EXPERIENTIAL LEARNING EXPERIENCES OF EMERGENCY MEDICAL CARE STUDENTS AT A SELECTED UNIVERSITY IN KWAZULU-NATAL

A dissertation submitted in fulfilment of the requirements for the Degree of Master of Health Sciences in Emergency Medical Care in the Faculty of Health Sciences at the Durban University of Technology.

Michelle Smith

(Student No. 21137009)

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Department of Emergency Medical Care and Rescue

Durban University of Technology

SUPERVISOR : Mr. S. Sobuwa

CO-SUPERVISOR : Prof. M.N. Sibiya

DECLARATION

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

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Signature of Student

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Date

Approved for final submission

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Mr. S. Sobuwa

MSc (Med) Emergency Medicine

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Prof. M.N. Sibiya

D Tech: Nursing

_____

Date

ABSTRACT

Background

Experiential learning is a requirement as stipulated by the Health Professions Council of South Africa's Professional Board for Emergency Care. The aim is to amalgamate the practical and theoretical components of the Bachelor of Health Sciences Emergency Medical Care programme in order to produce an independent practitioner capable of handling any emergency situation to which they may be exposed. Students are to complete prescribed hours of experiential learning throughout their four years of study as regulated by the Health Professions Council of South Africa's Professional Board for Emergency Care. In addition to these hours, students are expected to perform a certain expected number of clinical skills prior to registration with the Health Professions Council of South Africa's Professional Board for Emergency Care.

Aim

The aim of this study to was to both explore and describe the experiential learning experiences of Emergency Medical Care students at a selected university in KwaZulu-Natal.

Methodology

This study employed the qualitative phenomenology design set in the interpretative paradigm. Qualitative data were collected using semi-structured interviews with a total of 29 interviews conducted. Participants were students from the Department of Emergency Medical Care at a University of Technology in Durban, KwaZulu-Natal. The data collected were interpreted using thematic analysis.

Findings

The findings of this study discovered that although experiential learning is an integral part of amalgamating theory and practice to produce paramedics capable of treating patients in any emergency situation, certain shortfalls

exist. These shortfalls were identified in the form of three distinct themes being skill exposure, clinical supervision and communication.

Conclusion

These findings cannot be generalised to all universities countrywide but may enable educators to identify mutual areas which require improvement in specific universities. By identifying these areas, changes can be made which may benefit all students in the respective Departments of Emergency Medical Care.

DEDICATION

This thesis is dedicated to my parents, Bennie and Claudia, my siblings Kyle and Louise and my fiancé Lee. Without your help, encouragement and belief in me, this would not have been possible. Thank you for the patience and understanding you showed me during my journey. Lastly, Ouma you always believed I could do anything I set my mind to, thank you.

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DEFINITION OF KEY TERMS

Advanced Life Support: An emergency medical qualification which includes the use of emergency medications and life-saving procedures over and above basic airway, breathing and circulation (ABC) (Stedman 2017).

Basic Life Support: An emergency medical qualification which encompasses the use of non-invasive emergency procedures. These procedures include cardiopulmonary resuscitation, control of bleeding and the stabilisation of fractures and the immobilisation of possible spinal injuries (Stedman 2017).

Clinical Supervision: An official, well-organised working association between two workers where one is more experienced than the other. During clinical supervision, the supervisee's clinical work is reviewed and reflected upon (Bateman, Henderson and Hill 2012).

Council on Higher Education: An independent statutory body established by the Higher Education act, no. 101 of 1997. The Council on Higher Education is the quality Council for Higher Education, advises the Minister of Education and Training on all higher education issues and is responsible for quality assurance and promotion of Higher Education Quality Committee (Council on Higher Education 2011).

Emergency Medical Care: Medical care and treatment which may be rendered at the scene of any medical emergency or while transporting any patient in ambulance to an appropriate medical facility, including ambulance transport between medical facilities (Stedman 2017).

Emergency Medical Services: A system of services co-ordinated to provide support and medical assistance which ranges from primary response to definitive care involving personnel trained in the rescue, stabilisation, transportation and advanced treatment of traumatic or medical emergencies. Emergency Medical Services is a multi-faceted response system which is usually activated by a member of public by phoning an emergency number.

Once activated, resources such as ambulance personnel, rescue equipment and first responders will be dispatched to the incident (Stedman 2017).

Experiential Learning: Any learning which assists students in using their knowledge and understanding to problems encountered in real world situations under the supervision and instruction of an instructor (Wurdinger and Carlson 2009).

Health Professions Council of South Africa: The Health Professions Council of South Africa (HPCSA) is a statutory body, established in terms of the Health Professions Act No. 56 of 1974 and is committed to protecting the public and guiding the professionals (HPCSA 2009).

Intermediate Life Support: A variety of non-invasive and invasive emergency procedures which include intravenous therapy, defibrillation and drug administration (Stedman 2017).

National Qualifications Framework: The National Qualifications Framework Act 67 of 2008 provides for the National Qualifications Framework (NQF). The National Qualifications Framework is a comprehensive system, approved by the Minister of Higher Education and Training, for the classification, registration and publication of articulated and quality assured national qualifications and part qualifications. The South African National Qualifications Framework is a single integrated system comprising of three co-ordinated qualifications Sub-frameworks for General and Further Education and Training, Higher Education and Trades Occupations (South African Qualifications Authority 2010).

Paramedicine: A sub-category of emergency medicine representing the meeting of public health, safety and healthcare. Paramedicine is representative of a shift from out-dated perception of emergency medical services as only being an emergency response system. Paramedicine is the combination of the roles and responsibilities of paramedics and represents the

highest level of the practice of out-of-hospital medicine by non-physicians (Stedman 2017).

Pre-hospital: Any environment which occurs out of the emergency department/casualty resuscitation room or place allocated for resuscitation in a healthcare setting (Porter and Mackenzie 2012).

World Health Organisation (WHO): The World Health Organisation which came into being on 7 April 1948 and has the goal of building a better, healthier future for all people all over the world. With offices in more than 150 countries, World Health Organisation staff work side by side with governments and other partners to ensure the highest attainable level of health for all people. Together they strive to combat infectious diseases such as influenza and HIV and non-communicable diseases such as cancer and heart disease Stedman 2017).

LIST OF ACRONYMS

Acronym	Full Term
ABC	Airway, Breathing, Circulation
AEA	Ambulance Emergency Assistant
AED	Automated External Defibrillator
ALS	Advanced Life Support
BAA	Basic Ambulance Assistant
BLS	Basic Life Support
BHSC EMC	Bachelor of Health Sciences in Emergency Medical Care
BTECH EMC	Bachelor of Technology in Emergency Medical Care
CCA	Critical Care Assistant
ECQF	Emergency Care Qualifications Framework
EMC	Emergency Medical Care
EMS	Emergency Medical Services
HPCSA	Health Professions Council of South Africa
HPCSA PBEC	Health Professions Council of South Africa's Professional Board for Emergency Care
ILS	Intermediate Life Support
NDIP EMC	National Diploma in Emergency Medical Care
NECET	National Emergency Care Education and Training
NQF	National Qualifications Framework
OSCE	Objective Structured Clinical Exams
SAQA	South African Qualifications Authority
WHO	World Health Organisation

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CHAPTER 1: ORIENTATION TO THE STUDY

1.1 INTRODUCTION

This study serves to both explore and describe the experiential learning experiences of emergency medical care students during their experiential learning placements. Essentially, this study looks at the day to day routine of students during their placements and takes cognisance of their opinions and recommendations. This chapter focuses on the research problem, the aim and objectives and the conceptual framework that underpins it. It also outlines the structure of the dissertation and provides a brief overview of each chapter. In order to achieve these outcomes qualitative investigation in the first person was used.

Using the first person in academic writing is one which is traditionally avoided by authors in order to remain impartial (Baker 2010). Harrison (2011) found that using the first person in academic writing is acceptable and appropriate as long as it is not overused. Below, are a few circumstances where using the first person in academic writing is deemed acceptable (Harrison 2011):

1. Including a personal, short, amusing story about yourself.
2. Establishing credibility (ethos) – here the writer convinces the audience that she is a reliable source. Notably, the best way to do this is to tell the audience about yourself.
3. Explaining passive constructions – frequently when avoiding the use of the first person, sentences become confusing.
4. Stating your position in relation to others – this rings true in argumentative essays where it is important to be clear on your feelings of the topic and to inform the reader of your stance by putting your opinions in the article.

Day and Gastel (2012) supported the use of the first person because by avoiding using it, the scientist commonly uses verbose and imprecise statements such as “it was found that” instead of the unambiguous “I found”.

Alley (1996) encourages using the first person as long as the emphasis remains on the work at hand and not on the author. Furthermore, by using the first person narrative, an immediate human presence gives the impression that the authors are telling us their actual thought processes (Montgomery, Chambers and Reifler 2003). Lastly, one of the reasons brought forward for using the first person is that qualitative research is subjective in nature and thus writing in the third person would be inconsistent with the subjective paradigm.

1.2 BACKGROUND

Access to healthcare is a basic human right, as advocated by the World Health Organisation (WHO) constitution (WHO 2008). This constitution recognises each person's entitlement to healthcare and medical treatment. Each state which is a member of the WHO must acknowledge the right to healthcare in law since legislation is vital in underpinning the healthcare system. The importance of emergency medical care in the field of public health was addressed by the WHO during the annual meeting in May 2007 where the following was stated: "… that improved organisation and planning for provision of trauma and emergency care is an essential part of integrated healthcare delivery, plays an important role in preparedness for and response to mass casualty incidents and can lower mortality, reduce disability and prevent other adverse health outcomes arising from the burden of everyday injuries …" (WHO 2008).

Some countries such as, South Africa, are faced with great challenges to protect their populations from an ever multiplying health hazards (WHO 2008). Preparedness and prevention of health threats is the most dependable way of ensuring the reaction to national and international crises are both prompt and effective. Emergency Medical Services (EMS) systems form a critical component of any public healthcare system with their primary function being the delivery of emergency medical care in all emergencies, including disasters (WHO 2008).

1.2.1 Emergency Medical Services history

Worldwide, EMS is divided into two main models, the first being the German-Franco model in which an ambulance is manned by physicians and the second being the Anglo-American model where an ambulance is staffed by emergency care providers trained in Basic Life Support (BLS), Intermediate Life Support (ILS) or Advanced Life Support (ALS) (Al-Shaqsi 2010). Pre-hospital EMS systems rely on improvements in patient treatment which frequently is developed in the hospital environment which have filtered through to pre-hospital care providers (Al-Shaqsi 2010).

The concept of modern pre-hospital care system has its roots as far back as 1792 with the introduction of “flying ambulances” by Napoleon’s private surgeon, Dominique-Jean Larrey. These “flying ambulances” were horse drawn carriages, transporting physicians or medical supplies to the battlefield and conveying wounded soldiers away from the battlefield. All modern EMS systems are based upon and operate under this model of taking care to the patient or removing the patient to a facility for care (Williamson, Ramesh and Grabinsky 2011).

In Germany, the first EMS system was developed in the late 19th century by a surgeon and focused on not only bringing a surgeon to the patient but a whole operating room fully equipped with staff (Williamson, Ramesh and Grabinsky 2011). The flaws of this system were soon apparent with patients not requiring surgery at the road side but rather stabilisation at the scene. During the same year, a similar system was developed in Cologne but using a smaller vehicle driven by a firefighter with a physician attending to the patient in the back while being transported to hospital. This system soon became popular and was reproduced by other cities in Germany with the main focus being on patient care and transport (Williamson, Ramesh and Grabinsky. 2011).

Pantridge and Geddes (1967) describe the use of the first American ground based emergency care provider system. It consisted of a mobile intensive care unit equipped with monitoring, defibrillation and pacing capabilities staffed by personnel from a cardiac intensive care unit and a junior physician. This system was not popular in the United States and was soon replaced with emergency care provider staffed systems established in Miami, Columbus, Los Angeles and Portland (Pantridge and Geddes 1967). The most basic approach of most EMS systems employs the use of BLS and ILS medical providers that respond to emergency calls for help and are trained in skills such as cardiopulmonary resuscitation, defibrillation and basic airway management until advanced help arrives to perform more complicated skills such as intubation and drug assisted resuscitation (Williamson, Ramesh and Grabinsky 2011).

In South Africa, in 1977 under Section 16 of the Health Act of 1977, a law was passed which made pre-hospital emergency medical care the responsibility of provincial administration and up until 1990; EMS in South Africa was managed by fire departments and focused largely on the provision of basic medical care. During the years ranging from 1977-1992, Emergency Medical Services in South Africa was non-existent in many parts of the country with the rural and urban areas not being as well serviced due to budgetary issues and old equipment (Republic of South Africa National Department of Health 2011). In 1992, emergency care providers were able to register with the South African Medical and Dental Council (now Health Professions Council of South Africa). The persistent problem was there were still no national norms and standards for emergency care providers and each province approached training, scopes of practice, course curricula, ambulance equipment and operational matters as they deemed fit (Dalbock 1996). On 10 January 1992, the Minister of Health and Population Development established the Professional Board for Emergency Care Practitioners (now Professional Board for Emergency Care). The formation of this board led to emergency care providers being recognised on a national level for the first time. Due to this, the following were achieved for emergency care providers (Dalbock 1996):

- a national scope of practice,
- conditions of practice,
- ethical rules of practice,
- nationally standardised training and course content,
- nationally standardised capabilities,
- the establishment of a register for emergency care providers, and
- accreditation of training.

Over the last forty years, ambulance services in South Africa have under gone extreme changes. With humble beginnings, the bare box-type ambulance arrived at scene with an untrained patient attendant who acted as an ambulance driver and relied on the public to assist in loading the patient into the ambulance before rushing off to hospital (Al-Shaqsi 2010). In 2018, emergency care providers are highly trained with some holding bachelor degrees and higher. They are able and equipped to perform lifesaving ALS skills at the roadside before transporting patients to hospital (Al-Shaqsi 2010). While this is true in many urban settings, this is not necessarily accurate for some rural areas. The reasons for this may be due to the previous political status of the country as well as the current government's policies on providing help to the previously disadvantaged, particularly the lack of attention being paid to primary healthcare (Republic of South Africa National Department of Health 2011).

Pre-hospital emergency care is a medical speciality which focuses on providing instant medical care in an environment often lacking resources and physically challenging, caring for critically ill or injured patients prior to hospital admission and during emergency transfers between facilities. The conditions treated range anywhere from minor illness to life threatening illness or injury. Interventions performed pre-hospitally therefore also vary from the most basic first aid to advanced emergency care and pre-hospital emergency anaesthesia (Porter and Mackenzie 2012). The practice of emergency care is time critical and encompasses the pre-hospital and in-hospital triage, resuscitation, initial assessment and management of emergency calls for help

until the patient is discharged from hospital or transferred to another healthcare professional (WHO 2008).

1.2.2 Pre-hospital Emergency Medical Services training

Paramedicine in South Africa consists of several levels of training. The entry level qualification registered with the Health Professions Council of South Africa (HPCSA) is known as the Basic Ambulance Assistant (BAA). During their training, the student is taught to manage life-threatening emergencies including cardiac arrest and is skilled in the use of life-saving interventions and equipment such as the automated external defibrillator (AED) (Stein 2009). This qualification is attained following a minimum of 160 hours of supervised training (i.e. one month).

In order to advance to the next level of training, the BAA is required to practice and gain practical experience for a minimum of six months or 1000 hours post-registration with the HPCSA. On completion of these entry requirements, the BAA may write an entry exam consisting of theoretical and practical components. Upon successful completion of this exam, the student will gain access to the Ambulance Emergency Assistant (AEA) course (HPCSA 1999). This course runs over a minimum period of 537 hours of training (approximately three months) and includes theoretical and practical phases. During this course, the student is taught further lifesaving skills such as intravenous therapy insertion, manual defibrillation and the insertion of a needle thoracentesis. Further medications are also added to the student's protocol such as nebulisation with beta-2 stimulants, intravenous dextrose and aspirin (HPCSA 2006).

In order for the student to progress further, an additional period of study is again required to be placed on the Paramedic register. As with the AEA course, an entry requirement exists consisting of a theoretical and practical component. On successful completion of these entry requirements, the AEA may attend the Critical Care Assistant (CCA) course that extends over a nine-month period consisting of theoretical and practical components. This

qualification is a further expansion on the AEA course that adds to the arsenal of medications and skills to include morphine and endotracheal intubation (Lambert 2011). Although these courses are accredited by the HPCSA, at no point were they registered with the South African Qualifications Authority (SAQA) nor were they aligned to the National Qualifications Framework (NQF). Due to these courses not being registered, they are non-credit bearing and consequently, difficulty is experienced in articulating those who hold the short course qualifications with any educational programme other than the short courses (Stein, Wang and Louw 2012).

The National Diploma in Ambulance and Emergency Care Technology (which later changed to the National Diploma in Emergency Medical Care (NDip EMC) was introduced in 1987 to supplement the BAA, AEA and CCA courses. Graduates of the NDip EMC can enrol for the Bachelor of Technology in Emergency Medical Care (BTech EMC) that is one year full-time or two years part-time (HPCSA 2011). The NDip EMC has since been discontinued and has been re-curriculated into the four-year Bachelor of Health Sciences in Emergency Medical Care (BHSc EMC). The latter leads to registration as an Emergency Care Practitioner which is currently the highest registration category of emergency care providers with the HPCSA PBEC (HPCSA 2011).

An increasing demand exists for EMS in South Africa and world-wide (MacFarlane, Loggerenberg and Kloeck 2004). In order to respond to this worldwide demand in Emergency Medical Services, the training of paramedics and their capabilities has had to undergo a period of change and growth which, included a significant change to the scope of paramedic practice incorporating advanced life support procedures and patient management strategies. These changes in scope of practice and patient management strategies ultimately increased workloads and scope of practice which have a direct bearing on the education and training of paramedic students (MacFarlane, Loggerenberg and Kloeck 2004). This change has taken the form of an adaptable, sustainable model known as the National Emergency Care Education and Training (NECET) Policy which attempts to professionalise emergency medical care training (Republic of South Africa

National Department of Health 2011). This policy facilitates the normalisation and alignment of emergency care education and training with current educational legislation, national training needs and requirements with the aim of rendering quality health care to the inhabitants of South Africa. The end goal of this policy is to establish a national framework for emergency care education and training which will improve access, mobility and progression within education in the field of emergency care thus resulting in career progression and rectification of the past unfair discrimination (Republic of South Africa National Department of Health 2011).

A three tier Emergency Care Qualification Framework (ECQF) has been proposed by the National Department of Health in collaboration with the HPCSA PBEC and is composed of an entry level qualification, a midlevel qualification and a professional degree which allows access to further postgraduate qualifications (Republic of South Africa National Department of Health 2011). This three tier framework is aligned with the Higher Education Qualifications Sub-Framework (HEQSF) and therefore complies with the requirements of the National Qualifications Framework Act of 2008. Essentially, the reasoning behind the introduction of this framework is to address the changing requirements of the profession, empower practitioners to function independently and to align the profession with other health professionals (Republic of South Africa National Department of Health 2011).

Table 1.1 Emergency care education and training, (Republic of South Africa National Department of Health 2011)

Registration category	Course name	Course duration	NQF level
Basic Ambulance Assistant	Basic Ambulance Assistant (BAA)	Four- week short course	Not aligned to NQF
Ambulance Emergency Assistant	Ambulance Emergency Assistant (AEA)	Three-month short course	Not aligned to NQF
Paramedic	Critical Care Assistant	Nine-month short course	Not aligned to NQF
Unknown at this stage	Higher Certificate: Emergency Care	One-year	NQF 5, 120 credits
Paramedic	Diploma: Emergency Care	Two-year qualification	NQF 6;240 credits
Emergency Care Practitioner	B Tech: Emergency Care	One-year qualification	NQF 7;120 credits
	Bachelors Degree: Emergency Medical Care	Four-year qualification	NQF 8;480 credits
Emergency Care Practitioner	Masters Degree:Emergency Medical Care	Two-year qualification	NQF 9; 180 credits
	Doctor of Philosophy: Emergency Medical Care	Four-year qualification	NQF 10; 360 credits

As illustrated above, emergency care provider education has advanced from “on the job” education and training to university based education with students exiting training centres as independent practitioners capable of dealing with any medical emergency they may encounter. Paramedic training is an amalgamation of theory and practical involvements that enable the students to gain the information, expertise and assertiveness required to be effective practitioners. The competence of paramedics is based on this theory and practical abilities taught to them (Brown and Williams 2011). The knowledge and skills are passed onto students during experiential learning placements.

1.2.3 Experiential learning

Wurdinger and Carlson (2009) broadly describe experiential learning as any learning that aids students in using what has been taught to them in real world situations and scenarios while under the supervision of their instructor who facilitates the learning process. The classroom or skills workshop serves as a setting for experiential learning by providing an environment for activities such as case studies, problem-based studies, guided inquiry, simulations, experiments or projects. Wurdinger and Carlson (2009) further expanded on this explanation by stating that when opportunities to learn are provided to students in realistic situations in the classroom or out in the field, the learning process is considerably amplified. By partaking in this official, guided, realistic experiences, individuals expand their knowledge through continuous repetition and contemplation. Skills developed through repetition and contemplation, assist in the formation of new understanding when placed in unfamiliar situations which extends learning because concepts are brought back to the classroom (Wurdinger and Carlson 2009).

Experiential learning takes place in a complex environment with many influencing factors. These factors provide the opportunity to combine theory and practical components that result in the use of mental, psychological and psychomotor skills that are of great significance in patient treatment. Experiential learning prepares paramedic students to work effectively in ever

changing environments, equipping them with competencies needed to meet the demands of a 21st century healthcare system (Lucas et al. 2013).

Regardless of the importance of experiential learning in developing competent healthcare practitioners, very little first-hand research exists documenting the views of students undertaking experiential learning and their feelings on the two opposing learning environments (Brown and Williams 2011).

1.2.4 Experiential Learning Models

Experiential learning plays a crucial role in the preparation of paramedic students for independent practice. Experiential learning allows students to perform skills and be exposed to the critically ill and injured under the guidance of a supervising practitioner. Experiential learning also further allows for students to interact with other emergency care providers building thereby building relationships for the future (Brown and Williams 2011).

Experiential learning models are adapted in accordance with the level of training the student is undergoing. In the ambit of short course training, BAA students do not undertake any experiential learning as it is not a requirement of the HPCSA (HPCSA 1999). AEA students are required to partake in experiential learning and complete a stipulated number of hours. AEA students complete a total of 240 hours prior to qualifying with these hours being divided as follows: 120 hours on ambulances, 70 in an emergency department/casualty, 32 hours in maternity and obstetrics and 18 hours in a primary healthcare facility. CCA students are required to complete a total of 610 hours which is divided as follows 280 hours of response vehicle shifts, 130 hours in an emergency department/casualty, 40 hours in obstetrics, 35 hours in theatre, 30 hours in primary healthcare facilities, 35 hours in coronary care units, 30 hours in neonatology units and 30 hours in intensive care units (HPCSA 1998).

During experiential learning placements, short course students are furnished with a clinical work book in which they are required to document skills practiced and patients they have encountered. There is no reflection upon the experiences during placements and as a result there is no true understanding of student experiences and learning which may or may not have occurred.

Experiential learning in Higher Education Institutes offering the Bachelor of Health Sciences in Emergency Medical Care similarly require students to complete a specific amount of hours as well as a specified number of skills in order to advance to the next year of study. The number of hours required is a minimum of 1200 over the four years of study which is equally divided into 300 hours per year (Muhlbauer 2018). Much like experiential learning in the short courses, students are placed in maternity,paediatric units, emergency departments/casualties, intensive care units, ambulances and theatres. The required number and type of skills vary and increase in complexity with each year and are clearly defined in the clinical practice study guides.

The main difference noted between experiential learning in the short course environment and that of higher education institutes is the reflection on experiences and reporting back on patients encountered and skills performed (Muhlbauer 2018). In the Bachelor of Health Sciences in Emergency Medical Care, students are required to complete 100 patient case sheets during each year of study. Students are also required to complete reflective practice journals, complete 3 case studies and present 1 case to their peers and lecturer (Muhlbauer 2018). In addition to this, Higher Education Institutions have moved away from clinical workbooks towards an electronic data capturing logbook. The use of electronic software is used to track emergency medical care students' progress during experiential learning. This programme organises shifts and collects data which may be used in research later while allowing lecturers real time access to the comings and goings of students and remotely monitor and evaluate progress of students (Page, Kaye and Stethem 2004).

1.3 PROBLEM STATEMENT

Nationally and internationally, experiential learning is a requirement of some students in the health science discipline (Michau et al. 2009). As stated by the South African Qualifications Authority, competency in emergency medical care is based upon theoretical principles, verified techniques, practical experience, clinical procedures and appropriate skills (SAQA 2014). These skills will form the basis to provide autonomous, specialised emergency medical care and rescue services to the public at large.

Students undertaking experiential learning are exposed to critically ill and injured patients in order to amalgamate both the theory components and practical skills taught in the classroom. The clinical practice module prepares the student to practice independently by combining these elements of classroom instruction and physical exposure. Students are expected to complete a number of clinical skills and hours prior to registration with the HPCSA PBEC (HPCSA 2011). Despite these quantifiable hours and number of skills to be performed by students, the experiential learning experience of students enrolled in the BHSc EMC programme remains unknown.

1.4 RESEARCH AIM

The aim of this study was to explore and describe the experiential learning experiences of Emergency Medical Care students at a selected University in KwaZulu-Natal.

1.5 RESEARCH QUESTION

The main research question of this study was:

What are the experiential learning experiences of students enrolled for the Bachelor of Health Sciences in Emergency Medical Care at a University of Technology?

1.6 THE THEORETICAL FRAMEWORK OF THE STUDY

The theoretical framework used for the purpose of this study is Kolb's Model of Experiential Learning. Manning (2011) described the elements of Kolb's model to include:

- participation in concrete experiences,
- observation and reflection about the experiences,
- formation of concepts, and
- testing of these concepts in new situations.

Kolb's Model was chosen because it directly relates to the field of Emergency Medical Care where students are taught the theoretical aspects of treating patients and then have to put it into practice to treat real life patients in real life situations. These situations provide concrete experiences that have then been studied in depth. Further discussion on the theoretical framework will be presented in Chapter 3.

1.7 STRUCTURE OF THE DISSERTATION

The following section provides a brief overview of the dissertation and the content of each chapter.

Chapter 1 – Here, the study is introduced and the theoretical framework is provided. This chapter also serves to provide a brief history of the emergency care profession as well as an outline of the research problem, aim and research questions used to guide the study.

Chapter 2 – In this chapter, the relevant literature is brought together from the existing body of knowledge on experiential learning and pre-hospital emergency care.

Chapter 3 – This chapter discusses the study's research design, theoretical framework and methodology.

Chapter 4 – This chapter presents the findings of the study through thematic analysis of the data collected by outlining the themes and sub-themes found during data analysis. This chapter also discusses the results in keeping with

the themes which emerged during data analysis while providing literature to corroborate the findings.

Chapter 5 – This chapter is a presentation of the conclusions drawn from the data analysed after which recommendations are provided based on the data analysed, themes found and the data provided to back the findings.

1.8 SUMMARY

This chapter provided the introduction to the study which included the research problem and aims of the study. A summary of the dissertation provided a backdrop to the study and an idea of what is to be expected going forward. The following chapter presents the literature review.

CHAPTER 2: LITERATURE REVIEW

“For the things we have to learn before we can do them, we learn by doing them” Aristotle

2.1 INTRODUCTION

This chapter provides a background of experiential learning and highlights the experiences of emergency medical care students enrolled in experiential learning internationally, nationally and locally. Essentially, this chapter conveys the knowledge and ideas that have been established on this topic and the strengths and weaknesses which exist and further refines these ideas (Aveyard 2007). The literature presented was found using multiple search engines such as Google Scholar, Science Direct and Summon. The Durban University of Technology Library was also an invaluable source of literature. Key terms were used such as “experiential learning”, “clinical practice” and “paramedics”. These key terms produced thousands of results which were then either included or excluded based on their relevance to the topic and whether they were peer reviewed or not.

2.2 EXPERIENTIAL LEARNING PROGRAMME

Experiential learning is a broad term which refers to educational programmes that combine a workplace based component connected to a classroom component; thus allowing alignment of theoretical classroom learning and practical workplace experience (Kramer and Usher 2011). These outside experiences will essentially form a bridge between a student’s academic present and professional future. These educational programmes/modules are known under three main categories, namely, experiential learning, clinical practice and work integrated learning (Gardner and Bartkus 2014). Although each may differ in their focus point of work or education, the belief that the combination of practical work with theory creates opportunities that will result

in meaningful benefits to students, educational facilities and employers is shared by all (Gardner and Bartkus 2014).

Lave and Wenger (1991) agree that although these terms were used interchangeably, differences do exist. In the case of work integrated learning, Coll (2009) describes it as an educational approach during which students undertake orthodox academic learning, most often at a university, combined with some time spent in a real or simulated work place relevant to their field of study. Eyler (2009) provides insight into experiential learning by stating that experiential learning physically takes the student into the community and assists students in connecting theory and real life as well as changing inactive knowledge to knowledge in use. A major distinction between experiential learning and the other categories (i.e. work integrated learning and clinical practice) used to describe work/education experiences is that experiential learning implies that each experience (at work or in the classroom) is a separate learning experience, whereas work integrated learning and clinical practice argues that these experiences are integrative. This shows that experiential learning focuses primarily on the independent experience but does acknowledge that synergies occur through a combination of instructional education and work (Gardner and Bartkus 2014). Cherry (2016) further describes experiential learning as a process through which students develop knowledge, skills and values directly from experiences outside of the traditional classroom setting. Well planned, supervised and assessed experiential learning programmes have the ability to promote interdisciplinary learning, civic engagement, career development, cultural awareness and leadership among other professional and intellectual skills (Cherry 2016).

Further to this, Cherry (2016) stated that in order for learning to be considered experiential, it should require all of the following elements:

- reflection, critical analysis and synthesis,
- opportunities for students to take initiative, make decisions and be accountable for the results,

- opportunities for students to engage intellectually, creatively, emotionally, socially and physically, and
- possibilities to learn from natural consequences, errors and successes.

The role of experience in education has a rich history which stems as far back to theoretical deliberation between rationalists and empiricists. Rationalists argued that information which is gained through one's senses is unreliable with the only reliable knowledge being gained through reason alone. In contrast, empiricists argued that knowledge is derived from first hand experiences and tangible concepts meaning that that which cannot directly be experienced, cannot be known (Crowther and Lancaster 2008). Dewey (1938) agreed with the belief that people learn by undertaking tasks and that true learning is achieved through practical application. He went as far as to criticise traditional education for its lack of a well-rounded grasp of students and designing curricula fixated on theory instead of both theory and procedure which Dewey (1938) argued contributes to the welfare of both individuals and society.

According to Lewis and Williams (1994), the previous two decades had seen experiential learning become the centre of education mainly due to three reasons. Firstly, a change occurred in the concept of education where teachers were no longer viewed as the source of knowledge and students as simple receivers. Cognitive, humanistic, social and constructivist learning models placed importance on meaning formation. In light of this, it is suggested that models of good practice in adult education use learners' previous experiences to build current and future learning. Secondly, higher education institutions had seen growth in adult learner enrolment; these were learners who had prior experience and drew upon these experiences in the classroom environment (Lewis and Williams 1994).

Experiential learning has been accepted globally as an invaluable educational tool that produces benefits for both students and employers (Kramer and Usher. 2011). In terms of making the students more workplace ready,

improvements have been seen in their critical and analytical thinking, problem solving and decision making skills while providing them with a better understanding of workplace culture, norms and behaviour (Kramer and Usher 2011). Similarly, Wilton (2012) described experiential learning as having explicit emphasis on preparing students to enter the working world both theoretically and practically prepared. Experiential learning described in its simplest form by (Lewis and Williams 1994) is learning from experience where adult learners are immersed in an experience after which, reflection is encouraged in order to develop new skills, attitudes and new ways of thinking.

With experiential learning being such a distinguishing feature of professional education, many universities have found it both necessary and useful to prepare students for the working world. By doing this, universities assist students in gaining hands-on experience through work placements or service learning projects. This training frequently happens in the training of health professionals which occurs at the site of practice such as at a teaching hospital (Council for Higher Education 2011).

Experiential learning in Emergency Medical Care is a module known as clinical practice; it forms part of the requirement of the Bachelor of Health Sciences programme. Clinical practice is also a requirement in other health sciences related programmes. The module serves to combine theory and practical training to produce an independent practitioner capable of treating critically ill and injured patients. The clinical practice module is one in which students partake each year which provides clear guidelines for learner outcomes which are to be met by the end of each year of study and are found in the clinical practice study guide provided to each student at the beginning of each year (Muhlbauer 2018). A total of 300 hours are allocated annually for clinical practice. These 300 hours are divided among clinical placement areas such as emergency departments/casualties, paramedic response units, hospital theatres, maternity and paediatric units, intensive care and cardiac units as well as ambulance shifts. Along with these required hours are a minimum number of skills which change with each year of study. In year one, students are required to perform skills such as the use of a bag valve mask,

oxygen administration and adult cardiopulmonary resuscitation (Reynolds 2018). During year two, skills such as intramuscular administration of medication, intravenous fluid administration and full spinal immobilisation are required (Shaik 2018). Year three requires students to perform skills such as 12 – lead electrocardiograms, arterial blood gas analysis and rapid sequence intubation (Muhlbauer 2018). Year four requires students to perform skills such as cervical spine clearance, urinary catherisation, thrombolysis and suturing (Govender 2018). The clinical practice study guide also outlines the expected learning outcomes for the module (Muhlbauer 2018). The learning outcomes are as follows:

- demonstration of the ability to perform the required clinical skills and procedures relevant to the emergency care environment up to an advanced life support level.
- compose, appraise and present patient case studies.
- demonstrate an ability to assess, diagnose and institute appropriate management strategies for critically ill and injured patients.
- demonstrate knowledge and ability on how to utilise the emergency medical care equipment available to emergency care practitioners up to an advanced life support level.
- demonstrate team and individual ability of functioning within an emergency service's daily operational matters which will include the checking of the emergency vehicle and emergency medical care equipment, including intensive care equipment.
- demonstrate knowledge and skills on producing accurate patient report form records which document the exact details relating to the incident including patient management.

As far back as 1984, David Kolb regarded student learning as an individual experience which involves a student reflecting on the experience and applying new learning in future circumstances. The foundation of healthcare education is formed by Kolb's Model of Experiential Learning due to the fact that students learning develops as each new learning experience is encountered. Kolb's Model ties in with the aim and expected outcomes of the clinical

practice module which is essentially to expose paramedic students to various, dynamic environments and situations. This exposure to various, dynamic environments as per Kolb's Model of Experiential Learning will provide opportunities for reflection and consequently learning (Kolb 1984).

Hermann Ebbinghaus' forgetting curve, describes the relationship between memory and time that essentially states that if attainment of information on the first day of learning is 100%, there will be a loss of learning of 50-80% from the second day onwards with a retention rate of 2-3% at the end of thirty days (Jaap and Murre 2015). Experiential learning assists in overcoming this problem in eight different ways (Jayaraman 2014) as described below:

1. Accelerates learning – experiential learning employs critical thinking, problem solving and decision making to deliver a training module that is an established method of accelerating learning.
2. Provides a learning environment in which students feel safe – students practice their skills and treat patients under the careful guidance and supervision of qualified healthcare professionals who are able to take over patient treatment should the student find themselves in a situation they are unable to handle.
3. Links theory and practice – by moving past theory to the jurisdiction of learning by doing/practice, the student acquires first-hand experience in practicing what has been taught further reinforcing concepts and ideas.
4. Produces demonstrable mind-set changes – due to the fact that most learning is done by doing.
5. Increases interaction levels – intense emphasis on co-operation and learning from each other benefits the participant as it increases interaction and since the participant is involved in the solution immediately, the level of accountability is great.
6. Yields remarkable results – it is personal and effective in nature, influencing both feelings and emotions, improving knowledge and skills; it surpasses classroom learning and ensures a high level of retention compared to a traditional learning programme.

7. Provides truthful evaluation results – assessing the efficiency of the training programme with regards to the benefits to the trainees and the company is of paramount importance; most assessments are data driven and use traditional tests to measure effectiveness; experiential learning programmes are traditionally difficult to gather data about, which are needed for assessments; analytics are applied to gather data. When combined with simulations and elements of healthy competition and fun, experiential training products hold a wealth of data, which can be used to deliver assessment results precisely across cognitive learning, skills effect and objective results. The analytical instruments in these simulations record, analyse and provide a detailed report on the participant's interaction throughout the simulation.
8. Enables personalised learning – every programme can be custom-made to the personal requirements of a participant through the following stages: assessment, teaching and learning strategy and curriculum choice.

Experiential learning methodology is highly efficient in fulfilling these requirements to facilitate personalised learning. It is a drastic move from traditional learning methods and takes the learning outside the classroom. The participants set their own learning pace. By combining technology and simulations with experiential learning, employers are making this concept available anytime and anywhere. Sanders (2007) defined a paramedic as an emergency care provider who provides medical care and performs life-saving interventions in the pre-hospital environment. Paramedics are required to have fundamental skills and abilities in critical thinking, problem solving, empathy, working quickly, making split-second decisions under pressure and working as an effective team member. As seen above, experiential learning is critical in fostering and honing these skills.

The experiential learning programmes offered at universities locally, nationally and internationally are governed by respective medical regulatory authorities. As mentioned earlier, clinical practice requirements for emergency care providers in South Africa are regulated by the HPCSA PBEC (HPCSA 1998).

Similarly, in Australia, early clinical training is aimed at providing student contact to a wide range of patient care settings that involve short, group-based visits to hospitals, general practices, old age homes and clinics. This is done to contextualise the theory and skills taught in classroom based environments. Along with these practical placements, students learn clinical skills in a practical workshop and simulation based environments that provide supervised, safe learning environment where initial experience is gained in learning clinical skills and procedures. Together, these clinical learning experiences provide students with the opportunity to both develop knowledge and skills as well as understand the environment and system in which they will ultimately practice (Brown and Zimitat 2012).

2.3 MILLER'S PYRAMID OF COMPETENCE

In 1990, psychologist George Miller proposed a structure for assessing clinical competence in both the classroom and the workplace. This structure differentiates between knowledge at the lower levels and action in the higher levels of the pyramid (Miller 1990). The pyramid argues that to be sure whether learners are achieving what is required of them, they should be evaluated in the setting they are expected to work in. Miller's ideas strive to define education by its outputs rather than by its inputs. Essentially, at the end of any teaching intervention, the interest is in what the learner can do, which is not the same as what has been taught to them. Miller's pyramid has four levels. At the bottom level of the pyramid is knowledge (knows), then competence (knows how), shows how (shows) and at the top action (does). In this framework, Miller distinguished between "action" and the bottom levels. Miller's Pyramid of Competence is a framework used to assess levels of clinical competence (Miller 1990).

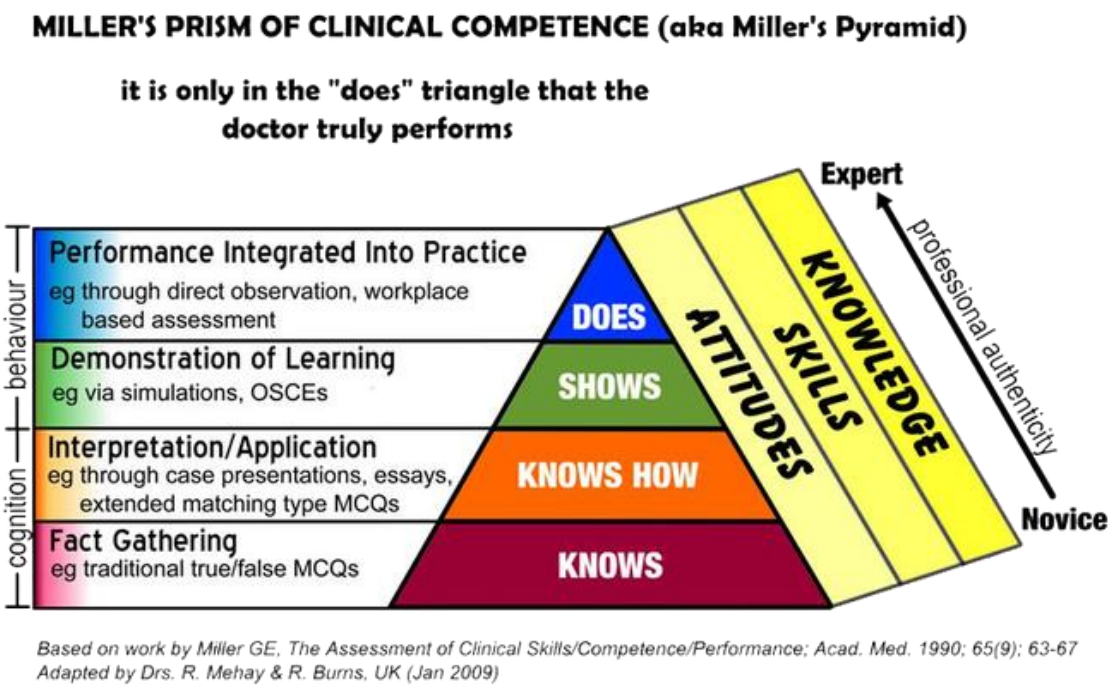

Figure 2.1: Miller's Pyramid (Miller 1990)

- **Knows**: knows some knowledge.
- **Knows how**: knows how to apply that knowledge.
- **Shows**: shows how to apply that knowledge.
- **Does**: actually applies that knowledge in practice.

The two bottom levels of the pyramid test cognition (or knowledge) and it is where the inexperienced learners or beginners are found. It is here that the student "knows" something about what they need to do and "knows how" to do it. The two upper levels test behaviour. Here, the objective is to test whether the student can apply what they know into practice. For example, a student who "knows how" to do something, does not necessarily do it in a real-life scenario (Miller, 1990). Was, Tomlin and Borgetto (2001) agree with Miller (1990) stating that the first level of the pyramid (i.e. knows) forms the base of the pyramid and the foundation for building clinical competence. The second level of the pyramid (i.e. knows how) uses knowledge in the attainment, analysis and interpretation of data and the development of a plan. In order for students to apply their learning into real-life situations on a daily basis instead of the knowledge lying dormant, methods are needed that will

encourage the student to progress to the behaviour levels of the pyramid (i.e. shows and does) (Miller1990).

Mehay (2010) found that the “shows” level often involves artificial simulation exercises such as objective structured clinical examinations (OSCE) and patient simulations. The “does” level also known as the action zone involves observing occurrences in the work place environment/ in practice which may include sitting in on consultations rather than what happens in an artificial testing situation. According to Was, Tomlin and Borgetto (2001), the third level of the pyramid (i.e. shows how) requires the learner to demonstrate the integration of knowledge and skills into successful clinical performance. The fourth level (i.e. does) focuses on methods that provide an assessment of routine clinical performance.

This pyramid of competence is consistent with the training of paramedics. Paramedic training is a combination of theoretical and practical learning experiences that provide the opportunity for paramedic students to acquire the knowledge, skills and attitudes for providing pre-hospital care (Jamshidi et al. 2016). The environment that nurses and paramedics train in, is a complex clinical learning environment which provides an opportunity for students to learn experimentally and to convert theoretical knowledge into a variety of mental, psychological and psychomotor skills which play a significant role in patient care (Jamshidi et al. 2016).

2.4 HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA

The HPCSA is a statutory body that was established in terms of the Health Professions Act 56 of 1974. The HPCSA regulates health-related professions by determining standards of professional education and training as well as setting and maintaining standards of ethical and professional practice. The HPCSA carries out these functions through 12 professional boards, one of which is the Professional Board for Emergency Care (PBEC). This professional board is tasked with upholding the rules and regulations contained within Act 56 of 1974 (Republic of South Africa 2008). The rules as

set out in the act state the following, a practitioner shall at all times (HPCSA 2009):

- Act in the best interest of his or her patients,
- Respect patient confidentiality, privacy, choices and dignity,
- Maintain the highest standards of personal conduct and integrity,
- Provide adequate information about patient diagnosis, treatment options and alternatives, costs associated with each alternative and any other pertinent information to enable the patient to exercise a choice in terms of treatment and informed decision-making pertaining to his or her health and that of others,
- Keep his or her professional knowledge and skills up to date,
- Maintain proper and effective communication with his or her patients and other professionals,
- Except in an emergency, obtain informed consent from a patient or, in the event that the patient is unable to provide consent for treatment himself or herself, from his or her next of kin, and
- Keep accurate patient records.

The PBEC was established in terms of Government Gazette Notice R1254 of 28 November 2008. The role of the PBEC is to ensure the greatest quality of emergency cared education through training, accreditation and moderation of emergency care programmes. The PBEC is also tasked with upholding the rules set out above by conducting enquires and hearings, maintaining and monitoring a register of all pre-hospital providers and developing the scope of practice and protocols for emergency care providers (Republic of South Africa 2008).

2.5 EXPOSURE TO SKILLS AND PATIENTS

Covering the period of 2001-2007, Stein (2009) evaluated 342 student paramedics' experiences with pre-hospital cardiac arrest in Johannesburg, South Africa. Stein (2009) found that the average exposure for first and second-year students was four emergency calls and the average for the third (final year of study) was six emergency calls with even fewer students being exposed to paediatric cardiac arrest emergency call at one emergency call per year of study. It was found that 7.7% of the students who took part in the survey met all the requirements of clinical practice. In the same study, Stein (2009) showed that exposure to skills such as defibrillation, endotracheal intubation; drug administration and peripheral intravenous insertion were 6% across all the years of study. In the first year of study, 13% of students performed defibrillation, 14% in the second year, and 8% in the final-year of study. The incidence of endotracheal intubation was 29% in second-year students and 64% in third-year students. Drug administration was performed by 62% of students in the final-year of study. Lastly, peripheral intravenous insertion was 18% exposure in second-year students and 33% in third-year students. Stein (2009) pointed out that the possibility exists that the number of skill exposures may be due to the mentors the students are placed with. This is due to each mentor's discretion whereby s/he may choose to perform the skill himself depending on the complexity of the case instead of procedures being carried out by students.

In agreement with Stein (2009), a study conducted at Monash University involving BHSc EMC students found that less than half of the 84 students partaking in experiential learning were exposed to emergency calls that allowed skills to be used which were appropriate to their level of education (Michau et al. 2009). In keeping with the theme of skill exposure, Johnston, Seitz and Wang (2006) found that paramedic students were inadequately exposed to opportunities for endotracheal intubation with most students having attempted five or less endotracheal intubations during the entire ten-month duration of the programme. This study further identified 15-20 endotracheal intubations as being required to achieve baseline proficiency in

endotracheal intubation. Westgard et al. (2013) concur with this finding in pointing out that the challenges in obtaining intubation opportunities was largely blamed upon rostering clashes and the resultant increased number of students present during rotations and therefore competition from other medical professionals such as student anaesthetists and other paramedic students. In addition to this, Westgard et al. (2013) pointed out the changing practice in anaesthesia from a dependence on endotracheal intubation to an emphasis on alternate airway devices such as laryngeal mask airways have also played a role in decreasing the opportunity to practice, again negatively impacting on students' exposure to lifesaving skills and in turn inhibiting the learning process.

These challenges are not unique to paramedic students. A randomised purposive sampling study conducted by Carlson, Kotze and Van Rooyen (2003) found that first-year nursing students at the University of Port Elizabeth (now Nelson Mandela University) complained that opportunities to practice their skills were not provided to them. The students attributed this to staff shortages, busy wards and inadequate supervision by registered nurses as well as nurses who would not allow skills to be practiced as they felt the students were slow in executing these skills.

Of further detriment to students, a study conducted by Mothiba et al. (2012), at the University of Limpopo, agreed with these findings stating that student nurses were allocated to the wards and clinics in such great numbers that the opportunity to practice was limited. This theme of frustration and inadequate exposure appears frequently throughout studies into experiential learning. It was seen again by Brown and Zimitat (2012) where students stated that the placements did not result in any improvement in their clinical or procedural skills whatsoever but did increase their anxiety in performing skills.

2.6 STUDENT PERCEPTIONS

In a cross-sectional retrospective study that used a convenience sample of 84 second and third-year students at Monash University, Michau et al. (2009) found that approximately 30% of students felt that they were not given the chance to partake in patient care and were mainly passive observers. Approximately 80% of the sample reported a large amount of “down time” where there were no emergency calls for help to attend to and therefore no skills to perform. This “down time” was on average four hours per shift equating to a third of the rostered time for practical work.

In keeping with the above theme, Morris and Blaney (2010) found that a substantial amount of medical graduates felt unprepared for clinical practice and were concerned about the reality of working life, whether it be treating critically ill patients, recommending treatment, managing the workload or being on call.

Boyle et al. (2009) agreed with the two previously mentioned studies and found that the 77 students in their study felt displeased with their learning experiences during their experiential learning shifts. Of these students, several female students stated that they were warned by paramedics that they would be unable to cope with the physical requirements of the occupation although the students had passed a physical capability assessment examination used by ambulance services prior to undertaking experiential learning. Also found in this study was that 31% of students were not included in the treatment of patients while 18% of students reported being left at the ambulance base. Furthermore, 55% reported that they felt unwelcomed at the ambulance base when arriving and 57% were reportedly treated with disdain by at least one staff member (Boyle et al. 2009).

Although students were dissatisfied with the amount of patient contact time and time spent observing, a study of 368 students found observation in the clinical setting beneficial (Lane and Gotlieb 2000). Students participating in

the study reported that they were “extremely satisfied” and found clinical observations “useful”. As per Khanam (2002), observation helped in widening the conceptual understanding of things in our direct environment, enabled students’ use of their senses to the maximum and increased their desire to participate.

In contrast to the aforementioned studies, O’Brien et al. (2013) reported that 66% of students participating in experiential learning at Victoria University, Australia, felt prepared for the change from student to worker at the end of their programme with a further 61% indicating they found clinical learning very useful in preparing them to enter the workforce. Five of the participants relayed that clinical practice assisted them in understanding the role of a paramedic and what the job entailed.

Kramer and Usher (2011) conducted a study in New Brunswick that determined 91% of students found experiential learning to be a valuable experience, along with 71% of employers who also agreed. 89% of students suggested that experiential learning improved their ability to think critically, analytically and improved their problem solving and decision making skills. A study conducted by Brown and Zimitat (2012) at The University of Tasmania in Australia also viewed experiential learning in a positive light. All the 33 students who participated in the study agreed or strongly agreed that experiential learning placements increased their interest in medicine and rated the placement as a valuable learning experience. These students further indicated that prior to the placements they had little interest or understanding of how emergency teams operated and the placements provided a greater understanding and appreciation thereof. The pitfall of this study was that the students who participated were only exposed to one ten-hour ambulance shift whereas lengthier placements may have resulted in slightly different outlooks and experiences.

2.7 CLINICAL SUPERVISION

Globally, student placement experiences in healthcare settings are important for numerous reasons. For one, they socialise students into their future profession and ensure a sustainable workforce for the delivery of quality, safe healthcare (Trede, Mc Ewen and Kenny 2014). Despite the importance of these placements, students are often seen as a burden or a risk to productivity. A low priority is put on placements which decreases the value thereof mainly due to staff being required to take on the extra responsibility of supervisor in addition to their main clinical roles (Lucas et al. 2013). This situation in itself creates a challenge for universities with increased student enrolments and competition escalating among students for placements. In order to combat this, Sanderson and Lea (2012) suggested employing dedicated supervisors through the university which would then decrease the workload and responsibility. Hoffman, Harris and Rosenfield (2008) further suggested senior students should mentor junior students in order to decrease the supervision required on clinical placements.

Kaphagawani and Useh (2013) have agreed that clinical supervision of students plays a significant role in influencing student learning knowledge and skills. They stated that paramedic students need appropriate guidance and supervision in order to develop competency. Without this, as found by Mntambo (2009), students would be adversely affected in their preparedness for real world practice. Huybrecht et al. (2011) described effective supervision as being directly attributed to organisational factors such as acknowledgement of the responsibility associated with the role of the supervisor, information packages for students and supervisors describing what is expected from each and receiving support from colleagues. Continuous professional development opportunities provided by universities, supervisor readiness to share knowledge and preparedness to answer students' questions along with positive feedback were listed as fundamental processes in functioning as effective supervisors (Chuan and Barnett 2012). In contrast, barriers to effective supervision were mainly identified as lack of

time, heavy workloads, poor teaching and assessing skills and poor attitudes of supervisors toward students (Huybrecht et al. 2011).

2.8 SUMMARY

Regardless of the name by which experiential learning is known, it plays an integral role in paramedic training. It is worth noting that data on experiential learning were mainly from international literature. Very little data were noted in South Africa despite the extensive use of clinical placements in medical and health professional training. The purported lack of skill exposure and dissatisfaction of students affected paramedic and nursing students as well. The chapter which follows outlines the research methodology used to compile this study.

CHAPTER 3: RESEARCH METHODOLOGY

"Research is formalised curiosity. It is poking and prying with a purpose." Zora Neale Hurston

3.1 INTRODUCTION

The previous chapter reviewed the literature on experiential learning and provided a broader outlook a deeper insight into the subject matter. This chapter explores the research methodology and the role it serves in the study.

3.2 CONSOLIDATED CRITERIA FOR REPORTING QUALITATIVE RESEARCH

In this study, the Consolidated Criteria for Reporting Qualitative Research (COREQ) was utilised. COREQ is a 32 item checklist with the purpose of promoting explicit and comprehensive reporting on qualitative studies (Appendix 1). The checklist consists of items specifically related to reporting qualitative studies and excludes general criteria that are applicable to all types of research reports. It is all-inclusive and covers the essential components of the study to be reported. The criteria which are included in the checklist assists researchers in reporting on significant aspects of the research team, study, methods, context of the findings, analysis and interpretations (Tong, Sainsbury and Craig 2007).

3.3 A THEORETICAL OUTLOOK ON RESEARCH METHODOLOGY

Research methodology is the strategy of investigation which changes the information from assumptions to research design and ultimately data collection (Myers 2009). Research methods are most commonly classified as either qualitative or quantitative. The terms qualitative and quantitative have dual meanings, firstly the words refer to distinctions about the nature of knowledge (i.e. epistemology), and how one understands the world (i.e. ontology) and the purpose of the research itself. Secondly, the terms refer to

research methods i.e. the way data are collected and analysed, and the types of generalisations and representations derived from the data (Myers 2009). Quantitative research methods were originally developed to study natural occurrences whereas qualitative methods were developed in the social sciences to enable researchers to study social and cultural phenomena. The distinction between qualitative and quantitative research is the form of data collection, analysis and presentation (Denzin and Lincoln 2000).

Quantitative research uses questionnaires, surveys and experiments to gather data. The usual numerical results are revised and tabulated in such a way that allows the data to be categorised by the use of statistical analyses (Hittleman and Simon 1997). Conversely, qualitative research presents data as descriptive narration with words and attempts to understand the phenomena in "natural settings" and endeavours to make sense of the phenomena in terms of the meaning people bring to them (Denzin and Lincoln, 2000). Elliott and Timulak (1999) list the distinctive features of qualitative research as follows:

- places the importance on understanding the occurrence as it is (rather than from an outside viewpoint),
- contains open, investigative research questions (vs. closed-ended theories),
- has limitless, developing explanatory choices (vs. pre-set options or rating scales),
- uses distinctive policies for improving the trustworthiness of design and analyses, and
- defines successful conditions in terms of discovering something new (vs. confirming what is hypothesised).

Three major differences exist between qualitative and quantitative research. The first is the purpose of the enquiry with qualitative being understanding and quantitative being explaining. The second is the role of the researcher which is subjective in qualitative and objective in quantitative research. The third main difference between these two types of research is that qualitative

research is inductive and quantitative research is deductive. In qualitative research, a hypothesis is not required to start the study; this allows for a design to progress rather than having a comprehensive design in the beginning of the study. This is because it is difficult to predict the outcome of interactions due to the diverse perspectives and value systems as well as participants' interpretation of their reality. In qualitative research, the researcher is the primary instrument of data collection and analysis. The researcher engages the situation, makes sense of the data as both the researcher and participants construct their own realities. Data is collected in a non-interfering manner thereby attempting to study real world situations as they occur without any pre-set ideas that may influence the study or the outcome thereof (Merriam 2009). In contrast, quantitative research may require a hypothesis before the commencement of research (Stake 1995).

According to Stainback and Stainback (1988), three purposes exist for the use of quantitative research, these are to describe, compare and to attribute causality. Maxwell (2012) describes five purposes for qualitative research as understanding the meaning that the study participants give to the events, situations and actions they are involved with and of the accounts they give of their lives and experiences. The second purpose is understanding the particular context within which the participants act and the influence this context has on their actions. Thirdly, its purpose is identifying unanticipated phenomena and influence and generating new, grounded theories about them. The fourth purpose is understanding of the process by which events and actions take place. Lastly, a purpose of quantitative research is developing causal explanations (Maxwell 2012).

Willis and Jost (2007) describe a research paradigm as a comprehensive belief system, world view or structure that guides research and practice in a field. A research paradigm comprises a view of the nature of reality (i.e. ontology) that may be exterior or interior to the knower, a related view of the type of knowledge that can be generated and standards for justifying it (i.e. epistemology) and lastly a disciplined approach to generating that knowledge (i.e. methodology). Collis and Hussey (2013) agreed with this stating that a

research paradigm is a theoretical framework that directs the manner in which scientific research should be conducted, based on people's philosophies and their expectations concerning the world (i.e. ontology) and the nature of knowledge (i.e. epistemology). The term paradigm has Greek origins from the word *paradeigma* meaning patterns and was first used in 1962 by Thomas Kuhn in order to denote a conceptual framework shared by a community of scientists that provided a means for investigating complications and therefore finding a solution to these (Kuhn 1962). Kuhn (1962) also defines a paradigm as a combination of substantive concepts, variables and problems attached with corresponding methodological approaches and tools. Furthermore, a paradigm implies a pattern, structure and framework or system of scientific and academic ideas, values and assumptions.

The way a paradigm develops is influenced by the way people view reality and may either be objective or subjective. An objective reality indicates reality is seen as impartial or neutral by the researcher and not swayed by individuals whereas in contrast, a subjective reality is one which is dependent upon the actions of an individual. In saying this, people's perceptions of reality are ever-changing and therefore many paradigms have ultimately been born (Kuada 2011). Numerous major paradigms exist that generate inquiries into the guidelines and practices of education (Willis and Jost 2007). Here, two main types will be discussed ultimately explaining the choice of paradigm for this study.

One of the first paradigms developed was that of positivism. This paradigm is based on the idea that science is the only way to learn about the truth. Due to this, the basic assumption of this paradigm is that social reality is independent with theories being discovered through experiments and observations. Under this paradigm, researchers use logical reasoning and facts to explain phenomena. The positivist paradigm is associated with quantitative methods of analysis because this paradigm assumes that the phenomena under study can be measured (Collis and Hussey 2013). The main flaws of positivism according to Collis and Hussey (2013) are as follows:

- people cannot be separated from the social settings in which they exist,
- understanding people is not possible without exploring the perceptions they have of themselves,
- research is highly structured ad imposes constraints on the results and may possibly ignore pertinent findings,
- researchers are not impartial beings but rather part of what they observe adds their own interests and values to the research, and
- capturing complex phenomena in a single measure is misleading.

Due to these flaws, social scientists derived another paradigm known as interpretivism. Interpretivism assumes that reality is socially fabricated by those who take part in it. The researcher cannot separate himself/herself from the reality and therefore interacts with what is being researched. As opposed to the positivist approach, interpretivism focuses on exploring or explaining phenomena instead of measuring it. Therefore, qualitative methods of analysis are used by means of interviews and focus groups where the researcher is actively involved (Merriam 2009). Terreblanche and Durrheim (2007) as well as Creswell (1994) compared interpretivism and positivism based upon three major dimensions/ assumptions, namely ontology, epistemology, and methodology.

Ontology according to Collis and Hussey (2013) is commonly referred to as aspects concerned with a person's view of the world that has a noteworthy influence on the perceived relative importance of the aspects of reality. Positivists only accept one reality because it is external and objective whereas interpretivists argue that there are multiple realities because each person has their own perception thus reality is subjective.

Epistemology is an essential area of philosophy and is concerned with the nature, sources and limits of knowledge. Positivists believe that knowledge only arises from what can be measured and observed scientifically. In contrast, interpretivists believe the researcher should interact with the research and include the researcher's beliefs in the research process (Collis and Hussey 2013).

Methodology refers to how the researcher goes about practically finding out what is to be known. Positivism requires the concepts to be explained in a way that can be measured. Here, large sample sizes are used in order to increase reliability while keeping objective facts as the focus. Interpretivism is conducted by examining a small sample over a period of time which allows for greater insight into the phenomenon. The aim here is not statistical generalisation but conceptual generalisation (Collis and Hussey 2013).

In Table 3.1, both the positivist and the interpretivist paradigms are compared in relation to the dimensions/ assumptions discussed above:

Table 3.1: Paradigm comparison (Creswell 1994; Collis and Hussey 2013)

Dimension/ Assumption	Positivism	Interpretivism
Ontological (i.e. the nature of reality)	Reality is objective and separate from the researcher.	Reality is subjective and multiple realities exist with each participant forming their own.
Epistemological (i.e. what constitutes valid knowledge)	Researcher is independent from what is being researched.	Researcher is involved and interacts with the research.
Methodological (i.e. the process of research)	Process is deductive. Study of cause and effect with a static design. The categories are isolated prior to research commencement. Generalisations will lead to predictions, explanations and understanding. The results are accurate and reliable through validity and reliability.	Process is inductive. Study of mutual simultaneous shaping of factors with an emerging design. The categories are identified during the process. The research is context bound with patterns/ theories being developed for understanding. The findings are accurate and reliable through verification.
	Quantitative	Qualitative
	Objective	Subjective
	Scientific	Humanist

Taylor and Medina (2013) asserted that not one research paradigm is greater than another, but each has a precise purpose in providing a distinct means of generating knowledge. In keeping with Taylor and Medina (2013), an interpretivist paradigm was chosen based on the aforementioned distinctions, the study purpose and research questions. According to Merriam (2009), this method of study focuses on the beliefs, experiences, and perceptions of the

individual and the reality that the individual creates for them. Therefore, this approach was deemed most suitable as it allowed the lived experiences of the participants to be studied. By using this approach, it enabled the participants to form and share a complete picture of their everyday events and experiences of experiential learning as well as allowing the methodological approach to present the understanding of participants' experiences of experiential learning.

3.4 DESIGN

Mouton (2001) described research design as the reasoning or master plan of the research that provides insight as to the way in which the study must be conducted; it highlights how all the key aspects of the research function to answer the research question. It essentially serves to plan, structure and execute the research. That said, this study employed a qualitative phenomenology design.

Phenomenology, according to Patton (1990), is the study of experience and how things are presented in and through experience from a subjective or first person point of view. Phenomenology is a study that is focused on reports of what is experienced by people and how it is that they experience these experiences. Finlay (2009) agreed with Patton (1990) in describing phenomenology as starting with concrete descriptions of lived situations, often first person accounts, set in ordinary language and avoiding abstract intellectual generalisations.

Phenomenology endeavours to define the necessary characteristics or composition of a specific or general experience. One of the vital characteristics of any experience is its "intentionality" or its being focused toward some object or subject. This then leads to analyses of conditions of the possibility of intentionality, situations involving motor skills and customs, previous social practices and language. The theory of intentionality, the dominant theme of phenomenology, maintains that all experiences necessarily have this object relatedness and therefore one of the catch

phrases of phenomenology is “all consciousness is consciousness of” (Armstrong 2010).

Phenomenology strives to provide a change in these traditions by offering an explanation of how the experiencing subject and object experienced are not externally related, but internally unified. This relationship between the subject and object is the “phenomena” that phenomenology uses as the starting point of its descriptive analysis. The discipline of phenomenology as a historical movement originates with Edmund Husserl who is considered the “father” of phenomenology and who worked tirelessly to establish it as a rigorous science (Patton 1990). It continued to develop in twentieth century European philosophy through the works of those such as Max Scheler, Martin Heidegger, Hannah Arent, Jean-Paul Sartre and Maurice Merleau-Ponty (Patton 1990). Given its continual development and appropriation in various other disciplines – most notably ontology, sociology, psychology, ecology, ethics, theology and philosophy of mind – phenomenology is considered to be one of the most significant philosophical movements in the twentieth century (Patton 1990). Husserl (1964) himself believed that if science was to fulfil a mission of providing rational knowledge that would enable humanity to freely shape its own destiny, then science should go beyond an exclusive focus on the physical world and take human experience into consideration with equal vigour.

Four main views of phenomenology exist (Dowling 2007), namely:

- Positivist (Husserl),
- Post-positivist (Merleau-Ponty),
- Constructivist (Gadamer), and
- Interpretivist (Heidegger).

Positivism (Husserl) is strongly epistemological regarding experience as the ultimate source of information. The aim of positivism is rigorous and unbiased study of things as they appear in order to arrive at an essential understanding of human consciousness and experience (Dowling 2007). Positivism adheres

to the view that only “factual” knowledge gained through observation (i.e. the senses), including measurement, is trustworthy. In positivist’s studies, the role of the researcher is limited to data collection and interpretation through objective approaches and the research findings are usually observable and quantifiable. Positivism depends on quantifiable observations that lead to statistical analyses. It has been noted that as a philosophy, positivism is in accordance with the empiricist view that knowledge stems from human experience (Crowther and Lancaster 2008). The five main principles of positivism can be summarised as the following (Crowther and Lancaster 2008):

1. the logic of inquiry is the same across all sciences,
2. research should aim to clarify and forecast,
3. research should be empirically observable via human sense; inductive reasoning should be used to develop statements (i.e. hypotheses) to be tested during the research process,
4. science is not the synonymous with the common sense; common sense should not be allowed to prejudice the research findings, and
5. science must be value-free and should be judged only by logic.

Post-positivism (Merleau-Ponty) is based upon the notion that the majority of knowledge is hypothetical; this research paradigm emphasizes deductive logic, or warrants it in supporting theory generation. Post-positivism admits reported experience (e.g. surveys), sociological or psychological experiments (where the data must be inferred from other phenomena) and observed human behaviour as data because wider criteria for data acceptability exist than is the case for positivism. Post-positivism is often used to describe an approach to research where large amounts of qualitative data are categorised to produce quantitative data to be analysed using statistical methods (Dwivedi et al. 2009). Ryan (2006) described post-positivist research principles as those which encourage meaning and the creation of new knowledge and are able to support committed social movements – movements that aspire to change the world and contribute towards social justice. Post-positivist research has the following characteristics (Ryan 2006):

- broad research instead of specialised,
- theory and practice which is not kept separate; theory cannot be ignored for the sake of “just the facts”,
- the investigator’s stimuli for and pledge to research are central and crucial to enterprise; and
- the notion that research is concerned only with accurate methods for gathering and classifying information is now insufficient.

The post-positivist stance asserts the merit of values, passion and politics within research. Research of this manner requires the research to look at the entire picture and to view from a distance. This kind of objectivity is different from “just the facts”, devoid of context – it does not mean judging from nowhere. It requires a fair degree of passion – especially passion for justice and the ability to subject one’s own ideas to examination. This requires patience, honesty, courage, persistence, imagination, sympathy and self-discipline alongside dialogue and debate (Eagleton 2003). The researcher undertaking post-positivism research assumes a learning role rather than a testing one. One of the opportunities and challenges posed by this approach is that the researcher recognises the common humanity that connects researchers and people who participate in research. The researcher regards themselves as a person who conducts research among other people, learning with them, rather than conducting research on them (Wolcott 1990).

Post-positivist researchers believe that positivist research methods predominantly echo the realistic ideology of the positivist researcher where the positivist researcher might strive to objectively ascertain the truth concealed in the subject’s mind. Post-positivists endeavour to interrupt the probability that can occur in traditional interviews, striving to engage in the social construction of a narrative with the participants (Ryan 2006).

Constructivism (Gadamer), as cited by Riegler (2009), expresses the idea that intellectual structures and processes are actively created by one’s mind rather than passively acquired. Constructivism is based on observation and scientific

study about how learning occurs. It simply states that people construct their own ideas and awareness of the world through experience and reflection on those experiences. On experiencing something new, it has to be reconciled with earlier concepts and experiences, perhaps altering beliefs or discarded as irrelevant. According to Andrew, Pedersen and McEvoy (2011), constructivism accepts realism as a construct of the human mind, therefore reality is perceived to be subjective. This philosophical approach is closely associated with pragmatism and relativism. The main distinction between constructivism and positivism relates to the fact that while positivism argues that knowledge is generated by the scientific method, constructivism maintains that knowledge is constructed by scientists and it opposes the idea that there is a single methodology to generate knowledge.

Orlikowski and Baroudi (1991) define interpretivism as studies which assume that personal and interpersonal meanings are created as people interact with their surroundings. Interpretive researchers therefore endeavour to make sense of occurrences through the importance participants assign to them. Walsham (1993) further defined interpretivism as a method of research which starts from the position that our knowledge of reality, including the domain of human action, is a public production by human actors. This social construction includes the researcher therefore there is no objective reality which can be discovered by researchers and replicated by others. This is in contrast to positivism.

This research was conducted from an interpretivist phenomenology.

3.5 THEORETICAL FRAMEWORK

A theoretical framework is a collection of connected concepts which are designed to guide the research effort. The theoretical framework reinforces the study in the following ways (Swanson 2013):

- a clear statement of theoretical expectations permits the reader to critically assess them,

- the theoretical framework provides a connection between the researcher and the existing knowledge base. Guided by a relevant theory, a basis is provided for the hypothesis and the research method chosen,
- expression of the theoretical assumptions of a research study requires the researcher to answer questions of how and why, therefore allowing the transition from describing the phenomenon observed to generalising about various aspects of the phenomenon, and
- by having a theory, the researcher is able to identify limits to generalisations. A theoretical framework specifies the key variables which affect a phenomenon of interest and highlights the need to examine how those key variables may vary under different situations.

Essentially, a theoretical framework is the map which the researcher uses to get from point A to point B and which ties the ideas in between together (Swanson 2013). The theoretical framework used for the purpose of this study was Kolb's Model of Experiential Learning (Kolb 1984). Kolb is the founder of experiential learning with the purpose being to link theory and practice. Manning (2011) described the elements of Kolb's model to include:

- participation in concrete experiences,
- observation and reflection about the experiences,
- formation of concepts, and
- testing of these concepts in a new situation.

Along with this, four abilities are required for experiential learning:

- openness and willingness to be involved in new experiences,
- observational and reflective skills in order to view these new experiences,
- analytical abilities in order to create new ideas from the observations, and
- decision making and problem solving skills to allow one to use these new ideas in real life practical situations.

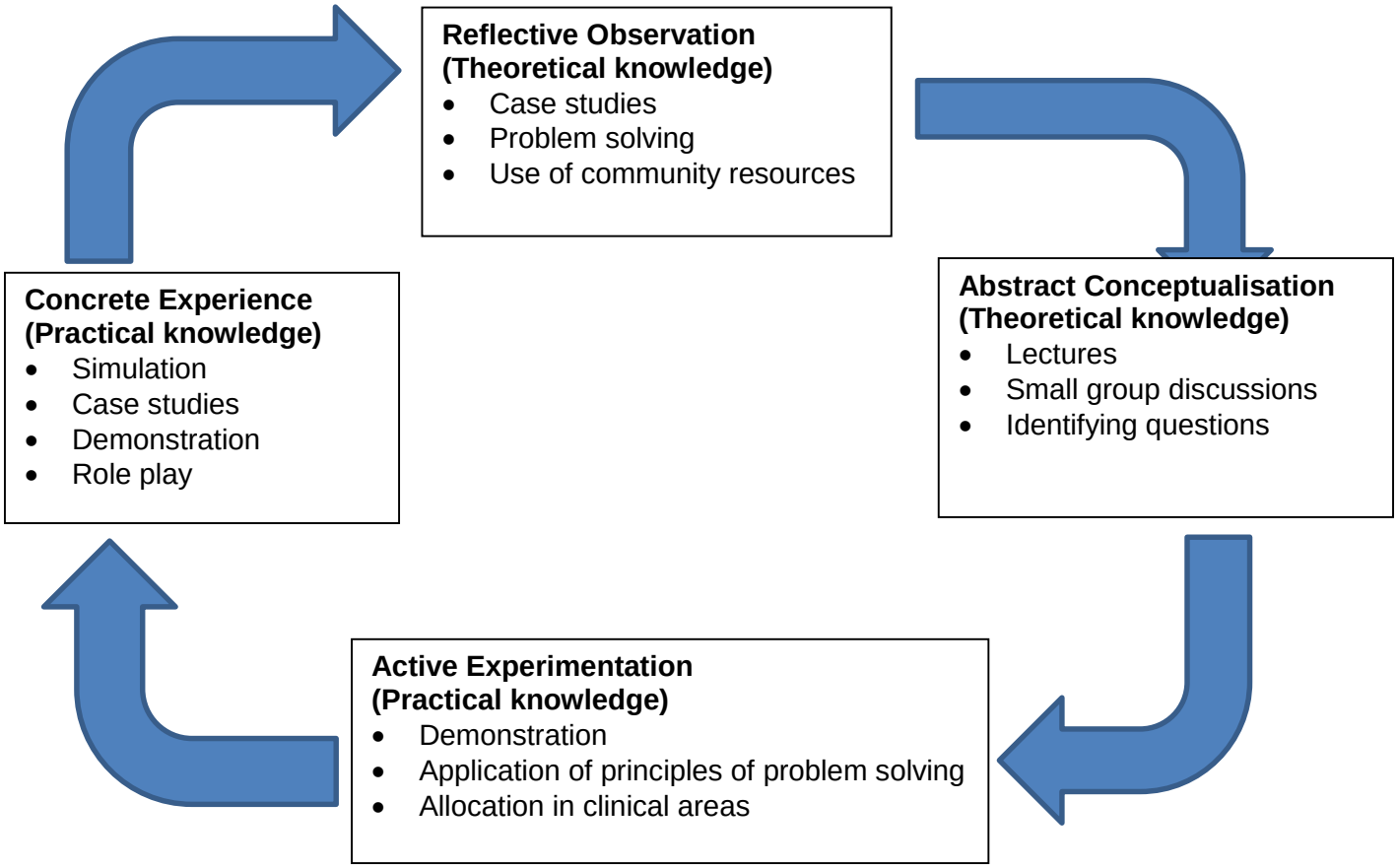

Figure 3.1: Kolb's Model of Experiential Learning (Manning 2011)

Kolb's Model of Experiential Learning firmly advocates that a worker's experiences "on the job" will determine their behaviour. Likewise, the changes the worker undergoes will affect the environment. Kolb's cycle begins with concrete experience. In this stage, the individual is assigned a task and actively takes part in it, and learns in the process (Figure 3.1). These tasks may be simulations, case studies or role play. The second stage is reflective observation. This involves taking "time out" from being physically involved, taking a step back from the task at hand and reviewing what has been done and experienced. This is enhanced by teaching strategies such as case studies, problem solving and community resources. The next stage is abstract conceptualisation; it involves making sense of and interpreting the events which have unfolded. It also entails understanding the relationship between them with reflecting upon what is already known. Small group discussions, lectures and identification of questions from other students allow knowledge to

be passed from one student to the next. This is known as active experimentation and is the fourth stage in Kolb's Model of Experiential Learning. In this stage, the learner decides how they will put what they have learned into practice, what will happen next and what steps should be taken to handle the task at hand. This active experimentation occurs back in the classroom where students are provided with the opportunity to interact with each other and discuss their experiences (Manning 2011). These actions by the student lead to new experiences and so the cycle begins again.

Kolb's Model was chosen because it directly relates to the field of EMC where students are taught the theoretical aspects of treating patients and then have to put it into practice to treat real-life patients in real-life situations. These situations provide concrete experiences which were then studied in depth. In the context of EMC, Kolb's Model relates in the following ways:

Concrete Experience – Concrete experience occurs in the classroom environment where students take part in simulations, case studies, demonstrations and role playing.

Reflective Observation – The student reflects upon their experience with peers or mentors and together they make sense of the experience and previous understanding. This occurs in experiential learning as classroom discussions, case presentations and the completion of reflective practice portfolios. Holbert and Thomas (1988) found that the acts of reflection and critical appraisal are necessary for learning to take place.

Abstract Conceptualisation – Reflection may cause students to develop new ideas or modify existing ideas and make sense of what is already known. In EMC this occurs through classroom discussions, case presentations and completion of reflective practice portfolios. By creation of these concepts, the student is essentially putting theory into practice (Holbert and Thomas 1988).

Active Experimentation – As team member, students receive hands-on-experience with real patients in the field by actively treating patients; each situation provides a new experience. Nyatanga (1989) states that concrete experiences develop through exposure as well as participation in the situation. Once a new experience has occurred, the students return to the classroom,

refine the new knowledge learned and again return to the experiential learning environment to apply this knowledge to patient care.

Kolb's experiential learning theory was fundamental in introducing reflection into education. Bernard et al. (2012) said reflection was essential in emergency care as it promotes professional development and lifelong learning. Furthermore, a paramedic should be able to apply reflection immediately in the form of self-monitoring, coping with the unexpected and quickly thinking on his or her feet to solve complicated, unique and challenging problems. Paramedics, much like emergency physicians, work in the heart of difficult, stressful situations and interact with patients and colleagues who may test their emotions, beliefs and training on a daily basis. In addition to this, paramedics are exposed to unexpected moments or situations that involve complicated diagnoses, critical patients or unfortunate outcomes. In these situations, reflection is a tool which may be used to not only make sense of the situation, but also allow the practitioner to learn from their experiences and enhance performance in similar future situations (Boud 2012). Further to this, Bernard et al. (2012) suggests that reflection has the ability to improve clinical reasoning, diagnostic accuracy and student performance.

3.6 THE RESEARCHER

I, the researcher, am a female Emergency Care Practitioner registered with the HPCSA. I have been in the emergency profession since 2004 as a BAA and AEA until I enrolled in the BHSc EMC degree in 2011 and completed the degree in 2014. I was once a student exactly like the participants in the study and have been through the same training programme which included experiential learning during the module known as clinical practice. My interest in this study relates to how experiential learning is delivered to students and whether any improvements could be made. Prior to the study, I had no established relationships with any of the participants.

3.7 STUDY SETTING

Interpretive, qualitative research is often conducted in its natural setting. A natural setting is an everyday study environment without any changes being made for the purpose of the study. One endeavours to understand the phenomena in terms of the meaning brought to it by the participants (Holloway 1997). Burns and Grove (2009) indicated that the study setting is the setting in which the study takes place and may be either natural or controlled. Data were collected from students undertaking experiential learning in EMC at a University of Technology in Durban, KwaZulu-Natal. Students attend classes at this university; therefore, this natural, real-life setting was used as it is where the student was most likely to be comfortable, thereby allowing the greatest chance of honest sharing of experiences.

3.8 STUDY POPULATION

A population as defined by Polit and Beck (2004) is the combination of emergency calls that meet the chosen criteria to be studied. Brink, Van der Walt and Van Rensburg (2012) defines a research population as a large group of persons or objects who have a common, binding characteristic or traits and who are the main focus of scientific enquiry. Often researchers are unable to test every individual due to the large sizes of the populations which would prove to be too expensive and time consuming. In this case, researchers rely on sampling strategies. Two types of populations exist in research, namely the target population and the accessible population. The target population refers to the entire group of individuals or objects to which researchers are interested in generalising the conclusions. Target populations have varying characteristics and are also known as the theoretical population. The accessible population is a subset of the target population and is also known as the study population and it is from this population that the researcher draws samples (Brink, Van der Walt and Van Rensburg 2012). The accessible population is also the population to which the researcher is able to apply their conclusions. The target population for this study was all students undertaking experiential learning in the BHSc EMC programme at a

University of Technology in Durban, KwaZulu-Natal. The students who were involved in the study had all taken part in experiential learning to varying degrees. The students were from the second, third and fourth year of study ensuring that each one had a minimum of one-year or 300 hours of experience with the fourth-year students nearing 1200 hours of clinical experience.

3.9 SAMPLING STRATEGY

For the purpose of the study, random purposeful sampling was used. This is a method of sampling that allows generalisation from the sample to the population it represents (Patton 1990). The randomisation tool in Microsoft Excel (Redmond, Washington USA) was used to randomly select students. All students who met the inclusion criteria were input in the programme and their names were randomly selected by the programme and those who consented were interviewed. All students had some degree of experience in experiential learning, however, as this study was done through a phenomenologist view; not all opinions were necessary, as I was interested in the opinion of the individual and the reality that they created for themselves. A total of 29 students partook in the study without any students refusing to participate or dropping out during the interview process. Thematic saturation as described by Given (2008) is the point in the data collection process when nothing new or pertinent emerges. At this point, the theory has no gaps or unexplained phenomena. Thematic saturation was reached during the interview with participant 23. At this point, no new ideas emerged and participants repeatedly made the same comments about the topics posed to them.

3.10 INCLUSION CRITERIA

Polit and Beck (2004) define inclusion criteria as the qualities that people in the population must hold in order to be considered for inclusion in the study. In the case of this study, all students enrolled for the BHSc EMC programme at a University of Technology in Durban, KwaZulu-Natal met the inclusion

criteria as they were partaking in experiential learning as part of this programme.

3.11 EXCLUSION CRITERIA

Exclusion criteria are defined as characteristics that respondents meet in order not to be considered to take part in the study (Burns and Grove 2009). In the case of this study, exclusion criteria were students not registered in the Department of Emergency Medical Care at a University of Technology in Durban, KwaZulu-Natal and students with less than one year of study.

3.12 PILOT STUDY

Janghorban, Roudsari and Taghipour (2014) describe a pilot study as a small scale pre-test for a particular research instrument such as a questionnaire or interview guide. The general purpose of a pilot study is summarised in four areas: Firstly, to find problems and barriers related to participant's recruitment, secondly being engaged in research as a qualitative researcher. Thirdly to assess the acceptability of observation or interview protocol and finally to determine epistemology and methodology of research.

A pilot study can also assist in refining the sampling strategy and finding the most effective way to recruit participants and may even lead to identification and management of ethical and practical problems which have the ability to jeopardise the main study. In addition to this, pilot studies are able to provide opportunities to improve the skills of qualitative researchers in conducting semi-structured interviews including dealing with participants, selecting an appropriate venue for interview, conducting an in-depth interview and seizing opportunities for probing emerging topics in the interview process (Janghorban, Roudsari and Taghipour 2014). For these reasons, I conducted a pilot study involving five participants of various qualifications in emergency medical care. I used the same interview guide in order to test its effectiveness. The participants found the interview guide to be effective with

no leading questions identified. No further recommendations were made by these participants.

3.13 DATA COLLECTION PROCESS

Data collection, according to Polit and Beck (2004) is the accumulation of information which is needed to address a research problem. In interpretive research, researchers derive data from direct interaction with the phenomenon being studied. For my research, I collected data using semi-structured interviews, a total of 29 interviews were conducted. Semi-structured interviews allowed me to study the lived experiences of students during experiential learning. With the information being gathered in a more conversational style, the participants felt at ease and opened up about their true feelings (Harrel and Bradley 2009). I chose semi-structured interviews because it not only allowed me to plan my research questions in advance but it also allowed for flexibility in case unexpected points were raised by a participant. Furthermore, it allowed for interactive interviews/ conversations with the participants. This allowed for questions to branch off in other directions and even exclude certain questions completely as the data collection progressed.

Seidman (2006) lists the advantages of semi-structured interviews as having the potential to combat meagre response rates from participants as seen in questionnaires, being well suited to explore attitudes, values, beliefs and motives as well as investigation of complex behaviours and motivations. This form of interviewing also has limitations, in that it has the potential to lead to premature judgement about the importance of the content or the interviewer may give out unconscious signals/ cues that may steer the participant to answer in a certain manner. In order to combat this, I ensured that I approached the process of interviewing with an open mind and without preconceived ideas or opinions on the subject being investigated. I asked open ended questions to ensure the answers provided by the participants were not influenced by me. The questions were used to guide the interview process.

Limitations with this data collection process are related to interviews being time consuming, the success of the interview being dependant on the interviewer's skill and aptitude to think of questions during the interview (Seidman 2006). However, these limitations were not present during this study. The interviews took no longer than 60 minutes and new questions came quite easily as the participants themselves presented new ideas. Prior to data collection commencing, clearance was granted by the Institutional Research Ethics Committee. Gatekeeper permission was also granted by the office of the Deputy Vice Chancellor: Research and Engagement followed by approval from the Department of Emergency Medical Care at the University of Technology (Appendices 2A and 2B). Once this process had been completed, I contacted lecturers in the Department of Emergency Medical Care at the University of Technology. Supportive lecturers then disseminated the information letter to the students (Appendix 3). Students who met the inclusion criteria and were interested in partaking in the study then contacted me via e-mail and appointments to meet were set up.

The semi-structured interviews were voice-recorded using a voice recorder with the participants' permission. Data was transcribed by me in order to ensure the anonymity and confidentiality of the participants. This also served as a first level of analysis with the data. The audio and transcription files were stored in a password protected computer in a password protected file that only I had access to. After a period of five years, the data will be destroyed ensuring no access by outsiders is possible. Repeat interviews were not carried out as it was not deemed necessary as thematic saturation had been reached.

3.14 DATA INTERPRETATION

Bogdan and Biklen (2003) defined qualitative data analysis as "working with the data, organising them, breaking them into manageable units, coding them, synthesising them and searching for patterns". This is particularly true as the aim of qualitative data analysis is to discover patterns, concepts, themes and meanings. As these processes occur, the initial focus is on the data as a

whole, with it then being deconstructed and re-constructed in a more meaningful way (Yin 2003).

Thematic analysis was used to analyse and interpret the data in this study. Boyatzis (1998) asserts that this method of qualitative data analysis is the most common as it provides a flexible research tool and teaches the core skills that will be useful for conducting other forms of qualitative analysis. It allows the researcher to discover patterns, develop themes, organize and describe the dataset. Braun and Clarke (2006) describe six phases of thematic analysis. The first phase is known as transcription and involved becoming familiar and comfortable with the data that I had collected. The second phase was generating initial codes. This entailed grouping similar features of the data in an orderly manner. The third phase was the search for themes. Here, the codes were divided into themes grouping together all the data that was relevant to a particular theme. Reviewing the themes was the fourth phase. This involved checking whether the themes worked together, thereby creating a guide to the analysis. The fifth phase was defining and naming the themes. This was an on-going analysis that identifies and refines the themes to create definitions and names for each theme. The last phase, phase six, was producing the report.

3.15 ETHICAL CONSIDERATIONS

Important ethical considerations related to how a participant may feel prior to and during the study. During interviews in qualitative research, the researcher enters the personal space of the participants and interacts closely with them and thus should be aware of the participants' rights, needs and values and should respect these (Silverman 2000). In order to ensure ethical compliance, the Declaration of Helsinki ethical guidelines were followed.

3.15.1 Description of risks and benefits

A possible risk of this study was that during the interview process, a student might have recalled a particularly traumatic case causing them to relive an unpleasant experience that affected them emotionally. Although this did not occur, a contingency plan was in place that entailed stopping the interview immediately, comforting the participant and providing a referral to the counselling services at the University of Technology. The potential benefits of this study are possible recommendations for improvement of the experiential learning module and the addition of new literature on the subject in the South African context. No immediate or direct benefits to the study participants were anticipated or promised.

3.15.2 Informed consent process

The university granted ethical clearance prior to beginning the study (ethics number REC 21/16) (Appendix 4). Gatekeeper permission was sought from the University at which the study took place (Appendix 5A). Gatekeeper permission refers to access into the organisation/ institution. The access can either be physical or informational with all organisations having the right to either grant or deny such permission. This permission does not provide consent for the study – that must be obtained from the participants. The process of consent consists of three parts namely the information sheet, the declaration of consent and the corresponding signatures**.** The information sheet covers the aim of the study, the data collection instrument, duration of data collection, risks/ benefits of the study and the contact details for the researcher and supervisors. The declaration of consent confirms that the participant understands the research process and his/ her rights, including the ability to refuse participation and to withdraw at any stage without consequence. Lastly, signatures from all participants were required in order to ensure all processes were followed (UKZN 2014). In order to ensure informed consent was obtained from participants, a letter of information was disseminated to all students. It was then explained to each student/ participant separately and their signature was obtained to verify that they understood

what was being asked of them, that they were interested and willing to participate in the study, that they were participating voluntarily (Appendix 6).

3.15.3 Privacy and confidentiality

The right of a person to be free from meddling or interference by others is known as Privacy. Individuals have privacy interests in relation to their bodies, personal information, expressed thoughts, opinions, personal communications and the space they occupy. Research affects these various areas in different ways depending on the objective and method of the research. As such, privacy was respected throughout the study in various ways. For one, the participant had the opportunity to exercise control over their personal information during the process of consent. Each participant was also given a randomly chosen participant number to ensure no personal details were divulged during data collection (Burns and Grove 2009).

Confidentiality refers to the duty of an individual or an organisation to safeguard information entrusted to them. This is even more so for researchers who hold an ethical responsibility to protect information from unauthorised access, use, disclosure or modification in order to guarantee that the relationship of trust with the participants is maintained and the integrity of the research is ensured (Kaiser 2009). I transcribed the data to ensure anonymity and confidentiality of the participants. During the write up, pseudonyms were used which further ensured participant anonymity and confidentiality.

3.15.4 Reimbursement for participation

There was no reimbursement for participation.

3.16 TRUSTWORTHINESS OF DATA

The trustworthiness of data in research refers to the degree to which the data and data analysis is believable and reliable (Krefting 1991). In order to ensure trustworthiness in qualitative research, Lincoln and Guba (2004) suggested

that four criteria be followed namely credibility, dependability, confirmability and transferability.

3.16.1 Credibility

This is defined as the degree to which the data and data analysis are believable and trustworthy, whether the research matches reality and to what extent it matches reality. Qualitative research is valid to the researcher because of the existence of multiple realities and requires the consumer (i.e. the reader) to judge the extent of credibility based upon their understanding of the study (Lincoln and Guba 2004). Credibility involves two aspects: first, conducting the study in a way that augments the believability of the study and second, taking steps to validate credibility to consumers (Polit and Beck 2004). In order to ensure this the interviews were each one hour long to ensure sufficient interaction between the participants and myself.

3.16.2 Dependability

This refers to the ability to reproduce the work in the same manner, using the same criteria and obtaining the same results to display consistency in the theory (Dye et al. 2000). According to Merriam (1998), dependability places emphasis on the importance of the researcher accounting for the changing contexts and circumstances that are fundamental to a consistent research outcome. Merriam (1998) also points out that dependability is comparable to reliability which in itself is problematic due to human behaviour being forever changing and the possibility of multiple realities. However, to achieve dependability, Merriam (1998) suggested employing the following techniques:

- explaining the assumptions and theory behind the study,
- using multiple methods of data collection and analysis (triangulation), and
- providing a detailed explanation of the data collection process and an audit trail.

Internal validity in qualitative research can be enhanced by implementing the following strategies (Seale 1999):

- member checks which involve taking the data back to the participants and confirming whether the results are accurate,
- peer examination, and
- clarification of research biases, assumptions and world views at the beginning of the study.

In order to ensure consistency, the research methodology has been described in detail to provide a “recipe” to replicate the study. The recordings, transcripts, letters of consent and notes have also been preserved for any future queries.

3.16.3 Confirmability

Confirmability refers to the researcher’s concern for objectivity and steps taken to ensure that the findings are entirely due to the experiences and ideas of the participants and not the features and preferences of the researcher (Dye et al. 2000). In order to ensure confirmability, an audit trail was created and in this audit trail the following was present:

- raw data consisting of field notes and interview transcripts,
- data reduction and analysis products,
- notes from member checks,
- reflective notes made by me during the data collection phase,
- instrument development information (e.g. pilot study forms), and
- drafts of the final report as they evolved.

Wolf et al. (2004) suggested that the audit trail consist of the researcher’s documentation data, methods and choices during the compilation of the thesis and the end findings. Audit trails assist in establishing the credibility of qualitative studies and serve to convince the scientific community of their rigour.

3.16.4 Transferability

The notion of transferability refers to the ability to transfer the findings of the study to another situation, setting or group (Dye et al. 2000). According to Polit and Beck (2004) transferability is achieved through thick description which refers to an in depth and detailed description of the research setting. Transferability is a difficulty in qualitative research due to the subjectivity of the researcher. I achieved transferability in this study by ensuring the research methodology was fully described as well as the research setting and demographics of the participants.

3.17 SUMMARY

This chapter has outlined the research paradigm, methodologies, strategies and design used in this study as well as the process used for data analysis and the reasoning for the use of the selected participants. Issues of trustworthiness and credibility were also addressed in this chapter. The following chapter presents and discusses the study's findings.

CHAPTER 4: PRESENTATION AND DISCUSSION OF THE FINDINGS

4.1 INTRODUCTION

This chapter presents and discusses the findings of the study. The aim of the study was to describe and explore the experiences of emergency medical care students during experiential learning. This discussion will be guided by the research question as well as the themes which emerged during the interviews.

4.2 DEMOGRAPHIC DATA

The ages of the participants were in the range of 21 years to 38 years. The participants were male and female. Four participants were second-year emergency medical care students and made up sample 1, ten participants were third-year students and made up sample 2 and 15 were fourth/ final-year students and made up sample 3.

4.3 THEMES AND SUB-THEMES

A theme is a major and recurring idea, subject or topic which appears in written work (Wroblewski 2016). Once data analysis had been completed, the following major themes emerged along with their sub-themes (Table 4.1).

Table 4.1: Themes and sub-themes

THEME	SUB-THEME
Theme 1 Skill exposure	1.1 Opportunity to practice 1.2 Skill accessibility 1.3 Lack of confidence
Theme 2 Clinical supervision	2.1 Lecturer supervision and teaching during placements 2.2 Mentorship
Theme 3 Communication	3.1 Lecturer/ student communication 3.2 University/ practical facility communication 3.3 Student requirements/ abilities

Below, the themes and sub-themes are discussed with direct quotes being provided to substantiate the results.

4.3.1 Theme 1: Skill exposure

Brown and Williams (2011) state that practical hands-on learning opportunities are viewed as a crucial component of the education of healthcare students. Boyle et al. (2009) agree with this in stating that clinical exposure is of crucial importance to empower the practitioner with insight, decision making and problem solving skills. The findings of this study indicated a lack of exposure to skills required for students to be competent in their line of study. This reported lack of exposure impacted participants negatively during their placements, leaving them unable to complete the prescribed amount of skills and feeling the practical hours worked as being worthless. This is supported by the statements which follow.

4.3.1.1 Sample 1

"…expected that we get more exposure to the road, to do things". (Sample 1, Participant 1)

"…hours that are worked outside are not worth it, every day you find students who are supposed to submit their progress and they don't have skills but they did do their hours". (Sample 1, Participant 2)

"…I don't think we are exposed in hospital… you have the doctors, trainers, nursing students and other years' students that are sharing the shift with you and like the 4th years are going to take preference and you going to step back and go back to being an academic and write everything down instead of doing what you're supposed to be doing". (Sample 1, Participant 4)

4.3.1.2 Sample 2

"…we don't get enough skills; it's not enough what we get". (Sample 2, Participant 1)

"…advanced life support skills are not attainable". (Sample 2, Participant 3)

"…like crikey! Like 12 umbilical vein cannulations… I mean really! Where you gonna find that? (Sample 2, Participant 4)

4.3.1.3 Sample 3

"…exposure to skills is insufficient like at where there's so many students". (Sample 3, Participant 1)

"…usually not getting what you expected number one in terms of the skills you require". (Sample 3, Participant 2)

"…you can end up spending 12 hours there doing nothing or you can get some really nice skills". (Sample 3, Participant 4)

"…you not getting the same amount of exposure as opposed to working with a private service". (Sample 3, Participant 5)

"…we are lacking our exposure to ALS skills". (Sample 3, Participant 6)

"… how can you say that 1200 hours is enough time to be exposed to all your ALS patients… so I don't think that it's enough exposure". (Sample 3, Participant 7)

"…If standing on the side counts then yes we are exposed". (Sample 3, Participant 8)

"…some of the skills are not attainable". (Sample 3, Participant 16)

The participants reported a general lack of exposure to skills. This was largely attributed to the placement site or the nature of the skill itself with students often finding themselves observing rather than actively taking part in the skill. This is not a new problem as mentioned in the study by Engum (2003). In that nine-month study, fewer than 50% of the 25 medical students involved in the study reported any exposure to commonly experienced clinical skill encounters such as intravenous catheter placement, central venous line placement, nasogastric tube placement or applying splints.

A further study by Vrotsos et al. (2008) indicated that paramedics infrequently performed high-risk skills and that this limited exposure to skills in the clinical setting was unlikely to be sufficient to maintain clinical competency. This finding was echoed by Deakin (2007) who reported that 50% of the 269 paramedics included in the study on endotracheal intubation performance had not performed a single intubation during the 12-month study period. This further ties in with Brown and Williams (2011) who stated inadequate clinical fieldwork placements (i.e. lack of opportunity and skill exposure) contribute to shortages in qualified healthcare professionals at a national level. However, this is in contrast to the Council of Higher Education (2011) that stated that learning activities in clinical practice placements prior to graduation are required to assist students to develop skills required for professional practice at work.

In keeping with the theme of skill exposure, Johnston (2006) found that paramedic students were inadequately exposed to opportunities for endotracheal intubation; most students had typically attempted five or fewer endotracheal intubations during the entire ten-month duration of the programme. Johnston's (2006) study further identified the baseline proficiency as being 15-20 endotracheal intubations. Westgard et al. (2013) agreed with this finding in pointing out that the challenges in obtaining intubation opportunities was largely attributed to scheduling conflicts and rivalry from other medical professionals such as student anaesthetists and other paramedic students. Westgard et al. (2013) also found that a hindrance to students' intubation opportunities was directly related to the changing practice

in anaesthesia where alternative airway devices were being used more regularly thus limiting intubation opportunities and decreasing student exposure.

In keeping with the frustration expressed by the participants due to a lack of skill exposure, students at the University of Port Elizabeth, now Nelson Mandela University experienced these same frustrations as found in a study conducted by Carlson, Kotze and Van Rooyen (2003). The study by Carlson, Kotze and Van Rooyen (2003) involved nursing students and found that students complained about not being given the chance to perform skills because of the beliefs of staff assigned to supervise them and their reported dislike of students. Although Carlson's study did not involve paramedic students, it showed that this reported lack of opportunity to practice was not unique and a pattern of unhappiness was identified.

4.3.2 Sub-theme 1: Opportunity to practice

In a study investigating the clinical practicum experience of ALS paramedic students, Moodley (2016) found that opportunities for learning were an important element in influencing paramedic students' experiential learning. Moodley (2016) further discovered that opportunities to practice presented problems with participants listing the main reasons being due to the programme being more theory orientated than practical, not having resources available to them at the practical sites, or not having seen any critically ill or injured patients during the placements. The attitudes of staff members towards students working in the clinical placement areas were also identified as a cause for concern. The following comments from participants further elaborate on this sub-theme.

4.3.2.1 Sample 1

"…third-year is supposed to be more practical and less time in the classroom…" (Sample 1, Participant 4)

"… they are making this course more academic than practical." (Sample 1, Participant 2)

"… there's no resources for you to do it." (Sample 1, Participant 5)

"… went to theatre to RSI and the interns were there and we stand no chance, all you are doing is standing and watching." (Sample 1, Participant 3)

4.3.2.2 Sample 2

"…in government you just get used to working around a problem, that you make use of what you have at the particular time, can't do things you need to do." (Sample 2, Participant 1)

"…Not exposed to critically ill or injured, so can't practice." (Sample 2, Participant 2)

"…I don't feel like we are getting much out of this clinical practice. We need to get more exposure." (Sample 2, Participant 3)

"…students find that they go to hospital but there is nothing to do". (Sample 2, Participant 5)

4.3.2.3 Sample 3

"…I find motivation of staff members and crew members can often be a big factor and so they will push cases[1] *or they won't go on calls or they will take longer to go out on calls and we miss a lot of the good cases because of that."* (Sample 3, Participant 11)

"…I think we have really been sheltered and I have worked all my shifts. I have gone to every single shift and I stay the full 12 hours and I'm just not getting the calls so I don't know." (Sample 3, Participant 4)

"…in my shifts I felt like I was doing nothing, we didn't go out to any cases." (Sample 3, Participant 6)

[1] Cases are emergency calls for help

Students are placed at practical facilities and with professional clinicians at random in order to complete the required number of hours and skills as per the HPCSA. This placement, however, does not guarantee that the student will be presented with the opportunity to practice these skills; it does not guarantee that the student will be placed with a clinician who has the interest or ability to teach them or is interested in treating patients and passing on their knowledge. The aforementioned statement is corroborated by the results of Moodley (2016), Levett-Jones and Lathlean (2008) as well as McCall, Wray and Lord (2009) who attributed these issues to a number of factors. These factors include a lack of communication between training institutions and placement sites, poor knowledge of paramedic curriculum, unfamiliarity of paramedic students learning objectives, lack of knowledge of teaching or even the possibility of threatened limits of the clinical practitioner's theoretical knowledge.

Parsell and Bligh (2001) found that medical students were eager for chances to practice technical skills as well as problem solving and to regularly have their work observed. Without this, students felt unsatisfied and excluded from the team. Chan (2004) agreed with this by indicating that satisfaction among students was elevated when they were treated as a part of the team where they were completing their clinical fieldwork. That said, Smedley and Morey (2010) found that together with personalisation, student involvement and the extent in which students participate enthusiastically and responsively in clinical practice activities was vital in the development of students' clinical learning skills.

Kolb's theoretical framework concurs with the above notion in that for quality learning to occur, students need to partake in concrete experiences such as simulations and demonstrations. Without concrete experiences, students will essentially be unable to form new concepts and therefore cannot test these concepts in new situations. The study by McCall, Wray and Lord (2009) revealed that students had voiced concerns over a lack of practical experience in their areas of placement with some students attending emergencies only every two to three days or not at all. This finding is similar

to this study, as participants from samples 2 and 3 indicated that they often did not perform any skills because they were not seeing patients or attending to emergencies despite being at their placement sites for the stipulated number of hours and possessing the four abilities required for experiential learning. The four abilities were: an openness and readiness to be involved in new experiences, possessing observational and reflective skills in order to view these new experiences, analytical abilities in order to create new ideas from the observations and lastly, decision making and problem solving skills to allow one to use these fresh ideas in real-life practical situations. Students therefore availed themselves to learning other skills such as stock control and vehicle maintenance.

Michau et al. (2009) further corroborated the findings of this study in their cross-sectional retrospective study which found that approximately 30% of their sample of 84 second and third-year students at Monash University felt that they were not given the chance to take part in patient care and were mainly passive observers. Eighty percent of the sample reported a large amount of “down time” where there were no emergency calls to attend to and therefore no skills to perform. The “down time” was on average four hours per shift or 1/3 of the rostered time.

Further to this, Michau et al. (2009) found that the integration of theory into practice was being negatively affected by the general shortage of clinical placement opportunities. This lack of clinical placements limited training opportunities for students to work with real-life patients. This has been pointed out by previous studies, and is an undisputed and invaluable learning experience. The lack of placement opportunities has been directly attributed to limited funding for training, staff shortages, patient availability, competition for placements among students and the increasing number of students.

Van Hell, Kuks and Cohen-Schotanus. (2009) corroborated the above findings in a study consisting of 133 undergraduate medical students from eight hospitals in the Netherlands. They found that despite the documented importance of patient contact, 40% of students spent their time observing,

12% were independently participating in consultations and 6% were involved in directly supervised activities. The findings of the studies mentioned above have been echoed repeatedly in the statements made by this study's participants. It appears these issues are neither new nor unique.

4.3.3 Sub-theme 2: Skill accessibility

During experiential learning placements, students found the skills required by the HPCSA to be largely out of reach. Contributing factors mentioned included trained staff shortages and a lack of access to the equipment required in order to perform the skill. Below are excerpts from the interviews to corroborate this sub-theme.

4.3.3.1 Sample 1

"…last year we were expected to do End Tidal CO2 monitoring and we were not taught it or rostered for like ICU shifts or anything. Some of us actually went to Albert Luthuli and were like please; please can we just write down the number." (Sample 1, Participant 1)

"…at the end of the year you hand in your portfolio and your skills are not equal to what HPCSA is expecting." (Sample 1, Participant 2)

"…we needed to get six RSIs so we were having a problem with the RSI drugs, some didn't have [them] and [were] not qualified as ECPs, so I mean you don't have the drugs, how do you do it?" (Sample 1, Participant 2)

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[2] End tidal CO2 monitoring is the non-invasive measurement of exhaled CO2 (Donald and Paterson 2006).
ICU is the acronym used for intensive care unit (Stedman 2017).

4.3.3.2 Sample 2

"…*some of the skills are not achievable because you don't get them… I mean you have to think that six RSIs in hospital, we didn't even get one RSI in hospital."* (Sample 2, Participant 2)

"…I have seen before where staff won't necessarily allow you to… to RSI a patient… some paramedics won't allow you to do anything, they will do everything." (Sample 2, Participant 3)

"…Everyone is against us as students; we get thrown under the trucks and can't attain the skills." (Sample 2, Participant 4)

The study found that participants complained about not being able to perform certain skills due to an inadequate numbers of clinicians who are able to perform the skills or not having access to the equipment as required by the HPCSA. Another reason cited for this was the scarcity of the need for the skill itself as well as an unwillingness to allow students to perform the skill.

Airway management is one of the primary roles of emergency care personnel when critically ill patients present themselves to an emergency centre or ambulance service. Appropriate airway management is ensured by the placement of either an endotracheal tube or other artificial airway in order to assist in ventilation. Rapid sequence intubation (RSI) is an airway management technique that is intended to decrease the possibility of pulmonary aspiration in patients who are at higher than normal risk. The process of RSI involves the administration of an induction agent followed by a neuromuscular blocking agent. This process results in paralysis and loss of airway protective reflexes, where after an endotracheal tube is passed into the trachea. RSI is a streamlined process which allows for the patient to be intubated while at a decreased risk of vomiting or aspirating regardless of the patient having a full stomach or not. Should the endotracheal tube not be able to be passed, a "cannot intubate, cannot ventilate" scenario may occur which will lead to hypoxia and death (Berkow, Hagberg and Crowley 2014). By this explanation it is clear that RSI is a vital tool to paramedics in the management

of critically ill and injured patients and as such paramedics should be proficient in this skill once qualified.

In agreement with the findings of Berkow, Hagberg and Cowley (2014), a cross-sectional study conducted at Monash University involving 84 BHSc EMC students found that 30% of the students partaking in experiential learning treated patients and attended scenes where their skills were needed; the skills were nearly impossible to acquire with this rate of exposure (Michau et al. 2009).

Joyce et al. (2009) found that despite the fact that paramedics play a key role in health systems, providing them with appropriate clinical placement opportunities for students was problematic. This was partly as a result of a constrained training system lacking the capacity and structure to meet growing demands. Adding to this, Boyle et al. (2009) found evidence that some students were unhappy with their clinical placements due to limited exposure to patients and therefore skills.

Williams, Brown and Winship (2012) further expanded on this problem by stating that external factors such as staff shortages, rising training costs, variability of caseloads at ambulance bases, budget cutbacks and increasing competition for placement positions due to the ever increasing number of education institutions offering paramedic programmes have all played a role in the noticeable decrease in clinical practice opportunities. This, according to Williams, Brown and Winship (2012) further exacerbates the shortage of paramedics available to fill positions in ambulance services.

By these skills being inaccessible, whether it is specialised skills such as airway management and advanced cardiovascular support or more general skills such as spinal immobilisation and haemorrhage control, this inaccessibility will negatively affect students' abilities and thus preparedness to be an independent, competent practitioner. Michau et al. (2009) corroborate with this finding in stating that despite clinical placements playing an essential role in professional development for undergraduate paramedic

students, a theory-practice gap exists. This deficit between theory and practice has the ability to affect professional competence and therefore contribute to barriers in progressing from student to novice professional.

Although students were not able to actively perform skills in many situations, Kolb's reflective observation indicates that learning would still occur. Students would reflect upon what they had seen their mentors or peers do and relate this to what they had previously learned and build upon their understanding. Khanam (2002) found it to be true that although students were not "hands on", learning still occurred, and that their previous knowledge would be built upon by observing others. This is in contrast to Miller's pyramid of competence that states that for students to be truly competent, they should actively show their skill capabilities in the form of practical work.

4.3.4 Sub-theme 3: Lack of confidence

The Cambridge English Dictionary (2013) defines confidence as "the quality of being certain in your abilities". This definition alone indicates the importance of confidence in paramedics whose job on a daily basis involves being able to perform certain skills and being capable in performing these skills successfully in stressful environments. Despite the importance of confidence being fostered in paramedic students, a lack of confidence was another hurdle mentioned by participants. This contributed to the inability to forge a relationship, where a bond of trust and understanding could be formed between practitioners, preventing the student from practicing skills and gaining experience and confidence, simultaneously.

These findings relate students being unable to possess the opportunity to practice their skills and not being exposed to skills. This is linked with them not feeling confident or ready to practice independently at the end of their term of study. Essentially without practice, students do not feel confident in their abilities. This was also found in a study conducted by Sharif and Masoumi (2005) which found that students felt most anxious on their first day

of clinical placements and that subsequently subsided as their training and experience progressed. The statements below are indicative of this:

4.3.4.1 Sample 1

"…don't really have opportunity to build a relationship or confidence." (Sample 1, Participant 2)

4.3.4.2 Sample 2

"…need someone to hold onto his hand until you know you are confident in what you doing." (Sample 2, Participant 3)
"…the ALS is sitting in the back and his first words coming to me are hurry up and I don't wanna do a cardioversion in the ambo. So that says to me that they didn't come out with confidence." (Sample 2, Participant 2)[3]

"…there's obviously a gap where they not confident walking out as an ALS and working on the road." (Sample 2, Participant 5)

"…if I wasn't working full time, I would be so confused and disorientated." (Sample 2, Participant 4)

4.3.4.3 Sample 3

"…personally I am not ready for next year, I am not ready to be fully responsible for a patient." (Sample 3, Participant 15)

Webster (2014) defined a paramedic as an emergency care provider trained to manage the emergency care of sick or injured people during transport to hospital. In order to function at this level, the paramedic requires a high level of confidence and self-assurance. This is essentially one of the purposes of experiential learning as well as affording students the opportunity to obtain the knowledge and values of the professional subculture (Boyle et al. 2009). This statement is in contrast to the statement made by the students involved in this study. The participants in Boyle et al.'s (2009) study felt quite uncertain of their abilities to function independently.

[3] Cardioversion is a corrective procedure where an electrical shock is delivered to the heart to convert, or change an abnormal heart rhythm back to a normal heart rhythm (Webster 2014).

This feeling of a lack of confidence was also found in a study conducted by Hickson (2015) who discovered that final-year students felt “somewhat prepared” to enter the workforce. Hickson also identified that more clinical placements would help students feel more prepared. Morris and Blaney (2010) echo these sentiments where the medical graduates who participated in their study indicated they did not feel suitably prepared and were concerned about the reality of working life, whether it be dealing with acutely ill patients, prescribing, managing the workload or being on call.

Wible (2015) conducted a survey involving 189 medical students where 42% of students reported an increase in confidence, 50% reported a decrease and 8% reported no change in confidence levels. One student declared, “Med[ical] school completely destroyed my self-confidence. I am constantly feeling stupid and worried about failing.” This quote directly compares to the feelings of students in this study who felt their confidence levels were definitely reduced. Moodley (2016) agreed with the above findings where he found that students appeared uncertain in their confidence to practice independently while graduates stated that they lacked the confidence required to take on the role of an independent practitioner.

Although the majority of studies encountered indicated that a lack of confidence was a common occurrence, O’Brien et al. (2013) indicated that 66% of the students participating in experiential learning at Victoria University, Australia felt prepared to transition into the workforce at the end of their programme with a further 61% indicating that they found clinical practice very useful. O’Brien’s findings are in contrast to the study presented herein and others.

4.4 Theme 2: Clinical supervision

Bateman, Henderson and Hill (2012) define clinical supervision as a formal, disciplined working alliance between workers where one is more experienced and the other less experienced. During this alliance, the supervisee’s clinical work is reviewed and reflected upon with the aim of improving the

supervisee's clinical work and supporting the supervisee's professional development. Bernard and Goodyear (1998) expand on this by defining clinical supervision as an intervention that is provided by a senior member of a profession to a junior member or members of that profession. The relationship is evaluative, extends over time and has the simultaneous purposes of enhancing the professional functioning of the junior member or members, monitoring the quality of professional services offered to clients and serving as a gatekeeper for those who are to enter the particular profession.

A number of different models of clinical supervision exist such as the following (Care Quality Commission 2013):

- one-on-one supervision between a supervisor and supervisee,
- group supervision in which two or more practitioners discuss their work with a supervisor,
- peer or co-supervision where practitioners discuss work with each other with the role of supervisor being shared or with no individual member of staff acting as a formal supervisor, and/ or
- a combination of the above.

The model chosen for clinical supervision may vary depending on factors including the knowledge and skill of the supervisee, the weight of their workload and their professional background. Huybrecht et al. (2011) identifies enablers of effective supervision in the quality of the relationship between the organisation and the university that will be discussed later as well as good preparation of courses and on-going professional development. This attention to courses and professional development was viewed as integral in ensuring that supervisors have the confidence and appropriate knowledge to teach and assess students. Huybrecht et al. (2011) identified factors such as acknowledgement of the obligation linked with the supervisory role, information packages for both students and supervisors and the degree of support from colleagues as being vital for effective supervision to occur.

Huybrecht et al. (2011) also identified barriers for effective supervision as poor communication and support. Specifically, the lack of support from clinical managers and peers was highlighted as the most common barrier to effective supervision of students. During the process of data analysis this was a topic which was a frequent concern to students. As depicted by the comments below, students felt as though they were not being supervised and did not have anyone who was willing to teach them (CQC 2013).

4.4.1 Sub-theme 1: Lecturer supervision and teaching during placements

Bradley (2005) found that the use of practitioners who are also lecturers in paramedic education stemmed from the move from in-house apprenticeship style models of training to one of higher education, which broadly follows the nursing model. Hancock et al. (2007) suggested that the lecturer practitioner role was developed to include clinical teaching and support for students in practice. Trede (2012), however, suggested that the role of workplace educator/ supervisor was to direct and assist the student with the move from student to the workplace in their chosen profession; this would therefore allow the student to develop their own professional identity. Redwood et al. (2002) determined that the role of a lecturer practitioner was to help close the theory practice gap and address any conflict between classroom teaching and clinical placements.

Lecturer supervision was another topic that was visited on numerous occasions by students during the data collection phase. The students felt that the lecturers responsible for them were not accessible and that students would benefit more if lecturers were actively involved during experiential learning placements. The excerpts below provide first-hand accounts of this:

4.4.1.1 Sample 1

"…[there were] bases we aren't allowed to work with so it kinda puts us at a disadvantage. It would be better if we had our own two RV's that are parked outside, running every day." (Sample 1, Participant 3)

4.4.1.2 Sample 2

"…never worked on techmed in four years." (Sample 2, Participant 5)
"…my suggestion, my expectation would be if you work with someone who teaches in the classroom then they take you to the road and they can show you how, if you fall short." (Sample 2, Participant 1)
"…last year we were kinda left to do our own thing so my friend and I, we close to Umhlanga base and there wasn't really a requirement." (Sample 2, Participant 6)
"…we don't get taught, we have the techmed. It would be great if it was operational." (Sample 2, Participant 3)
"…if the university were to boost up their clinical side, in terms of … instructors coming in and get uhm the techmed fully operational, day shift, night shift… full on with techmed." (Sample 2, Participant 4)
"…If we could get that techmed vehicle 24/7 we could have an evaluation and seeing where the student is." (Sample 2, Participant 2)

4.4.1.3 Sample 3

"…basically our lecturer doesn't come with us so we get chased away at hospitals we are told to work at." (Sample 3, Participant 2)

"…was expecting more oversight from our lecturers …. if your lecturer can be with you and show you this is how you do it on a real patient it will help you." (Sample 3, Participant 1)

"…lecturers ask for your skill numbers through the year so they can help you get the skills but they don't help us they just take down the numbers." (Sample 3, Participant 2)

"…I think maybe if the department or university takes up that responsibility of being on a vehicle themselves teaching the students what is expected of them on the road." (Sample 3, Participant 5)

"…some people let us do stuff, some people don't like us to do stuff for some reason." (Sample 3, Participant 1)

"…you are supposed to learn from doctors but they don't want to teach you." (Sample 3, Participant 2)

"…we are sitting around not having a proper task, so we are sitting around not knowing what we are doing and just watch[ing] nurses do paper work or something." (Sample 3, Participant 7)

"…I personally think we need to stay away from the new guys as they don't have a lot of experience. They need to work with people that have been there and done that, who don't want to have to fight to get the skill done themselves and who would be happy to stand back and just supervise you." (Sample 3, Participant 5)

"…they don't like us very much because we get irritating but surely for me that's what I would do to get my skills." (Sample 3, Participant 10)

"…there should be a greater emphasis on clinical practice, so it needs to be better managed in terms of they should have a proper clinical practice co-coordinator." (Sample 3, Participant 11)

"…I found it quite difficult to learn from people who aren't interested. I need someone to be guiding me and I didn't feel like I got that." (Sample 3, Participant 9)

Sample 3 participants were particularly concerned with the supervision received during their experiential learning placements, with none of the comments being positive. The participants all felt that supervision was lacking, that they often filled the role of observer and that this had an adverse effect on their learning experience. The lack of supervision is a concerning issue as students are expected to develop a range of professional behaviours against which they are to be evaluated. One of these behaviours is integrating theory

into practice so that graduates may be deemed work place ready. Moodley (2016) emphasised the importance of supervisors by mentioning the Work Integrated Learning Good Practice Guide conceptual framework (Council on Higher Education 2011). This framework emphasises that supervisors are critical in developing effective learning, in guiding students in challenging situations and in the integration of knowledge and workplace experience.

These problems are not confined to paramedicine in particular but are also a frequent problem encountered by nursing students as shown in a study by Mogale (2011) and mentioned by Sibiya and Sibiya (2014). Mogale's study showed students were frustrated due to a lack of support in terms of not being accompanied; they were however unhelpfully viewed as part of the workforce. Kolb's theoretical framework for experiential learning states that reflection during completion of clinical notes or while assisting nurses making clinical notes will still lead to learning through abstract conceptualisation. Students develop new ideas through processes such as reflective portfolios/ clinical notes that put theory into practice during abstract conceptualisation.

Kilminster and Jolly (2000) state that clinical supervision plays a vitally important role in both undergraduate and postgraduate medical education. This study also found that the environment in which learning took place profoundly affected what was learnt and the learner's response, with positive clinical settings (i.e. those which have a positive orientation to teaching) being those that provide high quality supervision, good social support, appropriate levels of autonomy, variety and workload. Despite these findings being made 17 years ago, the facilitation of clinical supervision still remains a challenging one to students in 2017.

Of greater concern were the statements by Kilminster and Jolly (2000) which indicated that an increased number of deaths of patients were associated with decreased supervision of junior doctors in surgery, anaesthesia, trauma and emergencies, paediatrics and obstetrics. This means patient care suffers when trainees are unsupervised and unsupervised experiences results in

acceptance of lower standards due to the possibility that the student may not learn correct practices. These scenarios are easily related to paramedic students who on a daily basis are exposed to the ill and injured and are expected to make split second decisions. Essentially, without adequate supervision and patient exposure, paramedics will not be proficient in emergency care skills and patient care will be negatively affected.

This study found that students felt their supervision was inadequate and more active involvement by lecturers (i.e. supervisors) would be beneficial. This aligns with findings from Campbell (2006) where nursing students often felt they were not supported by nursing staff and felt disrespected and unappreciated by the staff who supervised them. Chuan and Barnett (2012) as well as Reid-Searl (2011) found that positive attitudes and the mutual respect of students and lecturers alike was beneficial during the process of experiential learning placements. They also found that the lecturers' eagerness to part knowledge and their readiness to answer students' questions were key enablers for effective supervision. In contrast to this were the statements made by the study participants who found that lecturers were inaccessible and therefore resulted in knowledge not being shared. This was equated to poor clinical supervision. Although the role of lecturers in student supervision has been unclear according to Brown and Williams (2011) and Barrett (2007), based on the present study and others, lecturers visiting the clinical area may involve a teaching element but should predominantly focus on the provision of backing and guidance to students.

Sharif and Masoumi (2005) found that despite the importance of effective supervision, student nurses were found to be unsatisfied with the clinical component of their education. Students reportedly experienced anxiety due to the feeling that clinical educators undertook more of an evaluation role than a supervision role. These feelings very much tie in with the findings of my study where students felt that they were not supported by lecturers yet felt the situation would improve with supervision from lecturers.

Similarly, a study conducted by Sibiya (2012) revealed that a lack of clinical supervision was reported as a challenge as trained nurses in the clinical setting informed the students that there was no need to supervise them as they were already qualified nurses and they knew everything. Pillay and Mtshali (2008) corroborated this finding in their study where students reported that they did not receive academic support because unit staff perceived them to be a burden in the clinical area.

As seen by the above statements and the study conducted by Monareng, Jooste and Dube (2009), the notion of inadequate lecturer-student supervision was not one which is unique to paramedicine but one which affects nursing students as well. The participants in the Monareng, Jooste and Dube (2009) study reported that nurse educators conducted irregular accompaniment. During interviews with students, Brown and Williams (2011) found that students rated lecturer visits as extremely useful with visits being assigned great value because it provided students with the support they craved. The prospect of a lecturer visit also motivated the students to carry out preparatory work and to discuss learning outcomes. Campbell (2006) agreed with this in showing that lecturer practitioners were considered by students to have a more realistic approach in their teaching, particularly when linking theory and practice. Further building on these important findings, Richardson and Turnock (2003) found that the removal of the lecturer practitioner would have a negative impact on student practice as well as patient care.

Dunn and Hansford (1997) suggested that the experiential learning environment has had a profound impact on the development of attitudes, knowledge, psychomotor abilities and problem solving skills in students. This was reiterated by Jarski, Kulig and Olson (1990) who found that clinical educators should take on the greater role of not only teaching clinical skills but also facilitating a learning environment where students are able to integrate theoretical learning with patient care. With the importance and appreciation of lecturer supervision being well established, the lack of current supervision as purported by the study participants does not tie in with the expectations of the

Council on Higher Education, which advocates for lecturer supervision as being important in the growth and education of healthcare sciences students.

To summarise, the ultimate purpose of supervision is to oversee and improve students' patient care/ experience and to provide a safe, confidential environment for staff and students to reflect on and discuss their work and their personal and professional responses to their work while supporting each other in their personal and professional development journeys (Care Quality Control 2013). The importance of clinical supervision has been frequently examined and stated, yet despite this importance, there are still gaps in the system as pointed out by the study participants.

4.4.2 Sub-theme 3: Mentorship

The term "mentor" originates from Greek Mythology meaning a wise or trusted advisor or guide (Webster 2014). Mentoring according to Tait (2003) is a relationship between two individuals based upon a mutual desire for development toward career goals and objectives. The relationship is a non-reporting one and replaces none of the organisational structures in place. In a mentoring relationship, the two individuals are referred to as the "mentor" and "mentee" (i.e. the individual being mentored). Mentoring provides development opportunities for both partners. A mentoring relationship provides the mentee with the following benefits (Tait 2003):

- greater clarity on life and career choices and their own career goals,
- new insight on the company's culture and organisation,
- different perspectives and cultural values,
- the opportunity to develop new networks of contacts,
- access to new resources,
- greater career satisfaction and increased likelihood of career success, and
- development in areas not typically addressed through training or on the job.

Through a mentorship programme, mentors are provided with the opportunity to enhance their leadership skills and expand their perspectives as described by Tait (2003). Mentors are able to:

- see the business world through different eyes,
- be challenged on perceived wisdom, and
- meet new members of the organisation.

Tait (2003) found that it was not only mentors and mentees who benefitted from this relationship but rather the organisation itself, and in the following ways:

- generation of employees with greater knowledge of the business and organisation,
- retention of staff,
- improved productivity through networking, and
- improved communication throughout the organisation.

Jenkin and Townsend (2013) reason that the need for mentors in ambulance services was due to the high number of students entering study programmes who had very little or no experience of working for an ambulance service and therefore would benefit from accompanying a paramedic on their daily routine. Jenkin and Townsend (2013) hypothesised this because paramedics demonstrate various skills on a daily basis of which they are not aware, such as:

- approaching and communicating with the patient or family,
- adapting to managing acute and non-acute situations,
- possessing a level of knowledge and deftness of managing care and treatment,
- being professional and sensitive,
- having a desire and motivation to use the best available evidence to improve the quality of the patient experience,
- organising and team working skills, including a multi-professional team situation, and
- having the ability to support and either guide or direct others.

The concept of a mentorship programme holds many benefits to all who partake in it, as shown in the points above. However, during the process of data collection and interpretation, the participants involved in the study earmarked a mentorship programme as something that they had no access to but felt would be of great benefit to them during their experiential learning placements. The participants indicated that a mentorship programme would allow them to forge bonds, create a sense of trust and ultimately enable them to practice the skills they needed. The mentorship programme could be extended to form a part of the four-year degree where a student attends theory classes for a period of three years and uses the final year to work as an intern under an already qualified medical professional. This is evident in the excerpts below.

4.4.2.1 Sample 1

"… get to base and no ALS on duty, so basically you are wasted there." (Sample 1, Participant 3)

4.4.2.2 Sample 2

"…looking for mentorship where you are assigned to someone instead of just someone at the shift." (Sample 2, Participant 1)

"…on the road you will have a paramedic that won't allow you to, to perform skills." (Sample 2, Participant 2)

"…you have to do your shifts…there's gotta be something that we have to change, with regards to the shifts and how we do it. To mentor under one person and take whatever you can from him." (Sample 2, Participant 3)

"…if we try just mentoring with one paramed[ic], it would help but then there's a lot of students." (Sample 2, Participant 4)

4.4.2.3 Sample 3

"…I think a mentorship programme where we have a good couple of strong people, ECPs that will come forward and allow us to work on their vehicles." (Sample 3, Participant 5)

Lane, Rouse and Docking (2016) agree that a mentorship programme was beneficial to students; they found that the most effective way to teach a skill in practice was through a problem based learning approach where a mentor was present. The mentor would be able to take over from students who were not yet able to manage the situation yet at the same time be able to provide feedback and corrective measures to students. Ross and Bertucci (2014) conducted a study involving second-year Bachelor of Emergency Health Paramedic students at Monash University in Australia that involved exposing students to a mentorship programme. The results of this study indicated that students felt that the mentorship programme improved their interpersonal communication skills, reinforced their own learning and created a comfortable and constructive learning environment. This tie in with the findings of the present study where students felt they were not being assigned to someone on shift, did not build a relationship and thus were neither exposed to nor were they allowed to perform skills during experiential learning placements.

McCall, Wray and Lord (2009) agree with the findings in their study where students indicated that a mentorship programme or clinical educators who were responsible and trained in teaching would improve the quality of teaching and learning available to paramedic students. Saarikoski and Leino-Kilpi (2008) further found that individual supervision facilitates learning. The premise is that a one-on-one relationship with a mentor or preceptor allows students to express their learning experiences and feelings in practice thus resulting in improved self-confidence, promotion of role socialisation, professional development and independence, and ultimately results in clinical competency.

Moodley (2016) states that mentoring has the ability to provide an effective means of greater support, education and professional development and improved clinical decision making and independent practice. Boyle et al. (2009) found that the lack of mentoring was due to the huge demands placed on ambulance services to meet response times. They found that 75% of all emergency calls for help were supposed to be attended to within eight minutes. This then left very little time to meet the requirements of being a mentor to students, leaving students feeling vulnerable with no structured supervision. Adding to this, Lane, Rouse and Docking (2016) identified that the lack of preparation, ability and understanding of what is expected of students by supervisors/ mentors was largely to blame for students not being exposed to skills. In their study they found that the supervisors/ mentors themselves were ill equipped to handle students from universities and on many occasions were not certain of the students' capabilities or expectations. Tying this finding to those of the present study where students expressed concern of non-exposure to patients and skills due to the ambulance staff they were working with could possibly be a reason for this.

4.5 THEME 3: COMMUNICATION

An essential component of work in high-risk, information intensive and dynamic settings such as emergency care is communication. In emergency care, a great deal of this communication is informal, occurs spontaneously and involves rich content and informal language. Communication such as this plays an important role in organisational collaboration and system running and supports information flow and interaction among medical teams (Zhang and Sarcevic 2014). Students reported that communication was lacking on all fronts whether it be communication between students and lecturers or the university, its representatives or the clinical practical placement areas.

4.5.1 Sub-theme 1: Lecturer/ student communication

The study participants indicated that a lack of communication existed between them and the lecturers tasked to advise/ supervise them for experiential learning purposes citing an inability to reach the lecturer and a lack of feedback as sources of frustration.

4.5.1.1 Sample 3

"…feedback is quite poor; they say they there to help but they don't really respond in a very clear way or they just kind of avoid helping so it makes it very difficult to get the help we need from certain lecturers." (Sample 3, Participant 1)

"…have to get hold of a lecturer on a Saturday and that's impossible." (Sample 3, Participant 2)

Eruat (2006) states that feedback is essential for a student's growth; it provides direction, helps to boost confidence, increases motivation and self-esteem that essentially allows transition from novice to expert. Clynes and Rafferty (2008) found that students who were not given constructive feedback would compare themselves to more senior colleagues and measure themselves inappropriately resulting in decreased self-esteem and subsequently negatively impact their clinical placements.

Dohrenwend (2002) further states that when critical feedback is delivered, it should be done using the "sandwich" technique which consists of providing negative feedback sandwiched between two specific pieces of positive feedback. This is primarily effective with junior students or students with low self-esteem. The feedback should focus on assessing behaviour and work performance and not the student's character. Clynes and Rafferty (2008) argue that the value of feedback cannot be undervalued as it provides the supervisor with valuable understanding into the student's ability to assess his or her own performance and becomes easier when the student is able to identify their own practice restrictions.

Stenger (2014) suggests that feedback should increase motivation, build on existing knowledge and should assist the student in self-reflection of the material learned. In order to achieve these outcomes, Stenger (2014) also suggested five points to improve the feedback process. The first point is ensuring that feedback is as specific as possible, that it clearly outlines what has been done well and what still requires attention. The second point is providing feedback as soon as possible. Feedback is most effective if provided immediately. Thirdly, feedback should provide guidance on the learner's progress towards the end goal and should provide a clear path towards the goal. The fourth point states that feedback should be provided with care. Feedback should not make the student nervous or self-conscious and should not be done in a group where competition among students will be encouraged. Lastly, students should be involved in the process. When a student is involved, they become more aware of their progress which enables them to recognise mistakes and develop their own strategies to improve their performance.

Jamshidi et al. (2016) conducted a study involving 17 nursing students who also found communication between lecturers and students to be a challenge, often affecting students negatively. Nabolsi et al. (2012) found that these issues in communication could have possibly been detrimental to students. Proper treatment and the establishment of clear communication has been an important factor in educators becoming role models to students. Hanifi, Parvizy and Joolae (2012) asserts that communication with students was vitally important as it increased their motivation.

4.5.2 Sub-theme 2: University/ practical facility communication

Communication between the university and the facilities where students were rostered was also poor and resulted in students being turned away, not being able to fulfil their required hours and essentially missing opportunities to practice the skills they needed.

4.5.2.1 Sample 1

"…we were at … and we were informed that they didn't receive an email and we had to go home." (Sample 1, Participant 5)

4.5.2.2 Sample 2

"… university needs to get and have monthly meetings with in terms of government sector, private sector on a monthly basis or maybe even a weekly basis to even interact with them so they know our students and we'll be rather unified with all services instead of working against that." (Sample 2, Participant 3)

4.5.2.3 Sample 3

"…hospital asks us where's the letter from the lecturer." (Sample 3, Participant 2)

"…told to do stuff but no letter from the lecturer so you can't and you get chased away." (Sample 3, Participant 3)

"… we have to create a networking relationship or a relationship that … is willing to include other services beside the two big main ones." (Sample 3, Participant 7)

Gallagher et al. (2012) found that student's experiential learning experience during placements was influenced by the co-ordination or lack thereof and depended upon the communication that occurred between the university and the learning placement site. Moodley (2016) cited Kirke, Layton and Sim (2007) who added that good co-operation among stakeholders contributed to a positive experiential learning environment and allowed for an easier transition of graduates into professional practice. Reid-Searl (2011) found that poor communication between universities and supervisors was also a barrier to effective supervision of students. A further study conducted by McCall, Wray and Lord (2009) in Australia also reported a feeling of student frustration due to a perceived absence of communication between the university and the

ambulance service staff who would be teaching them. In this same study, it was found that a lack of communication also negatively impacted on the ambulance service staff's awareness and knowledge of the curriculum as well as the capabilities of the students resulting in many students observing and not participating. Mabuda (2006) further pointed out that in order to strengthen any collaboration between training providers and clinical workplace placement areas, training providers must provide the workplace with specific workplace learning objectives so that students as well as supervisors or mentors are aware.

Williams, Brown and Winship (2012) pointed out that in contrast to the classroom in which learning was highly structured, students on placements were often exposed to unplanned learning experiences and activities where they engaged directly with patients and other healthcare disciplines. Essentially, this means that where clinical education takes place, there were a variety of formal and informal learning opportunities and potential challenges that can present to students and educators. Most importantly, all stakeholders need to consider that both the clinical and classroom learning environments are vital components of any undergraduate healthcare programme and they should be aware of how the two different contexts complement or contradict each other.

O'Meara, Williams and Hickson (2015) studied experiential learning placements from the point of view of the instructor and found that it was not only students who felt that communication was lacking between the practical facilities and the university. Instructors complained they were unaware that students were assigned to them and as a result could not prepare adequately. O'Meara, Williams and Hickson (2015) also found that the lack of clear guidelines as to how and to whom feedback on students should be given was one which caused frustration to instructors and as such negatively affected student placements.

Dunn and Hansford (1997) recommended that collaboration between higher education institutions and healthcare centres is essential if the clinical learning environment is to best meet the needs of undergraduate nursing students. Papp, McKenzie and Forbes (2003) reinforced this point by stating that strong co-operation between university educators and clinical educators were paramount in creating a productive and beneficial clinical learning environment for students.

4.5.3 Sub-theme 3: Student requirements/abilities

Students felt that the facilities they were rostered with were not aware of their skills requirements according to their study year.

4.5.3.1 Sample 2

"…facilities need to get to know us and know our needs." (Sample 2, Participant 3)

4.5.3.2 Sample 3

"…ECPs are much better suited to train us because they know what we need." (Sample 3, Participant 11)

This same problem of communication breakdown was found by Hickson (2015) in that a lack of distinct expectations of what was required during the clinical placements existed between students, universities and ambulance services. O'Brien et al. (2013) reported that conflict and confusion existed about expectations between universities and ambulance services and this confusion made it difficult to produce quality clinical placements. Added to this, Houghton (2013) discovered that the relationship between learners and the staff in practice settings had an influence on the learning experience of students while Sharif and Masoumi (2005) found that staff lacked teaching experience and could not identify with the needs of the student.

McCall, Wray and Lord (2009) found that students and clinical teachers alike were frustrated when clinical teachers were lacking in knowledge about what students had learned prior to placements, had unclear clinical objectives and had an absence of clinical venue orientation. Sharif and Masoumi (2005) further found throughout their interviews that there was a general lack of awareness among senior professionals regarding the needs and problems of first-year students who had been placed in the wards, with supervisors verbalising that everyone in the ward assumed that the students knew what to do. These findings were concerning due to the fact that they have highlighted that the very professionals tasked with up-skilling and educating students were not aware of what each particular year of study was capable of or expected to do.

O'Meara, Williams and Hickson (2015) study found that instructors were frustrated by experiential learning placements as they were unaware of what was expected of students, what students were expected to achieve as a part of their field placements and thought that students should only observe how things happen in practice.

4.6 SUMMARY

Experiential learning is a multidimensional process with many equally important parts playing a role. This chapter pointed out the importance of supervision of students and communication between all parties involved in experiential learning. Along with these important aspects, the difficulties experienced by students during their placements were also discussed and the potential reasons for these. The following chapter will provide the recommendations and conclusion to the study.

CHAPTER 5: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The aim of this study was to explore and describe the experiential learning experiences of Emergency Medical Care students at a selected university in KwaZulu-Natal. In order to do this, the experiences of BHSc EMC_students during clinical learning were investigated.

5.2 SUMMARY OF DISCUSSION

Three primary themes emerged in the study. These themes were skill exposure, clinical supervision and communication. The theme of skill exposure further expanded to the sub-themes of opportunity to practice, skill accessibility and lack of confidence. Throughout the data analysis, a variety of reasons for a lack of exposure to skills were uncovered; these ranged from nature of the skill itself to the clinical placement site and the willingness of supervisors to allow students to actively partake in the skills and patient management. Participants regularly indicated that the practical sites were often “not busy” enough or did not possess the required equipment/ medications which then led to them not seeing critically ill and injured patients and thus not being able to practice skills such as endotracheal intubation.

The participants also frequently stated that another hindrance in being able to practice and perform skills was due to staff members at the clinical practice sites who were unwilling to allow the students to perform skills and thus on many occasions, the students undertook the role of observer instead of active participant. Upon reflection of the comments made by participants, the most concerning of these was the indication that students felt that they were not ready and felt unprepared for the transition from student to practicing paramedic. This lack of confidence was attributed to inadequate time in the

field however; more notable were the supervisors who were themselves not confident during the time students were assigned to them.

The second major theme which presented itself was clinical supervision. This further expanded to sub-themes which included lecturer supervision and teaching during placements and mentorship. Participants indicated that teaching in clinical placement sites depended upon the willingness of supervisors to teach and whether supervisors were assigned by the university or were senior staff members at the clinical placement sites. Participants also mentioned that a vehicle mandated with the responsibility of taking students out on emergency calls remained largely underutilised and the possibility of lecturers physically attending to emergency calls with many students in their fourth and final-year of study would be beneficial. Of concern, participants also pointed out that due to the lack of lecturer supervision during clinical placements, students were often shown away from hospitals and therefore were not allowed to participate. This sub-theme led to an additional sub-theme of mentorship where it was found that a lack of structure and consistency was present which participants felt could be corrected/ remedied by introducing a mentorship programme.

The third major theme that presented itself was that of communication. This theme branched out into the sub-themes of lecturer/ student communication, university/ facility communication and student requirements/ abilities. Communication between lecturers and students was highlighted as a challenge. The participants indicated that feedback from lecturers was lacking with answers to questions posed often being very vague or non-existent. Further to this, the ability for the student to reach the lecturer on-call on a Saturday was nearly impossible. Participants indicated that university/ practical facility communication did not fare any better with students often being turned away from practical placement areas because staff were not aware that they were rostered to work there. Participants also voiced the opinion that a clearer, more harmonious relationship should be built with practical venues and these venues should be expanded to include more service providers.

Student requirements/ abilities were the final sub-theme identified during data analysis. Participants indicated that the facilities and staff they were assigned to were unaware of their abilities or what was expected from them in their specific year of study. This often resulted in students not being included in patient management and feeling largely left out. The findings of this study indicated that although experiential learning was regarded as a fundamental tool in the education of paramedic students, there were many areas that required improvement and the implementation of procedures and guidelines for supervisors and students alike in order to attain the level of quality care and education paramedics were required to supply on a daily basis.

5.3 RECOMMENDATIONS

In order to improve and maintain the quality of learning expected of paramedics, an experiential united approach is required by the parties involved. These parties are the students, universities, lecturers, hospitals and ambulance services. Based upon the findings of the study conducted, the following are recommendations to improve the curriculum and better prepare paramedic students for the transition from student to work place ready paramedics.

5.3.1 Improving students' exposure to skills

The issue of exposure to skills is one which is reliant on the amount of patients who pass through the doors of the hospital or ambulances of the allocated practical facility. The recommendation here is to do research into the amount of patients seen in the clinical practice area on a daily basis and then roster students at the busiest practical venues at the times when patients are most likely to frequent these facilities. Improvements in the relationship between students and the practical facilities would also improve the chances of being exposed to more skills as a relationship of trust and understanding would be forged between students and staff at the practical venues.

A suggested solution to this problem at this time would be to introduce a year of mentorship where after completion of the theory and practical hours are required to graduate. This year would be solely dedicated to working in the pre-hospital environment. This could possibly take the form of the courses itself being reduced to three years of classroom and practicum time and one year of internship; this would still be a four-year degree. By working on a daily basis, this would essentially improve the chances of being exposed to critically ill and injured patients and therefore the skills as required.

5.3.2 Improving clinical supervision

In order to improve clinical supervision, clear guidelines need to be put in place as to what is expected of students, lecturers and external supervisors. By doing this, each role player should be aware of what their function will be on a daily basis and how best to go about this. Experiential learning should be facilitated by a trained clinician who has been thoroughly briefed on the curriculum and its objectives. Supervisors/ facilitators should be selected based upon criteria that takes into account qualities such as leadership, the ability to communicate, a willingness to share knowledge with others, patience and competence in the specific field of emergency medical care. The university should assign one lecturer to organise and assign students to practical facilities in order to facilitate learning and should consider assigning lecturers to the practical facilities during student placements. At the same time, universities should gauge the competence of students and correct any short-comings as they arise.

Further to this, the concept of a mentorship programme should be taken into consideration so that students are placed with practitioners who are willing and able to teach them and from whom students are able to receive feedback. In so doing, students will grow and develop as practitioners and become competent, confident practitioners at the end of their study period.

5.3.3 Improving communication

The recommendation to improve communication is to have one designated person from the emergency medical care department who tasked to supervise students during experiential learning and is responsible for rostering students at the various practical facilities. This person would be responsible for forging relationships with various external stakeholders and at the same time ensuring that these stakeholders are aware of the students' presence in their facilities. They should ensure written confirmation is obtained from the practical facilities so that students are accepted and welcomed at these facilities. This person should remain in contact on a weekly basis to inform them of the students' arrival and expectations. In order to improve lecturer/ student communication, students should be encouraged to communicate all non-urgent queries via e-mail to lecturers who should then respond within three working days. Urgent queries/ issues should be attended to immediately either by the lecturer or the head of department. A further recommendation would be to assign a block time of 30-60 minutes per day after classroom hours have ended in order to discuss any issues which either the student or lecturer may have identified during clinical placement.

5.3.4 Further research

Further research is recommended that could be conducted on this topic. In future, a qualitative study involving university lecturers, doctors, nurses and paramedics from the different ambulance bases where students are based should be interviewed. By conducting a study such as this, further insights could be gained as well as ways to potentially improve experiential learning for future students.

5.4 LIMITATIONS

The study limitations are centred on the fact that the study was only conducted at one university in one province and only included paramedic students. In saying this, qualitative research allows for in depth enquiry of phenomena that may highlight issues that other universities may or may not

be facing. A further limitation to the study was my inexperience in conducting research interviews which I practiced before by conducting a pilot study.

5.5 PERSONAL REFLECTION

During the study I found that students were wholly unsatisfied with the experience of experiential learning and identified numerous areas where improvements could be made. These changes were related to the supervision of students while at their allocated practical venues as well as their exposure to the skills required of them in order to qualify as competent paramedics. Regardless of the choice made whether to continue and improve on the current programme or relook at the programme completely, one aspect of which one can be certain is that adequate preparation is of paramount importance. This preparation is preparation by both the university and lecturers in the scheduling of students at different practical venues to ensure that adequate placements are available as well as the practical venue in ensuring that the students are placed with qualified, capable and eager staff willing to take the initiative to teach and allow students to practice.

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Appendix 1: Consolidated criteria for reporting qualitative research checklist (Tong, Sainsbury and Craig 2007)

Topic	Item No.	Guide Questions/ Descriptions	Reported on page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/ facilitator		Which author(s) conducted the interview or focus group?	
Credentials		What were the researcher's credentials? e.g. PhD, MD	
Occupation		What was their occupation at the time of the study?	
Gender		Was the researcher male or female?	
Experience and training		What experience or training did the researcher have?	
Relationship with participants			
Relationship established		Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer		What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics		What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory		What methodological orientations was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
Participant selection			
Sampling		How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach		How were participants approached? e.g. face-to-face, telephone, mail, e-mail	
Sample size		How many participants were in the study?	
Non – participation		How many people refused to participate or dropped out? Reasons?	
Setting			
Setting of data collection		Where was the data collected? e.g. home, clinic, workplace	
Presence of non – participants		Was anyone else present besides the participants and researchers?	
Description of sample		What are the important characteristics of the sample? e.g. demographic data, date	
Data collection			
Interview guide		Were questions, prompts or guides provided by the authors? Was it pilot-tested?	
Repeat interviews		Were repeat interviews carried out? If yes, how many?	
Audio/visual recording		Did the research use audio or visual	

	recording to collect the data?
Field notes	Were field notes made during and/ or after the interview or focus group?
Duration	What was the duration of the interviews or focus group?
Data saturation	Was data saturation discussed?
Transcripts returned	Were transcripts returned to participants for comment and/ or correction?
Domain 3: Analysis and findings	
Data analysis	
Number of data coders	How many data coders coded the data?
Description of the coding tree	Did authors provide a description of the coding tree?
Derivation of themes	Were themes identified in advance or derived from the data?
Software	What software, if applicable, was used to manage the data?
Participant checking	Did participants provide feedback on the findings?
Reporting	
Quotations presented	Were participant quotations presented to illustrate the themes/ findings? Was each quotation identified? If so, how? e.g. participant number
Data and findings consistent	Was there consistency between the data presented and the findings?
Clarity of major themes	Were major themes clearly presented in the findings?
Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?

Appendix 2a – Letter requesting for gatekeeper permission from the Director of Postgraduate Research at DUT

ATT: PROF. S. MOYO
DIRECTOR: POSTGRADUATE RESEARCH

REQUEST FOR APPROVAL TO UNDERTAKE RESEARCH

I am currently registered at Durban University of Technology through the Department of Emergency Care and Rescue with the aim of completing a Master's Degree: Emergency Medical Care in 2016. I would like to undertake the research as outlined below at Durban University of Technology.

Student Name: Michelle Smith	Student no: 21137009
Supervisor: Mr. S. Sobuwa	Contact no: 031-373 5269
Co-Supervisor: Professor N. Sibiya	Contact no: 031-373 2032

Title of Research: Experiential learning experiences of emergency medical care students at a selected University in KwaZulu-Natal.

Aim of Research:
Experiential learning in Emergency Medical Care at a University of Technology is a module which forms part of the requirement of the Bachelor of Health Sciences programme and is a requirement locally, nationally and internationally of undergraduate emergency care students, nurses and doctors. The module serves to combine theory and practical training to produce an independent practitioner capable of treating critically ill and injured patients. Students are required to complete 1200 hours of experiential learning as regulated by the Health Professions Council of South Africa Professional Board of Emergency Care (HPCSA PBEC). Added to these hours, there are a minimum expected number of clinical skills that students are expected to perform prior to registration with the HPCSA PBEC. Despite these quantifiable hours and number of skills to be performed by students, the experiential learning experience of students enrolled in the BHSc EMC programme is unknown.

The aim of this study is to examine and describe the learning experiences of paramedic students undertaking experiential learning at a University of Technology in the Bachelor of Health Sciences Emergency Medical Care programme.

I therefore request permission to conduct interviews with all students undertaking experiential learning.

Kind Regards,
Michelle Smith

Appendix 2b: Approval from the Director of Postgraduate Research at DUT

Directorate for Research and Postgraduate Support
Durban University of Technology
Tromso Annexe, Steve Biko Campus
P.O. Box 1334, Durban 4000
Tel.: 031-3732576/7
Fax: 031-3732946
E-mail: moyos@dut.ac.za

12th May 2016

Ms Michelle Elizabeth Smith
c/o Department of Emergency Medical Care and Rescue
Durban University of Technology

Dear Ms Smith

PERMISSION TO CONDUCT RESEARCH AT THE DUT

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research Committee (IRC) has granted permission for you to conduct your research "Experiential learning experiences of Emergency Medical Care students at a selected University in Kwa-Zulu Natal" at the Durban University of Technology.

We would be grateful if a summary of your key research findings can be submitted to the IRC on completion of your studies.

Kindest regards.
Yours sincerely

[redacted]

PROF. S. MOYO
DIRECTOR: RESEARCH AND POSTGRADUATE SUPPORT

Appendix 3 – Letter of information for the participants

Title of the Research Study: Experiential learning experiences of emergency medical care students at a selected university in KwaZulu-Natal.

Principal Investigator/s/researcher: Michelle Smith (BHSc: EMC).

Co-Investigator/s/supervisor/s: Mr. S. Sobuwa MSc (Med): Emergency Medicine and Prof. M.N. Sibiya (D Tech: Nursing).

Brief Introduction and Purpose of the Study: Locally, nationally and internationally, experiential learning is a requirement of undergraduate emergency medical care students as well as nurses and doctors. As stated by the South African Qualifications Authority, competency in the emergency medical care is based upon theoretical principles, proven techniques, practical experience, clinical procedures and appropriate skills. These skills will form the basis to provide independent, specialized emergency medical care and rescue services to all sectors of the community. Students undertaking experiential learning are exposed to critically ill and injured patients in order to amalgamate both the theory components and practical skills taught in the classroom. The clinical practice module prepares the student to practice independently by combining these elements of classroom instruction and physical exposure. At present, the requirements for successful completion of the module are completion of specified shift hours and skills as stipulated by The Health Professions Council of South Africa. Currently, the experiences of students enrolled for the Bachelor of Health Sciences in the Emergency Medical Care programme at a University of Technology is unknown.

Outline of the Procedures: You are therefore requested to partake in semi-structured interviews. Interviews will last approximately one hour each. A follow up interview may be required dependent on the results of the initial interviews.

Risks or Discomforts to the Participant: No unforeseen risk or discomfort.

Reason/s why the Participant May Be Withdrawn from the Study: Withdrawal from the study will be at your discretion with no consequences for withdrawal.

Remuneration: No remuneration will be offered.

Costs of the Study: There is no cost involved in participating in this study.

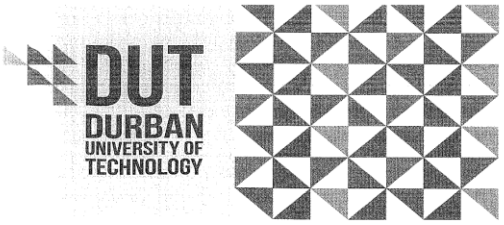
Confidentiality: Your identity will at all times remain confidential. Interviews will be voice recorded and transcribed into text by myself so as to ensure anonymity and confidentiality. To further ensure confidentiality and anonymity, codes will be used during the write up.

Research-related Injury: There is no possibility of injury as the research only involves interviews and there is no physical aspect.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher, Michelle Smith (082 5563 107), my supervisor Mr. S. Sobuwa (031-373 5269) or the Institutional Research Ethics administrator on 031-373 2900. Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031-373 2382 or dvctip@dut.ac.za

Appendix 4 – Ethics clearance certificate



Institutional Research Ethics Committee
Faculty of Health Sciences
Room MS 49, Mansfield School Site
Gate 8, Ritson Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2900
Fax: 031 373 2407
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

23 May 2016

IREC Reference Number: **REC 21/16**

Ms M E Smith
P O Box 3257
Assagay
3624

Dear Ms Smith

Experiential learning experiences of Emergency Medical Care students at a selected University in KwaZulu Natal

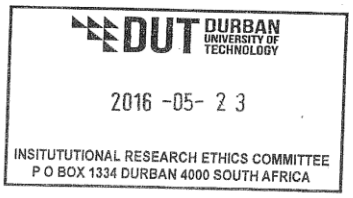
The Institutional Research Ethics Committee acknowledges receipt of your gatekeeper permission letter.

Please note that FULL APPROVAL is granted to your research proposal. You may proceed with data collection.

Yours Sincerely,

[redacted]

Professor J K Adam
Chairperson: IREC



Appendix 5a – Letter requesting for gatekeeper permission from the Head of Department of Emergency Medical Care and Rescue at DUT

ATT: MR. S. NAGURAN
HOD: DURBAN UNIVERSTY OF TECHNOLOGY

REQUEST FOR APPROVAL TO UNDERTAKE RESEARCH

I am currently registered at Durban University of Technology through the Department of Emergency Care and Rescue with the aim of completing a Master's Degree: Emergency Medical Care in 2016. I would like to undertake the research as outlined below at Durban University of Technology.

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Aim of Research:
Experiential learning in Emergency Medical Care at a University of Technology is a module which forms part of the requirement of the Bachelor of Health Sciences programme and is a requirement locally, nationally and internationally of undergraduate emergency care students, nurses and doctors. The module serves to combine theory and practical training to produce an independent practitioner capable of treating critically ill and injured patients. Students are required to complete 1200 hours of experiential learning as regulated by the Health Professions Council of South Africa Professional Board of Emergency Care (HPCSA PBEC). Added to these hours, there are a minimum expected number of clinical skills that students are expected to perform prior to registration with the HPCSA PBEC. Despite these quantifiable hours and number of skills to be performed by students, the experiential learning experience of students enrolled in the BHSc EMC programme is unknown.

The aim of this study is to examine and describe the learning experiences of paramedic students undertaking experiential learning at a University of Technology in the Bachelor of Health Sciences Emergency Medical Care programme.

I therefore request permission to conduct interviews with all students undertaking experiential learning.

Kind Regards,
Michelle Smith

Appendix 5b: Approval from the Head of Department of Emergency Medical Care and Rescue at DUT

From: Sageshin Naguran <sagien@dut.ac.za>

Sent: 30 May 2016 12:46 PM

To: michelle smith

Subject: RE: Letter of permission

Hi that's fine with me

Appendix 6 – Informed consent for the participants

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Michelle Smith about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _____,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____	_____	_____	_____
Full Name of Participant	**Date**	**Time**	**Signature / Right Thumbprint**

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____	_____	_____
Full Name of Researcher	**Date**	**Signature**
_____	_____	_____
Full Name of Witness (If applicable)	**Date**	**Signature**
_____	_____	_____
Full Name of Legal Guardian (If applicable)	**Date**	**Signature**

Appendix 7 – Interview guide

Introduction

- Thank you for taking the time to be interviewed for this study
- Introduce myself and the purpose of the interview
- Inform the interviewee about anonymity and the right to withdraw from the interview at any time
- Obtain permission for audio recording and explain its purpose
- Obtain consent to participate in the study

General demographic information

Year of study: _____

Interviewee age: _____

Gender: _____

Years of previous experience: _____

Interview Questions

Grand Tour Question

- Please describe a typical day while participating in experiential learning.
- Probing around challenges, expectation and reflection of experiences will occur from the grand tour question.

Exposure to ALS skills and patients

- How would you describe your exposure to ALS skills?
- Please describe your exposure to critically ill and injured patients while undertaking experiential learning.

Student's perceptions/expectations

- What was your perception/expectation of experiential learning when you first started?
- What is your current perception/expectation of experiential learning?
- Please describe your experience during the experiential learning module.

Appendix 8 - Sample of a transcript

Interviewer: What was your perception/expectation of experiential learning when you first started?

Interviewee 4: "…*I thought it would be red code, red code, red code. I thought there was going to be blood everywhere, guts, brains that's what I thought. I was literally nervous and excited to actually see everything and then I was quite sad to see that I only saw my first serious thing in my second year. I saw like a de-gloving of the head, that was like the worst I have seen, even till now, I haven't really seen anything, like terrible. So I think we have been very sheltered and I have worked all my shifts. I have gone to every single shift and I stayed the full 12 hours and I'm just not getting the calls so I don't know…"*

Interviewee 2: " *… I expected to do what I was learning in class uhm and having more knowledge and actually learn how different people work uhm as other people do things differently as you get taught to do things…"*

Interviewee 1: *"… I was expecting more oversight from our lecturers. First and second-year you get taught clinical practice and you're supposed to learn from the doctors and they don't want to teach you and stuff. If your lecturer can be with you and show you this is how you do it on a real patient, it will help you to get the skills. The lecturer can be there to guide you to help you to ask the doctors can the student do this, can the student do that?*"

Appendix 9 – Certificate from the professional editor

01 November 2017

REPRINT

To whom it may concern:

The Masters thesis titled "Experiential Learning Experiences of Emergency Medical Care Students at a Selected University In Kwazulu-Natal", written by Ms Michelle Smith, has been edited by Write It Right (Pty) Ltd.

The thesis was edited for consistency, continuity, sentence structure, grammar, punctuation and clarity. The tables, format and references were also edited. The ideas and interpretations remain that of Ms Smith's.

Write It Right (Pty) Ltd specialises in editing and proofreading masters and doctoral theses, journal publications and funding applications. Medicine is the primary field of the editorial work.

Warm wishes,

[redacted]

Rachel L Allgaier, Senior Editor

Write It Right (Pty) Ltd
WriteItRightZA@gmail.com
Cape Town, South Africa
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