STUDENTS' PERCEPTIONS OF THE OPERATING ROOM AS A CLINICAL LEARNING ENVIRONMENT

by

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DECLARATION

I, the undersigned, hereby declare that the work contained in this assignment is my original work and that I have not previously submitted it, in its entirety or in part, at any university for a degree.

Signed: Date: 1 October 2014

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(R Meyer)

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This research assignment is dedicated to my two daughters,
Gabrielle and Madeline.

ABSTRACT

Students undertake their clinical placement in various clinical settings for the exposure to and acquisition of skills related to that particular context. The operating room, for example, is a context that offers the opportunity to develop critical skills related to the perioperative care of the patient. Despite the numerous studies that have been undertaken in this field, few studies that have investigated the operating room as a clinical learning environment in the South African healthcare system have been published. The aim of this study was to determine students' perceptions of the operating room as a clinical learning environment in a private hospital context.

An exploratory, interpretive and descriptive design generating qualitative data was utilized. Data was collected from nursing students undertaking their training at a private nursing education institution. Ten nursing students participated in an open-ended questionnaire (N=10), and twelve students participated in the focus group discussion (N=12). From the results, four themes emerged, namely, 'interpersonal factors', 'educational factors', 'private operating room context', and 'recommendations'. This study has highlighted some of the challenges experienced by students in the private sector operating room context. Despite the potential learning opportunities, the key findings reveal negative perceptions of students regarding learning experiences. However, the opinion that the operating room offers an opportunity to gain skills unique to this context, as well as facilitates the integration of theory and practice, was also expressed. Some students reported that the emphasis on profitability and cost to patient, and the lack of a mentoring process in this context posed a constraint to learning.

Exploration into the specific preparatory needs of students specific to learning outcomes before operating room placement should be considered. It would also be necessary to improve collaboration between lecturers, mentors and theatre managers so that a structured teaching programme may be developed for students entering the perioperative environment.

OPSOMMING

Studente onderneem hul kliniese plasing in verskeie kliniese omgewings vir die blootstelling aan en aanleer van vaardighede wat verband hou met daardie spesifieke konteks. Die operasiesaal, byvoorbeeld, is ’n kliniese omgewing wat die geleentheid bied om kritiese vaardighede te ontwikkel wat verband hou met die perioperatiewe versorging van die pasiënt. Ten spyte van die talle studies wat in die operasiesaal onderneem was, het slegs ’n paar studies uit ’n Suid-Afrikaanse gesondheidsorg oogpunt, die operasiesaal as ’n kliniese opleidings omgewing ondersoek. Die doel van hierdie studie was om studente se persepsies van die operasiesaal as ’n kliniese omgewing in ’n privaat hospitaal konteks te bepaal.

’n Ondersoekende, verklarende en beskrywende ontwerp wat kwalitatiewe data genereer, is gebruik. Data is ingesamel van verpleegstudente wat hul opleiding by ’n privaat verpleegonderrig instelling ontvang. Tien verpleegstudente (N=10) was genooi om ’n onbepaalde vraelys te voltooi en twaalf student (N=12) het aan die fokusgroep bespreking deelgeneem. Vier temas het na vore gekom, naamlik ‘interpersoonlike faktore’, ‘opvoedkundige faktore’, ‘privaat-operasiesaal konteks’, en ‘aanbevelings’. Hierdie studie het ’n paar van die uitdagings uitgelig wat die studente in ’n privaat sektor operasiesaal ondervind. Ten spyte van die potensiële leergeleenthede teenwoordig in die privaat sektor operasiesaal, toon die belangrikste bevindings egter die negatiewe persepsies van studente jeens hierdie kliniese omgewing. Die opinie is egter ook uitgespreek dat hierdie omgewing ook ’n geleentheid aanbied om unieke vaardighede aan te leer. Dit bied ook ’n geleentheid om teorie en praktiese kundigheid te integreer. Sommige studente rapporteer dat die klem op winsgewendheid en koste vir die pasiënt, asoók die gebrek aan mentorskap in hierdie kliniese omgewing ’n beperking plaas op die leerproses.

Die spesifieke voorbereidings behoeftes van studente insake leeruitkomste voordat plasing in die operasiesaal omgewing geskied, moet eers deeglik ondersoek word. Dit is ook nodig om die nodige samewerking tussen dosente, mentors en operasiesaal bestuurders te verbeter sodat ’n gestruktureerde onderrig program ontwikkel kan word vir studente wat die perioperatiewe omgewing betree.

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1. INTRODUCTION

Changes in healthcare trends and societal demands require qualified nursing students who have the ability to adapt to different contexts and to make accurate clinical judgments (SANC, 2005). Nurse education and training must therefore be attuned so that these desired graduate attributes might be attained. Nurse education is multidimensional consisting of both theoretical and clinical components. Theoretical learning occurs predominantly under controlled conditions, whereas the clinical learning in an authentic clinical setting is often unpredictable and difficult to control (Chan, 2002; Parsell & Bligh, 2001). However, clinical learning contributes substantially to the total competency of a nurse (Henderson, Twentyman, Eaton, Creedy, Stapleton & Lloyd, 2009). In order to ensure that nursing graduates are clinically competent to meet the needs of modern day healthcare, placements in clinical settings ought to offer quality learning experiences.

Students undertake their clinical placement in various clinical settings for the exposure to and acquisition of skills related to that particular context. The operating room, for example, is a context that offers the opportunity to develop critical skills related to the perioperative care of the patient (Callaghan, 2010; Hughes, 2006). These skills, for example, pain management, prevention of infection, etcetera. are transferable to other contexts, which makes placement in this context significant for the development of the necessary skills. Despite the numerous studies that have been undertaken in this field (Callaghan, 2010; Hughes, 2006; Crofts & Taylor, 1996; Radford & Hunt, 1999), few studies which have investigated the operating room as a clinical learning environment in the South African healthcare system have been published. This study focuses on students' perceptions of the operating room as a clinical learning environment within the South African private healthcare context. The intention is to develop possible recommendations to enhance clinical learning and contribute to the acquisition of critical skills related to this context.

The format of this assignment is built around the article that has been prepared for submission to the *Nurse Education in Practice* Journal. It begins with an extended literature review to provide additional context. Thereafter further details regarding the research method are provided. Certain aspects in the extended literature review and methods section may be repeated in the article, which follows the methods section. The assignment ends with a brief conclusion, reference list and the addenda. The presentation of the assignment and article are guided by recommendations from O'Brien, Harris, Beckham, Reed and Cook (2014) for qualitative reporting.

2. EXTENDED LITERATURE REVIEW

Clinical training allows the practical application of theoretical knowledge acquired in a classroom setting, and forms an integral component in the learning process (Dunn & Hansford, 1997). In order to maximize integration, placement of students in clinical settings, should offer exposure to authentic practice-based experiences where experiential learning may take place (Yardley, Teunissen & Dornan, 2012). Dewey (1938) in Yardley *et al.* (2012) also recommended that in order to facilitate the acquisition of applied knowledge, students should actively engage with their surroundings and interact with meaningful learning experiences in a positive clinical environment. Although the challenge in provision of such an environment has been reported on extensively (Mogale, 2011; Mabuda, Potgieter & Alberts, 2008; Elisha & Rutledge, 2011), Burns and Patterson (2005) argue that such a space fosters learning, and has the potential to positively influence students' perceptions, including when they reflect on their clinical learning.

The act of reflection is a concept that is foregrounded in the literature and is consistently associated with quality learning (Schon, 1987; Slotnick, 2001; Clegg, Tan & Saeidi, 2002), where the importance of students being allowed to reflect on their clinical experiences is also highlighted (Hughes, 2006). According to Horton-Duetsch and Sherwood (2008:946), reflection is centered on 'thinking about experience, which leads to learners' full understanding of what they know. This allows the practice of identifying and evaluating experiences, and factors that could have influenced these experiences, through purposeful contemplation. Furthermore, an important purpose of reflection is to develop students into critical thinkers, encouraging them to learn from experience. Schön (1987) stated that reflection has the potential to assist students to understand their challenging experiences and develop possible solutions to overcome and improve on limitations. This is essential for promoting competent nursing practice (Horton-Duetsch & Sherwood, 2008) and may contribute to the improvement in the quality of the learning experience.

Previous research has been undertaken to explore the quality of the learning experience in the clinical environment (Entwistle & Petersen, 2004). Skaalvik, Normann and Henriksen (2011) found that negative clinical experiences impacted negatively on students' perceptions of their clinical learning environment. Earlier, Sharif and Masoumi (2005) had also found that students were generally dissatisfied with their clinical learning experiences due to lack of opportunities to acquire the necessary knowledge and skills during their clinical placement. In both instances, students highlighted poor quality of learning during clinical learning experiences. Radford and Hunt (1999) suggest that students' perceptions have an influence on the quality or degree of learning taking place. This is echoed by Lizzio, Wilson and Simons (2002), who imply a strong link between students' perceptions of their learning environment and their learning outcomes. Exploring students' perceptions may therefore reveal factors

impacting on learning environments (Schwind, Boehler, Rogers, Williams, Dunnington, Folse & Markwell, 2004). It is also clear that the environment or context in which clinical learning takes place can influence student learning, and should therefore be considered when seeking to improve learning in a clinical environment.

Context forms a fundamental constituent in learning and this is identified in the literature as an influential factor in clinical learning (Cowan, 1998; Chun-Heung & French, 1997). This thinking appears to be aligned with the concept of the situativity theory, which emphasizes the impact of the context, or environment on learning, that is, what occurs in a learning encounter is based on the interactions in the environment or context (Durning & Artino, 2011). Situativity theory further shifts the focus of learning from the individual to the 'the social and cultural setting in which all activity occurs' (Durning & Artino, 2011:188). The unique environment or context in which learning takes place therefore provides factors or elements that could initiate and/or promote or prevent the acquisition of distinct skills.

The operating room is a context described as complex and demanding (Callaghan, 2010). However, this area offers the potential to acquire critical skills, such as communication, infection control, patient advocacy, patient positioning, teamwork, and coordination (Sigsby, 2004; ACORN, 2008; Gillespie & Hamlin, 2009), which are necessary to provide comprehensive nursing care. In the South African context, the South African Nursing Council (SANC) stipulates a minimum of four weeks for clinical placement in the operating room for each student (SANC, 2005). Students are expected to acquire specific skills related to this area, which is reflected in their objectives, namely, care for a patient in the perioperative environment; assist the operating team with scrubbing, gowning and gloving; open up sterile packs; scrub for short, uncomplicated surgical procedures and, interact harmoniously with the operating room team (Netcare, 2003).

Despite the value of this clinical area in terms of the potential exposure to diverse skills, previous studies reveal various clinical learning challenges within this context. While many factors impact on learning in the operating room, negative attitudes of staff and a discouraging atmosphere were the recurring themes throughout the literature reviewed (Silen-Lipponen, Turunen & Tossavainen, 2002; Sharif & Masoumi, 2005; Papp Markkanen & Von Bonsdorff, 2003; Elisha & Rutledge, 2011). This has also been reported in local studies (Mogale, 2011; Mabuda *et al*., 2008). Callaghan (2010) further indicates that in spite of the potential value of the operating room experience, the lack of teaching by staff in the operating room may contribute to students' inability to comprehend the complexity of the operating room procedures. These authors recommend greater interest by operating room staff towards students, so that attitudes and willingness to teach may improve.

Although a greater interest in students may result in an improvement in their learning experiences and/or perception, other contextual factors which may influence students' perceptions of the operating room do exist. Silen-Lipponen, Tossavainen, Turunen and Smith (2004) state that nursing students perceive the operating room as a highly stressful environment. This is possibly due to the nature of the procedures, in terms of level of medico-legal risks; the high patient turnover, and the urgency of the procedures performed, given the nature of the work entailed. These conditions may not be present in other specialties.

Another factor influencing learning in the operating room is the notion of support. Chan (2002) recommends the provision of learning opportunities for students to encourage a supportive environment. Papp *et al*. (2003) advocate that in an attempt to offer a supportive learning environment, adequate preparation of students prior to exposure to the clinical setting is necessary. In addition, Yardley *et al.* (2012) and Bisholt, Ohlsson, Engström, Johansson and Gustafsson (2014) note that student support is an important component that may facilitate quality learning in the clinical setting. Although support of students was found to be lacking in various studies (Papp *et al.*, 2003; Sharif & Masoumi, 2005), Hughes (2006) found that most students in her study were satisfied with the support they received from mentors and operating room staff. A noteworthy finding in Hughes' study is that this satisfaction on the part of the students appeared to translate into positive perceptions of their clinical learning experience in the operating room. What was also evident was that the operating room settings included in this study all employed a designated mentor. This may have improved students' perceptions of the support that they were receiving. Elisha and Rutledge (2011) also reported that students considered support in the clinical settings essential for learning. This implies that student support should be considered when attempting to improve learning in an operating room context.

Critical to the study, which is the focus of this report, however, is its specific location in the private sector where the operating rooms present other unique challenges that may influence the learning experience. The focus on profitability, patient throughputs and consumer demands (Goh & Watt, 2003) potentially limits attention to student learning and teaching, as, in these contexts, student nurses are often integrated into the workforce (Breier, Wildschut & Mgqolozana, 2009). Although this integration may be advantageous in circumstances where students have the opportunities to have a 'hands on' experience, minimal time may be available for structured facilitation by mentors and staff. One also needs to consider the nature of the activities performed during integration into the workforce. To maximize learning in this context, activities need to be aligned with learning outcomes of students so that the operating room experience becomes beneficial (Callaghan, 2010) and meaningful. It is therefore necessary to explore this area as a clinical learning environment.

Few studies have focused on the students' perceptions of the operating room within the South African private sector. This study will, therefore, explore students' perceptions regarding the operating room as a clinical learning environment, and has the potential to contribute to health professions education in a South African private sector context. Furthermore, this study envisages highlighting the challenges faced by students in this area so that specific recommendations may be made to maximize learning during clinical placement. This may therefore also be beneficial for the private institution where the study was undertaken. The specific objectives of this study are to:

- Determine students nurses' perceptions of the operating room as a clinical learning environment
- Make recommendations to optimize learning experiences in an operating room.

3. EXTENDED METHODS SECTION

In this research, an exploratory, interpretive and descriptive design generating qualitative data was utilized (De Vos, Strydom, Fouchè & Delport, 2011) to explore nursing students' perceptions of the operating room as a clinical learning environment. McRoy (1995) notes that qualitative research encompasses the exploration and interpretation of meaning, and perceptions or experiences of participants, further illuminating the depth and richness of students' experiences. This design was appropriate since the aim of this study was to explore the perceptions of students. What was envisaged was a more rigorous assessment of students' perceptions, which would result in a deeper understanding of their situation (Rubin & Babbie, 2005).

Population and Sampling

This study was conducted at a private nursing education institution located in a metropolitan area in the Western Cape, South Africa. At the site where the study was conducted, the total number of the fourth-year bridging course nursing students was sixty-five (N=65). These students were selected as the population, because their intense training, through the different disciplines gives them a broad view into the different specialties in nursing and helps them determine the quality of the learning environment. In addition, the private institution where this study was undertaken, offers only the bridging course program for registered nurses and not the more traditional four-year integrated program. Although the training for the bridging course program focuses primarily on general nursing rather than for example, on the additional midwifery, psychiatry and community nursing qualifications (as is the case for the four-year integrated program), clinical placement in different specialties for both groups of students offers similar experiences and challenges. It is therefore envisaged that the outcome

of including only bridging course students for this specific study would not preclude its applicability to the challenges faced in the four-year integrated programme, although the specific context for this study needs to be noted.

Participating students were recruited during the month of March 2014. The researcher, who is not their lecturer, but who works at the institution as lecturer for second year students, explained the study to the students at the end of a routine lecture. At this site, students undertake their theoretical training. However, for their clinical training, students are allocated to five different private hospitals belonging to the same corporate company. Purposive sampling was used where students from each of these five hospitals were selected. The recruitment targeted those participants who had exposure to the operating room, that is, students who had undertaken their clinical placement in the operating room. From the students who were selected (N=40), those willing to participate in completing the questionnaire and the focus group discussion were included in the study. Stoker 1985 in De Vos *et al*. (2011) recommend a sample size of between 64% and 80% for a population size of forty. The total sample size for this study was twenty-two (N=22). Participation was completely voluntary.

Data Collection

To generate the data, a survey in the form of a questionnaire, containing open-ended questions, as well as one focus group discussion was used. In both instances, participants were given the opportunity to engage in reflective practice (Bulman & Schutz, 2004). To assist them in this process, both the questionnaire and the focus group discussion were based on an adapted version of Gibbs' cycle of reflection (Palmer, Burns & Bulman, 1994). According to this cycle, a series of six questions are presented to the interviewee (Figure 1). The adapted questions were underpinned by the findings from the literature review and adapted specific to the context of this study (Addendum A). For example, the first step in the Gibbs' cycle of reflection requires the student to describe the event. The open-ended questionnaire was designed to allow the student to describe their learning experience in the operating room. This enabled the researcher to gain insight into student nurses' perceptions of the operating room as a clinical learning environment, through the process of reflection.

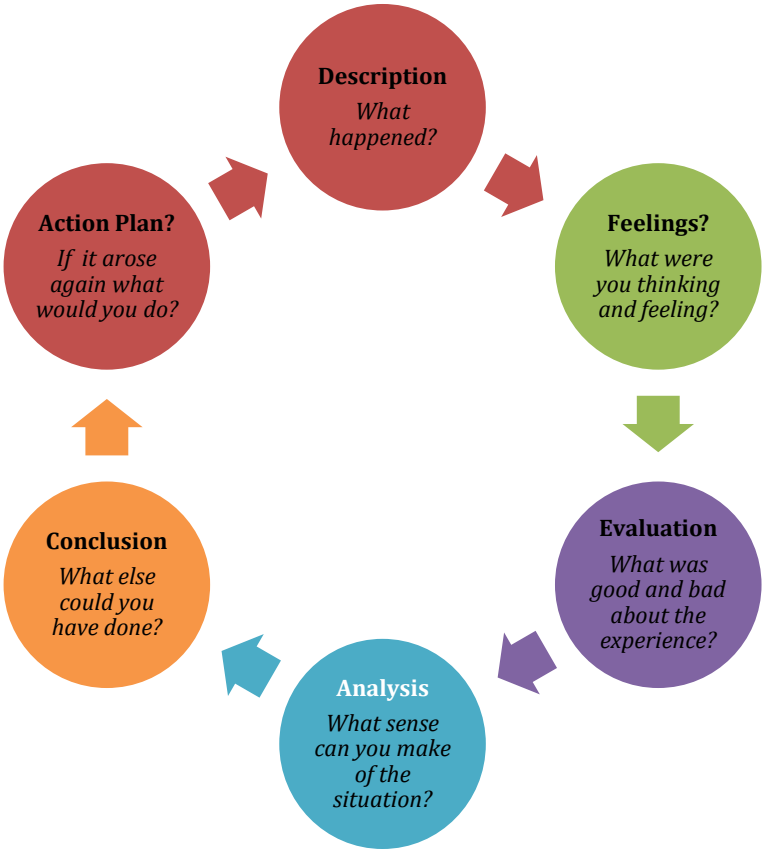

Figure 1: Gibbs' Reflective Cycle (Palmer, Burns & Bulman, 1994)

According to Forrest (2008), reflection-on-action is the process of thinking about an event in a meaningful way, after it has occurred, for the purposes of exploring and learning from experiences. For reflection to be effective, it must occur in a coordinated manner, for example through the use of a reflective cycle.

An open-ended questionnaire was chosen as it encourages the participant to consider their thoughts (Bolton, 2001) before actually arriving at a decision. Forrest (2008) adds to this by indicating that the process of writing facilitates the act of contemplation, thus allowing time for the participant to reflect on the value of the experience before recording their thoughts.

After explaining the research process, reflective cycle and questionnaire to the students, the questionnaires were handed out to the ten participants (N=10) who were willing to participate in completing the questionnaire. The participants, who were seated together in the same venue, were then given the opportunity to complete the questionnaire in the absence of the researcher. Completion of the questionnaire took approximately forty-five minutes. Although only eight questionnaires (N=8) were returned, this response rate was still useful. DeVos *et al.* (2011) suggests that in qualitative research, the focus is usually on the quality rather than the quantity of the data. The open-ended questionnaire used in this study required in-depth descriptions and explanations of students' perceptions, which eventually produced valuable data.

To further probe issues that presented in the questionnaire, a focus group discussion was undertaken. According to De Vos *et al*. (2011) focus group discussions may be used as a method to better understand how people think or feel about a certain subject. In addition they recommend approximately six to ten participants for a focus group discussion with an over-recruitment by twenty percent. For this study, a group of twelve participants (N=12), not involved with the questionnaire, was invited to take part in the focus group discussion. All twelve participants agreed to take part.

The focus group discussion, which was conducted by the researcher, took place a week after receiving the completed questionnaires. The use of a focus group discussion allowed further exploration of student nurses' perceptions by delving deeper into issues and using group dynamics to elicit information not revealed by the questionnaire. During this time, questions were centered on students' perceptions of the operating room as a learning environment. Probing was used when clarification was needed (Polit & Beck, 2012). The focus group discussion lasted approximately one hour. The audio-recorded discussion was then transcribed by the researcher.

Data analysis

Data gathering and analysis was conducted iteratively. Typically, data analysis for qualitative studies occurs in three phases: description, analysis and interpretation (Burns & Grove, 2005). Description involved the researcher familiarizing herself with the data by reading and capturing its essence. The written answers from the questionnaires were examined repeatedly to identify components that responded to the study objectives, for example, the ideas that revealed students' perceptions of the operating room as a learning environment. The information was then prepared and analyzed. No data was excluded from the main study. Analysis took place by: open coding, categorizing of data, and identification of themes and sub-themes (DeSantis & Ugarriza, 2000). Themes were then classified and reduced to reflect relationships and other essential features (Burns & Grove, 2005). The focus group discussion was then transcribed (Addendum C). Member checking of the transcriptions by participants was carried out to ensure trustworthiness. The transcribed text was then read repeatedly to identify parts that responded to the study objectives. These aspects were then analyzed and coded into themes.

Trustworthiness

Trustworthiness is a concept in qualitative research that is often discussed above validity and reliability (Lincoln & Guba, 1985). It encompasses truth value, credibility, applicability, transferability, consistency, dependability, neutrality and reliability confirmable, which was implemented in all the steps of the research (Davies & Dodd, 2002). The researcher adopted a reflexive approach to enhance the quality and the credibility of the research (Day, 2012). According to Thorpe and Holt (2008: 3) reflexivity involves the 'researcher being aware of his effect on the process and outcomes of research', rather than merely reflecting on action. This was achieved by consistent awareness of the researcher's personal feelings and experiences, which may have influenced the study. To further enhance trustworthiness, reflexivity was accompanied by prolonged engagement with the data during data analysis and interpretation. Strict adherence to the research methodology (Ballinger, 2004) and transparency (Savin-Badin & Fisher, 2002) was further ensured to increase trustworthiness. In addition, triangulation of data methods was used to collect data by making use of a questionnaire and a focus group discussion. As noted above, member-checking techniques to ensure credibility were also used. Once data was transcribed, it was sent back to the participants for reviewing. Although the analysis was conducted solely by the researcher, the coding process was reviewed by, and discussed with, her supervisor.

4. THE MANUSCRIPT

[Prepared for publication in *Nurse Education in Practice*]

The Operating Room as a Clinical Learning Environment: An Exploratory Study

ABSTRACT

Students undertake their clinical placement in various clinical settings to ensure their exposure to and acquisition of skills related to that particular context. The operating room is a context that offers the opportunity to develop critical skills related to the perioperative care of the patient. Despite the numerous studies that have been undertaken in this field, few have investigated the operating room as a clinical learning environment in the South African private healthcare context. The aim of this study was to determine students' perceptions of the operating room as a clinical learning environment in this context. An exploratory, interpretive and descriptive design generating qualitative data was utilized. Data was collected from nursing students undertaking their training at a private nursing education institution. Ten nursing students completed an open-ended questionnaire (N=10), and twelve students participated in the focus group discussion (N=12). Four themes emerged, namely, 'interpersonal factors', 'educational factors', 'private operating room context', and 'recommendations'. This study has highlighted some of the challenges experienced by students in the private sector operating room context. Despite the potential learning opportunities, the key findings reveal negative perceptions of students regarding learning experiences. However, the opinion that the operating room offers an opportunity to gain skills unique to this context, as well as facilitates the integration of theory and practice, was also expressed. Some students reported that the emphasis on profitability and cost to patient, and the lack of a mentoring process in the private operating room context posed a constraint to learning. Exploration into the specific preparatory needs of students specific to learning outcomes before operating room placement should be considered. It would also be necessary to improve collaboration between lecturers, mentors and theatre managers so that a structured teaching programme may be developed for students entering the perioperative environment.

Key words: clinical learning environment, operating room, students' perceptions

INTRODUCTION

The primary purpose of nursing education is to prepare student nurses to practice in a variety of health care settings (Happel, 1999), with the ultimate goal being a practitioner who is adequately equipped with the necessary knowledge, skills and attitudes to nurse efficiently (SANC, 2005). Clinical placement is a critical component of nursing education, and is integral in attaining this goal (Henderson, 2011; Dunn et al., 2000). Furthermore, clinical placement affords the student an opportunity to acquire a number of skills in an authentic environment related to the specific area of placement (Levette-Jones & Lathlean, 2007), thus contributing to the development of their clinical competence. While numerous studies on the clinical learning environment focus on the influence of specific factors on learning such as staff-student relationships and the degree of mentoring (Dunn & Hansford, 1997; Papp et al., 2003; Sharif & Masoumi, 2005), Chun-Heung and French (1997) and Clare et al. (2003) argue that it is the context within which clinical learning takes place that is most influential in developing the necessary skills.

The operating room provides a context where students have the opportunity to develop important skills related to perioperative care, which are essential for the provision of comprehensive patient care (SANC, 2005). The significance of clinical learning in the operating room is reflected in the numerous studies undertaken in this field (Callaghan, 2010; Hughes, 2006; Crofts & Taylor, 1996; Radford & Hunt, 1999). However, to date, few studies that have investigated the operating room as a clinical learning environment in the South African private healthcare system have been published.

The aim of this article is to evaluate student nurses' perceptions of the operating room as a clinical learning environment in a South African private hospital context, with a view to developing possible recommendations, if necessary, which may contribute to the acquisition of critical skills essential to practice.

THEORETICAL PERSPECTIVES

Extensive research has been undertaken to explore the clinical learning environment (Dunn & Hansford, 1997; Sharif & Masoumi, 2005; Edwards et al., 2004; Papp et al., 2003; Lydon & Burke, 2012). These studies revealed that students were commonly dissatisfied with clinical experiences. The authors relate this to specific challenges such as decreased patient interaction in the intra-operative environment, lack of mentoring, and the high complexity of nursing practice in the perioperative environment (Hughes, 2006; Callaghan, 2010). In some instances this work has led to the development of recommendations for the improvement of students' experiences in the clinical setting as well as the improvement of the quality of the clinical learning environment for the purposes of achieving quality learning.

Radford and Hunt (1999) suggested that the perceptions of students have an influence on the quality or degree of learning taking place. These suggestions are consistent with educational literature (Entwistle & Petersen, 2004) and significant for the improvement of learning in a clinical environment. It is also clear that the environment or context in which clinical learning takes place can influence student learning.

Yardley et al. (2012:e102) support this by stating that 'learning is situated', occurs from interaction with factors in the environment and is initiated by exposure to 'authentic or workplace learning'. Workplace learning provides an opportunity for students to gain concrete learning experiences that may lead to integration with theory and abstract concepts (Yardley et al., 2012). However, workplace learning also provides multiple influences, depending on the context, which may affect the learning and the perceptions thereof for each individual student.

The link between the learning experience and the environment within which it occurs has also been described in the nursing context. A study conducted in 2004 by Silen-Lipponen et al., showed that negative attitudes of staff in the operating room together with the negative atmosphere in the learning environment contributed to feelings of anxiety and incompetence by the student nurses. They further highlighted that these negative attitudes towards students contributed to unsuccessful learning. Callaghan

(2010) also noted that students had negative perceptions of the operating room not only due to lack of experience in this specialty, but also because of negative clinical learning experiences. It is clear that there are challenges to clinical learning in the operating room, which may provide a distinctive context for learning.

As a result, students' perceptions of this area as a learning environment may differ from other clinical areas. The operating room may also offer different experiences, characterized by the interaction between the student and medical staff, patients, operating room nursing staff, the operating room culture, and even equipment and procedures (Durning & Artino, 2011). For example, Silen-Lipponen et al. (2004) state that nursing students perceive the operating room as a highly stressful environment, possibly due to the nature of the procedures, in terms of level of medico-legal risks, the high patient turnover, and the urgency of the procedures performed. These conditions may not be present in other specialties.

A further factor that needs to be considered, given the setting of the present study, is the impact on learning in some of the private sector health care settings in South Africa. Typically, in this context, emphasis is on profitability and consumer demands, which may necessitate increased patient throughputs (Goh & Watt, 2003). Under these conditions, student learning may not receive the necessary attention, especially where students are integrated into the workforce as full-time employees (Breier et al., 2009). This integration may be advantageous in circumstances where students have the opportunities to have a 'hands on' experience, however minimal time may be available for structured facilitation by mentors and staff. This has serious implications for clinical learning especially in an unfamiliar area like the operating room. To augment this, the unpredictable nature of the environment limits the implementation of a structured teaching program, which is recommended to improve learning experiences (Radford & Hunt, 1999). Against this background, the specific objectives of this article is to determine students' perceptions of the operating room as a clinical learning environment in a private hospital context, and propose recommendations to improve clinical learning in this context.

RESEARCH DESIGN

In this study an exploratory, interpretive and descriptive design, generating qualitative data was utilized, to explore nursing students' perceptions of the operating room as a clinical learning environment (De Vos et al., 2011).

Population and Sampling

This study was conducted at a private nursing education institution located in a metropolitan area in the Western Cape. At the site where this study was undertaken, the total number of the fourth-year bridging course nursing students was sixty-five (N=65). These students were selected as the population, because their intense training, through the different disciplines gives them a broad view into the different specialties in nursing and helps them determine the quality of the learning environment.

Purposive sampling was used where students from each of the five hospitals (where the clinical placements are undertaken) were selected. The recruitment targeted those participants who had exposure to the operating room. From the students who were selected (N=40), those willing to participate were included in the study. Stoker 1985 in De Vos et al. (2011) recommend a sample size of between 64% and 80% for a population size of forty. The total sample size for this study was twenty-two (N=22). Participation was completely voluntary.

Data Collection

To generate the data, a survey in the form of a questionnaire, containing open-ended questions and a focus group discussion was used. In both instances, participants were given the opportunity to engage in reflective practice (Bulman & Schutz, 2004). To assist them in this process, both the questionnaire and the focus group discussion were based on an adapted version of Gibbs' cycle of reflection. According to this cycle, a series of six questions are presented to the interviewee (Figure 1). These questions were adapted specific to the content of this study, by studying the relevant literature through exploratory analysis (Burns & Grove, 2005) (Addendum A).

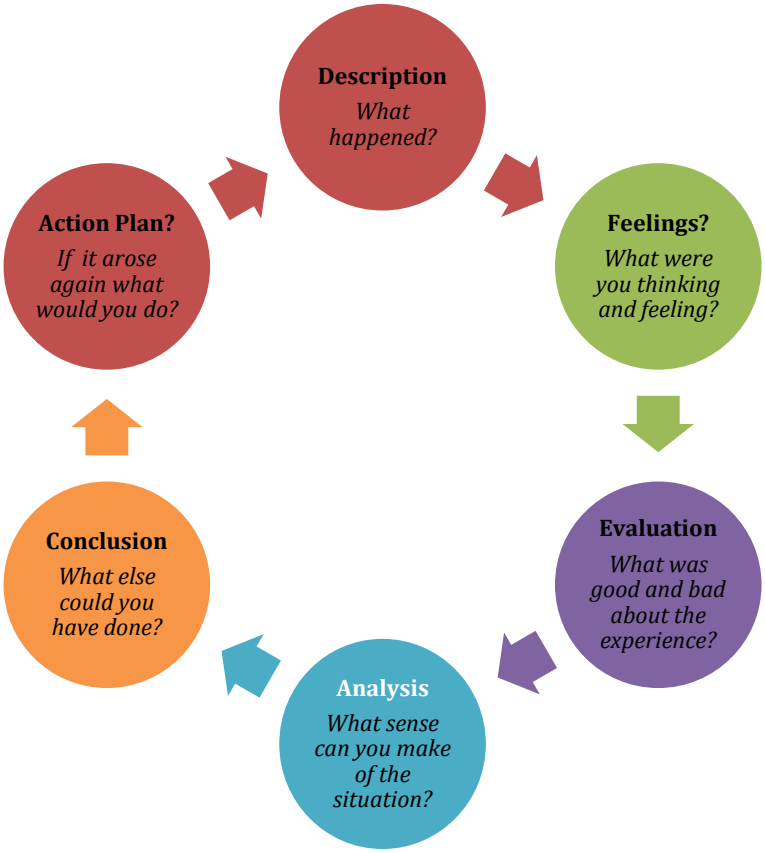

Figure 1: Gibbs' Reflective Cycle (Palmer et al., 1994)

An open-ended questionnaire was chosen as it encourages the participant to consider their thoughts (Bolton, 2001) before arriving at a decision. Forrest (2008) adds to this by indicating that the process of writing facilitates the act of contemplation, thus allowing time for the participant to reflect on the value of the experience before recording their thoughts.

After a routine lecture, the researcher who is not their lecturer, but who works at the institution as lecturer for second year students, explained the study, research process, reflective cycle and questionnaire to the students. The questionnaires were handed out to the ten participants (N=10) who were willing to participate. The participants were then given the opportunity to complete the questionnaire in the absence of the researcher. Completion of the questionnaire took approximately forty-five minutes.

Although only eight questionnaires (N=8) were returned, this response rate was still useful (80%). The open-ended questionnaire used in this study, required in-depth descriptions and explanations of students' perceptions, which produced valuable data.

To further probe issues presented in the questionnaire, a focus group discussion, which was conducted by the researcher, was undertaken a week after receiving the completed questionnaires. This allowed further exploration of students' perceptions by delving deeper into issues and by using group dynamics to elicit information not revealed by the questionnaire. Probing was used when clarification was needed (Polit & Beck, 2012). According to De Vos et al. (2011) focus group discussions may be used as a method to better understand how people think or feel about a certain subject, recommending a sample of six to ten participants for a focus group discussion with an over-recruitment by twenty percent. For this study, a group of twelve participants (N=12), not involved with the questionnaire, was invited to take part. All twelve participants agreed to take part. The focus group discussion lasted approximately one hour. The audio-taped discussion was then transcribed by the researcher.

Data analysis

Data gathering and analysis was conducted iteratively. Typically, data analysis for qualitative studies occurs in three phases: description, analysis and interpretation (Burns & Grove, 2005). Description involved the researcher familiarizing herself with the data by reading and capturing its essence. The written answers from the questionnaires were examined repeatedly to identify components that responded to the study objectives. The information was then prepared and analyzed. Analysis took place sequentially by open coding, categorizing of data, and identification of themes (DeSantis & Ugarriza, 2000). Themes were then classified and reduced to reflect relationships and other essential features (Burns & Grove, 2005). After transcription of the focus group discussion, member-checking by participants was carried out to ensure trustworthiness. The transcribed text was then read repeatedly to identify parts which responded to the study objectives. These aspects were then analyzed and coded into themes.

Ethical Approval

Ethical approval was granted by the relevant Ethics Committee for implementing the research (S14/01/005). The permission of the head of the nursing school was obtained to allow the researcher to collect the data. Participation was completely voluntary and

informed consent was obtained from each participant. The identities of the participants were not disclosed to anyone and participants were allowed to speak in the language that they preferred.

RESULTS

This study explored the responses of individuals who participated in the questionnaire and the focus group discussion. Interrogation of the data relating to perceptions of the operating room as a clinical learning environment led to the emergence of four themes. These themes, namely, 'interpersonal factors', 'educational factors', 'private operating room context', and 'recommendations', relate to context, which is the overarching theme in this study. Although data analysis of the questionnaire and the focus group discussion were conducted as individual components, themes that emerged from both data sources were interwoven. What surfaced from the questionnaire facilitated the understanding of the data from the focus group discussion. These themes are reflective of the factors that influenced the quality and degree of learning encountered in the operating room, and whether, ultimately, the operating room provided an environment conducive to meaningful clinical learning.

Questionnaire

Theme 1: Interpersonal Factors

This theme reflects the interpersonal factors in the operating room expressed by participants, which may have influenced their perceptions of this area during their clinical learning experiences. The divergent emotions described in the questionnaire indicate that the operating room presents both enablers and constraints to learning. Interpersonal factors, which may have presented constraints to learning, include those that created feelings of inadequacy amongst students.

> [1] R 7*: Staff made us feel unwelcome and stupid as they don't even try to give you a chance.*

[1] R: Refers to respondent

R 4: Theatre staff and doctors are rude…not open-minded and don't have time to teach students.

Alternatively interpersonal factors which served as enablers to learning as expressed by participants included acknowledgement:

R 6: my input was acknowledged by the permanent staff.

Theme 2: Educational factors

This theme elucidated participants' educational experiences and opportunities in the operating room, which influenced their perceptions of this area. Participants expressed the lack of meaningful experiences in the operating room as a key factor in influencing their learning. These factors limited learning and therefore appeared to be constraints:

R 8 *All I learnt was to charge stock-that's all and open packs. That's all that they allow us to do. And fetch equipment for them.*

R 5 …and the theatre nurses did not want me as the student to touch the equipment.

R 1 *They let us work only in receiving area most of the time.*

In addition, the extent to which operating room staff engaged in teaching and learning activities with the participants, and the support offered, negatively influenced how the participants perceived this area.

R 1 *Nobody is giving proper orientation. Nobody explains to students what to do in the theatre.*

R 4*: Staff don't have time to teach students.*

R 7 *So I did what I could, opening dressing packs, preparing the patients on the table…. But then was told to stand in corner and watch.*

Two participants, whose operating room placement was situated at different hospitals, expressed value in what they learnt, which appeared to have created a positive perception of this area:

R 1 *Good experience was to learn how to scrub for surgical operation.*

R 2 *The good thing was being exposed to the different operations done and that has helped to feel and have more compassion for the patients….*

Other positive learning outcomes included a better understanding of anatomy, pain management, doctor's orders and pharmacology.
Participants viewed assertiveness as a positive outcome of their learning experiences. Some indicated that assertiveness ensured survival and may have enabled a better learning experience.

R 5 *Being able to ignore the negative attitude and start to ask questions to the operating doctor on the procedure being done.*

Theme 3: Recommendations

This theme reflects the opinions and suggestions made by participants that may enable learning in the operating room in future. It appears that there is a willingness to learn on the part of the students, if adequate attention is given to orientation, and the correct attitudes and behaviours towards their teaching role was embraced by the operating room staff members.

R 1 *More explanations to students, more exposure to operating theatres and orientation to students…*

R 2 *Students should not be used as workforce in the operating room and given opportunities to ask questions about the operations.*

Focus Group Discussion

Interrogation of the data from the focus group discussion resulted in similar themes to that of the questionnaire.

Theme 1: Interpersonal factors

As with the questionnaire, interpersonal experiences that were enablers to learning including acknowledgement and respect from doctors were described in the focus group discussions. Two participants indicated that this contributed to their feelings of inclusiveness as team members:

> [2]FGD (b): *…doctors that you assisted during that time, once they get you in the ward, on a ward basis, they have like more respect…they more approachable firstly, and then secondly your opinion almost like means more.*

> FGD (a) *You can approach them and they will tell you exactly what they did, why they did it. …. And that is a very positive thing.*

Displays of teamwork and coping with stress, also seemed to have enabled learning.

> FGD (h) *For me, it's the way they operate as well. They operate smoothly. Its like they know exactly what's happening…and that's how nice they working and its as a team.*

> FGD (k) *they've got that thing to cope with the stress so to me it was more like… being able to cope with the stress.*

A possible constraint to learning was the perception that the operating room was not student friendly. This was specifically related to participants feeling undermined and underestimated by nursing staff:

[2] FGD: Refers to focus group discussion

> FGD (c) *…made us feel unwelcome and stupid. As they don't even try to give you a chance…. They don't want us to learn.*

Another constraint to learning was the feeling of anxiety expressed by some participants before their clinical placement. This anxiety was attributed to fear of the unknown and previous negative encounters.

> FGD (f) *I was also scared because I didn't know what to expect and also from the closed doors and stuff…*

> FGD (b) *I was not looking forward to theatre at all because when you take the patient to theatre… sometimes they not always friendly so I didn't look forward to it ….*

Theme 2: Educational factors

This theme is similar to that of the questionnaire, and further deepens the understanding of the enablers and constraints to learning. The lack of meaningful experiences and the unwillingness of operating room staff to teach are evident as constraints to learning. Participants indicated that they did not see the benefit of this placement for their training.

> FGD (j) *It's pointless to be there and I'm not even doing anything that's towards my training and ...*

> FGD (c) *There's no teaching anymore…or orientation. They don't explain to the student how to open the sterile packs. Only thing, when you assist them 'no, no, no go away from my sterile packs!'…*

In contrast, one participant indicated a positive learning experience as a result of proper orientation, guidance and mentoring by the operating room staff. This was the same participant who had indicated positive interpersonal interactions with staff in the operating room.

> FGD (d) *I want to disagree … I had the most amazing theatre experience when I was there like maybe for the first week, it's orientation week. So they took you around, showed you where the things are, where it's kept. I asked questions all the time…they were more than happy to explain what they were doing…*

Another factor that may be an enabler to learning was the idea that this context allowed better integration of theory with practice:

> FGD (k) *What I also experienced is doing the things practically there …like for instance, the handling of the swabs. You can see the picture then you can write about it in the test.*

Self-directed learning was also evident, where one participant took the initiative to make the experience more meaningful by observing activities, and later recalling these events to make sense of it:

> FGD (a) *with your eyes you picked up a lot of stuff so you enrich yourself. You empowered yourself by looking, remembering and then go home and 'okay I did learn this today...*

Theme 3: Private Operating Room Context

This theme reveals participants' perceptions of specific experiences in the private operating room context, which may have influenced their learning experience. Participants indicated that the lack of time, high pace, and stressful nature within the private operating room were constraints to learning:

> FGD (c) *The pace here is high, there's nobody who has got time for anything, theatre cases are long and there was really no time.*

In addition, the differences between the private hospital and public hospital operating room contexts were emphasized. One participant indicated that the lack of mentoring

and teaching in the private hospital operating room might be as a result of the focus on profitability and cost to patient.

> FGD (l) *I think that the difference between the government and the private is the cost to the patient. If the sister needs to take time off during an operation to teach you something, it's going to cost the patient more. Whereas in government, they don't determine that cost to the patient based on the time that patient spent. So they can teach you.*

> FGD (c) *I would work in a theatre of government because from the day I walk in, there's a specific matron there or a person in charge of allocating students who identifies your needs.*

The unpredictable nature of the operating room was perceived as an enabler to learning since it offered a stimulating environment. The idea that this area also enhances a scarce skill was also expressed.

> FGD (l) *it's a place you can grow, you can learn… it's an unpredictable environment …. Its always exciting and you can just develop your skill.*

> FGD (d) *I would also say theatre is a scarce skill all over nationally. …, you'll always have a good job and there's a lot of opportunity to learn…*

Theme 4: Recommendations

A unanimous recommendation amongst most participants in the focus group discussion was the need for future students to be more positive about the operating room placement. This included positive attitudes, willingness to be a part of the team, positive body language and a willingness to learn.

> FGD (h) *So I would really suggest to students be more positive, see it as a learning opportunity, where you can learn a lot.*

> FGD (l) *nobody is going to stop their routine for you. So you need to also decide to be part of the team instead of just standing away and wondering when someone is going to welcome you in.*

Other constructive recommendations included the need for a specific mentor in the operating room, proper orientation, guidance, preparation, involvement from staff, and improved communication.

> FGD (h) *I would actually have somebody mentoring. Somebody taking you for the day or week, just to introduce and orientate you. But specifically one person…*

> FGD (d) *I think you must have a workshop before you actually get placed there so you understand sterility and the role of everybody in the theatre that when you do come there you don't feel like an outsider and have all the bad experiences.*

DISCUSSION

Clinical placement of student nurses in the operating room is a standard requirement in South Africa. This study has highlighted some of the challenges experienced by students in the private sector operating room context. Despite the potential learning opportunities present in this context, the key findings in this study reveal negative perceptions of students regarding learning experiences in the operating room. Other new insights into students' perceptions of this area as a clinical learning environment have also emerged. This discussion is organized according to the constraints and enablers to learning, which emerged from the four themes.

This study reveals that the operating room context evokes feelings of anxiety. According to the students, these feelings are mainly due to fear of the unknown and previous negative encounters. Students also attributed this anxiety to lack of preparation before their operating room placement, by mentors, whose primary function is to prepare and guide students during clinical learning (Netcare, 2013). This finding has been previously substantiated by Lydon and Burke (2012) as well as

Espiritu et al. (2012) who also found that poor preparation of students before clinical placement often led to negative learning experiences.

Another interpersonal constraint to learning was what students reported as feelings of inadequacy and exclusion, emanating from negative attitudes and behaviours of operating room staff towards their teaching role. This appears not to be unique to this context, and has been reported in other South African (Mogale, 2011; Mabuda et al., 2008), as well as international (Sharif & Masoumi, 2005) studies. The outcome of these negative experiences could well impact perilously on the students' own development as nursing professionals, and hence adversely affect the quality of nursing after graduating. Therefore, inclusiveness, together with adequate support in clinical learning activities is essential for effective experiential learning (Yardley et al., 2012).

Interpersonal relations, when they are positive, may also produce enablers to learning, as noted in this study. Some students reported that respect, positive attitudes, and acknowledgement from doctors in the operating room were enablers to learning. This is in contrast to a previous study where negative attitudes of doctors in the operating room were noted as factors contributing to the negative experiences of students (Silen-Lipponen et al., 2002). In this study, students who reported positive attitudes by doctors described an increase in the number of learning opportunities.

Furthermore, displays of good teamwork and stress management skills amongst operating room staff seemed to have had a positive impact on some students. Hughes (2006) shared similar findings in her study. Students who reported good teamwork also acknowledged that the operating room is an area that has potential for positive clinical learning experiences.

Students in this study also highlighted the need for support. Yardley et al. (2012) emphasized the lack of support as a prominent factor in inadequate conceptualization of learning experiences. Sewchuk (2005) suggested that a transformation of experiences into learning through guidance and reflection by the mentor was critical to promote learning in the student. The development of critical knowledge and skills may also be dependent on supportive staff-student interactions (Henderson et al.,

2009). Most students indicated that minimal mentoring by nursing staff, accompanied by the absence of a designated mentor was a constraint to learning.

Another constraint expressed by students, was the lack of what they described as meaningful experiences. Although some students found their experience in theatre very valuable, most students indicated that there was a lack of opportunities to engage in experiences that contributed to their learning. Contrary to findings by Callaghan (2010), it would appear that these students generally valued active involvement in complex operating room learning activities but expressed negative perceptions of this area. Dewey (1938) in (Yardley et al., 2012) advocated active engagement in meaningful experiences for experiential learning to take place. This is necessary for the acquisition of applied knowledge relevant to clinical learning. However the suggestion that students are to some extent responsible for their own learning is also highlighted.

The idea of student responsibility is congruent with the study by Dunn and Hansford (1997), who found that students taking on a more assertive role while in the operating room were more likely to achieve their own learning outcomes. This perspective is also shared by findings in this study, where it appears that students developed assertiveness as a result of negative learning experiences. Teunissen and Westerman (2011) discuss self-directed learning as one of the unplanned realities of learning in the clinical learning environment. This is also evident in this study where one student explained that reflection allowed her to understand the challenges in the operating room and stimulated a more proactive stance to gain knowledge. Students also recommended ownership for their own experiences that may enable learning, by suggesting a change in attitudes e.g. positive attitudes, willingness to be a part of the team, positive body language and a willingness to learn.

Furthermore, the opinion that the operating room offers an opportunity for integration of theory and practice was a contextual factor that served as an enabler to learning. In addition, students reported that knowledge and skills unique to the operating room such as anatomy, pain management in the recovery room, and pharmacology were beneficial. However other contextual issues that were constraints to learning, as

reported by the students were the fast paced and stressful nature. These factors are consistent with findings from the literature (Hughes, 2006; Lydon & Burke, 2012).

Another contextual issue evident in this study was the emphasis on profitability and cost to the patient in the private healthcare operating rooms, to which students associated the lack of interest in teaching. Students also highlighted the absence of a mentoring process in this context. Although the abovementioned factors may be considered a priority in private healthcare institutions, supervision and learning should not be compromised, since poor supervision of students in the clinical area impacts negatively on patient care and standards of quality (Kilminster & Jolly, 2000).

The majority of participants indicated a lack of interest in selecting the operating room as a specialty, and this trend was also noted by Lydon and Burke (2012). Some students who did indicate that they would select the operating room admitted that this would be only for the monetary benefits and convenience. This has serious implications for the future of nurse training and the recruitment of qualified nurses in the operating room.

To address the challenges encountered in this study, the following suggestions may provide a way forward. Exploration into the specific preparatory needs of students specific to learning outcomes before operating room placement may be considered. It would be necessary to improve collaboration and communication between lecturers, mentors and theatre managers so that a structured teaching programme may be developed for students entering the perioperative environment (Radford & Hunt, 1999).

In addition the appointment of designated preceptors may be necessary to increase support for students while on clinical placement. Registered nurses working in the operating room who are interested in teaching could be designated preceptors. Explicating the learning objectives of the students undertaking clinical placements in the operating room to improve preceptor roles may also be necessary (Callaghan, 2010).

The qualitative nature and context of this study limits the generalizability of the findings, despite the fact that they are consistent with contemporary literature in this field. In addition, this study is silent on the voices of staff in the operating room. Research that would explore operating room staff experiences with students in the operating room would address this omission. There are also certain areas in this study that could be explored further such as the reasons why students perceive this area as an opportunity for growth and development, despite the generally negative experiences described.

CONCLUSION

This study explored students' perceptions of the operating room as a clinical learning environment. It is evident that students perceive the operating room as a context that has potential to offer clinical learning opportunities. This study also highlighted the benefits of good interactions with doctors in the operating rooms for student learning. These interactions should be nurtured so that students gain confidence in this clinical area. However, negative and restraining attitudes of the nursing staff seem to have the greatest influence on perceptions of students. It is reasonable to say that there are several opportunities for research in this area. Understanding operating room staff perceptions of students in the operating room may shed some light into reasons for perceived negative attitudes. Research into the extent of transferability of operating room skills to other departments may also reveal the value of operating room placements for the nurturing of critical skills.

Conflict of interest statement

None Declared

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4. CLOSING COMMENTS

This assignment has explored student nurses' perceptions of the operating room as a clinical learning environment. The assignment has been presented in the format of an article. An extended literature review and research methods section has been provided to supplement the article. This study highlights the challenges present in one of the South African private healthcare operating room contexts. Despite the potential opportunities for clinical learning present in this context, negative and restraining attitudes of the nursing staff seem to have the greatest influence on perceptions of students. Exploration of operating room staff experiences with students in the operating room may shed some light into reasons for these attitudes. This study also reveals other areas of concern, which may provide opportunities for future research.

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ADDENDA

Addendum A: Open - ended questionnaire for reflection.

STUDENTS' PERCEPTIONS OF THE OPERATING ROOM AS A CLINICAL LEARNING ENVIRONMENT

PURPOSE OF THE QUESTIONNAIRE: To gain your opinion on the operating room as a clinical learning environment

To enhance the ethical standards for health sciences education research, the researcher will do the following:

- Respect the wishes of those who decide not to participate
- Allow all expert participants to influence the work
- Ensure the development of the research remains transparent and open to suggestions from others

QUESTIONNAIRE SECTIONS:

- **Section A asks** Biographical Data
- **Section B focuses on the questions for reflective practice**
- **Section C relates to your recommendation**

INSTRUCTIONS:

- **Please complete each question using a ✓ and/or provide a brief response/comment**
- **Your recommendation/ opinion can be given within the comment sections**
- **It will take approximately 45 min to complete the questionnaire**

SECTION A. BIOGRAPHICAL INFORMATION

Age :

Gender :

Please indicate if you are currently working in the operating room or have completed your rotation

	Yes	No
Current		
Completed		

Please indicate at which hospital you undertook your operating room placement

……

SECTION B: REFLECTING ON YOUR EXPERIENCE IN THE OPERATING ROOM.

1. Describe how you felt about the operating room clinical experience prior to your clinical rotation in the operating room.

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2. Describe your learning experience in the operating room.

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3. How did the experience make you feel? Please explain.

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4. Would you consider the operating room to be an environment suitable for students? Please substantiate your answers.

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5. Describe what was good/bad about your experience in the operating room.

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6. Explain the factors that contributed to a positive learning experience/enhanced learning in the operating room? Please substantiate your answers

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7. Explain the factors that contributed to a negative learning experience/impeded learning in the operating room? Please substantiate your answer.

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8. Is there any way you could have changed your learning experience (positive/ negative) in the operating room?

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9. Would you consider the operating room as your area of specialty? Please briefly explain your answer, stating reasons for your decision.

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10. Please indicate if the learning experience in the operating room enriched your level of competency in any way? Please substantiate your answer with specific reference to:

knowledge……

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skills……

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values (respectful, friendly, patience, love for work, honesty, caring sharing, punctual)

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attitude

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SECTION C: RECOMMENDATION

11. What can you recommend to improve learning experiences and nursing practice in the operating room?

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……

Thank you once again for supporting the research for my Master degree, your time and commitment is greatly appreciated.

Yours respectfully,

Rhoda Meyer

Addendum B: Participant Information Leaflet and Consent Form

TITLE OF THE RESEARCH PROJECT:

Students' perceptions of the operating room as a clinical learning environment

REFERENCE NUMBER:

PRINCIPAL INVESTIGATOR: Rhoda Meyer

ADDRESS:

Centre for Health Professions Education
Faculty of Medicine and Health Sciences
Stellenbosch University
PO Box 19063; Francie van Zijl Drive
TYGERBERG
7505

Tel: +27 21 938-9047; Faks / fax: +27 21 938-9046

CONTACT NUMBER: 0827055765

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the Health Research Ethics Committee at Stellenbosch University and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?

This study aims to investigate students' perceptions of the operating room as a clinical learning environment. You will be requested to complete a questionnaire consisting of open-ended questions, or to participate in a focus group discussion. The researcher will collect all data and no field workers will be involved. The questionnaire and focus group discussion will take approximately 45 minutes to an hour of your time. There will be no procedures that will cause discomfort to you as the participant and there are no risks involved in participation in this study. The study will take place at the Netcare Education Campus. The total number of participants that will be recruited is about 22.

Why have you been invited to participate?

You have been invited to participate in this study because as a fourth year bridging student with experience in different specialties in the clinical learning environment, you have the potential to contribute significantly to the study. By expressing your views on your perceptions of the operating room as a clinical learning environment you may contribute to understanding

the challenges faced by students in this environment with the aim of developing recommendations to improve clinical learning in the operating room.

What will your responsibilities be?

You will be responsible for completing the questionnaire as honestly as possible and handing it over to the researcher.

Will you benefit from taking part in this research?

There are benefits for future students. Once the perceptions of students are identified, recommendations may be made regarding the improvement of conditions for clinical learning in the operating room so that a quality learning experience is provided.

Are there risks involved in your taking part in this research?

There are no risks involved in your taking part in this research.

If you do not agree to take part, what alternatives do you have?

You may choose not to participate.

Who will have access to your medical records?

The identity of the participant will remain completely anonymous, as no form of identification is required. Research Ethics Committee members may request to inspect research records. However, the participant still remains anonymous.

Will you be paid to take part in this study and are there any costs involved?

No you will not be paid to take part in the study. There will be no costs involved for you, if you do take part.

Is there any thing else that you should know or do?

- You can contact Mrs Rhoda Meyer at tel 021 9495271 if you have any further queries or encounter any problems.
- You can contact the Health Research Ethics Committee at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by your study staff.
- You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I ……..……. agree to take part in a research study entitled *Students' perceptions of the operating room as a clinical learning environment.*

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.

- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurized to take part.
- I may choose to leave the study at any time and will not be penalized or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interest, or if I do not follow the study plan, as agreed to.

Signed at (*place*) .....…..…….. on (*date*) ……...…….. 2014.

..... …….

Signature of participant Signature of witness

Declaration by investigator

I *(name)* ……..…… declare that:

- I explained the information in this document to ……..
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use a interpreter. (*If a interpreter is used then the interpreter must sign the declaration below.*

Signed at (*place*) .....…..…….. on (*date*) ……...…….. 2014.

..... …….

Signature of investigator Signature of witness

Declaration by interpreter

I *(name)* ……..…… declare that:

- I assisted the investigator (*name*) …… to explain the information in this document to (*name of participant*) ……..…….. using the language medium of Afrikaans/Xhosa.
- We encouraged him/her to ask questions and took adequate time to answer them.

- I conveyed a factually correct version of what was related to me.
- I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*) .....…..……. on (*date*) ……...……..

.....	……..
Signature of interpreter	Signature of witness

Addendum C: Extract from the Transcription of the Focus Group Discussion

I (Interviewer)	What did you see there that would have helped you with the rest of your training?
P (b)	'Like especially with us…the anatomy, kind of like you see it more…like the scopes and stuff like that. The insides, how it really looking, not just the book picture'.
P (h)	'For me personally it's the pain management. If you see what the patient is going through, it might be a small cut, but underneath, underneath its like they wiggle that skin so much you can understand why the patient (clears throat) pardon, why the patient is in so much pain when he gets to the ward so you can understand the pain management better. And you can appreciate...doesn't matter how small the cut is that patient went for trauma and is in pain. And you cannot determine a small cut 5cm eh..just give a panado or a brufen. but the patient...when you see it then you understand it totally much better. Pain management for me'.
P (d)	'You also understand the doctor's orders and you understand why they so particular about certain things. Because you actually understand the procedure that was done and you were there and you took witness so you know why they stress about certain things. And you in the ward don't really know why they so...why they making such a fuss about it but you can understand why certain things had to be done'.
I	Okay any other feelings?
P (j)	'My experience was bad…really bad. Like I said, in such a way that I didn't want to come to work anymore and as a BC student I felt like I'm useless. It's pointless to be there and I'm not even doing anything that's towards my training and yes'...
P (i)	'As a Bridging Course student I enjoyed theatre as compared to my Pupil Enrolled Nursing 2 because I go to theatre first time in my Pen 2 studies. I really enjoyed this time because you can choose which theatre you want to go to. So it was a very nice…I learn more'.
P (a)	'As a BC student, the only time I've..and I **don't** like theatre, is when I was with a ex-Netcare student. She was doing small like Ear, Nose, Throat stuff for the doctor and she said to me 'come, you can stand by here, do this, do that' and that was for me very nice. And the doctor 'oh you student, no, you can do it'. The doctor was 'I need this'. And that was for me very nice. And I was like praying for Friday mornings just to be there. Doing something, being appreciated. Even if just opening that syringe'. (Everyone laughs)
I	Ok so that brings us to what was good about the operating experience, because you described now a lot bad things and we've now touched on some of the good things. So what was good about your experience? What was good about your experience in the operating room?

P (e)	'It's like one day there we were watching this patient. Like what it was..a big lady you know. For me it had been a fear for me to look at a bigger person lying in that bed. Anyway, this lady had a procedure that day. They were removing her colon-the whole colon actually. But it took about, more than many hours because of the fact, the condition of the patient and then...and then most of the skin because she came there with a wound in the stomach that was already opened, so by the time she went to theatre the skin didn't look healthy at all. So anyway the procedure had to be done. So during the time now that they were closing the patient, the procedure took longer than it was supposed to happen. And many doctors, I think about three surgeons had to change each other to close now the patient. Anyway now, before the patient was now taken out of theatre because she was going to be ventilated, into Intensive Care Unit (ICU). So the fight between now the anesthetic doctor and the surgeon, so that kind of gave us an interesting way, the way now the doctors can talk very disturbing language over each other (others laugh) and then again the same doctor can go and have coffee there. Because after the procedure, the patient was sent to ICU. So the same doctors that were shouting at each other had to go to tea and then they had a cup of coffee and they were speaking nicely about this procedure now. But it was very interesting for me that we as nurses, we can go home fighting each other but as the doctors, they don't even take about 15 minutes...that they can make peace. Because the following day they work together - the surgeon and the anesthetic. So I really felt like if we can understand as the nurses each other like that, that we are colleagues, we are there to work with each other. Not making enemies of each other. Anyway I had an interest in that patient that I even followed that patient in ICU that I made it personally to go in there just to see how the condition it was. So eventually she could not make it because she died in two weeks. So I could understand because it was a really really heavy procedure that she underwent. And the fact that the lady was speaking before the procedure - the way she was feeling uncomfortable and nagging to go that she really like kind of didn't want to do the procedure. Also she didn't have a choice that the procedure had to be done'.
P (j)	'To her point_____you must work with your enemies so that they become your friends. That's what the doctors did'.
P (f)	'What I also experienced is doing the things practically there and at the end of the day you can when you have to write the exams you can get that picture in your head and you can write about that. Like for instance, the handling of the swabs. You can see the picture then you can write about it in the test'.
I	Okay, any other positive?
P (k)	'I think theatre is the most stressful environment its eh as Tusi said, the people they shout at each other but the following day you will still see the same people, meaning they've got that thing to cope with the stress so to me it was more like..being able to cope with the stress'.
P (h)	'For me, it's the way they operate as well. They operate smoothly. Its like they know exactly what's happening, what time and…its like a factory. The one affects the other one. And that's how smooth they working and you can see 'okay within 15 minutes, 10 minutes we must clean up for the next procedure to come'. And they know exactly 'okay now its time break, now its time for Dr Gunter to come and do his procedure' and that's how nice they working and its as a team. They work together as a team'.
I	So that was a positive experience?
P (h)	'That's a positive side of it'.

Addendum D: Nurse Education in Practice Author Guidelines

NURSE EDUCATION IN PRACTICE

- **Presentation of Papers**

Original Research articles and reviews should be up to 5000 words including in-text references, but excluding abstract, keywords and the bibliographic reference list (authors should include a full word count, with their article submissions).

Issues for Debate: The Editor welcomes papers which will stimulate debate and have a direct impact on nursing and midwifery education and scholarship. Issues for Debate papers should not exceed 2,500 words, including in-text references, but excluding abstract, keywords and the bibliographic reference list

Midwifery Education papers: Original research, reviews and Issues for Debate articles that pertain specifically to midwifery education are all welcomed by the Editorial team. The usual guidelines for article length and format (as outlined in these Guide for Authors) should be followed. At point of submission, authors are requested to select 'Midwifery Education Paper'.

Learning and Teaching in Practice: Original research, reviews and Issues for Debate articles which focus on nursing education in the clinical/practice environment are welcomed. The usual guidelines for article length and format (as outlined in these Guide for Authors) should be followed. During the submission process you will be asked to select that your article is to be submitted for the Learning and Teaching in Practice section.

Guest Editorials: The Editor encourages Guest Editorials to be submitted on a variety of current issues impacting and influencing nursing and healthcare education. Guest Editorials can have a national or international focus. Editorials should not exceed 1,500 words.

Please check your text carefully before you submit it, both for correct content and typographic errors. It is not possible to change the content of accepted papers during production. Do not use 'he', 'his' etc where the sex of the person is unknown; say 'the nurse' etc. Avoid inelegant alternatives such as 'he/she'. Nurses should not be automatically designated as 'she', and doctors as 'he'.

- **PREPARATION OF THE MANUSCRIPT**

Covering Letter

In the covering letter to the editorial office, we ask you make a true statement that all authors meet the criteria for authorship, have approved the final article and that all those entitled to authorship are listed as authors. We also ask that the covering letter provides a statement to confirm that the work is original and has not previously been published elsewhere (either partly or totally), and is not in the process of being considered for publication in another journal.

Title Page:

• The **title page** should be provided as a separate file.
• Your **title page** should give the **title** in capital letters, below which should be the authors' names (as they are to appear) in lower-case letters.
• For each author you should give one first name as well as the surname and any initials.
• Authors should provide email address, a daytime contact telephone number and fax number, if available.

Keywords

Include three or four keywords. The purpose of these is to increase the likely accessibility of your paper to potential readers searching the literature. Therefore, ensure keywords are descriptive of the study. Refer to a recognised thesaurus of keywords (e.g. MEDLINE, CINAHL) wherever possible.

Abstracts

An **abstract** of your paper, a maximum of **200 words** summarising the

content, should follow the title page. Abstracts should **not** contain headings, references or abbreviations.

Presentation of the Manuscript

Manuscripts should be prepared to the word limits above. Please note that papers not formatted in this manner will be returned to the author for amendment before entering into the editorial and peer review process. In particular please take care to follow the instructions for the formatting of references.

To facilitate anonymity in the peer review process, the authors' names and any reference to their addresses should only appear on the title page and not on the manuscript. Authors should also ensure that the place of origin of the work or study, and/or the organization(s) that have been involved in the study/development are not revealed in the manuscript.

All manuscripts should be presented using a font size of 12 or 10 pt, double-line spaced with wide margins (2.5 cm at least) and numbered pages.

Headings

The content of your paper should determine the **headings** you use. If yours is a research paper the headings should follow the usual layout; such as: **Introduction, Background/Literature, Research Design, Data/Results/Findings, Discussion, Conclusions.** If your paper takes another form you should use the appropriate headings, but do bear in mind that headings should facilitate reading and understanding. You should use only two kinds of headings; major headings should be indicated by underlined capital letters in the centre of the page whereas minor headings should be underlined, have lower-case letters (beginning with a capital) and begin at the left hand margin.

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Citations in text:

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Avoid citation of personal communications or unpublished material. Citations to material in press (i.e accepted for publication) is acceptable. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication. Citation of material currently under consideration elsewhere (e.g. "under review" or "submitted") is not accepted.

In-text citations:

All citations in the text should refer to:

1. *Single author*: the author's name (without initials, unless there is ambiguity) and the year of publication;
2. Two authors: both authors' names and the year of publication;
3. Three or more authors: first author's name followed by 'et al.' and the year of publication. Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically.

Where a quotation is used within your paper the author, date and page number should be given, e.g. "...with Baernholdt et al. (2010, p.1346) in the US arguing that 'community connectedness is both a help and a hindrance'."

Example: "Demonstrating is one way of modeling excellence in practice, removing extraneous distractions and allowing the students to immerse themselves in the 'ideal' learning experience (Murray et al., 2008)".

Bibliographic List: References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication:

Example:

Reference to a journal article: Borneuf, A.-M., Haigh, C., 2010. The who and where of clinical skills teaching: a review from the UK perspective. Nurse Education Today 30, 197-201.

Reference to a book: Laurillard, D., 2002. Rethinking University Teaching: A Conversational Framework for the Effective Use of Learning Technologies, second ed. Routledge, New York.

Reference to a chapter in a book: Mettam, G.R., Adams, L.B., 2009. How to prepare an electronic version of your article, in: Jones, B.S., Smith, R.Z. (Eds.), Introduction to the Electronic Age. E- Publishing Inc., New York, pp. 281–304.

Citing and listing of Web references: As a minimum, the full URL should be given. Any further information, if known (Author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed

separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Example: Quality Assurance Agency for Higher Education, 2005a. Enhancement Themes 2006-2007. http://www.enhancementthemes.ac.uk/uploads%5Cdocuments%5Cconferenceinfo2006.pdf.

Conflict of interest

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