the discussions was that supervisors, mainly clinical staff, favoured students from their former colleges and those who would be at the same grade level with them when they qualify. These students were given more support in the clinical area as observed by one student:

"I observed that there was favoritism depending on the college one is coming from and the staff was trained. If I need help nobody could come and help or I could be seen as a failure because of the college that I am coming from. But if my fellow students are from the college the staff was trained, they will receive good treatment, have more help or support from staff". (C7 Y3)

"Some qualified staff chose to like students who come from a certain institution because of their own reasons and hating other students from a certain institution and they may not teach students from the institution they hate and we lose on learning". (C6 Y3)

It was noted that this behaviour of staff stemmed from pressure of work, as they were always short staffed, non- conducive working conditions in the clinical area, and other issues amongst themselves as staff. These factors affected how the staff treated students. Moreover, it might have also been the case that staff were taking revenge on students, as they had also perhaps gone through the same process when they were students themselves.

6.1.6.3 Relationships with Nurse Educators (NE)

It was clear from the participants that some NEs also displayed negative attitudes towards students. The NEs behaviour towards students instilled fea,r resulting in students avoiding them when they saw the NEs coming to the clinical area, which negatively affected students' clinical learning. As described below:

> *"We are not in good terms with our lecturers (says while laughing). When the lecturers come to the clinical area by just seeing them, our hearts jump with fear. We are afraid of them. I would only be able to do a thing well in their absence but when a lecturer is there you fail to do it because the confidence is gone. Sometimes we do some small mistakes and we are given a punishment to work on night duty so you have worked during the day and it was even very tiresome and we could not perform effectively at night". (C6 Y3)*

> *"It starts from here from the college the way they treat us and then if we go to the wards we see them we either run away or ignore them so I don't think we can learn in such environment ". (C3 Y2)*

> *"Learning is also psychological, when you go in the clinical areas you have to be psychologically well, not intimidated, those intimidations come from lecturers or staffs. Some lecturers go there for fault findings; they say "oh you are doing this? Write a report" next time I will come to collect the report. The next day we hand over to him, he calls you for disciplinary but we do not learn at the clinical areas, so if they can change and come to the clinical areas with the aim of supervising or teaching not fault findings, that would be good. ". (C8 Y2)*

However, the participants pointed out that it is not all NEs that behaved this way.

> *"I would rather have the tutors be present every day so that we should perform and achieve all objectives. And I am sure if the tutors would be present then those shortcuts would be reduced because once the tutors are there, even the nurses they are afraid to do some shortcuts". (C5 Y2)*

> *"Some nurse educators if they come to the clinical area you feel that the teacher is here and I will learn and they interact well with us student. I think some of the lecturers naturally they are good". (C2 Y3)*

6.1.6.4 Students willingness and interest to learn

It was noted from the discussions that students needed to be responsible for their own learning. Behaviours such as reporting late and not coming to the clinical facility at all were some of the factors that compromised students' acquisition of skills in clinical learning. In the discussions it was evident that even when staff were willing to help, some students stayed away from the clinical area. Students need to be in the clinical area in order to accomplish what is required of them. It takes students own initiative to learn in the clinical area despite the challenges. If students are not motivated to learn, effective clinical learning cannot take place as indicated by these students:

> *"Our learning sometimes is affected by the students' attitude maybe if there is somebody who is eager to learn you learn so many things in the clinical areas. But if there is somebody who always runs away I think the opportunity is lost to learn some things. Opportunities are there; always there but students' eagerness to learn may not be there".* (C8 Y2)

> *"We went to the ward this other day. The qualified staff was not happy so she sent us back because we are late for practical. I think we are supposed to take clinical learning seriously and be responsible for their own learning by reporting to the clinical placements on time". (C3 Y3)*

"I think sometimes the relationship might be not good because of the students. Other students are fond of running away from the clinical area whereby the moment the in-charge observes that, they can easily chase away the whole group of students so that causes bad relationship with the lecturer who is supposed to supervise in that particular ward (Participants laughing)". (C6 Y2)

6.1.7 Satisfaction with clinical learning

Table 6.8 Categories and sub-categories for satisfaction with clinical learning

Theme	Category	Sub-categories
Dissatisfied with clinical learning	Dissatisfied	I was not happy
		It was hard to learn
		As long as we are able to move on
		I was not able to achieve my objectives
		You learn when the environment is good
		It was hard to learn without supervision

From the focus group discussions and the open ended questions, it was also noted that the majority of students were not satisfied with their clinical learning. It was also apparent that lack of integration of theory and practice caused dissatisfaction with clinical learning for some study participants. Additionally, participants who had a poor relationship with clinical staff were dissatisfied with clinical learning. Learning takes place if students are satisfied with their clinical learning. Dissatisfaction with clinical learning may indicate that students were not really learning to become competent as captured below:

"I feel like we were not really learning just because you may go to the clinical allocation for you to learn you find there are few nurses who are working in the ward and they take you as a worker covering the shortage. So instead of you achieving your objectives you spend much of your time on each and every patient and then we are not also guided or helped to learn we work on our own" (C1 Y 2).

"You learn when the environment is good environment that you can work with those people and again if exactly what you learnt in class you are really applying in a clinical area then i can be happy that learning is effective. Again if those nurses were eager to teach us as we cannot t do it alone". (C4 Y 3)

However, for the first year students, being in the clinical area for the first time, were excited about their experiences whether they were actually learning or not. They, therefore, expressed satisfaction, with their experiences as elaborated in the following sentiments:

"My last allocation was fine and great because it was my first one and since it was my first year allocation, but sometimes I felt like I was being teased because I remember one time I was given a big cooler box to go and carry a bottle of TTV. So sometime I thought (laughing) maybe because I was a first year student and I didn't know what TTV was by then. However, it was amazing so I never imagined that it there it's a good experience and the people there were just friendly" (C7 Y 1)

It was noted from the discussions that satisfaction with clinical learning was based on the achievement of clinical objectives and their ability to practice independently, as well as their ability to move from one level of study to another and complete their studies. Clinical learning takes place when students are satisfied with the clinical learning. Hence, students may not learn adequately in the clinical practice.

6.2 Challenges experienced by students in the clinical practice

Table 6.9 Categories and sub-categories of challenges experienced by students in clinical practice

Theme	Category	Sub-categories
Challenges	Inadequate resources	Improvise a lot
		We use gloves instead of tourniquet
	Fear / Anxiety	Not achieving goals
		Fear of making mistakes
	Stress	Pressure of work
	Work overload	They leave everything for students
		We feel overworked and tired
	Accommodation	We struggled to find accommodation

6.2.1 Acute shortage of resources

From all the focus group discussions and open ended questions it was clear that the biggest challenge for clinical learning was inadequate resources. Students failed to apply theory to practice because of inadequate resources. Opportunities for learning were also missed as there was no equipment and supplies to perform certain procedures. As a result, students were unable to learn effectively. Students require adequate resources in the hospitals to be able to perform ideal nursing practice if they are to become competent. Inadequate resources are the result of Malawi being a resource poor country which is unable to adequately fund hospitals to meet their budgetary requirements as captured below:

> *"When we are in the hospital setting there is a different model because in the hospitals you find that there are inadequate resources unlike in the skills lab. So when you get there you get confused that what I am supposed to do". (C7 Y 1)*

> *"Sometimes you can have a desire to learn something, on your own but you find that there are no resources. For example my experience at the hospital we could not do bed-making just because there was no linen". (C8 Y1)*

" I think what we learnt in class and what we practice outside there is very different, in such a way that for example due to lack of resources we are failing to maintain a sterile procedure because we are fond of improvising everything due to lack of resources we fail to practice what we did in the classroom".(C2 Y3)

"A patient came in asthmatic attack we were supposed to give some of the medication through nebulizer by then we had no nebulizer and what we did it's just we took the client where we find a room have him in a good position of that client. We wanted to give another drug Aminophylline there was 10Ml syringes so we were used two mills syringes to administer about ten mills of Aminophylline which was supposed to be taking about five to ten mills but we took almost fifteen to twenty minutes what we were doing is just to save life and to make that person feel fine not following all we learnt from class coz of the shortage of resources". C6 Y3)

6. 2.2 Congestion of students in the wards

In the discussions the students mentioned student congestion in the clinical areas, resulting in students finding it difficult to learn. This made students to compete in performing some procedures which were in high demand. In addition, students were not adequately supervised, which compromised meaningful learning. Participants felt that too many students should not be allocated to one ward / unit as stated below:

"When we are in the clinical area, to practice a certain procedure it becomes difficult for you to practice as were too many students. To add on supervision is a problem and is not done throughout the allocation not only once or during assessment and staff nurses are not adequate to supervise us to learn ideal and perform well" (C1 Y 3).

"In the clinical area we were seventeen students, You find that there was only one patient who was supposed to be inserted a Nasal Gastric Tube the only thing you do is to watch your friend doing it, and in some cases the qualified nurses will say "We don't play with somebody's life" all of you cannot do it. I think you observe she will do it, but I understand practice makes you perfect so observe, so the chances are limited not knowing when you will practice that procedure". (C4 Y2)

"I think the school should send us in good numbers not many. we were thirty students in one ward, so in that way we cannot learn we were just too many who can teach such a group"?(C5 15)

6.2.3 Tensions

It was noted from participants that there were tensions in the clinical learning environment among students. Apart from students' competition for the rare cases to achieve their objectives there were also tensions rising from differences in programmes of study and colleges. The BSc students would look down upon diploma students as being inferior, leading to misunderstandings, which created tensions and conflict. In an environment where there are tensions, students may not be able to learn effectively. The following excerpt illustrates this:

"We were arguing on the blood groups so one of our colleagues from the university said in our class we were told that this blood group is not supposed to get blood from this blood group and the students from NMT programme said just because you are from Mzuzu University don't mean you know everything so we started quarrelling". (C 1 Y 2)

6.2.4 Fear/ Anxiety

Another challenge that was prominent in the discussions was anxiety. It appeared that making mistakes was the main cause of anxiety as students were reprimanded in the presence of patients and others. As a result students would refrain from performing procedures if there was nobody there to supervise. The other reason for anxiety was fear of a new environment especially in the absence of the NEs to orient students and explain their expectations. Yet the presence of the NEs in the clinical area also caused anxiety in students as they too reprimanded students in the presence of patients. Additionally, students may have been stressed about not achieving their objectives during the clinical allocation. Anxiety and fear may cause students to lose confidence in their performance and fail to effectively practice nursing care as captured in the following statements:

> *"I had fear of not achieving some of the goals I was supposed to achieve during that allocation, because you always say am I going to do this, am I going to do that. So when you are evaluating yourself maybe by the end of the allocation you find some other objectives you did not achieve." (C8 Y2).*

> *"We are talking of fear of our lecturers. There is an issue of being withdrawn from school on disciplinary or academic grounds so we are not very much sure on the disciplinary issue whether here or at the clinical areas. This creates fear because what the lecturers will do is they will just observe you on how you are conducting yourself and the like, he will not tell you whether you are doing good or not but you will find that the result out of that observation will affect you negatively so this contributes to our fear. What I want is that lecturers should have a positive attitude towards students. Students come here from different backgrounds with different experiences and the like, so when we are here we are not that much assured or aware of the previous expectations of individual lecturers, now you find that you feel you are behaving well but not knowing that a certain lecturer is observing you and with a negative attitude would just a fault on you". (C3 Y3)*

2.5 Work overload for students

The discussions revealed that students were over worked. When students are in the clinical area some staff see this as an opportunity to rest, as they see students being there to relieve them. Heavy workload as well as imbalances in the nurse / patient ratio affected students clinical learning as doing the ideal practices was compromised when they were too busy as stated below:

> *"There is too much work for the students, most of the times they leave everything to students for example maybe if it's a theatre day they say only students will escort the patient to the theatre so we go there in the morning moving beds at the end of the day you are tired for me to study so because of that I think it's a challenge for me" (C8 Y2).*

> *"You see in the hospital I was placed in the paediatric ward, we had close to 500 patients in the ward and with only three qualified nurses and three students, we students had to work to cover the shortage. In real sense we are supposed to practice what we learnt in the classroom as it was very busy with a lot of patients, it become a challenge to us. When doing drug administration we have to follow proper channels of giving drugs. Ideally we are supposed to check the drugs, check the patients name the drugs and all the 5R of drug administration but with 500 patients, the practice was just lining the patients on a queue and give the drugs according to the names". (C1 Y 3)*

6.2.6 Accommodation during clinical practice

The problem of accommodation was apparent from the discussions. Participants encountered this problem when they were placed far away from their educational institutions. Participants spent time looking for accommodation when they arrived at the clinical setting thereby missing days and opportunities for clinical learning. Additionally, it was noted that sometimes the accommodation they found was not conducive for habitation thus affecting their clinical learning. One student said this:

"My recent clinical experience was not very nice because of accommodation. We were congested - eighteen people in a two roomed house with few utilities, for instance queuing to bathe. So we have our own challenges which are supposed to be addressed" (C5 Y3).

6.3 Summary

This chapter has described the findings from the focus group discussions and the open ended question from the questionnaire. Experiences from the participants were analysed by giving meaning to those experiences. These experiences included, integration of theory and practice, opportunities for clinical learning, clinical supervision, feedback given, methods of clinical learning, clinical learning environment, satisfaction with clinical learning and challenges experienced by students. The results from the qualitative data showed that most students were not able to integrate theory and practice, were not adequately supervised as they learned on their own, and were not given feedback so they could know their progress, strengths and areas for improvement. The results showed that the relationship between clinical staff and nurse educators was often not positive, making the environment non-conducive for clinical learning. Nonetheless, students noted the availability of opportunities for clinical learning and satisfaction with clinical learning. Additionally, the results indicated that students experienced some challenges in the clinical area that can have negative effect on their clinical learning. Chapter Seven integrates the results of the questionnaires and focus group discussions.

CHAPTER SEVEN

INTEGRATION OF QUANTITATIVE ASPECT AND QUALITATIVE RESULTS

7 Introduction

This chapter describes the integration of results from both quantitative and qualitative data for comparison purposes in order to determine similarities and differences.

7.1 Integration of quantitative and qualitative results

Data from the questionnaires and focus group discussions were analyzed separately. The results were merged with those of the quantitative data to see if they complement and support each other.

7.1.1 Integration of theory and practice

There was significant association between integration of theory and practice and programme, institutions and levels of study, hospital and duration of placement and number of times students met nurse educators. Participants in the RN Diploma and NMT were less likely to integrate theory and practice compared to participants in the BSc program. Similarly, participants in their third year were less likely to integrate compared to first year participants. Results from the quantitative part of the study revealed that students were not practicing what they learnt in class. These results were supported by qualitative findings. Participants from the RN diploma programme and third year expressed theory taught in the classroom being different from practice. It is evident from both data that there is a lack of integration of theory and practice in nursing colleges in Malawi.

7.1.2 Opportunities for learning

The results from the quantitative aspect of the study showed significant differences between opportunities for clinical learning and institution and levels of study, ward / unit and duration of placement. Participants in their third year had less opportunities compared to first year

participants. It appears from the quantitative analysis that students had opportunities for clinical learning.

These findings were supported by those from the qualitative data as the majority of participants said opportunities were available. However, it was also noted from the qualitative aspect that challenging clinical learning opportunities were limited. The reasons for the limitation as perceived by students include: lack of supervision, congestion of students in the wards, staff preferring to perform procedures themselves, patients not allowing students to attend to them and ward / unit of allocation. In such circumstances, students would either miss or be denied the opportunity to practice the skills. As a result some students would complete the allocation without learning some skills. It can be concluded from both approaches that students were able to get basic tasks easily, while opportunities for the challenging procedures was limited, especially as the level of study increased.

7.1.3. Clinical supervision and support

7.1.3.1 Clinical supervision

Quantitative results showed that students received clinical supervision. However, the quality of supervision was not established. The quantitative aspect showed significant difference with satisfaction with clinical supervision. Results from the quantitative part of the study indicate that despite the fact that students received supervision, they were not satisfied, and clinical staff were not interested in supervising students. Satisfaction with clinical learning depends on clinical supervision received in the clinical area. This study from quantitative aspect shows that participants who received supervision were not satisfied with the type of clinical supervision they received. Therefore, it shows that students were not adequately supervised, that was the reason they were dissatisfied with clinical learning.

Contrary to quantitative findings, the qualitative aspect revealed that supervision by NE and clinical staff (preceptors) was also found to be inadequate. The majority of students indicated having difficulties in finding help when needed, especially when confronted with difficult situations. Additionally, first year students who were in the clinical setting for the first time

reported lack of guidance and teaching and being left to perform procedures on their own which they felt compromised their clinical learning. It was indicated that the NE infrequently went to the clinical area, mainly only for clinical assessments and orientation of students going to wards for first time. Thus from the qualitative perspective, it implies that students were not receiving adequate clinical supervision.

Therefore, from both quantitative and qualitative results it can be concluded that although students received clinical supervision it was inadequate and irregular for learning to take place.

7.1.3.2 Peer support

In this study the quantitative analysis showed that there was peer support. This was also noted from the qualitative part. Nearly all participants stated that they helped each other perform certain procedures and they learnt a lot from their colleagues as a result of positive interactions among themselves as students compared to clinical staff. Students in their first year indicated receiving help from senior students who were in the clinical area.

Hence, results from both quantitative and qualitative aspects reveal that students were learning from each other. This shows that students may not be adequately supervised by clinical staff and NEs, although peer support was an important aspect of students' clinical learning.

7.1.4 Feedback given to students in clinical learning.

There was significant association between feedback given to students in clinical setting and independent variables. The results from the quantitative part show that students did not receive feedback about their performance in the wards / units. In some instances qualified staff just filled in the students log books without telling students how they were performing as the staff perceived that it was not their duty to give students feedback.

Furthermore, the qualitative results showed that if students received feedback, it was not constructive. Participants indicated that the only time they received feedback was when they had made a mistake, and they would be reprimanded in the presence of patients using expressions, such as “you want to kill the patient, is that what you learnt?", "Is that the way we do it?" and “What are you doing”? Students felt insulted when these experiences occurred.

Results from both quantitative and qualitative studies reveal that students did not get feedback in the clinical area. However, if they did the type of feedback they got, had a negative impact on the students clinical learning.

7.1.5 Innovative clinical teaching methods used in clinical setting

Results from the quantitative aspect show that the more commonly used method of clinical teaching was case study. Methods, including PBL, reflection and clinical conferences were rarely used, more especially by students in RN diploma and NMT programmes.

Similar results were also found in the qualitative part. Case studies were the most commonly used method as it was mentioned frequently by all participants. Although demonstration was mentioned in the discussions as a clinical teaching method, participants stated that some supervisors were reluctant to demonstrate. Similarly, PBL, clinical conference and reflection was not frequently mentioned as a method of clinical teaching.

Therefore, it can be concluded from quantitative and qualitative results that innovative teaching methods were not commonly used in clinical teaching. Effective learning was not enhanced by using a variety of methods since students have different learning styles.

7.1.6 Relationships with clinical staff in the clinical setting

The results from the quantitative aspect show that there were poor relationships between students and clinical staff. Students in their first year had a more positive relationship with staff than those in their second and third years.

The results from the qualitative part reveal that majority of students highlighted the negative behaviours of clinical staff including confronting students in the presence of patients. The environment was unfriendly, not welcoming, and non-inclusive in the health care team, and students often covered shortages of clinical staff.

The findings from both quantitative and qualitative studies imply that the environment is non-conducive for clinical learning. In such an environment where students are not respected or welcomed and staff is unapproachable students may become demotivated therefore hindering effective learning.

7.1.7 Satisfaction with clinical learning

The results from the quantitative part show that participants were satisfied with clinical learning (69.7%). There was significant association between satisfaction with clinical learning and independent variables.

However, the qualitative aspect found that participants were not satisfied with clinical learning. The lack of resources, inadequate clinical supervision, feedback and poor relationships with clinical staff and NEs in the clinical environment were some of the reasons for the dissatisfaction.

Hence, from the results from both quantitative and qualitative approaches, it can be concluded that students were not satisfied with the clinical learning given the reasons.

7.2 Summary

Comparisons of results from the quantitative and the qualitative data have shown some results are consistent while some are different. The findings on lack of integration of theory and practice, lack of feedback, and poor student-staff relationships were similar in both approaches. However, there were differences in opportunities for clinical learning, clinical supervision received and satisfaction with clinical learning. According to the results from questionnaires there was statistical significance on opportunities for clinical learning as students were more likely to have opportunities for clinical learning. Results from the qualitative data showed that although students had opportunities for clinical learning, challenging skills were difficult to find and certain opportunities were missed because of reasons stated in the previous chapter. Similarly, clinical supervision was significant as students were more likely to be supervised, whereas qualitative results showed that students were inadequately supervised. In addition, from the questionnaires, students were satisfied with clinical learning, however, through the discussions, students were dissatisfied with clinical learning. Chapter Eight describes the model for facilitating clinical learning.

CHAPTER EIGHT

CLINICAL LEARNING MODEL

8 Introduction

The goal of the model is to facilitate clinical learning of nursing students in Malawi. The model consists of elements which will help to achieve the outcomes that are desired in clinical learning. Interventions to achieve the desired outcomes are also included in the model. These interventions are carried out in order to realise the outlined outcomes. Learning in the clinical setting will be facilitated once these outcomes are obtained.

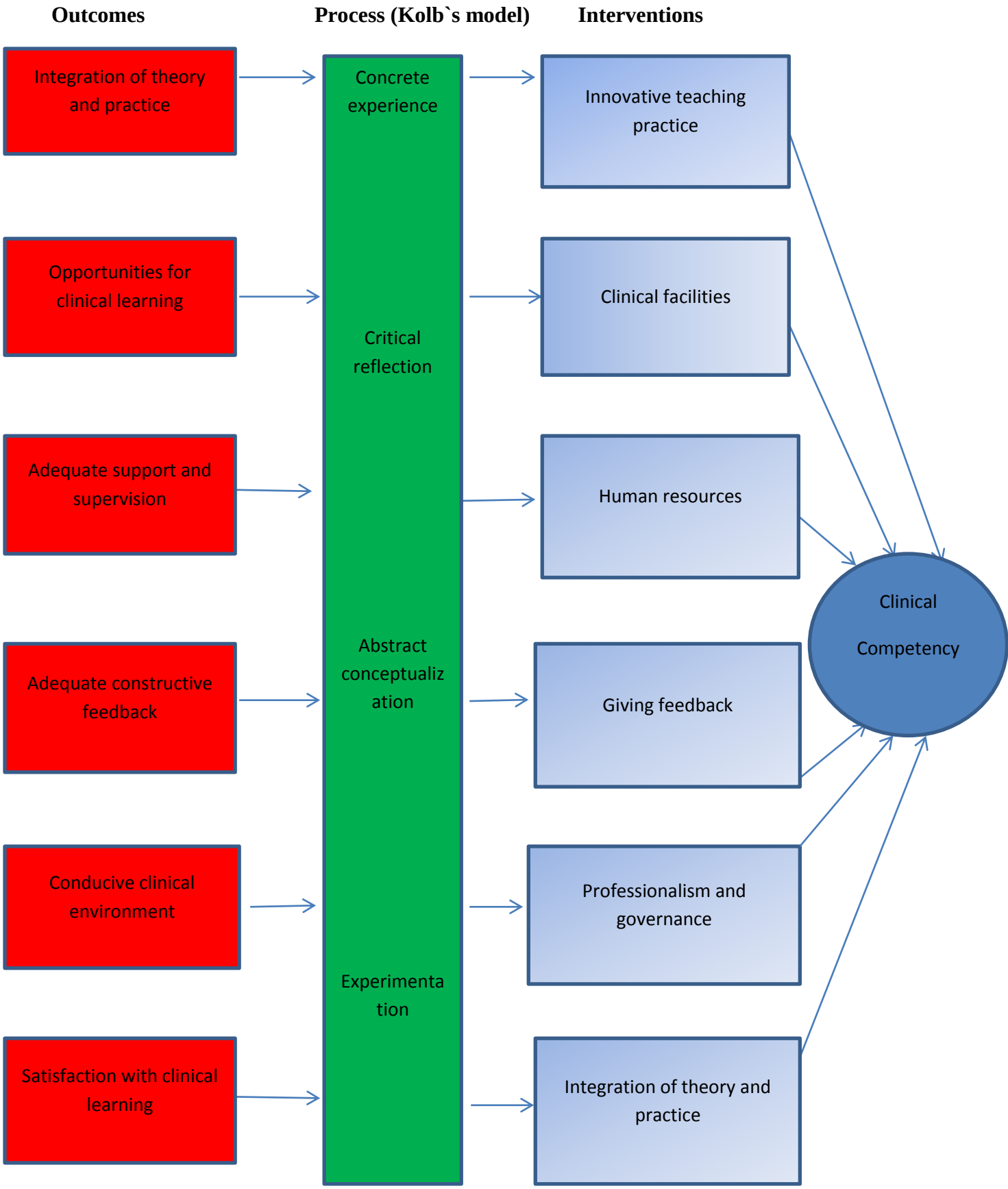
8.1 Model development

The pen and paper model has been developed based on the findings of this study. The main findings from the study are that there is lack of integration of theory and practice, inadequate supervision, inadequate feedback and non-conducive clinical learning environment. Therefore, there is a need for a multi-pronged approach to address all these challenges.

The model has been developed based on the Malawian context, keeping in mind that it is a resource poor country. The model (Figure 8.1) shows the context of clinical learning. The outcomes are indicated at the beginning of Kolb's model which has been used as the process to achieve the outcomes. The Government has to increase funding for the training institutions so that they can employ more NEs, improve on supervision and for allocation of students to distant facilities. Funding for hospitals should be increased to cater for more staff and adequate resources. The policy on intake of students has to be reviewed so that quantity should not compromise quality of students being educated so that they become competent nurses. Staff should be given incentives so that they are motivated to supervise students in the clinical area.

Six key outcomes are integration of theory and practice, opportunities for clinical learning, adequate supervision, adequate feedback given to students, conducive learning environment and satisfaction with clinical learning.

Figure 4.1 Clinical facilitation model



8.2 The purpose of the model

The main purpose of the model is to facilitate nursing students' clinical learning. The model will assist the stakeholders to understand their roles in education of nurses in Malawi. Additionally, provide direction to the nurse educators in teaching of the students in the clinical area.

8.3 Assumptions of the model

The success of the model is based on the assumptions that:

- The national government of Malawi will increase funding to the nursing institutions, to fill the vacancies, and provide resources in the hospitals.
- The nurses and midwives council of Malawi will be willing to review the curriculum and ensure professionalism.
- There will be resources for curriculum review.
- The nurse educators will be willing to provide adequate clinical supervision and use different innovative teaching approaches.

8.3 Context of the model

The model is suitable for clinical nursing of all programmes in Malawi. a similar model on facilitation in nursing education was developed by Lekalakala-Mokgele (2005) in South Africa, which included both classroom and clinical setting. This model has only included facilitation in clinical learning and is specific to Malawi.

8.4 Gaps that the model fills

The issue is that nurses are inadequately prepared for practice which is demonstrated by malpractice, poor nursing care and loss of lives. Consequently, this model addresses the problems experienced in the clinical learning environment so that competent nurses shall be trained.

8.5 Limitations of model

The model has its limitations as it has not been tested therefore it needs to be implemented so that its effectiveness is evaluated. In addition it can only be used in Malawi as it has been developed according to the needs of clinical nursing in Malawi. Moreover, the model does not include other aspects of clinical nursing education such as assessment.

CHAPTER NINE

DISCUSSION

9 Introduction

This study was aimed at exploring nursing students' clinical learning experiences in selected nursing colleges in Malawi in order to develop a model to facilitate clinical learning. The main focus of the study was the effectiveness of clinical learning for nurses to become competent practitioners and to identify challenges students encounter in clinical practice. The findings from the study have been discussed in relation to the variables that were used to measure effectiveness of clinical learning and challenges encountered. Additionally, findings from the qualitative and quantitative aspects of the study are combined for interpretation.

9.1 Integration of theory into practice

Clinical practice provides an opportunity for nursing students to apply theory to practice. Integration of theory and practice is the integral part of clinical practice which promotes clinical learning. The difference between what is taught in the classroom and what is practiced has been a source of concern over the years in nursing education. Clinical practice should help students to bridge theory and practice (Tilley et al., 2007). Haigh (2009), maintains that the existence of the theory- practice gap must be viewed as a positive aspect which demonstrates growth and development of the nursing profession.

This study showed the inability of students to integrate theory and practice. Consistent with these findings, a study by Davhana-Maselesele et al. (2001) on community students in South Africa showed significant difference ($p<0.01$) on integration of theory and practice. Students experienced problems in applying theory learnt in class to practice, especially with subjects such as anatomy and physiology, cultural, legal and ethical issues, pharmacology and administration of emergency contraception. In this study students experienced differences in skill procedures that were taught in clinical skills laboratory with what they practiced in real life situations.

In the current study participants expressed learning the ideal nursing practice in the classroom but when they got to the clinical setting the practice was different. Differences with theory in performing skills such as catheterization, vulva swabbing and drug administration among others were elaborated by students. Such differences may lead students copying what staff does, therefore learning incorrectly and being inadequately prepared upon qualifying. The existence of theory practice gap has been reported in many countries, including Iran (Sharif and Masoumi, 2005), Malaysia (Chuan and Barnett, 2012b), Swaziland (Dlamini, 2011), Sweden (Ehrenberg and Haggblom, 2007) and Finland (Hilli et al., 2011). Other studies have also reported that students find conflict between ideal nursing and hospital practices (Kyrkjebo and Hage, 2005, Sharif and Masoumi, 2005, Ehrenberg and Haggblom, 2007, Boyle et al., 2008, Michau et al., 2009b, Safadi et al., 2011, Chuan and Barnett, 2012b, Lindberg et al., 2012). Professional competence has been affected by failure to integrate theory and practice, therefore students may have problems in progressing as professionals (Clements and Mackenzie, 2005, Van Hell et al., 2008).

This study showed that students' practice in the clinical situations was different from what was learned in the classroom, resulting in confusion. Likewise, in a study by Jonsen et al. (2013), students expressed incoherence between theoretical nursing and clinical practice, leading to confusion. Students in the current study had to follow the instructions of their nurse educators by practicing what was taught in class while at the same time following the instructions of clinical staff. Students may have been in a dilemma as to whether to follow the instructions of the NEs or those of qualified staff in the clinical setting, causing anxiety and stress (Evans and Kelly, 2004, Ajani and Moez, 2011). In Iran, students also experienced problems in conforming to inappropriate practices in the absence of their instructors (Motlagh et al., 2012). Conflicting practices between what is learned in the classroom and real life situation causes students to become confused, stressed and anxious (Evans and Kelly, 2004, Sharif and Masoumi, 2005, Chuan and Barnett, 2012b, Motlagh et al., 2012). Learning may not take place when students are anxious, stressed and confused (Houghton et al., 2013).

In order to integrate theory and practice, students require reinforcement of learning from the NE and staff in the clinical setting. The NEs have to be involved in the clinical teaching of students by using innovative methods (student centred) to promote reflection and critical thinking (Hilli et al., 2011). In this study, although NEs were capable of integrating theory

and practice, most of the time NEs were not in the clinical area to reinforce theory. Students therefore followed what the clinical staff instructed them to do, which has also been reported in Iran by Cheraghi et al. (2008) and Motlagh et al. (2012). Alternatively, clinical staff did not demonstrate how theory could be applied to practice, as they restrained students from practicing what they learnt in class, citing it as a waste of resources (Evans et al., 2013). Studies have also reported lack of integration of theory and practice in the clinical setting and procedures being routinely done incorrectly (Motlagh et al., 2012, Pearcey and Draper, 2008). Failure of preceptors to apply theory into practice in the clinical area has also been reported as a challenge (Hilli et al., 2011, Ehrenberg and Haggblom, 2007). Application of theory into practice by preceptors is important for facilitating students clinical learning thus improving patient care (Morgan, 2006). However, the application of theory to practice is limited in this study.

This study rejected the hypothesis that there was no significant association between integrating theory and practice in the three programmes. It was, however, found that students in the BSc programme had more chances of integrating theory and practice compared to those in the RN Diploma and NMT. The reasons for this could be that NEs in the BSc programme may use innovative clinical teaching methods including Problem Based Learning (PBL) and reflection which has been found to facilitate integration of theory and practice (Field, 2004, Ekebergh, 2007, Holmlund et al., 2010). The use of innovative (student-centred) clinical teaching methods promotes reflection and critical thinking (Hilli et al., 2011). RN diploma and NMTs are expected to be hands-on nurses able to integrate theory and practice. However, they may be able to practice without connecting to theory. Some students in the NMT programme revealed that they preferred learning what they had practiced as they understood better that way. Although students in the BSc programme were found to integrate theory and practice, they mentioned having more theory and less practice.

This study rejected the hypothesis that integration of theory and practice is not related to the institution of study.The reasons could be related to inadequate clinical supervision as the participants stated that when the NEs are present in the clinical area they reinforce what is learned in the classroom into practice hence in the absence of the NE the students may just follow what the staff are doing. Additionally, the students' institutions may not be adequately supervised because of the shortage of NEs and clinical staff (Msiska et al., 2014).

This study found that as students progress from one level of study to another, they are less likely to integrate theory and practice. Third year students were less likely to integrate theory and practice compared to first year students. These findings may appear contrary on the expection that first year students were less likely to integrate theory and practice compared to the third year students. Students in their first year, being new to nursing practice, may not quite understand practice as stemming from the instruction they received in the classroom. Students in first year are susceptible to incorrect practice as they are being introduced to the nursing profession (Morgan, 2006). However, the first year students in this study may have received more supervision (Papastavrou et al., 2010) by NEs who helped them to apply theory to practice. Additionally, first year students have excitement and ethusiasim about learning the practice of nursing while in the clinical setting (Holmlund et al., 2010) Learning takes place when students are able to practice what they learnt in the classroom and practiced in the skills laboratory (Morgan, 2006, Wall et al., 2014).

9.1.1 Factors contributing to theory-practice gap

This study has revealed factors contributing to the theory-practice gap which include lack of adequate material and human resources, inadequate supervision, attitude of staff, heavy workload, and differences in principles of care / protocol and clinical placements different from objectives. The move of nursing education from hospital based education to Higher Education Institutions (HEI) is the main cause of the theory practice gap (Corlett et al., 2003, Kelly, 2007, Saarikoski et al., 2009). Additionally, other factors, including constraints on resources, policies in the clinical area and academic overload on students as well as on nurse educators have been found to contribute to the theory practice gap (Higgins et al., 2010b).

9.1.1.1 Inadequate resources

In this study, lack of resources was found to be a contributing factor for students' inability to apply what is learnt in class into practice. Lack of resources as the cause of the theory-practice gap is not widely mentioned as most literature is from developed countries. Nevertheless, similar findings were reported in a study by Evans et al. (2013) in India, that lack of resources created a theory-practice gap negatively impacting student learning. Evans' study reported that students were denied resources for learning in clinical practice for fear of

loss or breakage, and lecturers had to bring resources to the clinical setting. Similarly, in this study, students were instructed not to waste resources by performing procedures as they learnt in the classroom but to perform short cuts, and students were asked to bring their own resources. Nevertheless, some studies have indicated that despite availability of resources, students experienced a theory-practice gap (Mnzava and Savage, 2010, Chuan and Barnett, 2012b, Jonsen et al., 2013). This indicates that resources alone cannot help to close the theory-practice gap. However, in this study, students were unable to perform skills taught in class as they had inadequate resources which may limit students from practicing what they learnt in the classroom, therefore compromising their clinical learning. Adequate resources should be made available in the clinical setting similar to those in the skills laboratory for students to use to practice ideal nursing skills and become competent nurses after graduation.

9.1.1.2 Inadequate supervision by NE in the clinical setting

Inadequate supervision in this study may have contributed to a theory-practice gap. Other studies have reported that good clinical supervision facilitates transition of theory into practice (Sharif and Masoumi, 2005, Baxter, 2007, Holmlund et al., 2010). The NEs know exactly what students are supposed to practice and have the capacity to reinforce theory into practice. NEs in this study were not available in the clinical setting most of the time. Students may not be applying theory to practice because of inadequate supervision.

9.1.1.3. Staff attitudes

The study revealed that staff attitude in the clinical setting with regard to practice may have contributed to lack of integration of theory and practice. The students felt compelled to follow the practice of clinical staff, which was mostly a shortcut, for fear of negative reactions towards them. Previous studies have also reported similar findings where students were bound to follow the routines and practices of the clinical environment in order to be accommodated (Mackintosh, 2006, Morgan, 2006, Houghton et al., 2013). It is assumed that staff can react inappropriately towards students if they attempt to practice what they learnt in the class (Melia, 2006, Hathorn et al., 2009). In this study, students reported sour relationships with staff if they practiced what they learnt in class. Following incorrect practice and not being allowed to practice what they learnt in class, may have contributed to

the theory-practice gap, hence negatively affecting students clinical learning. Lack of scientific knowledge and skills to care for patients are some of the problems experienced in nursing education (Motlagh et al., 2012).

9.1.1.4 Differences in principles /protocols of practices

In the current study it was found that the principles on management of certain conditions and how to perform some procedures being used in the clinical setting were different from those the students learnt in the classroom. A theory-practice gap may result from differences in principles / protocols and guidelines of practice in the clinical setting and those learnt by students. A study by Kyrkjebo and Hage (2005) in Norway, reported that students experienced differences in theory and practice including written guidelines. In this study, students reported that principles in some clinical settings were different from what they learnt, for instance, in the management of pre-eclampsia (high blood pressure in pregnancy). The clinical staff blamed the NEs for using out-dated information for teaching students. Communication and sharing of current information between hospital staff and training institutions is essential in order to keep each other updated on recent developments and current evidence-based interventions. In so doing, students learn current practice and staff in the clinical setting will also practice what is current. The NE should check with staff on what is the current practice. Similarly, Salsali et al. (2009), reported that students observed that procedures conducted in the clinical area were different from the set standards protocols or checklist. If students are given out-dated information in class they may experience challenges in the clinical area thus causing confusion.

9.1.1.5 Busy wards and heavy workloads

In this study students may not have been able to integrate theory and practice because of heavy workloads. Participants mentioned that in some instances they would have 500 patients, especially in paediatric wards with only three qualified nurses to care for them, and as a result students were used to cover that shortage. In order to attend all patients short cuts were used therefore compromising ideal nursing practices. As a result, students may learn wrong or time saving practices and therefore become incompetent nurses after graduation. Similar findings have been reported by Salsali et al. (2009) of inappropriate nurse/ patient

ratios hindering provision of quality care, therefore students in such situations may learn wrong practices of care. This has also been reported in other literature (Lang et al., 2004, Gerdtz and Nelson, 2007). In this study, students placed in busy wards may not be learning effectively as they do the work using wrong practices.

9.1.1.6 Clinical placements to ward / unit different from objectives

Failure to integrate theory and practice in this study may have been attributed to students being attached to clinical placements not consistent with their objectives or what they had learnt in class. For example, students mentioned learning about gynaecological conditions (female reproductive system conditions) and being given related objectives, yet they were allocated to male surgical wards where they could not apply theory to practice in order to achieve their objectives. Students have to be allocated to clinical areas that are related to their objectives so that they put into practice what they learnt in class for optimal learning (Jacobs et al., 2013). In the current study, students may have been placed in wards / unit different from their objectives as there were too many of them to be allocated to clinical areas relevant to their objectives (Tache et al., 2009).

9.2 Opportunities for clinical learning

This study showed that students were likely to find opportunities for clinical learning. However, from the discussions it was revealed that opportunities were inadequate in situations where conditions and procedures were rare, and students would scramble for them. Students also had missed opportunities in cases where they were busy and were sent on errands. Similar findings were reported by Houghton et al. (2013) where students reported availability of opportunities for clinical learning. In addition, students missed opportunities to learn skills, including drug administration rounds, when they were doing non-nursing duties and there was work overload. In the current study students missed ward rounds because they were sent to collect specimen results, take patients to theater, or to collect linen from the laundry. Students in this study were not able to engage in challenging opportunities as there was nobody to supervise them (Houghton et al., 2013). This study also found that an increased number of students in the wards caused them to scramble for rare cases, including

delivery of breech and repair of episiotomy. Tache et al. (2009), assert that decreased case load leads to inadequate opportunities for clinical learning, therefore making it difficult to learn the required professional skills. Adequate opportunities for clinical learning are required for students to practice the skill through experimentation several times before they become proficient (Löfmark and Wikblad, 2001). Learning takes place if students are actively involved in the activity and are provided with supervision and feedback (Grealish and Ranse, 2009). Thus students who participated in this study may be qualifying without acquiring some challenging skills that would enable them to provide quality care.

9.3 Clinical supervision

In this study, clinical supervision of students was inadequate for effective learning. The importance of clinical supervision in clinical practice for nursing students to develop into nursing professionals cannot be underestimated (Hickey, 2009). Students require support and guidance from those who are professional experts in the clinical setting for personal and professional growth. However, this role is not fulfilled, as students lack supervision (Saarikoski et al., 2007, Hickey, 2009, Holmlund et al., 2010, Papastavrou et al., 2010). Although there was significance on clinical supervision and multivariate results show that students received clinical supervision, bivariate results show that they were not satisfied with clinical supervision. In a study by (Kristofferzon et al., 2013)students were satisfied with clinical supervision, the reason being that students received adequate clinical supervision from both preceptors and teachers.

In this study, qualitative data revealed that students were receiving inadequate clinical supervision. Similar findings were reported in other studies where students reported lack of support and supervision from nurse teachers and preceptors (Gorostidi et al., 2007, Holmlund et al., 2010, Mntambo, 2009, Lofmark et al., 2012). The nurse educators rarely went to the clinical area to supervise students. They may finish an allocation without being supervised by the NE. Similarly, Saarikoski et al. (2013), in a study of European countries namely: Belgium, Cyprus, Finland, Ireland, Italy, the Netherlands, Spain, Sweden and the United Kingdom (UK), found that 13% of students did not meet with nurse teachers. This was different from a study byLofmark et al. (2012), as supervision by teachers was scored higher. The differences in the findings could be due to different settings. In the current study NEs

went to the clinical setting infrequently, mainly for orientation the first day in the new allocation and for clinical assessments. Similar findings were reported in a qualitative study by Sharif and Masoumi (2005) in Iran, students indicated that clinical instructors were in the clinical setting mainly for evaluation as opposed to supervision. The importance of nurse educators in the clinical supervision of students cannot be underestimated as they know students' expected outcomes. Therefore, they need to provide guidance and support to both the students and the preceptors (Gillespie and McFetridge, 2006). The unavailability of NEs in the clinical setting in the current study can be explained by the shortage of NEs and increased responsibilities on them. NEs have to supervise students in the clinical area but also teach other students theory in the classroom, apart from holding other responsibilities.

This study revealed that students from ZA MCHS received less supervision compared to other institutions. This may be related to the hospital of placement. The results showed that clinical supervision was significantly associated with hospital of placement and students placed at ZCH were less likely to receive supervision. Thus, with ZA MCHS College being close to ZCH, the majority of students may be allocated to ZCH. If students lack supervision and support they may lose confidence, be unable to properly learn the practice of nursing, be unable to develop decision making and problem solving skills, and thereafter become unsafe to patients (Astin et al., 2005, Anderson and Kiger, 2008, Cheraghi et al., 2008, Holmlund et al., 2010, Lofmark and Thorell-Ekstrand, 2010).

Although in this study show that students received clinical supervision they were dissatisfied with their clinical supervision. Contrary to this finding, a study by Kristofferzon et al. (2013), students were satisfied with clinical supervision the reason being that students received adequate clinical supervision from both preceptors and teachers enabling them to achieve their learning outcomes. The differences could be due to infrequency supervision in this study. The students in the BSc programme were more dissatisfied with clinical supervision compared with those from other programmes. Students in the BSc programme may have met the nurse educators less frequently as satisfaction with clinical supervision was found to be related to frequency of supervision. In addition, it could have been related to reluctance of the clinical staff, the majority of whom were NMTs, to supervise the BSc students, saying they could not supervise students who would qualify at a higher level than them upon completing

their education. Consistent with these findings were those of Msiska et al. (2014) and Evans et al. (2013) as status inferiority of qualified staff of lower educational level affected students clinical supervision negatively. These findings were however contrary to those by Kachiwala (2006) in Malawi, where students were satisfied with clinical supervision. The inconsistence may be due to the Kachiwala (2006) study being conducted at a hospital-based college while for this current study, students were placed in central hospitals where supervision may be inadequate due to increased workload. A study in Norway showed student satisfaction with clinical supervision by nurse teachers and preceptors (Espeland and Indrehus, 2003, Lofmark et al., 2012). The difference in findings between that study and the current one could be due to type of clinical supervision as in the studies in Norway they used one to one mentorship supervision. Additionally, Norway being a developed country, there may be adequate staff and fewer caseloads.

The current study found that clinical staff displayed a poor attitude towards the clinical supervision of students. Attitude of staff towards students can play an important role in the supervision of students. Similar findings were reported in other studies, that staff were not interested in clinical supervision of students as they perceived it to not be their responsibility. Furthermore, students received inappropriate comments from staff (Löfmark and Wikblad, 2001, Frankel, 2008). Staff in the community department had a more positive attitude towards the clinical supervision of students. This could be due to the fact that there were fewer students and less workload compared to the rest of the wards / units. Heavy workload may prevent clinical staff from adequately supervising students (Frankel, 2008). In addition, the more frequently the students meet with NEs, the better the attitude of staff towards the supervision of students. In this study clinical staff seemingly lacked support from training institutions and motivation. Clinical staff need to be motivated to be involved in the clinical supervision of students. On the same point, clinical staff should know their role and be trained on the supervision of students (Frankel, 2008). Attitude of staff towards students is of paramount importance for students' clinical learning. If staff attitude is poor, students may become afraid to ask questions and to adequately practice some skills, as was revealed in this study.

In this study, students were supervised by both NEs and clinical staff as preceptors, which has been shown in the literature (McGrath and Higgins, 2006, Hyrkäs and Shoemaker, 2007, Myrick et al., 2010). Students did not have a named supervisor and group supervision was

used where one NE was supervising students in one or more wards / units. Although sometimes it was one on one, the duration of contact was limited, as the supervisor had to attend to several students; thus supervision was inadequate. The literature identifies various models of clinical supervision including cluster model, group supervision, mentorship, education debriefing model and preceptorship (Franklin, 2013). However, in this study satisfaction with group supervision was not established. Students mentioned reduced contact time which did not enable them to learn. In a study by Papastavrou et al. (2010), students who were more satisfied were those who experienced one on one mentorship. Group supervision has been found to cause anxiety, lack of flexibility and reflection on experiences and fear of being judged (McGrath and Higgins, 2006, Holmlund et al., 2010).

Findings from this study reveal that the students perceived that inadequate supervision was as a result of too many students in the clinical area, and shortage of NEs and clinical staff to adequately supervise students. In addition, attitude of clinical staff, heavy workloads and busy wards / units, led to staff not having ample time to perform both roles of patient care and student teaching. Such a situation where staff performs dual roles has been found to compromise the fulfilment of their roles as preceptors (Hallin and Danielson, 2009, Holmlund et al., 2010). In addition, a heavy workload and attitude of staff may compromise clinical supervision (Maben et al., 2006, Chuan and Barnett, 2012b, Evans et al., 2013). Clinical performance increases if students are given the necessary support in the clinical environment (Elcigil and Sari, 2007). In this study clinical staff perceived that it was the responsibility of the nurse educators to supervise students. In addition, the clinical staff claimed that they were not given incentives to supervise students. Although the study did not find a statistical relationship on peer support, students in this study supported each other in their clinical learning. They felt comfortable to be taught by a fellow student as the climate was conducive compared to when interacting with clinical staff. The importance of peer support in the clinical setting in facilitating clinical learning for professional socialisation and acquisition of knowledge, attitudes and skills has also been reported elsewhere (Roberts, 2008, Chuan and Barnett, 2012b, Houghton et al., 2013).

Clinical supervision reduces the theory-practice gap, enhances team work and promotes personal and professional development and patient safety. In addition, it enhances students' acquisition of professional skills in becoming competent practitioners (Baxter, 2007, Pillay and Mtshali, 2008). Lack of adequate clinical supervision can cause students to become

demotivated, unable to attain learning outcomes, lose confidence and even leave the profession (Sharif and Masoumi, 2005, Lofmark et al., 2012).

9.4 Feedback given to students

This study revealed that students were not receiving feedback which is necessary for clinical learning. In such a scenario, students may not be effectively learning the practice of nursing as to whether what they are doing is right or wrong. This demonstrates that feedback was not adequately given to students for them to know their strengths and weaknesses in their performance.

Feedback as a fundamental element to students' clinical learning has been widely mentioned in the literature although its provision seems to be problematic. Feedback helps students to become confident, motivated, develop self-awareness, self-esteem and improve clinical performance (Kelly, 2007, Clynes and Raftery, 2008). The findings rejected the hypothesis as there was significant association between feedback given and all independent variables with the exception of the community ward and students who met the NE 7 times or more. In this study students were mainly given feedback after assessments and the feedback was delayed. Similar findings were reported by Jonsen et al. (2013) in Finland, where students mentioned infrequent and sometimes no feedback given. Students often had to follow up with supervisors for feedback. When students lack feedback they cannot improve their performance as mistakes are not corrected, thus clinical competence may not be achieved (Plakht et al., 2013). Students in this study indicated uncertainty, being in suspense and lack of direction on their performance as there was no feedback given.

In this study, lack of feedback appears to be associated with supervisors' attitudes towards students' clinical learning and busy schedules (Ironside and McNelis, 2010). Students mentioned lack of supervision and short contact hours, which meant students were not observed in order to then be given feedback. In addition, clinical staff felt it was not their responsibility to provide feedback (Kelly, 2007). Supervisors may fail to provide feedback due to heavy workload where they have to provide both patient care and student teaching. Lack of training on preceptorship including feedback provision is often overlooked. Thus,

supervisors may not be prepared to give feedback for fear of compromising their relationship with students (Clynes and Raftery, 2008, Anderson, 2012).

In this study students received obstructive feedback which negatively affected clinical learning. Consistent findings were reported by Elcigil and Sari (2007) in Turkey, where students were demotivated by negative feedback. Positive feedback, which is respectful, objective and timely has been associated with increased self-confidence (Löfmark and Wikblad, 2001). Nonetheless, a few students in the study reported getting feedback which facilitated their clinical learning giving them confidence and motivation to perform more skills and facilitating learning. The type of feedback given to students can both be facilitating and obstructive to student clinical learning (Löfmark and Wikblad, 2001).

Findings from this study suggest that students who received feedback were motivated, developed confidence and improved their performance as they were aware of their strengths and weaknesses. Feedback should be embraced by all involved in clinical nursing education as it is essential for students' professional development (Anderson, 2012).

9.5 Clinical learning environment

Results from this study indicated that the clinical learning environment was non-conducive for clinical learning. There was a poor relationship between clinical staff and NEs on the one hand and students on the other. When students are allocated to the clinical area for a shorter duration the environment may become non-conducive for clinical learning. According to Warne et al 2010, a longer duration of clinical placement has a positive impact on students learning as they are satisfied with the placement. However, in this study students who were allocated to the paediatric ward had a poor relationship with clinical staff. Furthermore, students experienced a positive relationship with staff when the nurse educators were available in the clinical area. The more the nurse educators visit the clinical area the better the relationship between students and staff. The clinical learning environment is a fundamental element of students learning in practice. Frankel (2008) claim that the clinical learning environment can either positively or negatively affect clinical learning.

The study also established that students in their first year had a better chance of having a positive relationship with clinical staff. Thus, as the level of study increased the relationship became poorer. The reason could be that as the level of study increased, contact with the NE was reduced with less supervision. Chuan and Barnett (2012b), assert that staff who spend insufficient time with students, may develop poor relationships with them.

In this study it was found that the clinical area was not welcoming. Students feel welcome when the supervisors know them by name (Dale et al., 2013). This study revealed that students were called names other than their real name, including "yellow" for first years as they put on a yellow cap or appellate, "you children", "swab" and "year zero", which made students feel humiliated in the presence of patients. Behaviours such as staff being unfriendly, having a poor attitude, denying students opportunities to learn, are all barriers to learning (Chuan and Barnett, 2012b). Relationship problems that students encounter were reported by Mntambo (2009) in South Africa, including staff being hostile, rude and shouting at students in front of patients. Students in this study may have felt demotivated, anxious, lost confidence in themselves and fearful of asking questions (Dale et al., 2013). The importance of being welcomed and accepted has been found to facilitate clinical learning (Papp et al., 2003, Levett-Jones and Lathlean, 2008, Andersson and Edberg, 2012).

Findings from this study illustrate that the clinical learning environment was unfriendly and clinical staff were unapproachable, which caused students to refrain from asking questions**.** These findings support those of Msiska et al. (2014) where students were afraid to ask questions as they received intimidating responses. Likewise, Levett-Jones and Lathlean (2008), assert that students are afraid to ask questions for fear of unfavorable responses. If students are not able to ask questions pertaining to their clinical learning they lack direction and this may negatively affect students' acquisition of critical thinking skills and active experimentation. Learning takes place when students are comfortable with clinical staff. Students need to be able to ask questions in the clinical setting for learning to take place.

The findings also show that there was poor communication between the educational institutions and clinical facilities. This lack of communication affected students' clinical learning, as they were sent back to the institutions, therefore missing opportunities for clinical learning. Lack of coordination between the university and clinical facility was reported by

Cheraghi et al. (2008) in Iran. Students in this study helped cover the shortage of clinical staff as they were sometimes regarded as workers and not learners, and as a result they were not always able to achieve their learning outcomes. If they tried to work on their objectives it was regarded as insubordination. Other studies have reported that regarding students as an extra pair of hands negatively affects students' clinical learning (Chuan and Barnett, 2012b, Dale et al., 2013, Msiska et al., 2014). Studies have also reported controversially that regarding students as learners may lead them feel not part of the team (Magobe et al., 2010, Bradbury-Jones et al., 2011), alternatively they may be part of the team and be taken as workers. Students in the clinical setting should be part of the healthcare team where everybody on the team has their role to play. The role of students is that of a learner in the provision of patient care.

This study found that students were not respected and were not considered part of the healthcare team. This was contrary to a study by Elcigil and Sari (2007) in Turkey where students felt acknowledged and respected. The variances could be because of different settings. In Elcigil and Sari's study students were given a room to hold their meetings and keep their things. In the current study, students were not allowed to sit at the nurses' station and participate in discussions on patient conditions. Additionally, they were not allowed to use the fridge and the hotplate that were on the wards. Few students also mentioned that in some wards they were not allowed to use staff toilets. This attitude of staff may lead to students feel demoralized and to lose confidence in themselves, therefore negatively affecting their clinical learning. Kyrkjebo and Hage (2005), in their study in Norway, found that students were not participating in staff meetings, and had a lack of a sense of belonging, thus instilling fear in students. Inclusion of students in discussions on the ward has been associated with increased confidence and professional socialization (Papp et al., 2003). Studies have found that if students feel a part of the team and feel respected they are motivated to learn and are empowered and satisfied with clinical learning (Ip and Chan, 2005, Elcigil and Sari, 2007, Bradbury-Jones et al., 2011). Students need to be respected as adults and be part of the healthcare team in the clinical setting.

In the current study students perceived that the poor relationship between students and staff could have been due to previous experience that the staff had when they were students. Additionally, the clinical staff may have been stressed because of busy schedules, lack of

resources and support from nurse educators and lack of cooperation among themselves, therefore thus conveyed their anger to students. Mutual collaboration among staff creates a conducive clinical learning environment for students (Papp et al., 2003).

This study has shown that some nurse educators' behavior towards students in the clinical area were unfavorable. The presence of the NE in the clinical area instilled fear and loss of confidence in the students. Students stated that whenever they saw the NE coming to the clinical area they felt uncomfortable. If students performed skills in the presence of the NE, sometimes they lost confidence due to fear and the same procedure that they previously might have performed well, they would perform poorly. These findings supported those of Msiska et al. (2014), who found that lecturers played more of a policing role as opposed to a supervisory role in the clinical practice.

The findings of this study illustrate that the environment was not conducive for clinical learning as students were not welcomed, did not feel part of the clinical team, and were regarded as workers rather than learners. Additionally, the clinical staff were unfriendly which made students feel demoralized, lose confidence, stressed and humiliated, affecting them psychologically and making it uncomfortable to ask questions.

9.6 Students willingness to learn

The study revealed the importance of students' willingness to learn in the clinical area in order for learning to take place. Similar findings were reported by Msiska et al. (2014) in Malawi where students' interest and motivation was found to be paramount for clinical learning to take place. Students were aware of their responsibility for their own learning. Studies elsewhere have shown that students enthusiasm is essential for facilitation of clinical learning (Löfmark and Wikblad, 2001, Andrews et al., 2006, Jonsen et al., 2013, Saarikoski et al., 2013). Behaviors such as staying away from the clinical setting during clinical practice led to loss of opportunities for clinical learning therefore hindering effective clinical learning. In the study it was evident that even though staff were willing to help, some students were

absent from the clinical area. Students need to be in the clinical area in order to accomplish what is required of them. In such an environment where the clinical staff were not eager to teach, it takes students own initiative to learn in the clinical area despite the challenges. Lack of motivation for learning can negatively affect acquisition of professional skills for students to become competent after graduation.

9.7 Satisfaction with clinical learning

The current study showed that students were dissatisfied with clinical learning. However, findings from the questionnaires differed from those from the qualitative data. In focus groups, comments from participants showed that some were satisfied whereas others were dissatisfied. Studies have reported students' satisfaction with clinical practice when students have a positive relationship with staff, feel respected, have effective clinical supervision, have ample clinical learning opportunities, feel part of the clinical team and receive constructive feedback (Espeland and Indrehus, 2003, Lewin, 2007, Saarikoski et al., 2007, Warne et al., 2010, Chuan and Barnett, 2012b, Jonsen et al., 2013). Students' satisfaction with clinical learning demonstrates that learning is taking place.

In this study the majority of students reported not feeling respected, welcomed, and included as part of the healthcare team, and also reported a poor relationship with both clinical staff and nurse educators. Ip and Chan (2005) assert that students' level of satisfaction with clinical learning is predicted by staff-student relationships. Therefore, it may indicate that they were not satisfied with clinical learning, which hindered their learning. Nonetheless, a small number of students reported satisfaction with the staff assisting them, who were friendly and attended to complaints from patients, and gave them opportunities to practice skills learnt in the classroom. Chuan and Barnett (2012b), found that students were highly satisfied with their clinical experience although the learning environment was less friendly. Consequently in this study, the variances between results from questionnaires and focus groups could be that students were satisfied with clinical learning despite the clinical learning environment not being favorable. Students may have felt satisfied with clinical learning as they were able to achieve their objectives without effectively learning, and as they were able to move from one level of study to another.

The results in this study illustrate that students in the NMT programme were more satisfied with clinical learning than those in the BSc programmes. These findings may mean that NMTs find clinical learning to be satisfactory for their preparation for practice after graduation. Studies on comparison of clinical learning between programmes are scanty. Nonetheless, Klein and Fowles (2009) in the United States of America conducted a study with the aim of measuring competence as perceived by nursing students in different programmes of study, namely Baccalaureate (BSN), Associate Diploma in Nursing (ADN) and diploma. In their study, students in the Baccalaureate programme rated their educational preparation lower than that of ADN and diploma programmes. Similarly, in the current study participants in the BSc programme were less satisfied with clinical learning than those in the RN diploma and NMT. The possible explanation to this may be that the BSc is at a higher level than other programmes, therefore students concentration may be more on theoretical coursework of nursing than technical aspects of nursing practice (Klein and Fowles, 2009). The NMT in this study may be spending more time on the technical practices of nursing (as they are referred as technicians) hence their greater satisfaction with clinical learning than those in other programmes. In the discussions, it was revealed that the BSc participants received too much theoretical work even when they were in the clinical area.

The study revealed that students from ZA MCHS were more dissatisfied with clinical learning compared to those from Mzuni. It is possible that this finding may be related to differences in clinical settings, differences in the ward organization and support given to the students (Chesser-Smyth, 2005). Fifty-nine percent of participants from St Joseph's felt that they received individualized supervision and were more satisfied with clinical supervision. In a study by Papastavrou et al. (2010), satisfaction was significantly related to occurrence of supervision. Additionally, students who received individualized mentorship were more satisfied than those who received group supervision. St Joseph's is one of the two colleges with more NEs with ratios of 1:12 than others although NMCM recommends 1:4 for clinical supervision (NMCM, 2009) Hence, the students may be getting more supervisory support than those from other colleges. In the focus group sessions the students reported that they were supervised often by their tutors.

The study found that students in their first year expressed more satisfaction compared to students in their second and third year. Similar findings were reported by Perli and Brugnolli (2009), where 94% of students in their third year reported satisfaction with ward activities,

which may have been due to the students in their third year being placed in a more conducive clinical learning environment than students in second and first year. Yet, these findings are different from those of Papastavrou et al. (2010) in Cyprus, who found differences in satisfaction between students in first and third year. Papastavrou suggested that the differences could have been due to students in their first year having more supervisory sessions and those in their third year expecting more from their supervisors. Additionally, differences in these two studies could be due to different settings.

Students who are satisfied with their clinical learning are more likely to be motivated and to develop self-confidence therefore facilitating clinical learning (Michau et al., 2009a). These findings demonstrate the importance of students' satisfaction with clinical learning. The clinical learning environment should be friendly, welcoming and supportive for students in order to facilitate clinical learning for professional development.

9.8 Challenges experienced by students in clinical practice

This study has established that students in the clinical setting encounter challenges which may negatively affect their clinical learning. These challenges include acute shortages of resources, congestion of students in the clinical setting, tensions, fear / anxiety, work overload and shortage of both clinical staff and nurse educators. The results from the current study clearly showed a severe shortage of resources. The students lacked material resources including equipment and supplies.

9.8.1 Inadequate resources

The study also revealed a shortage of clinical staff in the clinical setting as well as a shortage of nurse educators. This compromised their clinical learning as students lacked support and clinical supervision from staff and nurse educators. The lack of resources negatively affected students' clinical learning as they were unable to practice ideal nursing. Previous studies (Mnzava and Savage, 2010, Chuan and Barnett, 2012b, Courtney-Pratt et al., 2012, Evans et al., 2013, Msiska et al., 2014) have reported similar findings on the acute lack of both human and material resources. It is suggested that inadequate resources is the result of Malawi being a resource poor country which cannot adequately fund the hospitals to meet their budgetary

requirements. Effective clinical learning takes place if resources are made available to the students so that they achieve their clinical nursing outcomes.

9.8.2 Congestion of students

The findings from the current study indicated a congestion of students on the wards and units of the clinical settings. Therefore, staff had difficulty providing support to the large number of students, which subsequently affected students' clinical learning. Congestion of students in the clinical area was found to have negative implications on the clinical learning of students (Tache et al., 2009, Evans et al., 2013).

9.8.3 Tensions, anxiety and stress

The study also revealed tensions among the students as well as between students and staff. The tensions in the clinical learning environment negatively impacted students' clinical learning, as they created fear and anxiety and compromising clinical learning. Stress and anxiety obstructing clinical learning has been widely mentioned in other studies (Löfmark and Wikblad, 2001, Sharif and Masoumi, 2005, Levett-Jones and Lathlean, 2008, Motlagh et al., 2012, Houghton et al., 2013). Students may lose confidence, lose interest in the profession and become demotivated to learn as a result of stress and anxiety (Löfmark and Wikblad, 2001). The findings from this study showed that students were overworked to cover staff shortages. Other studies have reported similar findings, where students were overworked affecting their clinical learning (Higgins et al., 2010a, Msiska et al., 2014).

9.8.4 Lack of descent accommodation during clinical practice

The study revealed that students had problems with accommodation while in clinical practice away from their institution. Students reported being accommodated in non-conducive and sometimes uninhabitable places. In addition, some places were far from the clinical area. This affected their clinical learning. Similarly, a report by Evans et al. (2013) in India also mentioned poor living conditions for students.

9.9 Summary

The findings of this study, consistent with other studies, show that nursing students in the clinical area are not adequately prepared for practice, which is a cause for concern for the nursing profession. The study revealed that clinical experiences, including theory-practice gap, lack of challenging learning opportunities, inadequate clinical supervision and lack of support from educators, destructive feedback, and poor relationships with clinical staff, negatively affect students' clinical learning. The study assessed effective preparation of nursing students in clinical practice. Theory-practice gap was acutely experienced by the RN diploma and the NMT students as well as institutions which provide nursing education for these programmes. Additionally, inability to apply theory to practice was experienced, mainly by third year students. Lack of opportunities was experienced more by third year students compared to first year students. Students in all programmes, institutions and levels of study lacked constructive feedback. Similarly, lack of support was experienced by students in all groups, however, those in their third year were more likely not to be supervised compared to those in first year. Moreover, students in the BSc programme expressed lack of support from NEs. Students from BT MCHS, ZA MCHS and St Lukes were likely to have poor relationship with clinical staff. Students in their third year were perceived to have a poor relationship with clinical staff. First year students seemed to be happy with clinical learning while students in the BSc programme were dissatisfied. Students who were placed at ZCH were less likely to be supervised and to have a positive relationship with clinical support. The more frequently the NEs supervised students, the more positive the student-staff relationship, and the better the clinical learning. This study showed that clinical learning experience differed with programme, place of study, level of study, hospital, duration and ward / unit on placement and type of support received from NEs. The next chapter describes the conclusions and limitations of this study and recommendations based on the findings.

CHAPTER TEN

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

10 Introduction

In this chapter the conclusions of the findings of the study are described. In addition, policy implications and recommendations based on the findings have been outlined for all stakeholders of nursing education. Furthermore, limitations and suggestions for further research are included.

The study was aimed at exploring nursing students' clinical learning experiences in order to determine to what extent learning in clinical practice prepares nursing students for practice after qualifying. The study revealed that the quality of clinical experience that nursing students receive in Malawi and the impact these clinical experiences have on students' clinical learning negatively affects students preparation for practice. The study sought to achieve the following two objectives as outlined in chapter one: i) Assess effectiveness of clinical learning across different programmes, within and between training institutions and ii) Explore challenges experienced by nursing students in clinical practice. Additionally, the study sought to develop a model that could be used to facilitate clinical learning in Malawi. Clinical learning is an integral part of nursing education, which is influenced by the quality of clinical learning experiences that nursing students receive in the clinical environment. Such experiences determine the quality of clinical learning that students receive for them to become competent nurses.

10.1 Summary of key findings

The findings of the study are specific to the variables used in the study and were summarized within these respective variables: integration of theory and practice, opportunities for clinical learning, clinical supervision, feedback provided to students while in clinical practice, methods of clinical teaching used, the clinical learning environment and students satisfaction with clinical learning.

In summary the results of the current study, based on both quantitative and qualitative findings, reveal that nursing students experiences in clinical practice negatively affect clinical learning. Therefore, students are not effectively learning in clinical practice to become competent and to be able to provide quality care to the people they plan to serve. Students also experience many facilitating and obstructing factors to their learning during clinical practice. The present study has provided a comprehensive understanding of students' experiences that negatively affect their clinical learning for them to become competent practitioners. The most significant findings were lack of integration of theory and practice, inadequate clinical supervision, inadequate feedback given to students and non-conducive clinical learning environment as well as dissatisfaction with clinical learning. Additionally, this study revealed an acute shortage of resources in the clinical area for student learning.

Significant findings emerged from the study showing that students were unable to integrate the theoretical component of nursing education and the practice of nursing and is suggestive of a theory-practice gap. This theory-practice gap is an indication that students in the study area were not effectively learning in order to become competent nurses. The identified factors causing the theory-practice gap were acute shortage of resources, lack of supervision, attitude of clinical staff and different principles of practice from what was learnt.

The study also found that there was lack of clinical supervision. The study found that lack of supervision was attributed to negative attitudes of staff towards clinical supervision of students, shortage of staff and nurse educators, congestion of students in the clinical area and heavy workloads. This may indicate that students were unable to effectively learn the skills of the nursing profession thus being incompetent and unsafe to patients as there was no role modeling, direction and guidance.

Another significant finding was that participants were not given feedback on their performance in the clinical setting. The lack of feedback may suggest that students were not aware whether their performance was right or wrong. The findings suggest that incorrect practices may be learnt, leading to inability to become competent nurses. In this case, if feedback was given it was mostly destructive as students were often reprimanded in the presence of patients and other students which demotivated them. Lack of motivation may have negatively affected their clinical learning.

Another main finding revealed was that participants had a poor relationship with clinical staff. The poor relationship may have had a negative impact on learning. It is argued that an unfriendly environment may have caused students to feel demoralized, lack confidence in themselves and feel anxious, thus hindering effective clinical learning for them to become competent.

Dissatisfaction with clinical learning: Another finding was that participants showed dissatisfaction with clinical learning. However, some participants felt that as long as they were able to progress from one level of study to another it was fine with them as they would see others qualifying in the same conditions of clinical learning. This may suggest that to the students what matters most is obtaining the qualification, regardless of competency.

Challenges in the clinical environment: This current study has also revealed that nursing students encounter challenges which may negatively affect their clinical learning. Students highlighted challenges in the clinical setting, including critical shortage of resources, congestion of students in the clinical setting, tensions, anxiety, work overload and shortage of both clinical staff and nurse educators.

10. 2 Policy and nursing education implications

Findings from this study may have implications on the policies and practice of nursing education. Malawi, to mitigate the challenge of shortage of nurses that was leading to poor nursing care, embarked on increasing the intake of nursing students. There is a need to revisit the number of students enrolled in nursing colleges to ensure that the quality of clinical learning is not compromised.

The World Health Organization emphasizes the need for research in nursing education to ensure that it is evidence and competency based, providing progressive and lifelong learning, and that competent practitioners will be employed who will provide quality care in order to achieve the post 2015 Millennium Development Goals World health Organization (WHO, 2010). Therefore, these findings call attention to the possibility of a setback to WHO goals considering that students are not effectively prepared to become competent.

This study concurs with other studies including Lauder et al. (2008) and Cheraghi et al. (2008) in providing evidence that nursing students are not effectively prepared to become competent for practice after qualifying. The empirical findings show that nursing students' clinical learning does not have sufficient impact in preparing them for nursing professional practice. These findings may have implications on the policy of government of increasing students' enrollment in nursing education institutions. There is a need to review this policy.

The empirical study has been the first of its kind in Malawi using mixed methods to explore the effectiveness of clinical learning in relation to students ability to integrate theory and practice, the type of support students get, the availability of opportunities for student learning, the quality of feedback given to students and the type of environment in which clinical learning takes place. In addition this study included all the three nursing training programmes in Malawi. These findings provide an understanding of the complexity of the clinical learning environment and the clinical learning experiences that nursing students go through in an effort to learn effectively.

10.3 Study limitations

The study has investigated nursing students' clinical learning which is important for nursing education programmes in Malawi. The study encountered a number of limitations, which need to be considered, as outlined below:

1 Research design: The study used cross-sectional concurrent triangulation. It was difficult to measure directly the effectiveness of clinical learning in this study as the word "effectiveness" is not measurable. Nevertheless, the variables that were used assessed the occurrence of effective learning in clinical practice. It would have been of more benefit to use a longitudinal study that students can be followed over time to assess if clinical learning is taking place.

2 Participants: Three colleges did not have first year students at the time of data collection, which reduced the views of students from these colleges with regard to first year students.

The experiences of clinical staff and nurse educators could also have been obtained, which would have provided insight into the clinical learning environment from their perspective.

The study included students who were allocated to central hospitals only for clinical placements; students from other placements could have different views and opinions regarding clinical learning.

3 Time and finances: Concurrent triangulation was used as resources and time were constraints for using sequential triangulation.

Despite these limitations the results are of considerable importance for nursing education especially in clinical teaching and learning in Malawi. The study highlights the reality of the clinical learning environment in Malawi and provides critical information on the extent to which clinical practice prepares nursing students for practice after qualifying. The findings would provide evidence-based on decisions to be taken to improve nursing education in order that competent nurses are educated.

10.4 Further research

The study has provided an understanding of student learning in clinical practice and the challenges they experience. However, nursing students' clinical learning experiences are broad and clinical learning environments change with time. The following areas of research for the future are recommended.

10.4.1 This study was limited to students only, therefore further research where nurse educators and clinical staff provide their perceptions on student clinical learning in practice is recommended.

10.4.2 A study in all audited hospitals where students are placed for clinical practice to determine the facilitating and hindering factors in these hospitals is recommended.

10.4.3 It would be necessary to conduct a study in Malawi to determine how peer support positively impacts student clinical learning. Although this was not statistically significant, the majority of students indicated that they learn from each other.

10.4.4 Moreover, research would also be recommended to determine how different clinical wards / units allocation and duration of clinical placement may influence clinical learning.

10.4.5 Future research can be conducted to determine factors influencing clinical supervision in the study area, as some institutions were more likely to be supervised than other institutions. It would also be necessary to analyse the curricula in relation to the quality of clinical learning.

10.4.6 A checklist will be used to examine the curriculum in relation to clinical learning by examining the framework, aims and objectives of the curriculum, clinical scope and learning outcomes, clinical teaching strategies and method of assessment of clinical learning. These will determine if what students are learning in the clinical setting are stipulated in the curriculum.

10.5 Recommendations

Detailed recommendations have been drawn from the current findings of the study and the general ones from the literature to address the issues identified. The different stakeholders in this study include: the Malawi government, Nurses and Midwives Council of Malawi, Nursing education institutions, nurse educators, health facilities and nursing students. There is a need therefore to replicate similar studies in the future, even within the same institutions, in order to capture emerging issues that might assist in nursing education policies in Malawi.

10.5.1 Malawi government

There is a need for Government to increase funding for nursing colleges and hospitals in order to fill vacancies in view of the shortage of nurse educators and clinical staff. Funding should also be increased to the hospitals so that adequate resources can be available for students' clinical learning.

10.5.2 Nurses and Midwives Council of Malawi (NMCM)

Considering that this study showed an inability of students to apply theory to practice, ensuring nursing standards in the clinical setting should be emphasized. Additionally, audits of clinical settings should be conducted to ensure that standards are adhered to by nursing staff. This will ensure that students develop and adhere to standard practice as learnt in the classroom. The NMCM should also review and emphasize the clinical part of the curriculum apart from the hours it prescribes, and develop clinical assessment measures for students to ensure that only competent nurses are registered.

10.5.3 Nursing Education Institutions

The nursing education institutions should emphasize the clinical part and institute assessment measures to ensure that clinical learning is taking place, not only attainment of clinical objectives due to the fact that students are inadequately prepared for practice.

In view of the lack of clinical supervision and support for students**,** nursing education institutions need to provide students with supervisory support. One option would be for the institutions to employ retired nurses on a part time basis to supervise students.
Nursing education institutions need to provide training and support to clinical staff on how to supervise students in the clinical setting so that they know what is expected of them in regard to student supervision.

Additionally, there is a need for clear policies regarding clinical supervision as well as a structured and well monitored process. Apart from the use of peers for supervision, building the capacity of clinical supervisors and addressing the issues of supervision is essential.

The poor relationship between students and clinical staff and the lack of communication between the nursing education institutions and health care facilities need to be addressed. There needs to be collaboration between nursing education institutions and service providers. Regular meetings with clinical staff should be conducted to discuss issues pertaining to student learning as well as to share current knowledge. Nurse educators and clinical staff need to work as a team and recognize their responsibility for the clinical learning of students.

Nursing education institutions could establish awards for the best clinical students and also for the best NE on clinical teaching as a way of motivating both students and NEs on clinical practice.

10.5.4 Nurse educators

Given the challenge of integrating theory and practice, there is a need for nurse educators to use innovative teaching methods, including Problem Based Learning (PBL), reflection, seminars, case presentations, role play and clinical conferences, to facilitate integration of theory and practice.

Moreover, there is a need for nurse educators to use service learning as a form of experiential learning to enhance integration of theory and practice and to promote learning. In addition experiential and service learning would enable faculty to teach what is relevant in the work place, thus reducing the theory-practice gap. This would help to adequately prepare for future responsibilities of the profession after qualifying.

Nurse educators could organize exchange visits for the students as well as themselves to learn from others what they are doing to facilitate clinical learning. Nurse educators need to be up-to-date with current knowledge and use of research findings in their clinical teaching. They also need to share research findings with clinical staff to reduce the theory-practice gap. Nurse educators should provide continuous support and guidance to the students. They should work in the clinical area with students as part of the health care team.

10.5.5 Health care providers' institutions

There is a need for clinical staff to be aware of their role in clinical education and their need to fit clinical teaching in their schedules of patient care so that students are adequately supervised. There is also a need for hospital management to include and emphasize to clinical staff in their job description, their role of student clinical teaching. Clinical staff needs to pay particular attention to the role of students as part of the healthcare team and avoid using them as part of the regular staff. There is a need for clinical staff to pay particular attention to including students in their health team, and they need to know students' roles in the team, so that using them as a pair of hands is avoided. Considering that there is an acute shortage of

resources, health facilities need to determine how to ensure necessary and adequate resources for optimal students' clinical learning.

10.5.6 Students

Students need to be responsible for their own learning by being present in the clinical setting as required so that they do not miss out on learning opportunities.

10.6 Summary of the conclusion

This study was based on Kolb's Experiential Learning theory and Service Learning which are part of experiential education. Recognizing that nursing is a practice based profession, experiential learning theory and service learning emphasize learning by doing and reflection thus they are relevant in this study. Experiential learning has been described by Beard and Wilson (2002) as "client-focused, supported approach to individual, group and organizational development which engages the young or adult learner using the elements of action, reflection and transfer". The theories helped to investigate variables, including integration of theory and practice, opportunities for learning, clinical supervision, feedback and the clinical learning environment and the development of clinical learning facilitation funnel framework in order for clinical learning to be effective in Malawi.

Clinical learning experiences vary from country to country as the design of nursing education is also different. In spite of what the literature has reported on the importance of clinical practice in preparing nursing students for the work they do as practicing nurses after graduation (Lambert and Glacken, 2006, Mannix et al., 2006, MacFarlane et al., 2007, Croxon and Maginnis, 2009) this study has shown that clinical practice inadequately prepared students for the nursing profession in selected institutions in Malawi. The benefits of clinical practice have been shown to be neither comprehensive nor achievable for students to become competent nursing practitioners. Therefore, it is necessary to review strategies of effective clinical practice as the importance of clinical practice in nursing profession is undisputable.

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APPENDICES

Appendix 1: Questionnaire

Dear Participants,

You are invited to participate in this study titled "Nursing students' clinical learning experiences in selected colleges in Malawi: A model to facilitate clinical learning". This study is a requirement for the fulfillment of my PhD from North West University. Participation is strictly confidential and voluntary and that this study is strictly for academic purposes. You may wish to withdraw from participating in this study at any stage without penalty.

Thank you for your cooperation

Nanzen Caroline Kaphagawani

Questionnaire number.....

Hospital of placement.....

College you are coming from.....

Programme of study

Bsc Nursing	1
RN Diploma	2
Enrolled (NMT)	3

BIOGRAPHICAL DATA

1. Age in years

.....Years

15-20 years	1
21-25 years	2
26-30 years	3
31-35 years	4
36-40 years	5

2. Sex

Male	1
Female	2

3. Year of study

Year 1	1
Year 2	2
Year 3	3

4. In which ward / unit were you in the last clinical placement

Surgical	Medical	Paediatric	Maternity	Community	Other
1	2	3	4	5	6

5. Duration of placement in | .....Weeks | weeks

6. Patients average stay in the ward

Few days	1-2 weeks	3-4 weeks	Over a month
1	2	3	4

7. How many times did you meet the nurse educator during the latest clinical placement?

.....Times

8. How satisfied were you in the last clinical placement regarding your learning

Very satisfied	**Satisfied**	**Dissatisfied**	**Very dissatisfied**
1	2	3	4

PART B

THE CLINICAL LEARNING ENVIRONMENT DURING LATEST PLACEMENT

Tick each statement in the column which best describes your response

Integration of theory to practice	**Strongly disagree**	**Disagree**	**Agree**	**Strongly agree**
	1	2	3	4
9. What is learned in the classroom is practiced in the ward				
10. Theory learnt in class is reinforced in the ward				
11. There is conflict between procedures taught in the classroom and the real situation on the ward e.g. drug administration				
12. The Nurse Educator (NE) was capable to integrate theoretical knowledge and everyday practice of nursing				
13. The Nurse Educator helped me to apply what i have learnt in class into practice				
Task involvement / Opportunities for learning				
14. Students are given clear idea of what is expected of them during clinical practice				
15. Students are made to concentrate on basic tasks e.g. Bed bath, taking temperatures, sending specimens to laboratory				
	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**

	1	2	3	4
16. Clinical experiences stimulated problem solving				
17. Students are allocated patients rather than tasks				
18. Students are actively involved in activities of the ward				
19. Students are given enough opportunity for independent practice				
Innovative approaches were used for teaching such as PBL, Reflection, clinical conference, case study				
	Yes = 1	No = 0		
20. Problem Based Learning (PBL)				
21. Reflection				
22. Clinical conference				
23. Case study				
	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
Peer support				
24. Student support each other				
25. Students teach one another				
26. Student nurses help one another to carry out allocated tasks				

27. Senior students guide junior students				
Feedback				
28. I continually received feedback from my supervisor				
29. Staff nurses regularly provide feedback				
30. I learnt from feedback provided by the nurse manager				
31. Nurse educators regularly provide feedback				
32. Nurse educators and clinical staff provide constructive feedback				
33. Feedback from facilitators helped me to improve my performance				
Conducive clinical learning environment	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
34. The staff were easy to approach				
35. Student nurses are encouraged to ask questions				
36. There is a relationship between training institutions and clinical facilities				
37. I felt comfortable going to the ward at the start of my shift				
38. There was a good spirit of unity among the nursing staff in the ward				
39. During staff meetings e.g. before shifts I felt comfortable taking part in the discussions				

40. Staff know students by name				
41. Student nurses are considered to be part of the health care team				
42. Students are recognized and appreciated				
43. Staff show positive attitude towards the supervision of student nurses				
44. There is a positive atmosphere on the ward				
The ward / unit can be regarded as a good learning environment				
	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
45. Staff nurses regard students as a learner rather than a worker				
46. Staff nurses are good role models				
Premises of nursing care on the ward				
47. The ward nursing policies was clearly defined				
48. There were challenges for the organisation and orientation for students				
49. Patient received individual nursing care				
50. There was no problem in the information flow related to patients care				

51. Documentation of nursing e g nursing plans, daily recording of nursing procedures etc was clear				
Leadership style of the Nurse Manager (NM)				
52. The NM regarded the staff on his/her ward as key resource persons				
	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
53.The NM was a team member				
54. Feedback from the NM was constructive and enhance my learning				
55. The effort of individual employee was appreciated				
Premises of learning on the ward				
56. There was sufficient meaningful learning in the ward				
57. Nursing students are sometimes kept busy for the sake of appearing occupied				
58. The work i did was mostly very interesting				
59. Learning situations were comprehensive in terms of content (Covered different areas)				
Student satisfaction with clinical environment				
60. I enjoyed working in the ward				

	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
61. Am happy with the experience i have had working in the ward				
62. I look followed to clinical practice				
63. The experience in the ward makes me eager to become a nurse				
Challenges				
64. I feel stressed and anxious in the clinical practice				
65. There is sufficient equipment and supplies to facilitate our learning in the clinical practice				
66. I feel overloaded with work while in the clinical practice				
67. There are tensions among students in the clinical practice				

68. SUPERVISION

I received supervision during the last clinical allocation

Yes	No

What was the occupational title of your supervisor?

1).Registered nurse	2).Nurse Manager	3).Nurse Educator	4). Enrolled nurse/ NMT	5) Other

METHOD OF SUPERVISION: (Please tick what is applicable)	Yes 1	No 2
1. Did you have a named supervisor?		
2. Named supervisor was called preceptor		
3. Were you supervised by several supervisors?		
4. Supervisor varied according to shift of place of work.		
5. Named supervisor had several students (Team / group supervision)		

6. Supervision sessions with my supervisor which was not organized by the nurse educator were held

1).Not at all	2).Once or twice during placement	3).Less than once a week	4).About once a week	5). More often specify

Supervision of students	Strongly disagree	Disagree	Agree	Strongly agree
70. Staff show positive attitude towards the supervision of student nurses				
71. Nurses are willing to spend time to teach students				
72. Staff nurses guide students to perform new skills				
73. Student nurses had difficulty finding help when needed				
Supervisory relationship				
74. The preceptor / Supervisor showed a positive attitude towards supervision				
75. I felt that i received individual supervision				
76. Overall am satisfied with the supervision i received				
77. The supervision was based on a relationship of equality and promoted my learning				
78. Mutual relationship and approval prevailed in the supervisory relationship				

If there is anything you would like to add about your experiences of learning in the clinical environment and the challenges encountered in relation to clinical learning please write down in the space below

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Thank you for your time and participation in the study

Appendix 2 Interview guides for focus group discussions with students

1). Describe the clinical learning experiences in the recent clinical setting that you have been?

2). What are your expectations of learning in the clinical placements?

3). What is your experience in relation to what is learned in the classroom and practiced in the clinical area?

4). Explain about clinical supervision and support in clinical placements you have been?

5). Describe teaching approaches used and feedback given on your learning and performance?

6) What are your experiences concerning opportunities for learning

7). Explain the relationships in the clinical environment:

8). Explain about effectiveness of learning in the clinical environment?

9). How do you think learning in the clinical environment can be facilitated?

10). Explain the challenges that you encounter in the clinical practice?

Appendix 3: Different institutions, operating organizations, academic level of education and duration of the course

College	Type of System	Academic level of education	Professional qualification	Duration of the course	Operative organization
1	University	BSc	RN	4 years	Government
2	College	Diploma	RN	3 Years	CHAM
3	College	Diploma	RN	3years	Government
4	College	Diploma	NMT	3 Years	CHAM
5	College	Diploma	NMT	3 years	CHAM
6	College	Diploma	NMT	3 Years	Government
7	College	Diploma	NMT	3 Years	CHAM
8	College	Diploma	NMT	3 years	CHAM

Appendix 4: Informed consent

Dear participant, my name is Nanzen Kaphagawani, I am currently studying at North West University, Mafikeng campus in Republic of South Africa. I am conducting a research study titled "Nursing students learning in the clinical practice in selected nursing colleges in Malawi". I would be grateful if you would help by participating in this study. The aim of this study is to investigate nursing students` learning experiences in clinical education in selected nursing colleges in Malawi in order to develop clinical learning facilitation model in nursing education. The results will help to improve clinical nursing education in Malawi therefore train competent nurses who will provide quality nursing care.

You have been selected to participate in this study because you are a nursing student at the selected college. By participating in this study you will be requested to fill in the questionnaire that is anticipated to take about 30-45 minutes of your time. In addition, I may required you to participate in a focus group discussion so that you can provide more detailed information about your clinical learning which will take about one to one and half hours and the discussions will be audio recorded. If you decide not to participate in this study or to withdraw from participation anytime your studies will not be affected in anyway. There are no monetary benefits in participating in this study but your participation may help to improve nursing education in Malawi thereby improving quality of health care provided to the people of Malawi. There are no known risks associated with this study. Your participation is entirely voluntary and you are free to withdraw your consent and discontinue from participating in the study any time you wish.

Information provided will be treated with utmost confidentiality and numbers will be used instead of names to ensure anonymity. In addition, you will not be identified on the questionnaires and the tape recorders. All the questionnaires and the tape recorders will be locked away and will only be accessible to the researcher and the supervisor.

If you have any further questions now or after the research please feel free to contact me at the address below.

Nanzen Kaphagawani, Malawi College of Health Sciences, P.O. Box 122, Zomba.

Cell: 265888892959 / 265995623484

Appendix 5: Students information

You are invited to take part in the research study titled "Nursing students learning experiences in clinical practice in selected nursing colleges in Malawi". It is important that you read and understand the following general principles, which are applicable to all participants in our research projects:

1. Participation in the study is completely voluntary and no pressure, however subtle, may be placed on you to take part.

2. It is possible that you may not derive any benefit personally from your participation in the study, although the knowledge that may be gained by means of the project may benefit other students; improve the nursing education and quality of patient care in Malawi. You may not be bribed to participate.

3. You are free to withdraw from the study at any time, without stating reasons and you will in no way be harmed by so doing. You may also request that your data no longer be used in the study. However, you are kindly requested not to withdraw from the study without careful consideration, since it may have a detrimental effect on, inter alia, the statistical reliability of the study.

4. By agreeing to take part in the study, you are also giving consent for the data that will be generated to be used by the researcher for scientific purposes as they see fit, with the caveat that it will be confidential and that your name will not be linked to any of the data without your consent.

5. The NWU Ethics Committee, medicines Control Council, Department of Health and/or a Court of Law may request access to information to ensure/inspect the ethical responsibility of practices, in the interest of participants and the public.

6. You will be given access to your own data upon request, unless the ethics Committee has approved temporary non-disclosure.

7. A summary of the nature of the study, the potential risks, factors that may cause you possible inconvenience or discomfort, the benefits that can be expected and the known and/or probable permanent consequences that your participation in the project may have for you as participant, are set out for you in part 1 hereof.

8. You are encouraged to ask the chief investigator or co-workers any questions you may have regarding the study and the related procedures at any stage. They will gladly answer your queries. They will also discuss the study with you in detail.

9. The study objectives are always secondary to your well-being and actions taken will always place your interest above those of the study.

10. No project may be commenced before it is approved by the Ethics Committee and Committee of Higher Degrees.

If you have any further questions now or after the research please feel free to contact me at the address below.

Nanzen Kaphagawani,

Malawi College of Health Sciences

P.O. Box 122, Zomba.

Cell: 265888892959 / 265995623484

Appendix 6: Consent form

I (the undersigned) have read the above information or had it read to me, understood it fully and wish to participate in this study.

Signature…….....……

Place…….....……..

Date …….....…….

I have explained this study to the above subject and to have sought his/her understanding for informed consent.

……

Investigators signature Date

Appendix 7: Ethical clearances
7.1 North West University Ethics approval

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: (018) 299-4900
Faks: (018) 299-4910
Web: http://www.nwu.ac.za

Ethics Committee
Tel +27 18 299 4850
Fax +27 18 293 5329
Email Ethics@nwu.ac.za
2013/04/10

ETHICS APPROVAL OF PROJECT

This is to certify that the next project was approved by the NWU Ethics Committee:

Project title.
Nursing students learning experiences in the clinical practice in selected nursing colleges in Malawi

Project leader: Prof U Useh
Student on project: Nanzen Caroline Kaphagawani
NWU Ethics approval no: NWU-00002-13-A9
Approval date: 2013/04/09 **Expiry date:** 2018/04/08

The Ethics Committee would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the Ethics Committee for any further enquiries or requests for assistance. The formal ethics certificate will follow soon.

Yours sincerely

Me.Marietjie Halgryn
NWU Ethics Secretariate

7.2 National Health Sciences Research Committee Ethical clearance

RE: Protocol # 1179: Nursing students clinical learning experiences in selected Nursing Colleges in Malawi

Telephone: + 265 789 400
Facsimile: + 265 789 431
e-mail doccentre@malawi.net
All Communications should be addressed to:
The Secretary for Health

In reply please quote No. MED/4/36c

MINISTRY OF HEALTH
P.O. BOX 30377
LILONGWE 3
MALAWI

14/08/13

Nanzen Caroline Kaphagawani
Malawi College of Health Sciences

Dear Sir/Madam,

RE: Protocol # 1179: Nursing students clinical learning experiences in selected Nursing Colleges in Malawi

Thank you for the above titled proposal that you submitted to the National Health Sciences Research Committee (NHSRC) for review. Please be advised that the NHSRC has **reviewed** and **approved** your application to conduct the above titled study.

- **APPROVAL NUMBER** : **NHSRC # 1179**
  The above details should be used on all correspondence, consent forms and documents as appropriate.
- **APPROVAL DATE** : **14/08/2013**
- **EXPIRATION DATE** :This approval expires on **13/08/14**
  After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the NHSRC secretariat should be submitted one month before the expiration date for continuing review.
- **SERIOUS ADVERSE EVENT REPORTING** :All serious problems having to do with subject safety must be reported to the National Health Sciences Research Committee within 10 working days using standard forms obtainable from the NHSRC Secretariat.
- **MODIFICATIONS**: Prior NHSRC approval using standard forms obtainable from the NHSRC Secretariat is required before implementing any changes in the Protocol (including changes in the consent documents). You may not use any other consent documents besides those approved by the NHSRC.
- **TERMINATION OF STUDY**: On termination of a study, a report has to be submitted to the NHSRC using standard forms obtainable from the NHSRC Secretariat.
- **QUESTIONS**: Please contact the NHSRC on Telephone No. (01) 724418, 0888344443 or by e-mail on mohdoccentre@gmail.com
- **Other:**
  Please be reminded to send in copies of your final research results for our records as well as for the Health Research Database.

Kind regards from the NHSRC Secretariat.

.....
FOR CHAIRMAN, NATIONAL HEALTH SCIENCES RESEARCH COMMITTEE

PROMOTING THE ETHICAL CONDUCT OF RESEARCH
Executive Committee: *Dr.C.Mwansambo (Chairman), Prof. E.Molyneux (Vice Chairperson)*
Registered with the USA Office for Human Research Protections (OHRP) as an International IRB
(IRB Number IRB00003905 FWA00005976)

Appendix 8 Permission from institutions

HOLY FAMILY COLLEGE OF NURSING

Telphone 01940376 P.O Box 51224,

E-mail holynursing@yahoo.com Limbe.

30TH JULY, 2013

Mrs. Nanzen Caroline Kaphagawani

Malawi College of Health Sciences

P.O. Box 122

ZOMBA

Dear Madam

PERMISSION TO CONDUCT A STUDY TITLED "NURSING STUDENTS LEARNING EXPERIENCES IN CLINICAL PRACTICE IN SELECTED NURSING COLLEGES IN MALAWI"

Refer to your letter dated 3rd January, 2013 asking for permission to conduct a research on the above topic; I am pleased to inform you that permission has been granted.

Wishing you success in your studies.

Sincerely yours,

THE PRINCIPAL
HOLY FAMILY COLLEGE OF NURSING
30 JUL 2013
P.O. Box 51224
LIMBE

SR. E. KAMBALAME
COLLEGE PRINCIPAL

Malawi College Of Health Sciences

Zomba Campus

Tel: (265) 524 662
Fax: (265) 524 015
E-mail: mchszomba@broadbandmw.com

P.O. Box 122
Zomba
Malawi

9th January, 2013

Mrs N.C. Kaphagawani
Malawi College of Health Sciences
P.O. Box 122
Zomba

Dear Mrs N.C. Kaphagawani

Reference is made to your letter where you asked this Institution for permission to conduct a study titled Nursing Students Learning experiences in clinical practice in selected Nursing Colleges in Malawi.

I am pleased to inform you that permission has been granted for you to conduct the study. May I also take this opportunity to wish you success as you conduct this study.

M. E. Nkanga a (Ms)
ACTING CAMPUS DIRECTOR

MALAWI COLLEGE OF HEALTH SCIENCES
CAMPUS DIRECTOR
09 JAN 2013
ZOMBA CAMPUS
P.O BOX 122, ZOMBA

St. JOSEPH'S COLLEGE OF NURSING & MIDWIFERY

P.O. Box 5505
LIMBE, MALAWI, CENTRAL AFRICA

Tel: (265) 01 916 033/01 916 026
Cell: (265) 08 830 228

Date: 5th April, 2013

To: Mrs. N. Kaphagawani

Malawi College of Health Sciences

Zomba Campus

P.O. Box 122

Zomba

Cc: The Head of Clinical Department

Dear Macam,

RE: REQUEST TO CONDUCT A STUDY TITLED "NURSING STUDENTS LEARNING EXPERIENCES IN CLINICAL PRACTICE IN SELECTED NURSING COLLEGES IN MALAWI"

Reference is made to your letter dated 3rd January 2013, on the above subject. I am pleased to inform you that College Management has accepted your request. By copy of this letter, the Head of Clinical Department is authorised to assist you with information on our clinical master plan so that your time can be in line with the time that our students are in the clinical area.

If any changes, please notify the college as soon as possible. We wish you well in your studies and we hope as College we will have an access to the results which will assist us to improve our clinical teaching and learning process

Yours faithfully

Roselyn Kalawa

(COLLEGE PRINCIPAL)

ST. LUKE'S COLLEGE OF NURSING & MIDWIFERY,
P.O. BOX 21, CHILEMA
TEL: 0995475430/0888360550
e-mail stlukescollegeofnursing@sdnp.org.mw
website: stlukescollegemw.orgfree.com

Mrs Nanzeni Kaphagawai
c/o Malawi College of Health Sciences
P.O. Box 122
Zomba

Dear Madam,

Re: PERMISSION TO CONDUCT A STUDY AT OUR INSTITUTION

I write this letter informing you that management of St Luke's College of Nursing ahs granted you permission to conduct the study on "Students experiences in clinical practice in selected nursing colleges in Malawi".

You are therefore welcome. You can now confirm with us the dates when you expect to interact with our students. We wish you all the success in your studies.

Thank you.

THE PRINCIPAL TUTOR
ST. LUKES COLLEGE OF NURSING
2013 -02- 12
P.O. BOX 21, CHILEMA

Maxwell Patigani
PRINCIPAL

cc: Dean of Students
Dean of Studies

DAEYANG COLLEGE OF NURSING
All correspondence to: The Principal, P.O. Box 30330 Lilongwe. Phone: 01 711 361

1st July,2013

Mrs Nanzen Caroline Kaphagawani

Malawi College of Health Sciences

P.O. Box 122

Zomba

Malawi

Dear Madam,

APPROVAL TO COLLECT DATA AT DAEYANG COLLEGE OF NURSING

With reference to your request to collect data at our institution as part of research for your doctoral studies, management of Daeyang College of Nursing (DCN) is pleased to advise you that your request has been granted.

Further, be advised that according to our terms and conditions, you are expected to share your research findings with Daeyang College of Nursing.

Yours sincerely,

Albert Newa

College Registrar

CC: Dean- DCN

ST. JOHN'S COLLEGE OF NURSING

P.O. Box 18
Mzuzu
Malawi
Central Africa

Telephone: (265) 311 331
Fax: (265) 311 331
E-mail: sjcnm.mw@gmail.com

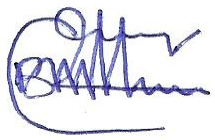
02/06/2013

Dear Mrs. N. Kaphagawani,

APPROVAL TO CONDUCT A STUDY

On behalf of the college management, I am pleased to inform you that your request to conduct a study at our institution has been approved. You are therefore free to come and collect data from our students provided the ethical review committee from the ministry or university has allowed you. You may also inform us in advance when you are planning to come so that we mobilize the students on that day for you.

Wishing you good luck.



Balwani-mbakaya Chingatichifwe

PRINCIPAL TUTOR

Malawi College of Health Sciences

Blantyre Campus

Tel: (265) 01 870 566/765/531/361
Fax: (265) 01 871 436
Email: mchs.btcampus@yahoo.com.

Private Bag 396
Blantyre 3

10th January 2013,

Mrs Kaphagawani
MCHS-Zomba Campus
PO Box 122
ZOMBA

Dear Madam

APPROVAL TO CONDUCT A STUDY

Reference is made to your request to conduct a study at MCHS – Blantyre Campus. Be informed that approval has been granted.

You will be required to liaise with the Dean of Nursing faculty regarding the students availability.

Wishing you all the best in your studies.

Yours Faithfully

Chinkhata (Mrs)
THE CAMPUS DIRECTOR

CC : Dean of Nursing Faculty
Campus Administrative Officer

Telephone: + 265 01 524 881
Facsimile: + 265 01 524 538
Mobile: + 265 09999 962 683
E-mail: martiasjoshua@yahoo.com

All Communications should be addressed to:
The Hospital Director

In reply please quote No.

Ministry of Health,
ZOMBA CENTRAL HOSPITAL
P.O. Box 21,
ZOMBA,

24th January 2013.

The Chairman,
National Health Sciences Committee,
P.O. Box 30377,
Capital Hill
Lilongwe

Dear Sir,

RE: NURSING STUDENTS LEARNING EXPERIENCES IN CLINICAL PRACTICE IN SELECTED NURSING COLLEGES IN MALAWI

The hospital management has supported and recommend the study titled above to be carried out at Zomba Central Hospital. Management feels that the recommendations from the study will assist to improve supervision of nursing students in the hospital.

Your consideration to review and approve the study will be appreciated.

Thanks in advance.

Yours faithfully

ZOMBA CENTRAL HOSPITAL
2013 - 1 0 4
P.O. BOX 21, ZOMBA

Martias Joshua
Hospital Director

Malawi college of Health Sciences

P O Box 122, Zomba

10th October, 2013

The Hospital Director

Kamuzu central Hospital

P O Box 149, Lilongwe

Dear Sir,

PERMISSION TO OBTAIN INFORMATION FOR A STUDY TITLED "NURSING STUDENTS LEARNING EXPERIENCES IN CLINICAL PRACTICE IN SELECTED NURSING COLLEGES IN MALAWI"

My name is Nanzen Kaphagawani, am currently studying at North West University in Republic of South Africa. I am conducting a study titled "Nursing students learning experiences in clinical practice in selected nursing colleges in Malawi" in fulfilment of PhD Degree requirement. The aim of the study is to develop a model that facilitates learning in clinical practice to improve clinical nursing education in Malawi.

My study will involve the students in year one, two and three who will be required to fill in a questionnaire and also to participate in focus group discussions. Data will be required to be collected up to two weeks after the end of clinical placement at any of the following central hospitals: Queen Elizabeth, Zomba, Lilongwe and Mzuzu.

Am writing this letter to ask permission to get the following information: Number of beds the hospital has, services provided / departments available at the hospital, average length of stay of patients, bed-occupancy rate, number of staff (nursing staff in each category, clinicians, and health related staff) and colleges which send students to that hospital and their category.

Permission granted Alide 6/2/14

Hunis Go ahead as Ethical Approval 6/2/2014