

**NURSING STUDENTS' AND CLINICAL INSTRUCTORS' PERCEPTION OF
CLINICAL LEARNING AT MOI TEACHING AND REFERRAL HOSPITAL
AND KAKAMEGA COUNTY HOSPITAL KENYA**

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A Thesis Submitted in Partial Fulfilment for the Requirements for the Award of the
Degree of Masters of Science in Advanced Nursing Practice (Nursing Education) of
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September, 2019

DECLARATION

DECLARATION

This thesis is my original work prepared with no other than the indicated source and support and has not been presented elsewhere for a degree or any other award.

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CERTIFICATION

The undersigned certify that they have read and hereby recommended for acceptance of Masinde Muliro University of science and Technology a thesis entitled "Nursing Students' and Clinical Instructors' Perception of Clinical Learning at Moi Teaching and Referral Hospital and Kakamega County Hospital Kenya".

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DEDICATION

I dedicate this work to my family and colleagues who assisted me during my study.

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ABSTRACT

One of the criteria for effective learning in nursing education is clinical learning experience by students. Clinical competence is the ability to effectively integrate cognitive, affective and psychomotor skills when delivering nursing care. The aim of this study was to investigate the determinants of clinical learning among Bachelor of Science in nursing students. The study objectives were; to analyse the influence of clinical leaning environment on clinical learning, to determine the contribution of clinical instruction on clinical learning and to examine the influence student factors on clinical learning. The study employed cross sectional research design. Study targeted 200 participants (165 student nurses, 20 ward managers and 15 clinical instructors) sampled through purposive sampling. Data was recorded in SPSS version 21.0 and analysed using t-test for means. A non-para-metric test (Mann-Whitney U-test) was used to determine differences between students and clinical instructors'/ward managers. Statistical significance was determined at $p=0.01$ as the study focused on perception of the participants. The data was presented in form of tables. Three factors were found to be the predictors of clinical learning. These were; clinical placement ($p=0.015$), practice on patients ($p=0.0004$) and length of clinical attachment ($p=0.04$). Therefore, the study recommends that there is need for hospitals and teaching facilities to establish appropriate planned schedule with adequate time for clinical learning. The clinical nurses should be well prepared to assist student and be an example to the students when they come to the clinical area. Finally, intervention studies involving larger sample size with wider scope may be needed to establish competency in clinical learning. The findings will be useful to the higher education institutions and teaching hospitals in planning and implementation clinical learning of nursing students for clinical learning improvement through providing an enabling clinical learning environment, ensuring appropriate clinical instruction and encouraging student factors that promote clinical skills achievement that can be applied and is relevant to nursing profession.

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LIST OF ABBRIVIATIONS AND ACRONYMS

CGH	–	County Government Hospital
CIT	–	Critical Incident Technique
CLE	-	Clinical Learning Environment
CLES+T	–	Clinical Learning Environment; Supervision and Teacher
CSL	-	Clinical Skills Laboratory
FLIP-	-	Focusing on your Learners by Involving them in the Process
MMUST	–	Masinde Muliro University of Science and Technology
MTRH	–	Moi Teaching and Referral Hospital
NACOSTI	-	National Commission for Science, Technology and Innovations
OSCE	–	Objective Structured Clinical Examination
UK	–	United Kingdom

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter describes the background, statement of the problem and objective of the study. It also contains the research questions, justification and the conceptual framework.

1.1 Background of the study

Nursing training is a combination of theory and practical learning experiences that enable nursing students to acquire knowledge, skills and attitude to improve nursing care (Nabolsi, *et al.*, 2012). Clinical learning is the means by which student nurses learn to apply theory of nursing into practice in the clinical setting. Clinical learning environment is a place where the theoretical component of curriculum can be integrated with the practical and transformed into professional skills and attitude within a safe environment (Steve, *et al.*, 2014). The correlation of theory and practice and building of meaningful experience for student nurses takes place during clinical practice in health care setting (Sundler, *et al.*, 2013). However, not all clinical settings are conducive to students learning outcome or contributing to their competencies' development (Hamshire, *et al.*, 2012).

There has been an increased need for radical change in nursing education which challenges the educators to design clinical learning experience that will result in the graduates prepared to practice in changing health care environment (Benner *et al.*, 2010). This has brought demand on the existing primary health care workforce therefore posing a significant challenge on providing a greater number of skilled health care nursing professionals to service this demand (ICN, 2015).

Nursing being an art and a science that is dependent on theory to inform clinical skills and then practice to be able to perform clinical skills. Martensson, *et al.*, 2013 found out that ward assignment of task should be planned, clear and well organized in order to improve the learning outcomes. According to a study by Veeramah, (2012), respondents in wards that had fewer students rated their perceptions more positively than those in wards that had more students. Studies have shown that registered nurses tend to exclude students from ward assignment of task or left them alone after assigning tasks when the pressure of workload increased resulting in poor clinical learning (Brodie, *et al.*, 2004).

Clinical placement is important to the completion of bachelor of science in nursing education as it offers opportunity into the profession world where students can learn and interact with clinical learning (Kern, *et al.*,2014). According to (Bisholt, *et al.*, 2014), students are given effective and efficient clinical learning equipment so that they can use them to acquire the skills and knowledge needed while practicing. This also helps the student to collaborate the knowledge and theories acquired both in the classroom as well as the clinical setting and apply them efficiently in the real-life situations. It has also been observed that insufficient equipment encourages the student nurse to practice ‘short cut’ methods to complete their procedures (Chaun & Barnett 2012) thus compromising their clinical learning.

The aim of practice on patients is to allow nursing students to learn how to apply principles and theories learnt in class in the clinical setting. Ultimately this improves quality of clinical experience resulting in competency (McHugh, 2010). Contrary to this, studies have revealed that patients have expressed concerns about their health information being exposed to students (Machachlan, *et al.*, 2012).

The success of students at the clinical site depends on the support and guidance provided by the clinical teachers (Peters, *et al.*, 2013). According to Holland and Lauder (2012) the support given the students on the clinical learning environment is important in deciding the nature of nursing students' clinical experience. Also, it is additionally very much perceived that the clinical setting can be a wellspring of anxiety and tension for students therefore it is crucial for expert teacher to offer support and guidance to the student keeping in mind the goal which is learning (Holland & Lauder, 2012). Ijeoma, *et al.*, 2013 & Schonwetter, 2007 & Talwar, 2005 found out that students' perception on effective clinical learning is varied from different settings. In support of this, the impression created is that the students experience and perception of quality of clinical learning varies a lot (Dale, *et al.*, 2013). A study on the perception of student nurse relationship with the clinical instructors found out that clinical instructors paid more attention to teaching behaviors that were more associated with learning practical skills (Parvan, *et al.*, 2018).

Although the clinical learning environment has been researched in various educational respects globally, there is scarcity of studies exploring the nursing students and clinical teachers' perception in Kenya and more so in teaching hospitals of Eldoret and Kakamega. Furthermore, it is however possible that the clinical setting of these two facilities falls short of the ideal and nature of guidance and support may not create an atmosphere conducive to student hence the researcher finds it essential to determine the nursing students' and clinical instructors' perception of clinical learning.

1.2 Statement of the problem

There is an increased public concern on how prepared student nurses are to practice competently once qualified (Well & Norman, 2009). 2009). Specifically, students' abilities to carry out nursing procedures (Wright,2012), poor engagement with evidence-based practice in nursing (Thompson *et al.*, 2002 & Caldwell *et al.*, 2007) and the assessment of clinical competence (ABA 2005). At Moi Teaching and Referral Hospital (MTRH) and Kakamega County Government Hospital (KCGH), nursing students are placed in different wards and departments. Students are supervised by clinical instructors, nurse manager, and qualified nurses and to some extent doctors and clinical officers. Registered nurses are the ones facilitating clinical learning activities. There is a gap between the expectation of nursing students and clinical instructors and the reality of clinical learning environment. Evidence shows that students do not get adequate clinical learning when they are in their respective clinical placements (Helena, *et al.*, 2019). The researcher in her capacity as a clinical nurse educator has observed that student nurses encounter problems in the clinical environment. The clinical instructors and ward managers have also expressed concern with the clinical learning experiences of students. It is against this background, that this study determined the nursing students' and clinical instructors' perception of clinical learning.

1.3 Justification

The researcher has not come across a similar study done in Moi Teaching and Referral Hospital and Kakamega County General Hospital. The results of the study will be used towards improving nursing education by providing information to nursing faculties and administrators about the perception of learning at all clinical sites used

by the nursing programs. The information derived from data will be used to make decisions about taking action to improve clinical learning and to monitor the success of actions taken to improve learning at the clinical site. It may also shed some light on the problems experienced by nursing students during clinical learning.

1.4 General Objective

The main objective was to determine nursing students' and clinical instructors' perception of clinical learning.

1.5 Specific Objectives

The specific objectives of this study were:

1. To examine of nursing students' and clinical instructors' perception of student factors influencing clinical learning.
2. To determine nursing students' and clinical instructors' perception on the contribution of clinical instruction on clinical learning.
3. To assess the nursing students' and clinical instructors' perception of the clinical environment factors influencing clinical learning.

1.6 Research Questions

This study sought to answer the following research questions;

1. What is nursing students' and clinical instructors' perception on student factors influencing clinical learning?
2. What is nursing students' and clinical instructors' perception on the contribution of clinical instruction on clinical learning?
3. What is the perception of nursing students and clinical instructors on the clinical environment factors influencing clinical learning?

1.6.1 Research Variables

Dependent variable

- Clinical learning.

Independent variables

- Student factors
- Contribution of clinical instruction
- Clinical environment factors

1.7 Limitations

Limitations of the study are those characteristics of the design or methodology that impact or influence the interpretation of the findings (Price, 2004). The main limitation was the sampling technique which was purposive and the sample size was small. This limited the generalization of the findings. The two major limitations in this study could be addressed in future research. First, the study focused on only fourth year students, in future the study should be focused on all nursing students. Because all nursing students play a vital role in providing quality of care to patients while learning at the clinical sites. Secondly the sample size used was small. It is suggested that future study be conducted in more hospitals which increases sample size generating more accurate results.

1.8 Conceptual Framework

The conceptual framework is presented as a model where research variables and the relationship between them are translated into visual picture to illustrate the interconnection between the independent and the dependent variables (Maxwell, 2012) as shown in figure 1.1

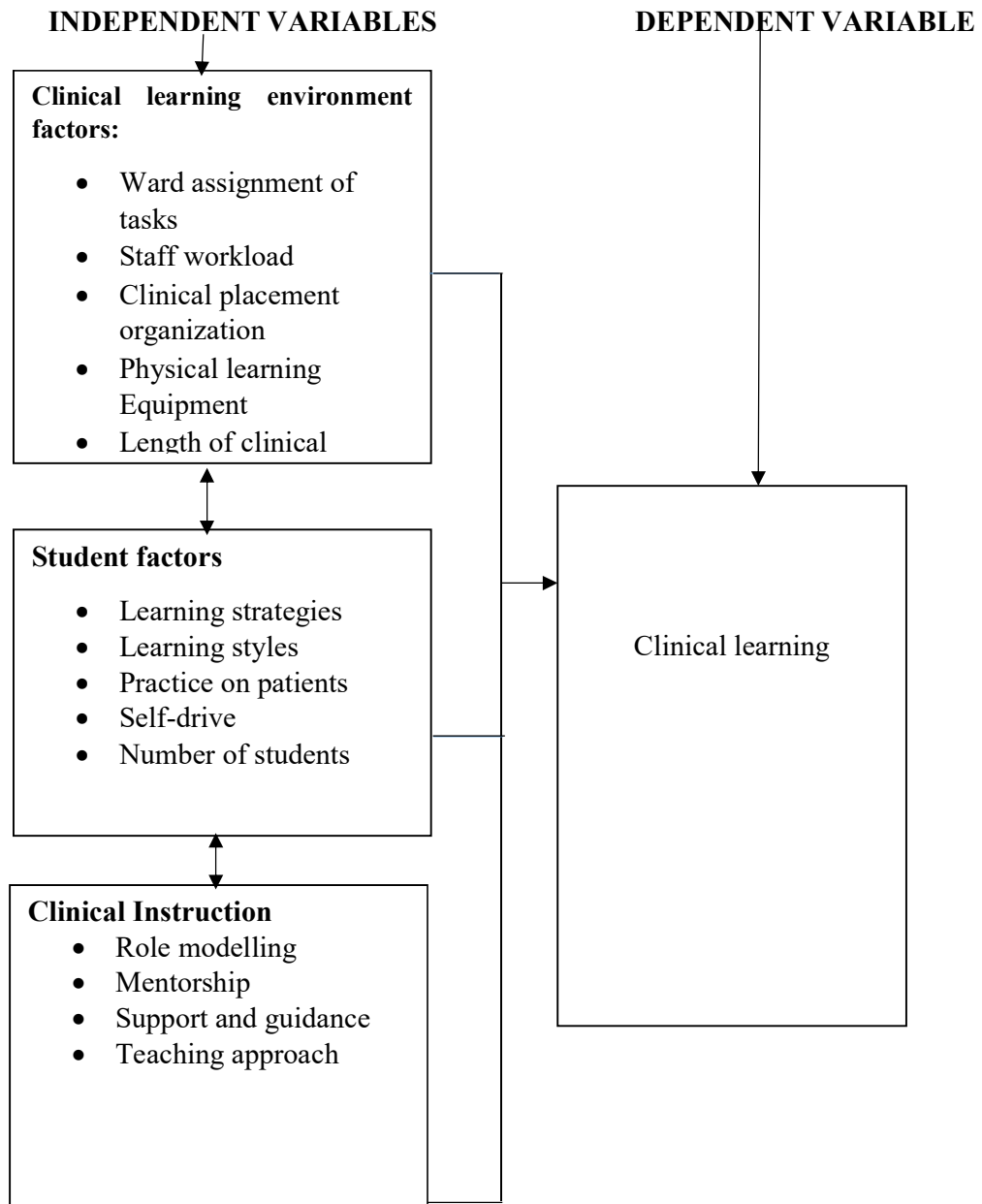


Figure 1.1: Conceptual Framework of the study

Source: (Adapted and modified from Sociology of Organizations: Blau, 1960; Shortell & Getzen, 1979)

1.9 Operational Definition of Terms

Clinical competency

Clinical competency it is used to mean the student having the ability to think critically, make decision, offer safe and standardized care to patients and enhance learning through clinical experience.

Clinical instructor

A clinical instructor is an employee of the university and/or teaching hospital that is responsible for guiding the learning student nurses in the clinical experience. The clinical instructor is trained in linking classroom objectives to the clinical experience and providing learning experience for the students. A ward manager is also considered as a clinical instructor.

Clinical learning

Clinical learning is used to mean a set of planned experiences designed to help students acquire skills, knowledge and attitude by participating in the clinical work setting.

Clinical learning environment

Clinical environment is used to mean the physical setting of the nursing wards used by the student nurses during the clinical learning. Here the students perform skills related to the needs of the patient and provides physical, psychological, spiritual and social support to patients in order to promote and maintain safe, effective patient care. It refers to hospital wards at Moi teaching and referral and Kakamega county referral hospitals.

Clinical supervision

Clinical supervision is a formal process of professional support and learning which enables individual's student nurse develop knowledge and competence in the care of patients. It is pedagogical help that qualified nurses provide to the student nurses with regard to the nursing profession.

Clinical supervisor

A clinical supervisor is a staff nurse, a registered nurse and nurse instructor who supervises students in the clinical placement areas.

Direct entry

Direct entry refers to someone who is coming to the university directly from his high school with no previous post-secondary school education. In this study, direct entry refers to a student nurse who is registered by the nursing council and admitted through the direct entry admissions board to pursue nursing degree.

Mentor

A mentor is a person who facilitates learning and supervises and assesses student nurses in a clinical practice setting. He or she plays the role of a trusted counsellor, guide, role model, teacher and friend providing opportunity for personal and career development.

Mentorship

Mentorship is used to mean the process of fundamental form of human development where the clinical nurse invests time, energy and personal knowhow assisting in the growth and ability of the student nurse in the clinical learning.

Student nurse

A student nurse is a learner in the nursing technical profession who is following a four-year degree program in nursing, midwifery and community in a chartered university.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter presents the theoretical review of the study from past study researches done, books, journals and published papers. This critical review is related literature on the determinants of learning of students in the clinical placement sites. The literature is reviewed on following objectives: clinical learning environment, the contribution of clinical instruction and the influence student factors on clinical learning.

2.1 Clinical Learning

Clinical learning provides the students an opportunity to acquire appropriate learning outcomes within the range of the clinical sites (Leducq, *et al.*, 2012). Establishing a good clinical ground is important for bachelor of nursing students because a major part of their studies and training takes place in that environment (D'Souza, *et al.*, 2015). In addition, clinical learning is considered to be an integral part of nursing education program (Yousefy, *et al.*, 2015). Conditions that are important for student nurses to gain experiences and motivation are individual, relational and organizational (Dale 2013). In a related study, student nurses reported that for the clinical learning environment to be conducive it is the responsibility of the clinical nurses, university teaching staff and students themselves (Bvumbwe, *et al.*, 2015). The reviewed literature shows that the learning in the clinical setting is affected by factors originating from the student factors, clinical instruction and clinical environment.

2.2 The Student Factors Influencing Clinical Learning

Students must be prepared to face the reality of the market that may be uncertain and unstructured so the more we offer students hands-on learning opportunities which has varied experiences to expose them to real situations such as internships, the more they

can gain confidence to use the skills acquired in various situations through the development of complex skills (Izquierdo & Buelens, 2008).

2.2.1 Learning Strategies

The literature is full of discussions on the best way a student learns clinical skills for undergraduate nursing students (Murray, *et al.*, 2008; Wellard, *et al.*, 2009). (Houghton, *et al.*, 2012) identifies clinical skills laboratories are the considered environments for learning clinical skills. The acquisition of clinical skills also relies on the students applied strategies as pointed out by (Stayt & Merriman 2012). However, it has been reported that students are at times unable to transmit the classroom knowledge into the clinical environment hence applying wrong learning strategies. This has become a real concern for educators and clinicians as averred by (Murray, *et al.*, 2008; Wellard, *et al.*, 2009). Salyers (2007) conducted a quasi-experimental study in the USA with an aim of establishing the effects of two learning approaches for clinical skills acquisition; traditional and web-enhanced learning. The study observed that the students in the experimental group realized high cognitive scores and performed better in the skills examination. Salyers (2007) further reports that the students in the experimental group were less satisfied with the web-enhanced approach than the students in the control group. A number of possible suggestions for this included technical problems and lack of knowledge in relation to web-enhanced technology.

Salyers (2007) appreciates the role of technology in ensuring that learners can learn at their pace. He however, suggests that students preferred strategy of learning may play a key part in their satisfaction as compared to use of technology as a learning strategy.

In a similar study in the UK, Bloomfield, *et al.*, (2010), compared the use of a conventional learning strategy and Computer Assisted Learning (CAL) for the

acquisition and retention of the skill of hand washing using a randomized controlled trial ($n=231$). This study suggested that CAL is as effective as conventional strategy for learning the skill of hand washing. The use of CAL, and in particular the area of multimedia for student learning, can be used effectively to support student clinical learning and incorporates multiple intelligence preferences.

Outside of nursing, Michael (2007) identified faculty perceptions of barriers to the use of active learning strategies in their classrooms. Although drawn from a small sample ($n=29$), the most common barriers identified were concerns about student characteristics (expectations of learning, preparation, maturity, etc.), teacher characteristics (too much preparation time involved, loss of control, perceptions of colleagues, lack of knowledge of how to do it, etc.) and issues pedagogical issues (coverage of content will be sacrificed to allow in-class time for active learning, difficulty with assessment, class sizes, etc.). Michael also provides interesting counterpoints to some of the expressed concerns noting that active learning does not intrinsically take more preparation than any other pedagogical approach and that simply “covering content” does not assure learning has taken place. One of the most salient concerns expressed about engaging in active learning is that students lack the cognitive skills, maturity, and ability to be self-directed learners.

While the elementary and secondary educational systems in the United States often focus more on breadth than depth, this does not imply that students are incapable of meaningful learning as active learning has been demonstrated to be effective at all levels of education. McCaughey & Traynor (2010) conducted a descriptive survey which evaluated the role of medium fidelity simulation as a tool to prepare third year nursing students for practice and assisting them to link theory to practice. Houston and Lin (2012) suggested that the FLIP can be viewed as Focusing on your Learners by

involving them in the Process. One of the important goals of the flipped classroom is to explore strategies beyond the classroom as the primary way for delivery of information and structuring of class time. The potential barriers that we considered while implementing the flipped classroom into the year three curriculum were the number of students, the different skill levels of the students and the faculty's competence with equipment and using simulation as a teaching approach. The barriers of this strategy are that if the session is not planned carefully, you will not obtain the full potential from the students. The clinical skills laboratory (CSL) can provide a safe environment where students learn and practice their clinical skills.

2.2.2 Integrated Learning Styles

Because students have not had the repetitive practice for core skills due to the limited clinical experience, the simulated lab scenario sessions are a significant part of the clinical curriculum. Whitireia & McGaghie (2002) state that the use of a spiral curriculum is an efficient approach for clinical skills training so integration of clinical teaching tools like scenarios allows students to apply skills at an increasing level of complexity (Maran & Glavin, 2003). Bergmann & Sam (2012) suggest that videos and quizzes are powerful tools for teachers that help to share, create content and also improve practice.

Bloom's revised taxonomy (Anderson & Krathwohl, 2001) indicates that students complete the lower levels by gaining knowledge and comprehending information before the start of the class. This is considered the cognitive component while the higher-level thinking and analyzing is done in class focusing on the application of this knowledge in the scenarios. Perhaps the assumption of the flipped classroom or any of the new instructional models used is the fact that learning is most effective when the learner is actively involved in the understanding and the application of understanding

to a real situation which is the main objective of the lab sessions (Beesley & Apthorpe, 2010).

According to Tomlinson & McTighe, 2006, there are numerous methods of implementing the flipped classroom model. The online quizzes are interspersed with the activities in class to test what students have learned, helping with evaluation processes as well. Discussions in class help students to collaborate and create and also to put into practice what has been learnt in theory.

2.2.3 Practice on patients

The clinical practice on patients by the student is the heart of nursing profession as it prepares students for their professional role (Sheehan 2010). In addition, Ako (2010) found out that clinical preparation of student nurses include practice on patients where learning is integrated into workplace setting. The patient as an experience broker adds a new dimension to understanding the way in which student learn in the clinical environment. According to Christiansen 2014, patients are a major stakeholder in the students learning. The patient mediates the teaching and learning experience between the experienced nurse and the student (Knowels, *et al.*, 2012) Significantly the patient does not just expect a standard care from experienced nurse but is willing to offer themselves as a resource for learning and offer encouragement to nursing students (Reeves, *et al.*, 2013).

According to Dedyser, *et al.*, 2011, patients provide opportunity for students to practice clinical skills.

The aim of practice on patients is to allow nursing students to learn how to apply principles and theories learnt in class in the clinical setting. Ultimately this improves quality of clinical experience resulting in competency (McHugh, 2010).

Stockhousen (2008) in his study emphasizes the learning occurs when students practice on patients through an interactive process. Manninen, *et al.*, 2013, found out that a mutual relationship between patients and students establishes the basis for students clinical learning. According to McLanchlan, 2012, interaction between patients and students is key in students learning in the clinical setting. Failure to perform practical procedures on patients was seen as a variable considered to hinder students learning process (Lofmark & Wikblad, 2011). It is therefore noted that more precise description on the engagement of different type of patients be involved in students clinical learning. Contrary to this, studies have revealed that patients have expressed concerns about their health information being exposed to students Machachlan, *et al.*, 2012).

A study carried out in Ethiopia (2009) revealed that most patients prefer being taken care of by qualified staff hence were uncooperative to students. In support of this findings, Lofmark & Wikblad, 2012, in examining clinical practice in Sweden, identified lack of opportunity for nursing students to practice on patients in the clinical area as a problem that affect conversion of theory to practice.

2.2.4 Student self-drive

Self-drive plays an important role in explaining the cause of behavior, predicting effect of a choice and directing behavior to achieve clinical learning goals. It is the internal force that fosters behavior, its energy and direction. Self-drive is one of the determining factors for increasing clinical learning as well as being a precursor to reflection and critical thinking in students learning (Bernadino *et al.*, 2018).

Therefore, feeling welcomed, included and having self- confidence and self- respected enhances student personal and professional growth (Dale, *et al.*, 2013).

According to Kloster 2005, students with high self-esteem have higher level of self-efficacy and therefore find it easier to learn in clinical setting. A review of motivation shows that self-drive contributes to better learning outcomes, such as increased retention depth in clinical learning (Beadle, *et al.*, 2012). Academic achievement revealed that self-motivated and successful students were positive and eager to learn, built relationships, communicated well, thought critically, prepared for clinical experience, showed progress and adopted to clinical setting (Lewallen & DeBrow, 2012). Conversely, other studies have shown that self-drive was quickly destroyed by poor mentorship, lack of communication, feeling undermined and attitude (Chesser & Long, 2012). Independent and self-motivated student toward learning has a positive attitude toward professional growth (Motiagh, 2012). Contrary to this, Newby, 2003 found out that extrinsic motivation is more frequently referred to as influencing student's clinical learning more than self-drive. In connection to these findings, one question can be raised; do educators meet the students learning interest? However, in other studies, qualified nurses were mentioned as important figures in shaping students self- drive (Hanifi, *et al.*, 2013).

2.3 Contribution of Clinical Instructions on Clinical Learning

Instructional dimension should provide the best balance of theory and practice for participants (Porter & Mckibbin, 1988; Pittaway & Cope, 2007). There are varied teaching techniques, which can range from face to face, hands-on experiential exercises to lectures, articles, writing, simulations, and group discussions on a variety of integrated subjects. The dimension also includes a variety of evaluation methods (McNally & Kay, 2012).

2.3.1 Role Modelling

(Brown, Williams, & Lynch, 2013) identifies clinical supervisors as role models who contribute immensely towards students' perceptions on the aspects of their clinical learning environment. Students who work with clinical teachers, preceptors and staff members gain a lot from these seniors, adapt to their practice through their interactions, activities, supervision, feedback, and performance. They in turn gain skills to enable them meet the demands of a complex and ever changing clinical environment as alluded to by (Gaberson, et al., 2014)

According to Vallie *et al.*, 2016, how nurses care for patients acts as role modelling and influences student learning. Therefore, studies suggest that clinical nurses should endeavour to become role models for students (Wayne, *et al.*, 2010).

Donaldson and Carter (2005) in their study indicated the importance of role modelling in clinical education. This study suggested that by students observing the way clinical instructors behave in the presence of real patients; it helps them to improve their own practice to match the observed standard of exemplary models and enables them to evaluate their own performance relative to that standard. (Koontz, *et al.*, 2010) in another study gave insight into the value of role modelling from the students' perspective. They alluded that good role models have a strong positive inspiration on the clinical learning environment, and on the growth of students' competence and confidence. This is consistent with later research into nursing students' perspectives in which role modelling by clinical mentors was clearly identified as a substantive component of clinical environments that assisted students to acquire competence (Adelman-Mullally, *et al.*, 2013 & Hayajneh, 2011). It has been observed that quality clinical role modelling can enhance students' learning (Bourbonnais & Kerr, 2007). It is clear that the attributes of the clinical role model are an important factor in the

clinical learning, which contributes to the development of nursing students' capabilities. A positive learning experiences occurs when encouraging and constructive feedback are given to students by a role model (Gilbert 2011).

In a Canadian study undertaken by Perry (2009), eight nurses who were identified by their colleagues as super role models were interviewed and observed for a period of over 320 hours. The feedback indicated that role modelling helps learners to translate theory to practice through observation and constant interaction with an excellent model. The researcher proposed that excellent role models who have outstanding professional abilities and interpersonal skills can also teach practical nursing procedures as well as tacit aspects of exemplary nursing care and pass on their knowledge.

Role modelling is a means that nurses can help to transform nursing students beyond simple mechanical or procedural skills to integrated competence. Perry (2009) also concluded that positive clinical experiences are improved if students are partnered with registered nurses who are expert clinicians willing and able to teach. These conclusions corroborate those of other studies, which indicate the substantial impact of role modelling in nursing clinical training (Adelman-Mullally, *et al.*, 2013; Sundler, *et al.*, 2013).

In summary, quality role modelling assists nursing students to learn how to perform nursing skills with real patients. Through a process of observation and interaction with role models, students acquire dimensions of competence that allow them to make the subtle adjustments needed in the real health environment. In other words, role modelling is recognised as a teaching strategy to help nursing students transfer theoretical knowledge into practice in the journey to gain professional competencies,

and clinical role models contribute, in part, to the outcomes of future nurse practitioners. Taken together, studies that have investigated the unhelpful behaviours of role models and unfavourable supervisory relationships demonstrate that negative experiences of CLE do occur, and are mainly attributable to negative treatment and communication. These experiences adversely affect the CLE by limiting students' learning opportunities. To support this, other studies show that nurses do not take responsibilities thus failing to be good role models to students hence contributing in less learning (Akgun & Aras, 2012).

2.3.2 Mentorship

Development of organized mentorship system is seen as one of the most important aspect of clinical learning (Papastavrou *et al.*, 2016) According to Dimitriadou, *et al.*, (2015) students consider the mentorship domain as the most significant in the clinical learning environment. Also, good mentor relationship in the clinical settings help to achieve the clinical learning objectives successfully (Dimitriadou, *et al.*, 2015). In its general plan the Ministry of Education and Research (2008) states that each student has the right to receive expert mentorship in an enabling environment to facilitate learning. How this is arranged may vary between the different university colleges and clinical sites. Begat and Severin son showed that students identified mentorship as a vital role of clinical nurses. The most common structure is that during clinical practice, the students receive expert advice and individualized mentorship from a site that offers learning in a conducive environment. The frequency of contact between learners and their facilitators is a crucial factor in the mentoring process that satisfies students' learning needs. This was also highlighted in a study completed by Saarikoski and colleagues (2009) in 21 Finnish nursing schools (n = 549). The Finnish data indicate that the more contact students have with their role models, the higher their level of

total learning and satisfaction with the clinical placement. Overall, the frequency of meeting and quality of contact between students and facilitators is one of the mentorship relationship components that contribute to a positive clinical learning experience for students (Dale, *et al.*, 2013). Moreover, mentors in clinical settings can detect the students' needs during clinical practice course and meet their demands easily (Sand, 2010).

With regard to the impacts of the negative behaviours of mentors, Clarke and colleagues (2012) found that nursing students experienced or witnessed bad behaviours frequently, most notably by their clinical mentors and nursing staff. This is consistent with other international studies, which indicate that approximately 90% of students reported that they had experienced unpleasant clinical mentor behaviours (O'Mara, McDonald, Gillespie, Brown, & Miles' 2014). Fulvio, *et al.*, 2015 found out that the clinical mentors are ill prepared educationally to take up the task of role model. Other findings reported that staff nurses are aware that they need to be role model to students but pressure related to work load and lack of clarity of the role model stops them (Luanaih, 2015). There are many challenges with mentorship such as the context of current studies where qualified nurses are required to teach skills to students on the ward as well as care for the patient. This is in the face of severe nursing shortage.

2.3.3 Support and Guidance

The support offered to nursing students when on clinical placement is a key element to ensuring student development in clinical skills. The success of students at the clinical site depends on the support and guidance provided by the clinical teachers (Peters, *et al.*, 2013). This is because student nurses depend on the support and guidance offered while at the clinical site in order to develop confidence and become capable practitioners (Mabuda, 2009). The role of the supervisor is to develop student

confidence and competence and assist the student in their clinical skills development through appropriate support and timely guidance on their performance. Seraji, *et al.*, 2011 says effective support and guidance increases students' competency in line with clinical learning. Further study shows that students should be supported and guided while at the clinical site in order to avoid making mistakes or displaying negligence (Omer, *et al.*, 2013). Besides, students who receive support and guidance from clinical teachers reported improvement in clinical learning (Dimitriadou, *et al.*, 2015).

Holland and Lauder (2012) reports the advancement in support given to undergraduate nursing student and its influence in promoting the quality of learning in the nursing at United Kingdom (UK). According to Holland and Lauder (2012) the support given the students on the clinical learning environment is important in deciding the nature of nursing students' clinical experience. Also, it is additionally very much perceived that the clinical setting can be a wellspring of anxiety and tension for students therefore it is crucial for expert teacher to offer support and guidance to the student keeping in mind the goal which is learning (Holland & Lauder, 2012).

Stayt & Merriman (2012) too evaluated the perceptions of UK nursing students ($n=421$) in relation to level of support provided during clinical practice in one university. The results showed that the frequency and type of skills practiced varied between students with regards the level of support and guidance in the clinical area. This means that the quality of clinical learning provided by clinical teachers and the support received from them is the most influential factor in clinical learning of student nurses (Rahmani, *et al.*, 2011). As Baglin and Rugg (2010) warns, increasing the capacity of clinical learning must be balanced with the ability to adequately support the learning needs of student nurses. They further denote, if nursing students are not provided with appropriate support and guidance at all levels of clinical leaning, then

their competency levels may not develop and patient care may become compromised. According to Gilbert 2011, providing support and guidance remains an ongoing challenge for students in Australian universities. The importance of support and guidance is widely acknowledged in clinical training (Walsh, 2014). It has long been recognised that students' learning can be enhanced when they are provided with support and guidance throughout their clinical practice (Rezaee, & Ebrahimi, 2013). According to Suresh, *et al.*, 2012, many students had difficulty feeling supported in the clinical environment with shortage of nursing staff. In light of the evidence, it seems that quality support and guidance is crucial to students learning in clinical environments. It enables students to promptly recognise strengths and weaknesses in their practice, which is essential for them to be self-directed in making adjustments to their practice and achieve learning outcomes.

2.3.4 Clinical Teaching Approach

In order to ensure good clinical teaching approaches clinical skills laboratories have been found to play a major role in preparing nursing students for clinical placement, Houghton, *et al.*, (2012) in there qualitative multiple case-study design in Ireland with academic staff, clinical staff and nursing students ($n=58$) moved to explore the connection between laboratory skills learning and preparation for clinical practice. They found that validity in the clinical skills laboratories was important to facilitate a clear pathway to clinical practice. Even though the students said that the mannequins in the clinical skills laboratories were appropriate for simulation, a number of students reported that they could not supplant the real-life experience and, consequently, this interfered with their learning.

Houghton, *et al.*, (2012) suggested the need for more appropriate use of audio visual equipment to encourage reflective practice and the critical thinking skills of the

student, necessary for evaluating clinical practice. Other results found that effective links between higher education and the clinical learning needed to be maintained to maximize student learning.

Assessment methods for clinical skills learning, such as the Objective Structured Clinical Examination (OSCE), were found to be an appropriate form of assessment for clinical skills. The students reported that the OSCEs helped them to develop confidence in clinical skills performance.

Traynor, Gallagher, Martin and Smyth (2010) found that 96.7% of students in their third year who were embarking on their final placement agreed that use of scenarios allowed them to confidently and safely assess acutely ill clients and that it was a good way to test clinical judgment skills. From the qualitative data, students expressed that the experience helped them to recognize deterioration through clinical judgments.

McCaughey & Traynor (2010) conducted a descriptive survey which evaluated the role of medium fidelity simulation as a tool to prepare third year nursing students for practice and assisting them to link theory to practice. Houston and Lin (2012) suggested that the FLIP can be viewed as Focusing on your Learners by involving them in the Process. One of the important goals of the flipped classroom is to explore strategies beyond the classroom as the primary way for delivery of information and structuring of class time. The potential barriers that we considered while implementing the flipped classroom into the year three curriculum were the number of students, the different skill levels of the students and the faculty's competence with equipment and using simulation as a teaching approach. The barriers of this approach are that if the session is not planned carefully, you will not obtain the full potential from the students.

The clinical skills laboratory (CSL) can provide a safe environment where students learn and practice their clinical skills.

2.4 Clinical learning environment factors influencing clinical learning

The clinical learning environment provides an opportunity for nursing students to learn experimentally and to transform theoretical knowledge to a diversity of nursing care (Gaberson, *et al.*, 2014). In line with this, clinical learning environment plays a major role in the achievement of professional skills and train the nursing students to enter the nursing profession and be registered as a nurse (Jonsen, *et al.*, 2011). Since an optimal clinical learning environment has a positive impact on student learning, a poor learning environment can have adverse effect on their professional development process (Polit& Beck, 2013). However, not all clinical settings are conducive to students learning outcome or contributing to their competencies' development (Hamshire, *et al.*, 2012). All said and done, students satisfaction appears to be influenced by the unique organisation of clinical learning environment of each nursing hospital and ward set up (Murphy, *et al.*, 2012).

2.4.1 Ward Assignment of Tasks

Nursing is said to be an art and a science that is dependent on theory to inform clinical skills and then practice to be able to perform clinical skills. Martensson, *et al.*, 2013 found out that ward assignment of task should be planned, clear and well organized in order to improve the learning outcomes.

According to a study by Veeramah, (2012), respondents in wards that had fewer students rated their perceptions more positively than those in wards that had more students. It is possible that in wards that had fewer learners, the clinical teachers had

more opportunity to cater for students' learning needs compared to other practice locations, which often had double the number of students. Haram, Robabeh & Zohret (2015) showed that direct participation in ward tasks related to nursing care by students led to a more sustainable clinical learning. Therefore, ward assignment of tasks should be used as a means of promoting student clinical learning (Khasanah, 2012).

Studies have shown that registered nurses tend to exclude students from ward assignment of task or left them alone after assigning tasks when the pressure of workload increased resulting in poor clinical learning (Brodie, *et al.*, 2004). It is possible that nurses with high pressured ward tasks in Vietnamese setting used these strategies to manage their roles; and this could explain the different student perceptions between wards as reflected in the mean scores (Veeramah, 2012). The trend in the free-text responses was consistent with this finding, wherein students stated that staff often assigned them to simple or irrelevant tasks, when they expected to be assigned relevant tasks to their level of learning and challenging nursing work so that they could learn more. Providing opportunity for students to perform different ward tasks was identified by students as a facilitator of clinical learning (Eick & Williamson, 2012).

2.4.2 Clinical Placement

Clinical placement is generally considered to be the placement of student within a clinical venue such as a hospital, or non-university location to support an aspect of clinical learning (Mannix, *et al.*, 2006). Clinical placement can occur in a variety of setting including hospital wards, community, special clinics and mental health unit among others to include both day and night shift (Zielinski & Beardmore, 2012).

Clinical placement is important to the completion of bachelor of science in nursing education as it offers opportunity into the profession world where students can learn and interact with clinical learning (Kern, *et al.*, 2014). To support this, Katherine Peters

2015 found out that clinical placement provides valuable learning opportunities for undergraduate nursing students.

Webster, *et al.*, 2010 in their study found out that clinical placement is vital in reinforcing student nurse belonging into the profession.

Researchers have suggested that the first experience with clinical placement for nursing students can have a great impact on whether the student should continue with nursing education or not (James & Chapman, 2010). It has been noted that students who experience anxiety during clinical placement may end up not learning resulting in discontinuation and change of career (Melincavage, 2011). On the other hand, students' satisfaction with clinical placement had a positive impact on learning culminating into graduation and registration for licensure (Taylor, *et al.*, 2014). Therefore, clinical placement should provide adequate time for clarification of students' queries and offer participation in safe and effective care (Henderson, & Eaton 2012).

2.4.3 Learning Equipment

It is important to note that availability of physical learning equipment plays a critical role in the healthcare clinical education of the nursing students. According to Lyons (2012) learning is a complex activity that involves interplay of factors. He further denotes, availability of physical learning equipment enhances the effectiveness of hospitals as they are the basic resources that bring about clinical performance in the students.

According to (Bisholt, *et al.*, 2014), students are given effective and efficient clinical learning equipment so that they can use them to acquire the skills and knowledge needed while practicing. This also helps the student to collaborate the knowledge and theories acquired both in the classroom as well as the clinical setting and apply them efficiently in the real-life situations. These advantages are not observed if the clinical

learning equipment is ineffective or inappropriate which in turn leads to a negative impact on the education and application of the skills in clinical learning. On the other hand, some studies have shown that not all clinical settings create favourable learning environment due to lack of equipment (Peasah *et al.*, 2013).

Msiska, *et al.*, 2014 affirms that lack of equipment negatively influences the effectiveness of clinical learning. It has also been observed that insufficient equipment encourages the student nurse to practice ‘short cut’ methods to complete their procedures (Chaun & Barnett, 2012) thus compromising their clinical learning. Lack of necessary equipment impacts on students learning forcing them to improvise on providing care to patients hence hampering learning (Lakshmi, 2016).

Notwithstanding, Magnassen & Amundson (2013) in their study observed that faulty hospital equipment is the most stressful experience for nursing students during clinical learning. Resources and facilities are needed in regard to clinical learning, above all providing equipment for teaching and learning in the clinical sites to facilitate student learning (Anderson, *et al.*, 2011).

2.4.4 Length of Clinical Attachment

Clinical learning consumes a great deal of teaching and learning time. Ensuring proper allocation of time in the very first clinical attachment is key to the understanding of clinical learning by students (Salminen, *et al.*, 2010) This plays an important role on how students are directed towards acquiring competencies targeted by the training program (Hall, *et al.*, 2012). In their study, Weston *et al.*, 2014 found out that limited length of clinical attachment for learning interfered with students’ opportunities for learning. Student experienced competition with students from other health institutions, thus interfering with the time of learning (Caka, 2015).

Lekalakala *et al.*,2015 found out that student nurses were unable to practice clinical procedures because of limited length of clinical time during attachment. Studies have shown that students expressed that they did not have enough time to learn, reflect and practice. This was attributed to limited length of time (Sprengel & Job 2004 & Timmin & Kalister 2004). To support this, Veeramah, (2012) identified that short clinical attachment limited the chance for students to learn by having less exposure to the real ‘world of work’, and thus, reducing their learning opportunities.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Overview

This chapter deals with the research methods used in carrying out the study. It is organized under the following sections: research design, study site, study population, sampling procedure, sample size, data collection, pilot study, data analysis and ethical consideration.

3.1 Research Design

Research design represents the arrangement of conditions for collection and analysis of data with the aim of combining relevance to the research purpose with economy to the procedure so that the questions regarding decisions on what, where, when, how much and by what means concerning the research study constitute a research design (Orodho, 2008). This study used a cross-sectional design. A cross sectional research design is a type of observational study that analyses data collected from a population at a specific point in time (Salkind, 2010) It is also used to help with the testing the relationship between the variables (Kothari, 2009) enabling the researcher to be efficient hence allocates minimal resources (Copper &Schindler, 2011). The design was ideal because cross sectional studies provides advantage for single time data gathering with regard to the time allocated for the study to be accomplished (Fontana, 2010).

3.2 Study Area

The study was conducted at MTRH in Eldoret and Kakamega County Referral Hospitals. Purposive sampling was used to select these two sites since they have the largest number of students drawn from different universities undertaking their clinical experience. The two study sites were purposefully selected because they are the only

nursing council accredited hospital in Western region to offer clinical learning to nursing students pursuing bachelor's degree. The study focused on the largest clinical practical learning facilities that are used by nursing students of Masinde Muliro University, Moi University and Kabianga University.

3.3 Target Population

This refers to the finite or infinite collection of items under consideration by the researcher (Sekaran, 2010). The target population is defined as the member of a real or hypothesis set of people events or objects the researcher wishes to generalize the result of the research. In order to carry out this study, a target population of 200 respondents was used comprising of 165 students 20 ward managers, 15 clinical instructors. The students who are in their fourth year of study were targeted for participation as they had already been exposed to different clinical settings i.e. both in hospitals, clinics and community. At this level they have also covered almost all the study areas required by the four-year programme. It was therefore assumed that they can personally deliberate on their multiple experiences in the course of their practices in the clinical set ups. The clinical instructors, this is because they follow up, support and guide the student at the clinical areas and the ward managers who in their capacity act as mentors and supervisors at the clinical sites.

3.4 Sample Size Determination and Method

3.4.1 Sample Size Determination

Kerlinger (1983), states that 10% to 30% is a good representative sample from which findings can be drawn about a given population, however, when the population is too small the researcher is allowed to do a 100% study on the entire population.

According to Mugenda (2008), a case study of 50% is enough to act as representative sample but when the sample is small the whole population can be used in study. This study included the whole population as it was manageable.

This study used a total of 165 students who were in clinical placement. The fourth-year nursing student who were at MTRH in Eldoret were students from Moi University and Kabianga University. Moi had 28 fourth year students and Kabianga had 61 fourth year students. In CGH Kakamega, the fourth-year present were from Masinde Muliro University. All these students were purposively sampled to participate in the study. The targeted clinical sites in total had 15(100%) clinical instructors. Moi University had 6 clinical instructors and Kabianga had 4 clinical instructors. Kakamega CGH had 5 clinical instructors from Masinde Muliro University. The clinical sites had 12 ward managers in MTRH, Eldoret and 8 ward managers in CGH Kakamega. The researcher sampled 20 ward managers to participate in the study and therefore study sample was 200 respondents as shown in table 3.1

Table 3.1 Sample Size Determination

Target Population	Interview Method/Tool	Total Sample
1. Student nurses <ul style="list-style-type: none"> • MMUST (76) • Kabianga (61) • Moi (28) 	Self-administered questionnaire	165
2. Clinical instructors <ul style="list-style-type: none"> • MMUST (5) • Kabianga (4) • Moi (6) 	Self-administered questionnaire	15
3. Ward managers <ul style="list-style-type: none"> • MTRH (12) • CGH (8) 	Self-administered questionnaire	20
Grand Total	Self-administered questionnaire	200

3.4.2 Sampling Method

Purposive sampling was used in this study since it allowed the researcher to use cases that have the required information with respect to objectives (Mugenda & Mugenda, 1999). Student nurses in their fourth year were selected. This is because they have been exposed to clinical learning environment. The clinical instructors and ward managers were purposely selected because they are actively involved in students learning on day to day basis while at the clinical area. They should have followed up these students for a minimum of two years.

3.5 Inclusion and Exclusion Criteria

Inclusion criteria are the characteristics that the prospective study participant must have if they are to be included in the study while the exclusion criteria are those characteristics that disqualify prospective study participants from being included in the study (Yale, 2017).

3.5.1 Inclusion Criteria

The inclusion criteria were a final year fourth year student in the direct entry (basic) nursing programme, willingness to participate in the study, and having been exposed to the clinical learning environment in the hospitals, clinics and community covering all the four disciplines (general, community, midwifery and psychiatry). Ward managers who act as mentors and supervisors and clinical instructors of these clinical sites who follow up and guides students were also targeted.

3.5.2 Exclusion Criteria

To avoid bias, the fourth-year students who were upgraders were left out of this study

3.6 Data Collection Tools

Data collection instruments are means by which primary data is collected in social research (Kothari, 2009). The methods are varied in terms of time, cost of money or other resources at disposal of researcher (Orodho, 2008). The methods include questionnaires, personal interviews that are face to face or through the telephone. Questionnaires comprise short and specific questions related directly to the research questions (Copper& Schindler, 2011) which are asked verbally by the interviewer or answered by the respondents on their own and the number of the closed ended questions should always exceed the open ended (Bryman, 2012). This study used semi structured questionnaire that were self-administered to obtain the primary data from the students' ward managers and clinical instructors. The items were adopted and modified from Saarkoski & Leino Kilpi, (2012) and other relevant studies to ensure consistency and flow of study (Noordin, Othoman & Zakaria, 2013). These instruments included semi structured questions for student nurses (See Appendix III) and for clinical instructors'/ward managers (See Appendix IV).

3.6.1 Structured Questions for Students

The structured questionnaire used to collect information from students involved four sections. The first section had four questions on socio-demographic data, the second section had seven questions on influence of clinical learning environment on clinical learning, the third section had five questions on contribution of clinical instruction on clinical learning and the fourth section had four question on student factors influence on clinical learning.

3.6.2 Structured Questions for Clinical Instructors and Ward Managers

The structured questionnaire used to collect information from clinical instructors and ward managers involved four sections. The first section had four questions on socio-demographic data, the second section had seven questions on influence of clinical learning environment on clinical learning, the third section had five questions on contribution of clinical instruction on clinical learning and the fourth section had five question on student factors influence on clinical learning.

3.7 Pre-test

The instruments were pre-tested for their importance to answer the research question prior to data collection period. A pre-test was conducted on twenty participants drawn from Jaramogi Oginga Odinga Teaching and Referral hospital in Kisumu (JOOTRH). Data from the pre-test was used to check on whether the questions in the tool are measuring what they were supposed to measure, whether the wording was clear, whether there is any bias and if they provoked response from the participants.

3.8 Recruitment of Research Assistants

Four research assistants with the qualifications of Bachelor's degree in Nursing were recruited to collect data from the study participants. The research assistants were trained on the study objectives, administering the tools and the importance of consistency and how to collect back the tools have them sealed and send the completed tools back to the researcher safely. Two were based in MTRH in Eldoret and two in CGH in Kakamega.

3.9 Data Collection Procedure

The questionnaires were administered to the sampled students, ward managers and clinical instructors. Data collection was done for a period of two months starting from 21st June 2017 to 27th August 2017. Data included information on determinant of

clinical learning among Bachelor of Science nursing students. Questionnaires for students were given and collected by one research assistant and that from the clinical instructors'/ward managers was given and collected by the second research assistant. There are three ways that help the researcher to be able to estimate non-response: comparison with known values for the population, subjective estimates and extrapolation. This study adopted extrapolation methods based on the assumptions that subjects who do not respond quickly can be termed as non-respondents. The extrapolation is carried out by generating a stimulus such as a follow-up card or use email or telephonic contact.

3.10 Data Management

All items from Likert Scale instruments assessment were checked for appropriateness in range using SAS RECODE and ELSE command. The items that were not scaled in a positive direction such as (e.g. the 5 items in ward assignment of tasks) where higher scores do not denote perceived clinical learning experience were recoded so that higher scores reflected perceived better clinical learning experience. RECODE SAS command was used to transform negatively framed questions to positively framed questions. All the domain scores were then scaled in a positive direction (i.e. higher scores denote better clinical learning).

3.11 Data Analysis

The data was entered in SPSS version 21.0 and analysed using proportions, t-test for the means and appropriate variability measures. The mean score of items within each domain were used to calculate the domain score. A non-parametric test (Mann-Whitney U-test) was used to determine differences between students' and clinical teachers' questionnaire responses.

Although the aim of the study was not to compare the views of the clinical teachers and students, it was considered important to know where differences existed, as this could guide the development of clinical learning for teachers and students. Statistical significance was determined at $p < 0.01$ as the study focussed on perceptions of participants. To compare the means for students 'assessment and clinical instructors'/managers assessment of clinical learning, Generalised Linear Models (GLM) were used since the two samples were independent and assumed to be normally distributed and of unequal size. The outcome variable was taken to be clinical competency which is an indicator for clinical learning.

3.12 Ethical Consideration

In research, issues may arise unanticipated. According to Ritche & Lewis (2003), the researcher needs to give careful consideration to ethical issues. The researcher is aware of challenges this may present and therefore considerable time was taken to observe ethical principles such as informed consent, confidentiality, anonymity, gaining ethical approval and the role of the researcher. To ensure ethical conduct of the study, clearance was sought and received from institutional Ethical Review Committee of Masinde Muliro University of Science and Technology. The researcher obtained a research permit from the National Commission for Science, Technology and Innovations (NACOSTI). This was because a permit was a requirement by the law of Kenya before carrying out research. Permission to conduct the study was sought from MTRH, and CGH. Consent from the participants was sought after informing them the purpose of the study, the tool to be used and information needed. Participation was on voluntary basis and no one was coerced. The study participants were informed of freedom to withdraw from the participation at any stage and that would not affect their studies at the clinical area.

CHAPTER FOUR

RESULTS

4.0 Overview

This chapter presents the results of this study. The chapter on results have been organized in line with the objectives of the study and the socio-demographic characteristics of the study participants.

4.1 Response Rate

Two groups of respondents were interviewed as presented in Table 4.1. Out of the 165 questionnaires sent to students, 152 were returned giving a response rate of 92.1%. Among clinical instructors and ward managers, 35 questionnaires were distributed with a return rate of 92.1%.

Table 4.1: Response Rate

Categories of respondents	Issued	Returned	Response rate
	n	n	%
Students	165	152	92.1
Clinical Instructors & Ward Manager	35	32	91.4
Total	200	184	92.1

4.2 Socio Demographic Characteristics of Students

Table 4.2 shows socio demographic characteristics of students who participated in the interview. Majority 127(83.6%) were within the age group of 20 – 24 years with a mean age of 23±1.2 and ranged between 21 to 27 years. Sixty-six (66%) percent were females compared to 33.6% males. More than three-quarters (83.6%) were single and all had attained ‘O’ Level education.

Table 4.2 Socio-demographic characteristics of students

Variable	Categories	N	%
Age group in years	20 - 24	127	83.6
	25 - 29	25	16.4
	Total	152	100.0
Mean age±SD (Range)		23±1.2 (21 – 27)	
Gender	Male	51	33.6
	Female	101	66.4
	Total	152	100.0
Marital status	Single	127	83.6
	Married	25	16.4
	Total	152	100.0
Highest level of education	'O' Level	152	100.0

As is illustrated in Table 4.3, the common age group among clinical instructors'/ward managers who took part in the study were between 40 to 44 years with a mean age of 44 ± 5.0 and ranged from 38 to 59 years. Sixty-six percent were females with slightly more than half (53.1%) single. About two-thirds (65.6%) had undergraduate BScN degree while 34.4% had graduate MScN degree.

Table 4.3 Socio-demographic characteristics of clinical instructors'/managers

Variable	Categories	N	%
Age group in years	35 - 39	5	15.6
	40 - 44	14	43.8
	45 - 49	8	25.0
	≥50	5	15.6
	Total	32	100.0
Mean age±SD (Range)		44±5.0 (38 – 59)	
Gender	Male	11	34.4
	Female	21	65.6
	Total	32	100.0
Marital status	Single	17	53.1
	Married	10	31.2
	Divorced	0	0.0
	Widowed	5	15.6
	Total	32	100.0
Highest level of education	BScN	21	65.6
	MScN	11	34.4
	Total	32	100.0

4.3 Examining the influence of student factors on clinical learning

4.3.1 Comparison of mean and standard deviation of student assessment and clinical instructor assessment in student factors

Mean differences between students and clinical instructor/managers was compared on five domains that defined student factors. These included learning strategies, learning styles, practicing on patients, self-drive and learning competency as presented in Table. 4.4.

Two domains, namely learning strategies and learning styles resulted in statistically significant differences. Students had higher mean scores in learning strategies (3.3 ± 0.4) than clinical instructor/managers (3.1 ± 0.4) and a p value of 0.03. Likewise, students had significantly higher mean scores in learning styles (3.2 ± 0.6) than clinical instructor/managers (3.1 ± 0.4) with an overall p value of 0.004. The means for the other three domains had no significant differences for the two groups that were being compared.

Thus, students were more agreeable regarding the learning strategies and learning styles in contrast to clinical instructor/managers. There was statistically significant difference between the median scores in the overall student factors for all the five domains for both students and clinical instructors'/managers responses ($p = 0.04$).

Table 4.4 Comparison of mean and standard deviation of student assessment and clinical instructor assessment in student factors

Item	Categories of participants	n	M \pm SD	Difference	t	df	p value	Mann-Whitney U test two-sample test (p value)
Learning strategies	Students	152	3.3 \pm 0.4	0.17	2.2	182	0.03	0.04
	Clinical teachers	32	3.1 \pm 0.4					
Learning styles	Students	152	3.2 \pm 0.6	0.38	2.9	182	0.004	
	Clinical teachers	32	2.9 \pm 0.9					
Practice on patients	Students	152	3.4 \pm 0.5	- 0.03	-	182	0.731	
	Clinical teachers	32	3.5 \pm 0.5					
Self-drive	Students	152	3.2 \pm 0.5	- 0.13	-	182	0.237	
	Clinical teachers	32	3.3 \pm 0.5					
Learning competency	Students	152	3.3 \pm 0.5	- 0.13	-	182	0.20	
	Clinical teachers	32	3.4 \pm 0.6					

4.4 Influence of Student Factors on Clinical Learning

As is illustrated in Table 4.5, there is a significant association between students practicing on patients and clinical learning ($F=6.01$; $p = 0.0004$). There was no evidence of learning strategies, learning styles and student's self-drive being predictors of clinical learning. Results also indicate that the perceived self-assessment of clinical learning was influenced by two groups of study participants ($F=2.17$; $p = 0.0001$).

Table 4.5 Student factors influencing clinical learning

Source	df	Type 3 sum of squares	Mean squares	F Value	p Value
Participant	1	0.01	0.01	0.1	0.81
Learning strategies	18	4.46	0.25	1.5	0.11
Learning styles	13	3.38	0.26	1.6	0.11
Practice on patients	10	6.01	0.60	3.6	0.0004
Self-drive	18	3.55	0.20	1.2	0.28

F ratio ($F=2.17$; $p = 0.0001$).

4.5 Determining the contribution of clinical instruction on clinical learning

4.5.1 Comparison of mean and standard deviation of student assessment and clinical instructors'/managers assessment on clinical instruction

Differences in mean scores on clinical instruction as perceived by student and clinical instructor/managers were performed for each of the following four domains: role modelling, mentorship, support and guidance and teaching approach as shown in Table 4.6.

From the findings, clinical instructors/managers posted significantly higher mean scores ($t= - 3.0$; $p = 0.003$) in role modelling (3.4 ± 0.5) in contrast to students (3.1 ± 0.5). The difference in means for support and guidance was marginally statistically significant ($p = 0.08$) with students having a slightly higher mean scores (2.9 ± 0.5) than

clinical instructors/managers (2.8 ± 0.5). The results suggest that clinical instructors/managers were more in agreement that they were role models. On the other hand, students' perception was that staff helped, supported and guided them during clinical placement. There was significant difference in mean scores on mentorship and teaching approach for the two groups. Overall results show statistical difference between the median scores in clinical instruction for both students and clinical instructors/managers responses ($p = 0.005$).

Table 4.6 Comparison of mean and standard deviation of student assessment and clinical instructors'/managers assessment on clinical instruction

Item	Categories of participants	n	M \pm SD	Difference	t	df	p value	Mann-Whitney U test two-sample test (p value)
Role modelling	Students	152	3.1 \pm 0.5	- 0.31	-	182	0.003	0.005
	Clinical teachers	32	3.4 \pm 0.5					
Mentorship	Students	152	3.1 \pm 0.5	- 0.04	-	182	0.68	
	Clinical teachers	32	3.2 \pm 0.6					
Support and guidance	Students	152	2.9 \pm 0.5	0.16	1.74	182	0.08	
	Clinical teachers	32	2.8 \pm 0.5					
Teaching approach	Students	152	2.7 \pm 0.7	- 0.19	-	182	0.16	
	Clinical teachers	32	2.9 \pm 0.6					

4.5.2 The contribution of clinical instruction on clinical learning

As shown in Table 4.7, there is no evidence that clinical instruction influences clinical learning ($p > 0.05$). The overall F ratio however showed that clinical learning was influenced by the two groups of study participants ($F=1.60$; $p = 0.0127$).

Table 4.7 Clinical instruction factors influencing clinical learning

Source	df	Type 3 sum of squares	Mean squares	F Value	p Value
Participant	1	0.37	0.37	1.85	0.177
Role modelling	14	2.09	0.15	0.74	0.732
Mentorship	15	2.20	0.15	0.72	0.756
Support and guidance	14	3.91	0.28	1.38	0.179
Teaching approaches	13	4.10	0.32	1.55	0.112

F ratio (F=1.60; p = 0.0127).

Mean and standard deviation of student assessment and clinical instructors'/managers assessment on clinical learning

Investigations were carried to determine the difference between students' and clinical instructors'/managers response to various statements that were presented to them regarding clinical learning. The mean differences between the two independent samples were assessed using means PROC TTEST which allows the user to test for differences in means for both equal and unequal variances, as well as providing a test for differences in variance. Mann-Whitney U test – a non-parametric equivalent to the two-sample t-test was performed on the Likert Scale ordinal rankings.

This test was carried out to test the null hypothesis that the two sample distributions were identical and hence had equal means.

4.6 Clinical learning environment factors on clinical learning

4.6.1 Mean and standard deviation of student assessment and clinical instructors'/managers assessment on clinical learning environment

A comparison of the mean of student assessment and clinical instructor/managers assessment on four domains that define clinical learning environment – that is ward assignment tasks, clinical placement organization, physical learning equipment and length of clinical attachment was undertaken. Differences between mean students' and clinical instructors'/managers' assessments were tested by applying a paired-sample *t*

test to each of the domains. The results are presented in Table 4.8. The table displays mean scores on each domain for the two samples.

Results shows statistically significant mean differences between students and clinical instructors/managers responses with respect to length of clinical attachment ($t = -2.1$, $p = 0.04$) indicating higher mean score for clinical instructors/managers (2.9 ± 0.9) in contrast to that of students (2.5 ± 0.8). Clinical instructors/managers perceived length of clinical attachment as being adequate as opposed to students' self-assessment on the same domain. However, there was no statistical difference between the median scores in clinical environment for both students and clinical instructor Contribution of clinical instructors'/managers responses ($p = 0.97$).

Table 4.8 Mean and standard deviation of student and clinical instructor/managers assessment on clinical learning environment factors.

Item	Categories of participants	n	M±SD	Difference	T	df	p value	Mann-Whitney U test two-sample test (p value)
Ward assignment of tasks	Students	141	2.7±0.5	-0.05	-	166	0.68	0.97
	Clinical teachers	27	2.7±0.5					
Clinical placement organizations	Students	152	2.9±0.5	0.01	0.16	182	0.87	
	Clinical teachers	32	2.9±0.4					
Physical learning equipment	Students	152	2.7±0.6	0.20	1.66	182	0.10	
	Clinical teachers	32	2.5±0.8					
Length of clinical attachment	Students	152	2.5±0.8	-0.30	-	182	0.04	
	Clinical teachers	32	2.9±0.9					

4.5.2 Relationship between clinical learning environment factors and clinical learning

Based on the results shown in Table 4.9, there is evidence that clinical placement is a significant predictor of clinical learning ($F=2.3$; $p = 0.015$). Length of clinical attachment was also marginally significantly associated with clinical learning ($F=1.7$; $p = 0.082$). Type of respondent, ward assignment of tasks and physical learning were not significantly associated with clinical learning.

The overall F ratio used to test the hypothesis that the mean clinical learning was not different for the two groups of study participants showed that clinical learning was influenced by the two groups of study participants ($F=1.63$; $p = 0.013$).

Table 4.9 Clinical learning environment factors influencing clinical learning

Source	df	Type 3 sum of squares	Mean squares	F Value	p Value
Participant	1	0.38	0.38	1.8	0.182
Ward assignment of tasks	13	2.53	0.19	0.9	0.522
Clinical Placement	12	5.66	0.47	2.3	0.015
Physical learning	14	4.00	0.29	1.4	0.183
Length of clinical attachment	11	3.93	0.36	1.7	0.082

F ratio ($F=1.63$; $p = 0.0133$).

In summary, three factors were identified as the predictors of clinical learning. These were clinical placement, practice on patients and length of clinical attachment, though the latter resulted in borderline significant results.

It is also noteworthy that type of group conducting the self-assessment, significantly influenced what was perceived as student's clinical learning which was operationalized as clinical competency.

CHAPTER FIVE

DISCUSSION

5.0 Overview

This chapter presents the discussion of the results according based on objectives of the research. It discusses the clinical learning environment factors influencing clinical learning, the contribution of clinical instruction on clinical learning and finally examines the student's factors that are associated with clinical learning.

5.1 Socio-Demographic Data

The results showed that majority of the participants (83.6%; n=127) were between 20-24 years old with a mean age of 23 ± 1.2 years and ranged between 21 to 27 years. There was a predominance of females (67%; n=101) to males (33%; n=51). Men continue to be a minority in the nursing profession although small increases in their representation have occurred in the last few years. In the USA, for example, the Census (2006) report indicated that men only constituted 7% of the workforce in nursing. A survey conducted by the U.S. Census Bureau in February 2013 found that men now comprise 9.6% of all RNs (Census Bureau's Industry and Occupation Statistics, 2013).

5.2 Influence of Student Factors on Clinical Learning

The study sought to examine student factors influencing clinical learning. Based on the perspective of students and the clinical instructors'/ward managers, four domains that define student factors were considered: learning strategies, learning styles, practising on patients and self-drive. Two domains, namely learning strategies and learning styles resulted in statistical significance. Students agreed they applied learning strategies ($p=0.03$) while the clinical instructors'/ward managers felt the students did not. Likewise, the students had a significantly higher mean score in learning styles ($p=0.004$). Thus, the students agree that they use different learning

strategies and styles while at the clinical placement to facilitate their learning. To support a study conducted by Ernstzen, *et al.*, 2009, showed that students learned more when given opportunity to perform demonstration as opposed to when the clinical teacher demonstrates. Turker, *et al.*, 2013, found out that collaborative learning between nursing and medical students is feasible strategy and add value to clinical learning experience. Ricketts (2011), also found that simulated learning as a strategy increased student's confidence at the clinical setting. An important implication for nurse education is for the student to identify different learning styles and utilise a variety of them in his study (Flemming, *et al.*, 2011).

While at the clinical area, nursing students differ in various form of learning styles hence adopting different learning styles will increase student's motivation to learning (Popoola 2014). In East Alabama, Crannelle (2012) found out that nurses are varied in their perceptual modality learning styles preference.

When all the means in the domains were analysed, there was a stronger association between practice on patients and clinical learning ($p=0.0004$). To support this, a study conducted by Debyser, *et al.*, 2011 revealed that patients provided opportunities for students to practice clinical skills hence promoting learning. According to Stockhousen (2008), learning occurs when students continually practice on patients. Students can focus on either performing tasks given by supervisors or performing care directed by the patient requirement and expectations. This in itself enhances clinical learning. Suikkala & Leino (2005) found out that the relationship between students and patients during their practice has a great impact on student learning.

Contrary to this, a study carried out in Ethiopia (2009) revealed that most patients preferred being taken care of by qualified nurses hence were uncooperative to students interfering with clinical learning. Other studies have revealed that patients have

expressed concerned about their health information being exposed to students (Machachlan, *et al.*, 2012).

5.3 Contribution of Clinical Instruction on Clinical Learning

To assess the students and clinical instructors'/ward managers' response on the contribution of clinical instruction on clinical learning, the following four domains were considered: role modelling, mentorship, support and guidance, teaching approaches. From the findings, clinical instructors'/ward managers posted significantly higher mean score ($p= 0.003$) in role modelling as compared to students. The Manchester Clinical Supervision Scale (MCSS), indicated that "role modelling" is an important factor to student clinical learning.

To support this, in Saudi Arabia, Warfar, Sahar & Hassan (2015) reported that clinical teachers helped students with their clinical work and took students feelings into consideration. Corllet, *et al.*, (2003) in their study said, role modelling should be made available to students by clinical teachers. Students gained more confidence and competence in clinical practice when supported by role models (Ngaiyaye, 2017). Atakro & Gross (2016) reported similar results that role modelling provides positive clinical learning environment. Contrary to this, a study conducted by Mabrouk & Rahman (2014) found out that students reported being bullied by nurses in the clinical environment and were subjected to negative remarks.

As noted by Cheraghi, *et al.*, (2012) unfriendly staff with bad attitude deny students enough opportunity to learn. In this study, the difference in the mean score for support and guidance was marginally statistically significant ($p= 0.08$) with students expressing that they received the support they required as needed. These findings

revealed that students perceived clinical instructors and ward managers as being supportive in their learning.

The findings concur with other reports that the presence of clinical support and guidance from qualified nurses is important for students learning as they provide continued support (Dias, *et al.*, 2015), close support and guidance (Omer, *et al.*, 2013) as well as learning opportunity (Croxon & Maginni 2009). The guidance of professional nurses and managers to student nurses is imperative if learning is to take place at the clinical site (Mayer, *et al.*, 2011). The primary role of clinical nurse is that of patient care but they have a moral duty of supporting and guiding students allocated to the clinical facility for clinical practice (Bruce, *et al.*, 2011). Other studies have found out that support and guidance is limited because large number of students are allocated to clinical area for short periods (Eta, *et al.*, 2011; Mampunge & Seekoe 2014).

A study done by Anthony & Yastik (2011) noted poor relationships between nursing students and their clinical facilitators who presented hostile and dismissive behaviours to students indicating lack of support to students. In Gauteng province in South Africa, Kgafela (2013) found out that clinical managers had a negative attitude towards students and blamed students for mistakes not committed. Mabuda, Potgieter and Alberts (2008) reported that students were not supported by the ward sisters and were often scolded in front of patients. The results in this study alongside other literature reveals the importance of support and guidance, together with role modelling to students. This has to be portrayed well by the clinical teachers if students have to be encultured well into the profession. Clinical teachers can enhance their performance as role models by being more consciously aware of their role as models. This is

because students are the direct observers of positive and negative behaviours of clinical teacher.

5.4 Influence of Clinical Learning Environment on Clinical Learning

Four domains that define clinical environment were assessed: ward assignment of tasks, clinical placement organization, physical learning equipment and length of clinical attachment. There was a significant association between study participants and the length of clinical attachment ($p= 0.04$). The clinical instructors and ward managers felt the length of clinical attachment was adequate whereas the students were of contrary opinion.

In Weston Cape, a study found out that there was limited time for learning opportunity at the clinical sites due to unhealthy competition among students from other institutions thus interfering with their learning (Daniels, *et al.*, 2014; Lekalakala & Caka (2015) also found out that students were unable to practice clinical procedures because of less time allocated. They wanted more opportunity to provide care to a variety of patients with diverse needs at the clinical site. The Dundee Ready-medical Education Environment Measure (DREEM) on the perception of student on time allocated for clinical learning in 4th and 5th year of their study found out that students desired more clinical time exposure in their training (Pinnock, *et al.*, 2011). The findings in this study are consistent with the literature as far as time allocated to their study at the clinical site is concerned. They felt time allocated was not sufficient for their clinical learning.

Ward assignment of tasks, clinical placement organization, physical learning equipment and length of clinical attachment that define clinical learning environment were also examined against clinical learning as an outcome. Among the four factors, clinical placement was significantly associated with clinical learning ($p= 0.015$). The

length of clinical attachment was marginally significantly associated with clinical learning ($p= 0.082$). Other studies have confirmed the association between clinical placement and clinical learning. Like most of the nursing regulatory bodies, The Nursing Council of Kenya places importance on supervisory system which emphasizes students' clinical placements as both a context of content and a context of performing. During the clinical placements students both perform and receive support and mentorship on their performance (Robinson, *et al.*, 2008).

The clinical supervision conducted by clinical instructors' fosters more challenging behaviours: students discuss more of their learning needs, establish more connections between theory and practice, and are more motivated for reflection (Kristofferzon, *et al.*, 2013). This study, however, does not allow us to clarify why the area influences clinical learning in a relevant and independent way.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Overview

This chapter presents the conclusion and recommendations of the study guided by the specific objectives.

6.1 Conclusion

6.1.1 Influence of student factors on clinical learning

Students learning strategies and styles are factors that can improve clinical learning including practice on patients is seen to be a significant predictor of clinical learning

6.1.2 Contribution of clinical instruction on clinical learning

Achievement of clinical learning outcome by the nursing students during clinical learning depends on support and guidance received from qualified staff. Role modelling has proved to be an effective clinical learning approach for students.

6.1.3 Influence of clinical learning environment on clinical learning

Length of clinical attachment influences students learning of at the clinical site. It is also evident that clinical placement is a major predictor of clinical learning.

6.2 Recommendations

- There is need for students to utilize varied methods of learning strategies and styles in the ongoing clinical learning. Students differ in various methods of learning strategies and styles during clinical learning, hence adopting difference in curriculum design will increase students learning. Students need to be given opportunity to continuously practice on the patients. This ensures accuracy and proficiency in clinical learning.

- There is need for clinical instructors and ward managers to create a learning environment where they interact freely with students so as to promote mutual understanding. They should also create time in order to support and guide students during their clinical experience. The clinical nurses should be well prepared to assist student and be an example to the students when they come to the clinical area.

This study recommends training of all nursing staff who participate in students' instruction during clinical placement.

- There is need for hospitals and teaching facilities to establish appropriate planned schedule with provision of adequate time for clinical learning practical. There is also need for nurse managers and educators to carefully plan clinical placements of students and make sure they regularly visit and assist students in their learning.
- There is need to carry out intervention studies involving larger sample size with wider scope in clinical learning.

REFERENCES

- Adelman-Mullally, T., Mulder, C. K., McCarter-Spalding, D. E., Hagler, D. A., Gaberson, K. B., Hanner, M. B., . . . & Young, P. K. (2013). The clinical nurse educator as leader. *Nurse Education in Practice*, 13(1), 29-34. doi:<http://dx.doi.org/10.1016/j.nepr.2012.07.006>
- Anderson, L.W., & Krathwohl, D. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Longman.
- Beesley, A.D., & Apthorp, H.S. (Eds.). (2010). *Classroom instruction that works: Research report*. Retrieved from <http://files.eric.ed.gov/fulltext/ED543521.pdf>
- Begat, I, Severinsson, E (2015) Nurses' satisfaction with their work environment and the outcomes of clinical nursing supervision on nurses' experiences of well-being. A Norwegian study. *J Nurs Manag* 13: 221-230.
- Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. Eugene, OR: International Society for Technology in Education.
- Bisholt, B., Ohlsson, U., Engström, A.K., Johansson, A.S., Bisholt, B., Ohlsson, U., Engström, A.K., Johansson, A.S., Gustafsson, M.(2014) Nursing students' assessment of the learning environment in different clinical settings. *Nurse Educ Pract.*; 14:304–10.
- Bloomfield, J.G., Cornish, J.C., Parry, A.M., Pegram, A. & Moore, J.S. (2013). Clinical skills education for graduate-entry nursing students: Enhancing learning using a multimodal approach. *Nurse Education Today* 33 (2), 247-252.
- Bourbonnais, F. F., & Kerr, E. (2007). Preceptoring a student in the final clinical placement: reflections from nurses in a Canadian Hospital. *Journal of Clinical Nursing*, 16(8), 1543-1549. doi:10.1111/j.1365-2702.2006.01828.x
- Bruce, JC, Klopper, HC & Mellish, JM. (2011). *Teaching and learning the practice of nursing*. 5th edition. Cape Town. Heinemann.
- Chambers Clark C. (2008) *Classroom Skills for Nurse Educators*. Jones and Bartlett Publishers, Boston.
- Chappy, S., Jambunathan, J., & Mamocha, S. (2010). Evidence-based curricular strategies to enhance BSN graduates' transition into practice. *Nurse Educator*, 35(1), 20-24.
- Christiansen, A., Prescott, T, & Ball, J. (2014). Learning in action: developing safety improvement capabilities through action learning. *Nurse Educ Today*.;34:243–7.
-

- Clarke, C. M., Kane, D. J., Rajacich, D. L., & Lafreniere, K. D. (2012). Bullying in undergraduate clinical nursing education. *The Journal of nursing education*, 51(5), 269-276. doi:10.3928/01484834-20120409-01
- Cooper, D. R., & Schindler, P. S. (2011). *Business Research Methods* (11th ed.). New York: McGraw-Hill.
- Courtney-Pratt, H., FitzGerald, M., Ford, K., Marsden, K., & Marlow, A. (2011). Quality clinical placements for undergraduate nursing students: a cross sectional survey of undergraduates and supervising nurses. *Journal of Advanced Nursing*, 68(6), 1380-1390. doi:10.1111/j.1365 2648.2011.05851.x
- D'souza, MS, Venkatesaperumal, R., Radhakrishnan, J., & Balachandran, S. (2015). Engagement in clinical learning environment among nursing students: Role of nurse educators. *Open Journal of Nursing* 3:25-32.
- Dale, B., Leland, A., & Dale, J. G. (2013). What factors facilitate good learning experiences in clinical studies in nursing: bachelor students' perceptions? *ISRN nursing*, 628679.
- Debyser, B, Grydonck, M, Defloor, T, & Verhaega, S, (2011). Involvement of inpatient mental health clients in practical training assessment of mental health nursing students: *can it benefit clients and students*. *Nurse. Educ. Today* (25), 198-203
- Dimitriadou, M., Papastavrou, E., Efstathiou, G., & Theodorou, M. (2015). Baccalaureate nursing students' perceptions of learning and supervision in the clinical environment. *Nursing & Health Sciences*, 17(2), 236-242.
- Donaldson, J. H., & Carter, D. (2005). The value of role modelling: Perceptions of undergraduate and diploma nursing (adult) students. *Nurse Education in Practice*, 5(6), 353-359. doi:http://dx.doi.org/10.1016/j.nepr.2005.05.006
- Eta, VEA, Atanga, MBS, Atashili, J & D'Cruz, G. (2011). Nurses and challenges faced as clinical educators: a survey of a group of nurses in Cameroon. *Pan African Medical Journal* 8:28.
- Gaberson, K., Oermann, M., & Shellenbarger, T. (2014). *Clinical Teaching Strategies in Nursing*. Retrieved from <http://libcat.library.qut.edu.au/record=b4181581~S8>
- Hair, J., Black, W., Balain, B., Anderson, R., & Tadhani, R. (2006). *Multivariate Data Analysis*. (6th ed). New York, Prentice Hall.
- Hamshire C, Willgoss T.G, & Wibberley C.(2012) "The placement was probably the tipping point" - the narratives of recently discontinued students. *Nurse Educ Pract.*;12:182-6.
-

- Hayajneh, F. (2011). Role model clinical instructor as perceived by Jordanian nursing students. *Journal of Research in Nursing*, 16(1), 23-32.
doi:10.1177/1744987110364326
- Helena Marco Gemuhay, Albino Kalolo, Robert Mirisho, Beatrice Chipwaza & Elijah Nyangena,(2019). “Factors affecting Performance in Clinical Practice among Preservice Diploma Nursing Students in Northern Tanzania,” *Nursing Research and Practice*, vol. 2019, Article ID 3453085, 9’ pages.
<https://doi.org/10.1155/2019/3453085>.
- Houghton C.E., Casey D., Shaw D. & Murphy K. (2012). Staff and students' perceptions and experiences of teaching and assessment in Clinical Skills Laboratories: Interview findings from a multiple case study. *Nurse Education Today* 32 (6), e29-e34.
- Houston, M., & Lin, L. (2012). Humanizing the classroom by flipping the homework versus lecture equation. In P. Resta (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2012* (pp. 1177-1182). Chesapeake, VA: AACE. Retrieved from <http://www.editlib.org/search/?q=Humanizing+the+classroom+by+flipping+the+homework+versus+lecture+equation>
- Izquierdo, E., & Buelens, M. (2008). Competing Models of Entrepreneur intentions: the influence of entrepreneurs’ attitudes. Internationalizing Entrepreneurship Education and Training International Environment 2008 conference, 17-20 June; Oxford Ohio USA.
- Johnsen, A., Pegram, A. & Fordham-Clarke C. (2011). Developing and examining an Objective Structured Clinical Examination. *Nurse Education Today* 30 (2), 137-141.
- Kgafele, N.S, Coetzee, I & Heyns, T. (2015). Clinical accompaniment: let the voice of the pre-graduate students count. *Africa Journal of nursing and Midwifery* 17 (supplement): s222–s241.
- Khawaja, B.A., Ali F., Vazir N., Barolia R. & Rehan S. (2012) Students’ perceptions of clinical teaching and learning strategies: A Pakistani perspective. *Nurse Education Today* 32 (1), 85-90.
- Knowles, M.S, Swanson, R.S, &Holton, E.F.(2012). *The adult learner.*, New York: Routledge, 7
- Kristofferzon, M.L., Mårtensson, G., Mamhidir, A.G, &Löfmark, A.(2013). Nursing students' perceptions of clinical supervision: The contributions of preceptors, head preceptors and clinical lecturers. *Nurse Educ Today.*; 33:1252–1265)
- Koontz, A. M., Mallory, J. L., Burns, J. A., & Chapman, S. (2010). Staff Nurses and Students: The Good, The Bad, and The Ugly. *MEDSURG Nursing*, 19(4), 240-245.

- Kothari, C. R. (2004). *Research Methodology: Methods and Techniques* (2nd ed.) New Delhi: New Age International.
- Kothari, C. R. (2011). *Research Methodology: Methods and Techniques* (5th ed.) New Delhi: New Age International.
- Kothari, C. (2009). *Research Methodology: Methods and Techniques*. New Delhi, India: New Age International Publishers.
- Lekalakala-Mokgele, E., & Caka, E.M. (2015). Facilitative and obstructive Factors in the clinical learning environment: experiences of pupil enrolled nurses'. *Curationis* 38(1):1263-1267. From: <http://dx.doi.org/10.4102/curationis> (accessed 05 June 2014).
- Löfmark, A., & Wikblad, K. (2011). Facilitating and obstructing factors for development of learning in clinical practice: a student perspective. *J Adv Nurs*;34(1):43–50.
- Mabrouk Abd El Rahman, R., (2014). 'Perception of student nurses' bullying behaviors and coping strategies used in clinical settings', paper presented at the Sigma Theta Tau international, nursing education research conference, Indianapolis, 3–5 April.
- Mabuda, B.T., Potgieter, E. & Alberts, U.U., (2008). 'Student nurses' experiences during clinical practice in the Limpopo province', *Curations* 31(1), 19–27. PMID: 18592945.
- Machachlan, E., King, N., Wenger, E., & Donnan, T. (2012). Phenomenological analysis of patient's experiences of medical students teaching encounters. *Med Education* 46:963-973
- Magnussen, I., & Amundson, M.J (2013). Undergraduate nursing students experience. *Nurs Health Sci* 5: 261-267.
- Mampunge, F & Seekoe, E. (2014). Preparedness of final year nursing students regarding clinical practice. School of Nursing Science, University of Fort Hare, East London, South Africa. *African Journal for Physical, Health Education, Recreation and Dance (AJPHERD)* (Supplement 3):58-66.
- Manninen K, Henriksson E, Scheja M, & Silen, C. (2013). Patients approaches to students learning at a clinical education ward-an ethnographic study. *Health Educ*, 113: 132-143. 10.1108/09654281311298812.
- Maran, N.J. & Glavin, R.J. (2003). Low- to high fidelity simulation: A continuum of medical education? *Medical Education*, 37(Supplement s1), 22-28. doi:10.1046/j.1365-2923.37.s1.9.x
- Mårtensson, G., Engström, M., Mamhidir, A.G. & Kristofferzon, M.J. (2013) What Are the Structural Conditions of Importance to Preceptors' Performance? *Nurse Education Today*, 33, 444-449.

- Masakona, R. (2013). Enhancement of clinical teaching for undergraduate students in primary health care facilities. Unpublished master's dissertation. Potchefstroom: North West University.
- Maxwell, J. (2012). Conceptual Framework: What Do You Think Is Going On? *An interactive approach*. (pp. 39-72) Thousand Oaks CA: Sage Publications.
- McCaughey, C.S. & Traynor, M.K. (2010). The role of simulation in nurse education. *Nurse Education Today*, 30(8), 827-832. doi:http://dx.doi.org/10.1016/j.nedt.03.005
- Michael, J. (2007). Faculty perceptions about barriers to active learning. *College Teaching*, 55(2), 42-47.
- Ministry of Education and Research 2009 Orientation. Orientation about proposals to the national budget 2009 for universities and colleges, Oslo. (In Norwegian).
- Msiska, G., Smith, P & Fawcett, T. (2014). The “life world” of Malawian undergraduate student nurses: the challenges of learning in resource poor clinical settings. *International Journal of Africa Nursing Science* 1:35-42.
- Mugenda, A.G.(2008). Social Sciences Research: Conception, Methodology and Analysis, Nairobi Kenya Applied Research and Training Services.
- Murray C., Grant M., Howarth, M.L. & Leigh J. (2008) The use of simulation as a teaching and learning approach to support practice learning. *Nurse Education in Practice* 8 (1), 5–8.
- O'Mara, L., McDonald, J., Gillespie, M., Brown, H., & Miles, L. (2014). Challenging clinical learning environments: Experiences of undergraduate nursing students. *Nurse education in practice*, 14(2), 208.
- Papastavrou, E., Lambrinou, E., Tsangari, H., Saarikoski, M., Leino-Kilpi, H.(2016). Student nurses experience of learning in the clinical environment. *Nurse Educ Pract.*;10:176–82.
-
- Peasah, D.A., Sarfo, L.A.,& Asamoah, F. (2013). The attitudes of student nurses toward clinical work. *Int J Nurs Midwifery* 5: 22-27.
- Reeves, S., Peller, J., Goldman, J., & Kitto, S.(2013). Ethnography in qualitative educational research: AMEE Guide No. 80. Med Reeves S, Peller J, Goldman J, Kitto S: Ethnography in qualitative educational research: AMEE Guide No. 80. *Med Teach*. 2013, 35: e1365-e1379. 10.3109/0142159X.804977. *Teach*. 2013, 35: e1365-e1379. 10.3109/0142159X.2013.804977
-
- Rezaee, R., & Ebrahimi, S. (2013). Clinical learning environment at Shiraz Medical School. *Acta medica Iranica*, 51(1), 62-65.

- Robinson, A., Andrews-Hall, S., Cubit, K., Fassett, M., Venter, L. & Menzies, B. (2008). Attracting Students to Aged Care: The Impact of a Supportive Orientation. *Nurse Education Today*, 28, 354-362)
- Saarikoski, M., Warne, T., Kaila, P., & Leino-Kilpi, H. (2009). The role of the nurse teacher in clinical practice: an empirical study of Finnish student nurse experiences. *Nurse education today*, 29(6), 595-600. doi: 10.1016/j.nedt.2009.01.005
- Saitsing, D., Gibson, L. M., & Pennington, A. W. (2011). The novice nurse and clinical decision-making: how to avoid errors. *Journal of Nursing Management*, 19, 354-359. doi: 10.1111/j.1365-2834.2011. 01248.x
- Salminen, L., Stolt, M., Saarikoski, M., Suikkala, A., Vaartio, H., & Leino-Kilpi, H. (2010). Future challenges for nursing education e a European perspective. *Nurse Education Today*, 30 233e238.
- Salyers, V.L. (2007) Teaching psychomotor skills to beginning nursing students using a web-enhanced approach: A quasi-experimental study. *International Journal of Nursing Education Scholarship* 4 (1), 1-12.
- Spencer, J., Blackmore, D., Heard, S., McCrorie, P., McHaffe, D., Scherpbier, A., SenGupta, T., Signh, K., & Southgate, L. (2014). Patient-orientated learning: a review of the role of the patient in the education of the medical students. *Med Educ*. 2000, 34: 851-857. 10.1046/j.1365-2923.2000.00779.x.
-
- Stayt, L.C., & Merriman, C. (2012) A descriptive survey investigating pre-registration student nurses' perceptions of clinical skill development in clinical placements. *Nurse Education Today* In press corrected proof. Doi <http://dx.doi.org/10.1016/j.nedt.2012.10.018>.
- Steven, A., Magnusson, C., Smith, P, & Pearson P.H. (2014). Patient safety in nursing education: contexts, tensions and feeling safe to learn. *Nurse Educ Today*. ;34:277-84.
-
- Stockhousen, L. (2009). The patient as an experienced broker in clinical learning. *Nurse Edycation* (9): 184-189
- Sundler, A. J., Björk, M., Bisholt, B., Ohlsson, U., Engström, A. K., & Gustafsson, M. (2013). Student nurses' experiences of the clinical learning environment in relation to the organization of supervision: A questionnaire survey. *Nurse Education Today*.
- Suskkala, A, & Leino, H, (2005). Nursing student patient relationship. Experience of student and nurses. *Nurse Education Today* (25): 344-354
- Tomlinson, C.A. & McTighe, J. (2006). *Integrating differentiated instruction and understanding by design*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Traynor, M., Gallagher, A., Martin, L. & Smyth, S. (2010). From novice to expert: using simulators to enhance practical skill. *British Journal of Nursing*, 19(22), 1422-1426. doi:10.12968/bjon.19.22.1422
- Vallie, S., Morodi, G., Khaledi, S. & Garibi, F. (2016) Nursing Students' Perspectives on Clinical Instructors' Effective Teaching Strategies: A Descriptive Study. *Nursing Education in Practice*, 16, 258-264.
- Wafaa Gameel, A., Sahar Hassan., A.E.L, B & Wafaa, Hassan, A.I.S. (2015). Effective clinical learning environment as perceived by nursing students at AL Dawadmi, Applied Medical Sciences College: actual versus preferred characteristics. *International Journal of Nursing Didactics (IJND)* 15(5):1-6. From: <http://dx.doi.org/10.15520/ijnd.2015.vol5.iss05.94.01-06> (accessed 19 September 2016).
- Wagner, K. D., Davidson, P. J., Pollini, R. A., Strathdee, S. A., Washburn, R., & Palinkas, L. A. (2012). Reconciling incongruous qualitative and quantitative findings in mixed methods research: Exemplars from research with drug using populations. *International Journal of Drug Policy*, 23(1), 54-61. doi: 10.1016/j.drugpo.2011.05.009
- Walsh, D. (2014a). *The Nurse Mentor's Handbook: Supporting Students in Clinical Practice*. Retrieved from <http://libcat.library.qut.edu.au/record=b4269273~S8>
- Walsh, D. (2014b). *The Nurse Mentors' Handbook: Supporting Students In Clinical Practice*. GB: McGraw-Hill Education.
- Waltz, C. F., Strickland, O., & Lenz, E. R. (2010). *Measurement in nursing and health research* (4th ed.). New York: Springer Pub.
- Warburton P. & Kahn P. (2007) Improving the numeracy skills of nurse prescribers *Nursing Standard* 21 (28), 40-43.
- Weston, P. B., Seaton, P., Sims, D., Jamieson, I., Mountier, J., Whittle, R., & Saarikoski, M. (2014). Exploratory factor analysis of the Clinical Learning Environment, Supervision and Nurse Teacher Scale (CLES+T). *Journal of nursing measurement*, 22(1), 164-180. doi:10.1891/1061-3749.22.1.164
- Wayne, S. J. (2013). Cause or effect? The relationship between student perception of the medical school learning environment and academic performance on USMLE Step 1. *Medical teacher*, 35(5), 376-380. doi:10.3109/0142159X.2013.769678
- Wells, J.S.G. & Norman, I.J. (2009).The 'Greying' of Europe – Reflections on the state of nursing and nurse education in Europe *Nurse Education Today* 29 (8), 811- 815.
- Wolff, A. C., Regan, S., Pesut, B., & Black, J. (2010). Ready for what? An exploration of the meaning of new graduate nurses' readiness for practice. *International Journal of Nursing Education Scholarship*, 7, 1 (art 7). doi: 10.2202/1548-923X.1827

Wilkes,Z.(2016) 'The student-mentor relationship: a review of literature' Nursing standard, vol.20, no.37, pp. 42-47,2016

APPENDICES

APPENDIX I: PARTICIPANT INFORMATION SHEET AND CONSENT

My name is **Metrine Nekesa Wakhungu**, a Bachelor of Science Nurse and a researcher. I am pursuing my MSc in Nursing at Masinde Muliro University of Science and Technology. I request you to participate in the study on Nursing Students’ and Clinical Instructors’ Perception of Clinical Learning.

The purpose of this study is to determine the factors influencing clinical learning of students. The self-administered questionnaire will be used to obtain information from participants.

Your participation in this study by answering the questions will help in determining the factors that influence learning among the Bachelor of Science students. We hope that the results of this study will reveal any gaps and improve the quality of clinical learning among students.

The information you provide during the study will be kept confidential. Only the principal investigator and assistants have access to the information. The information will be kept under key and lock by the principal investigator during the course of study.

Signature of participant..... Date.....

APPENDIX II QUESTIONNAIRE FOR STUDENTS

This questionnaire has been designed to solicit information for purely academic purposes. This is to enable the researcher complete her project on the topic: *Determinants of Clinical learning among Bachelor of Science in Nursing students at Moi Teaching and Referral Hospital and Kakamega Referral Hospital*

NB. All information given is treated with utmost confidentiality. Thank you

Instructions

- ✓ Please kindly respond to all items in these questionnaire
- ✓ Put a (Tick) alongside the option that is most applicable to you or fill in the spaces provided
- ✓ Do not write your name in this questionnaire

SECTION A:

Demographic Data

A.1. What is your age in years? _____

A. 2 What is your sex?

Male []

Female []

A.3 What is your marital status?

Single []

Married []

Divorced []

Widowed []

A.4 What is your highest educational level?

O level []

A level []

SECTION B:

Influence of clinical learning environment on clinical learning

B.1. Do you have practical lessons in your study area? Yes [] No []

If yes, how often do you have practical lessons?

Rarely [] less frequent [] frequent [] very frequent []

B.2. The training materials, tools and equipment in your clinical attachment are adequate

Strongly agree [] agree [] neutral [] disagree [] strongly disagree []

B.3. Do you share the training materials, tools and equipment during practical lessons?

Yes [] No []

B.4. Kindly tick the level to which you agree with statement regarding **ward assignment of tasks.**

	Strongly disagree	Disagree	Neither agree nor	Agree	Strongly Agree
<i>Ward assignment to nursing profession</i>					
Ward assignment was not clear/specific					
Work was mainly assigned to other staff nurses so nursing students had not chances to practice					
I did not know what my tasks were at this ward.					
I was unsure what my jobs were in this ward.					
Students were assigned with just some simple task which did not really help us to develop career ability					

B.5 Kindly tick the level to which you agree with statement regarding **clinical placements organisation**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
Student learning was relied on time arrangement of nurses and doctors.					
Time arrangement for the clinical practice was appropriate.					
Time for this clinical practice was not planned appropriately at ward level					
Students had to stay too late at hospital (later than 4pm)					
Students had to stay at the ward too late.					

B.6 Kindly tick the level to which you agree with the statement regarding **physical learning equipment**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
This facility did not have enough equipment					
Specific wards did not enough equipment for students' practice.					
Some medical machines were not fixed timely when they were broken.					
I was not familiar to medical machines in this ward.					
Some wards were too small that it could not accommodate the required equipment.					

B.7 Kindly tick the level to which you agree with the statement regarding the **length of clinical attachment**

	Strongly disagree	disagree	undecided	Agree	Strongly agree
In some study areas, the clinical rotation was short, each group spent only 1 to 2 months at this ward					
The clinical rotation was short so we did not learn much.					
The clinical rotation was not long enough.					

SECTION C:

Effect of student's factors on clinical learning

C.1 Kindly tick the level to which you agree with statement regarding **learning strategies**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The student outlines the objectives that helps organizes his/her work					
During clinical practice, I often miss important points as I am thinking of other things					
While at the clinical area, I make up questions to help focus my learning					
When I become confused about something at the clinical site, I checked with my senior to get it right.					
While at the clinical area, I practice procedures over and over again					
I make good use of my clinical time.					
I try to work with other students to complete clinical assignment					
I find it difficult to remain at the clinical placement site					
I learn while receiving and aiding patients (learn how to aid)					
I ask my supervisors to clarify procedures I don't understand.					
During my clinical learning, I sometimes get support from some patients					

C.2 Kindly tick the level to which you agree with statement regarding **learning styles**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
Identify barriers to clinical learning styles					
Identify and uses clinical learning styles e.g. demonstration and return demonstration					
Identify and establishes priorities for learning needs while at the clinical are					
Seeks information regarding quality of care rendered by self and others under clinical observation					

C.3 Kindly tick the level to which you agree with statement regarding **clinical competency**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
Conducts procedures accurately and proficiently					
Establishes goals and desired outcomes according to patients needs					
Follows the established guidelines when designing the plan of care					
Progresses and modifies plan of care and discharge planning based on the patients responses					
Performs procedure using evidence based practice					
Cites the evidence to support clinical judgement and decision					
Makes clinical judgement based on the available data					
Advocates for the patients access to services					

C.4 Kindly tick the level to which you agree with statement regarding learners **practice on patients**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
I was supported to practice nursing skills on patients and witnessing patients' symptoms					
Because of many patients, I had chances to perform procedure on patients					
I observed, assessed and took care of patients.					
This ward had various types of diseases, this provided me opportunities to learn.					
I learnt while receiving and aiding patients (learn how to aid)					

SECTION D:

Contribution of clinical instruction on clinical learning

D. 1 In your opinion, do you think that your instructors provide you with enough knowledge in their subject area?

Strongly agree [] Agree [] neutral [] Disagree [] strongly disagree []

D.2 Kindly tick the level to which you agree with statement regarding **Role modelling**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The staff nurse at the clinical is;					
Is approachable to the student nurse					
Looks forward to having student nurse assigned to patients care on the ward					
Projects a positive image of the clinical site to the student nurse					
Able to provide an encouraging learning environment for the student nurse					
Role models professionalism while working with students e.g. communication					

D.3 Kindly tick the level to which you agree with statement regarding **mentorship**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The mentor has knowledge and skills					
The mentor assess learning needs, supervises and evaluates students learning					
Is aware of the pressure and demands of the course and students learning experience					
Demonstrates efforts in putting themselves out to help students					
The mentor assisted in my learning and this worked well					
The mentor gave me feedback about my clinical progress					
Did not have clinical nurse student mentors in some wards					

D.4 Kindly tick the level to which you agree with statement regarding **support and guidance**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
<i>Helps, supports and guidance</i>					
Nurses put high-pressure on students.					
Some nurses did not listen to students					
Some staff were too strict.					
Ward nurses were grumpy and unfriendly (E.g. shouted at students when we did something wrong)					
Some nurses were friendly and support students					
Nurses were friendly and willing to answer student questions.					
Students were sometimes bullied by nurses.					

D.5 Kindly tick the level to which you agree with statement regarding **teaching approaches**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
Teaching approach was boring and did not motivate students.					
The clinical teacher asked me to copy a lesson many times.					
In clinical sessions, preceptors only repeated theory knowledge.					
The clinical teacher did not have good preparation for clinical sessions.					
The length of the clinical rotation was short.					

APPENDIX III: QUESTIONNAIRE FOR WARD MANAGER AND CLINICAL INSTRUCTORS

This questionnaire has been designed to solicit information for purely academic purposes. This is to enable the researcher complete her project on the topic; *Determinants of clinical learning among Bachelor of nursing fourth year students at Moi Teaching and Referral Hospitals and Kakamega County Referral hospital*

NB. All information given is treated with utmost confidentiality. Thank you

Instructions

- ✓ Please kindly respond to all items in these questionnaire
- ✓ Put a (Tick) alongside the option that is most applicable to you or fill in the spaces provided
- ✓ Do not write your name in this questionnaire

SECTION A

Demographic Data

A.1. What is your age in years? _____

A. 2 What is your sex?

Male []

Female []

A.3 What is your marital status?

Single []

Married []

Divorced []

Widowed []

A.4 What is your highest educational level?

Diploma in Nursing []

Higher Diploma in Nursing []

BSc Nursing []

Masters in Nursing []

SECTION B:

Influence of clinical learning environment on clinical learning

B.1. Do students have practical lessons in the study area? Yes [] No []

If yes, how often do they have practical lessons?

Rarely [] less frequent [] frequent [] very frequent []

B.2. The training materials, tools and equipment in the clinical attachment are adequate

Strongly agree [] agree [] neutral [] disagree [] strongly disagree []

B.3. Do students share the training materials, tools and equipment during practical lessons?

Yes [] No []

B.4. Kindly tick the level to which you agree with statement regarding **ward assignment of tasks.**

	Strongly disagree	Disagree	Neither agree nor	Agree	Strongly Agree
<i>Ward assignment to nursing profession</i>					
Ward assignment was not clear/specific					
Work was mainly assigned to other staff nurses so nursing students had not chances to practice					
Students did not know what their tasks were at the ward.					
The student was unsure what their jobs were in the ward.					
Students were assigned with just some simple task which did not really help them to develop career ability					

B.5 Kindly tick the level to which you agree with statement regarding **clinical placements organisation**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
Student learning was relied on time arrangement of nurses and doctors.					
Time arrangement for the clinical practice was appropriate.					
Time for this clinical practice was not planned appropriately at ward level					
Students had to stay too late at hospital (later than 4pm)					
Students had to stay at the ward too late.					

B.6 Kindly tick the level to which you agree with the statement regarding **physical learning equipment**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
This facility did not have enough equipment					
Specific wards did have not enough equipment for students' practice.					
Some medical machines were not fixed timely when they were broken.					
Student was not familiar to medical machines in this ward.					
Too much medical equipment and students had no idea about how to use those.					
Some wards were too small that it could not accommodate the required equipment.					

B.7 Kindly tick the level to which you agree with the statement regarding the **length of clinical attachment**

	Strongly disagree	disagree	undecided	Agree	Strongly agree
In some study areas, the clinical rotation was short, each group spent only 1 to 2 months at this ward					
The clinical rotation was short so students did not learn much.					
The clinical rotation was not long enough.					

SECTION C:

Effect of student’s factors on clinical learning

C.1 Kindly tick the level to which you agree with statement regarding **learning strategies**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The student outlines the objectives that helps organizes his/her work					
During clinical practice, the student often miss important points as they think of other things					
While at the clinical area, students make up questions to help focus their learning					
When students become confused about something at the clinical site, they checked with their senior to get it right.					
While at the clinical area, students practiced procedures over and over again					
Students make good use of my clinical time.					
Students try to work with other students to complete clinical assignment					
Students find it difficult to remain at the clinical placement site					
Students learn while receiving and aiding patients (learn how to aid)					
Students ask their supervisors to clarify procedures I don’t understand.					
During clinical learning, students sometimes get support from some patients					

C.2 Kindly tick the level to which you agree with statement regarding **learning styles**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
Students identify barriers to clinical learning styles					
Students identify and uses clinical learning styles e.g. demonstration and return demonstration					
Students identify and establishes priorities for learning needs while at the clinical are					
Students seeks information regarding quality of care rendered by self and others under clinical observation					

C.3 Kindly tick the level to which you agree with statement regarding **clinical competency**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The student;					
Conducts procedures accurately and proficiently					
Establishes goals and desired outcomes according to patients needs					
Follows the established guidelines when designing the plan of care					
Progresses and modifies plan of care and discharge planning based on the patients responses					
Performs procedure using evidence based practice					
Cites the evidence to support clinical judgement and decision					
Makes clinical judgement based on the available data					
Advocates for the patients access to services					

C.4 Kindly tick the level to which you agree with statement regarding learners practice on patients

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The student;					
Was supported to practice nursing skills on patients and witnessing patients' symptoms					
Had chances to perform procedure on patients					
Observed, assessed and took care of patients.					
This ward had various types of diseases, this provided students opportunities to learn.					
Got to learn while receiving and aiding patients (learn how to aid)					

C.5 Kindly tick the level to which you agree with statement regarding self- drive

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The student;					
Wears attires consistent with the profession					
Is punctual and dependable at the clinical area					
Demonstrates initiative of learning e.g. offers assistance					
Maintains productive working relationship with patients, families and others					
Accepts constructive feedback without being defensive					
Exhibits caring, compassion and empathy in providing services to patients					
Demonstrates behavior that contributes to positive work environment					

SECTION D:

Contribution of clinical instruction on clinical learning

D.1 In your opinion, do you think that the instructors provide students with enough knowledge in their subject area?

Strongly agree [] Agree [] neutral [] Disagree [] strongly disagree []

D.2 Kindly tick the level to which you agree with statement regarding **Role modelling**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The staff nurse at the clinical is;					
Is approachable to the student nurse					
Looks forward to having student nurse assigned to patients care on the ward					
Projects a positive image of the clinical site to the student nurse					
Able to provide an encouraging learning environment for the student nurse					
Role models professionalism while working with students e.g. communication					

D.3 Kindly tick the level to which you agree with statement regarding **mentorship**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
The mentor has knowledge and skills					
The mentor assess learning needs, supervises and evaluates students learning					
Is aware of the pressure and demands of the course and students learning experience					
Demonstrates efforts in putting themselves out to help students					
The mentor assisted in the students learning and this worked well					
The mentor gave students feedback about their clinical progress					
Did not have clinical nurse student mentors in some wards					

D.4 Kindly tick the level to which you agree with statement regarding **support and guidance**

<i>Helps, supports and guidance</i>	Strongly disagree	disagree	Undecided	Agree	Strongly agree
Nurses put high-pressure on students.					
Some nurses did not listen to students					
Some staff were too strict.					
Ward nurses were grumpy and unfriendly (E.g. shouted at students when we did something wrong)					
Some nurses were friendly and support students					
Nurses were friendly and willing to answer student questions.					
Students were sometimes bullied by nurses.					

D.5 Kindly tick the level to which you agree with statement regarding **teaching approaches**

	Strongly disagree	disagree	Undecided	Agree	Strongly agree
Teaching approach was boring and did not motivate students.					
The clinical teacher asked students to copy a lesson many times.					
In clinical sessions, preceptors only repeated theory knowledge.					
The clinical teacher did not have good preparation for clinical sessions.					
The length of the clinical rotation was short.					

**You have come to the end of this questionnaire.
Thank you for participating in this study**

APPENDIX IV: APPROVAL LETTER FROM SGS



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

Tel: 056-30870
Fax: 056-30153
E-mail: deansgs@mmust.ac.ke
Website: www.mmust.ac.ke

P.O Box 190
Kakamega – 50100
Kenya

Office of the Dean (School of Graduate Studies)

Ref: MMU/COR: 509079

Date: 7th March 2016

Metrine Nekesa Wakhungu
HNR/G/23/14
P.O. Box 190-50100
KAKAMEGA

Dear Ms. Wakhungu,

RE: APPROVAL OF PROPOSAL

Following communication from the Departmental Graduate Studies Committee and the Faculty Graduate Studies Committee, I am pleased to inform you that the Board of the School of Graduate Studies meeting held on 25th February 2016 considered and approved your Masters proposal entitled: *'Bachelor of Science in Nursing Fourth Year Students: A Comparative Study of Clinical Learning Experiences'* and appointed the following as supervisors:

1. Prof. John Okoth - Department of Clinical Nursing and Health Management - MMUST
2. Dr. Mary Kipmerewo - Department of Reproductive Health, Midwifery and Child Health – MMUST

You are required to submit through your supervisor(s) progress reports every three months to the Dean SGS. Such reports should be copied to the following: Chairman, School of Nursing and Midwifery Graduate Studies Committee and Chairman, Clinical Nursing and Health Management. Kindly adhere to research ethics consideration in conducting research.

It is the policy and regulations of the University that you observe a deadline of two years from the date of registration to complete your Masters thesis. Do not hesitate to consult this office in case of any problem encountered in the course of your work.

We wish you the best in your research and hope the study will make original contribution to knowledge.

Yours Sincerely,


DEAN
SCHOOL OF GRADUATE STUDIES
MASINDE MULIRO UNIVERSITY
OF SCIENCE & TECHNOLOGY
PROF. HENRY KEMONI
EXECUTIVE DEAN, SCHOOL OF GRADUATE STUDIES

APPENDIX V: APPROVAL PROPOSAL FROM IERC



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY
Tel: 056-31375
Fax: 056-30153
E-mail: rel@mmust.ac.ke
Website: www.mmust.ac.ke
P. O. Box 190
Kakamega
50100
Kenya

Institutional Ethics Review Committee (IERC)

MMU/COR: 403009(31)

7th April, 2016

Metrine Nekesa Wakhungu
Registration No. HNR/G/23/14
Masinde Muliro University of Science and Technology
P. O. Box 190-50100
KAKAMEGA

Dear Nekesa,

RE: ETHICAL APPROVAL TO CONDUCT RESEARCH

The IERC received your proposal titled "*Bachelor of Science in Nursing Fourth Year Students: A Comparative Study of Clinical Learning Experiences*" for review. Having reviewed your work, the committee has given ethical clearance for you to conduct research as proposed.

On behalf of IERC and the University Senate, my congratulations. We wish you success in your research endeavour.

Yours faithfully

Dr. Gordon Nguka

Ag. Chairman, Institutional Ethics Review Committee

Copy to:

- The Secretary, National Bio-Ethics Committee
- Vice Chancellor
- DVC (PR&I)
- DVC (A & F)
- DVC (A&SA)

APPENDIX VI: RESEARCH AUTHORIZATION FROM NACOSTI

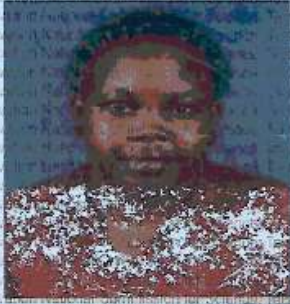
THIS IS TO CERTIFY THAT:
MS. METRINE NEKESA WAKHUNGU
OF MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY, 0-50100
Kakamega, has been permitted to
conduct research in Kakamega ,
Uasin-Gishu Counties

on the topic: CLINICAL LEARNING OF
BACHELOR OF SCIENCE FOURTH YEAR
STUDENTS IN MOI TEACHING AND
REFERRAL HOSPITAL AND KAKAMEGA
REFERRAL HOSPITAL

for the period ending:
19th July,2017

M. M. Wakhungu
Applicant's
Signature

Permit No : NACOSTI/P/16/71562/11358
Date Of Issue : 20th July,2016
Fee Recieved :Ksh 1000



M. M. Wakhungu
Director General
National Commission for Science,
Technology & Innovation

CONDITIONS

- 1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.**
- 2. Government Officers will not be interviewed without prior appointment.**
- 3. No questionnaire will be used unless it has been approved.**
- 4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.**
- 5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.**
- 6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice**

RESEARCH CLEARANCE
PERMIT

Serial No. A-10218

CONDITIONS: see back page



REPUBLIC OF KENYA
National Commission for Science,
Technology and Innovation



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

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when replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date:

NACOSTI/P/16/71562/11358

20th July, 2016

Metrine Nekesa Wakhungu
Masinde Muliro University of
Science and Technology
P.O. Box 190-50100
KAKAMEGA.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “*Clinical learning of Bachelor of Science Forth Year Students in Moi Teaching and Referral Hospital and Kakamega Referral Hospital,*” I am pleased to inform you that you have been authorized to undertake research in **Kakamega and Uasin Gishu Counties** for the period ending **19th July, 2017.**

You are advised to report to **the County Commissioners and the County Directors of Education, Kakamega and Uasin Gishu Counties** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kakamega County.

The County Director of Education
Kakamega County.