

**GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR
HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA**

By

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**Thesis submitted in fulfilment of the
requirements in respect of the degree**

**Philosophiae Doctor in Health Professions Education
(Ph.D. HPE)**

In the

Division Health Sciences Education

Faculty of Health Sciences

University of the Free State

Bloemfontein

July 2023

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DECLARATION

I hereby declare that the work submitted here is the result of my own independent investigation. Where help was sought, it was acknowledged. I further declare that this work is submitted for the first time at this university/faculty towards a doctorate degree in Health Professions Education and that it has never been submitted to any other university/ faculty to obtain a qualification.


M.G.M.Hattingh

17 July 2023

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ACKNOWLEDGEMENTS

I wish to express my sincere thanks and appreciation for the following:

- My two children, Maryna and Elsie. Thank you for all the support and coffee. Thank you for your patience and understanding when I could not do something with you. I really appreciate everything. I wish pappa were still here to celebrate with us.
- My promotor, Prof Mathys Labuschagne, Head of the Clinical Simulation and Skills Unit, School of Biomedical Sciences, University of the Free State, for all your support, patience and guidance during this study. Thank you for the feedback and advice I received from you. Your passion for teaching and learning kept me going.
- Dr Johan Bezuidenhout, former Head of the Division Health Sciences Education, School of Medicine, University of the Free State, for the support and assistance.
- All the participants of my focus group and semi-structured interviews. Your availability amidst a global pandemic assisted me tremendously.
- Dr Hannamarie Bezuidenhout, the language editor. You improved the quality of the language in the thesis in a way I could not imagine. Thank you for your hard work and expert advice, even though you did not feel well.
- Wilmarie du Toit, my friend and supporter. You encouraged and helped me to continue when I wanted to quit. Thank you for believing in me.
- A word of thanks to the Health and Wellness Skills Education Training Authorities (HWSETA) and the Centre for Graduate Support at the University of the Free State for the funding received.

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LIST OF ACRONYMS

APS	Admission Points Score
CHE	Council for Higher Education
CPAS	Centre for Professional and Advanced Studies
COREQ	Consolidated criteria for reporting qualitative research
CTL	Centre for Teaching and Learning
CUT	Central University of Technology
DENOSA	Democratic Nursing Organisation of South Africa
DHET	Department of Higher Education and Training
EFS	Examining Fellow Students
4IR	Fourth Industrial Revolution
FS	Free State
FUNDISA	Forum of University Nursing Deans of South Africa
HEI	Higher Education Institution
HOD	Head of Department
HPCSA	Health Professions Council of South Africa
HPE	Health Professions Education
HSREC	Health Sciences Research Ethics Committee
HSSREC	Humanities and Social Sciences Research Ethics Committee
ICN	International Council of Nurses
LGBTQIA+	lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, and more
LMS	Learning management system
MDB	Medical and Dental Professions Board
MHPE	Master's in Health Professions Education
NMU	Nelson Mandela University
NEA	Nursing Education Association
NEI	Nursing Education Institution
NES	Nursing Education Stakeholders
NZ	New Zealand
OSCE	Objective Structured Clinical Examination
OT	Occupational Therapy
PAL	Peer-assisted learning
PHEPSA	Private Health Education Providers of South Africa
POPIA	Protection of Personal Information Act, Act 4 of 2013

PPE	Peer Physical Examination
QUADS	Centre for Universal Access and Disability Support
SA	South Africa
SANC	South African Nursing Council
SASCO	South African Students Congress
SMU	Sefako Makgatho Health Sciences University
SoM	School of Medicine
SoN	School of Nursing
SP's	Simulated patients/ Standardised patients
SU	Stellenbosch University
TB	Tuberculosis
TLC	Tender loving care
UCT	University of Cape Town
UFS	University of the Free State
UL	University of Limpopo
UOFS	University of the Orange Free State
UP	University of Pretoria
UK	United Kingdom
UKZN	University of KwaZulu-Natal
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UniSZA	Universiti Sultan Zainal Abidin
USA	United States of America
VBI	Vertebrobasilar Insufficiency
WHO	World Health Organisation
Wits	University of the Witwatersrand
WSU	Walter Sisulu University

SELECTED DEFINITIONS AND TERMS

Admission Points Score (APS): The benchmark score uses the marks of the best six or seven grade 12 subjects to determine whether a person qualifies to enter a specific course at Higher Education Institutions in South Africa (Cook 2021:online).

Clinical skills: Clinical skills include physical examination skills, communication skills, practical procedural skills and therapeutic or treatment skills (Michels, Evans & Blok 2012:e580).

Cultural competence: The ability of health care professionals to consider the diverse cultural aspects of people while providing them with safe, effective, and quality care. Acquiring cultural competence is a gradual, ongoing process (Sharifi, Adib-Hajbaghery & Najafi 2019:6 of 8)

Cyberbullying: Using an electronic device such as a computer or smartphone to repeatedly harm another person (Best, Manktelow, & Taylor 2014:33).

Diagnostic procedures mean tests or procedures performed on an individual that assist the health professional in identifying a disease through appropriate investigations and procedures (Merriam-Webster 2019:online).

Diversity: Differences between individuals such as differences in age, sexual orientation, ethnic and religious orientation, socio-economic background, education, race, language, and physical and mental ability (Cross 2004:391).

Guidelines: An indication or outline of a policy or conduct or something usually in writing that shows or tells you how something should be done (Merriam-Webster 2019:online).

Indemnity: Protection against possible damage or loss, especially a promise of payment or the money paid if such damage or loss (Cambridge Dictionary 2021:online).

Informed consent: Informed consent is the permission obtained from a person, in full knowledge of the risks involved, possible consequences and alternatives available, to perform a specific test or procedure and is required before most invasive procedures are performed or a patient is admitted to a research study (Mosby 2009:online).

Learning management system: A LMS can be defined as “software that automates the administration, tracking, and reporting of training events and delivers learning contents rapidly” It makes easy access to multiple modules and curriculums possible in an institution (Back, Behringer, Haberstroh, Ehlers, Sostmann & Peters 2016:268).

Non-invasive procedures do not involve equipment that breaks the skin or destroys health tissue (Merriam-Webster 2019:online).

OSCE: An OSCE can be described as an assessment method where clinical competence is assessed in a structured way with every candidate completing the same task in the same amount of time and getting marked according to the same assessment tool (Etheridge & Boursicot 2013:309).

Peer physical examination: The experiential learning method of learning clinical skills where students act as patients or models for their peers to practice physical examination techniques (Hendry 2013:807).

Peer mentoring: An older or more experienced student assist and supervises younger or less experienced students with skills development (Andre, Deerin & Leykum 2017:1,2 of 7).

Peer role-play: Peer role-play is a form of active learning to teach students specific skills or procedures (PPE). All students must be involved in the activity, and it must be a planned session with specific outcomes that are known to the students. The students must have enough time for the activity. Feedback and reflection are essential because that is where the actual learning occurs (Joyner & Young 2006:225).

Policy: a set of ideas or a plan of what to do in particular situations that have been agreed to officially by a group of people (Cambridge Dictionary 2019:online)

Simulated patient: A person who plays the role of a patient. The person performs as if he has the signs and symptoms of a specific illness, but variations between student scenarios may exist (Shah, Edgar & Evans 2018:online).

Standardised patient: A person who has been trained to simulate accurately the history, symptoms, as well as physical and emotional characteristics of a patient for the instruction, assessment, or practice of healthcare students. The standardised patient is

well-trained and will provide students with the same information in each scenario, making it more accurate than simulated patients (Hargraves 2012:37-38; Shah, Edgar & Evans 2018:online).

Social media: Social media can be described as any digital tool or application that allows users to interact socially by creating and consuming content and include applications such as Facebook, Instagram, Twitter, WhatsApp, Snapchat, YouTube, and more (Nesi 2020:116).

SUMMARY

Key terms: Peer physical examination, health professions students, guidelines, policy, multicultural, educational tool, qualitative research design, virtual focus group interviews, virtual semi-structured interviews, validation panel.

Globally, students learn clinical skills and surface anatomy in health professions education using each other as models (Rees, Wearn, Vnuk & Sato 2009:104). In the South African context, with its multicultural student population, practising on one another might bring forth challenges for various reasons, such as differences in gender, ethnicity, age, religion and culture. The researcher could not establish any policy or best practice guidelines regulating the use of PPE as an educational tool at any South African university. The researcher addressed the problem by conducting a study to establish the elements students and lecturers regard essential to include in best practice guidelines when PPE is used as the educational tool of choice at South African universities.

The researcher followed a qualitative research design and conducted the study in four phases. During phase one, the researcher conducted a comprehensive literature study to answer the question,

Which elements should be included in best practice guidelines for the integration of PPE as a training tool in health professions education?

In phases two and three, which ran concurrently, the researcher conducted focus groups and semi-structured interviews with students and lecturers, respectively, at the Faculties of Health Sciences of five South African universities. The empirical phase of the study happened amid the global Covid-19 pandemic, resulting in the majority of the interviews being conducted virtually. The researcher transcribed all the interviews verbatim and identified themes, categories, and subcategories. The identified data were compared with the literature on existing guidelines and policies on PPE use at universities in New Zealand and Australia. The results of these two phases answered the last research question,

What are the best practice guidelines for using PPE as an educational tool in a multicultural context?

The researcher then compiled preliminary guidelines to use when PPE is the educational tool of choice at South African Faculties of Health Sciences.

During the last phase of the study, the researcher asked a panel comprising seven experts to validate the proposed guidelines. With the input of the expert panel, the guidelines were finalised to reach the aim of the study.

GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONS STUDENTS IN SOUTH AFRICA

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Health professions training is crucial globally but especially in South Africa (SA) because of the challenges in the health sector, such as a lack of skilled health professionals, a shortage of resources in Higher Education Institutions (HEI) and South Africa's quadruple burden of disease (ASSAF 2018:7,13). HIV and tuberculosis (TB) have reached epidemic status, while maternal and child mortality levels are higher than the international average. The appearance of non-communicable diseases such as diabetes is increasing, and there are high levels of violence with associated injuries in communities (Scott, Schaay, Schneider, Sanders 2017:77). The goal of health professions education is to train competent, qualified, caring health professionals who can work as independent practitioners in their respective fields as well as collaboratively in an interprofessional team towards the well-being of the patient (Dobkin & Laliberte 2014:347-351). Therefore, using the best and most cost-effective educational tools is essential to obtain the required results.

1.1.1 Defining PPE

With this study, the researcher conducted comprehensive research on the use of peer physical examination (PPE) as an educational tool that can be used to teach healthcare students physical examination skills as well as professional attributes in a multicultural context. Koehler, Currey and McMenamin (2014:379) describe PPE as the physical examination of one student by a fellow student under the direction of a professional person or lecturer to develop clinical skills, while Outram and Nair (2008:274) state PPE is a formal part of the learning process where students act as models for their peers to learn skills in physical examinations and simple non-invasive procedures. According to Burggraf, Kristin, Wegner, Beck, Herbstreit, Dudda, Jäger and Kauther (2018:2 and 7 of 8), PPE is the teaching method where health professions students act as models for their peers in a supervised environment to practise physical examination skills and surface anatomy. It assists students in gaining confidence and knowledge before they need to examine an actual patient. PPE as an educational tool in healthcare education was first

described in the literature by Metcalf, N.F., Prentice, Metcalf, W.K. and Stinson (1982:641-644) as a teaching method for teaching surface anatomy at the University of Nebraska, College of Medicine. Cox and Ewan, as well as Hagopian *et al.* already in 1982, discussed the role of PPE while teaching students clinical skills (Wearn & Vnuk 2005:89). Vnuk, Wearn and Rees (2017:654) use the term PPE when students either learn physical examination skills or surface anatomy on each other.

Based on the literature, the following definition of PPE will be used for this study. *PPE is the educational method where health professions students act as models for their peers to learn and practise physical examination skills, simple non-invasive diagnostic or therapeutic procedures and professional attributes under the supervision of a professional person or lecturer.*

The aim of this study was to develop best practice guidelines to teach physical examination skills, simple non-invasive diagnostic or therapeutic procedures and professional attributes to undergraduate healthcare students when PPE is implemented as an educational tool. The researcher collected the opinions of students and lecturers at different Faculties of Health Sciences across South Africa on the aspects that need to be considered when introducing best practice guidelines regarding PPE in the multicultural South African environment.

The goal of the study was to propose best practice guidelines for using PPE as an educational tool at healthcare training institutions in the multicultural context of South Africa.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

Globally the use of PPE to teach health sciences students clinical skills and surface anatomy is an established practice (Kelleher & Schafer 2014:826-827; Wearn & Bhoopatkar 2014:826-827). Universities that use PPE as a teaching tool include the University of Hong Kong Li Ka Shing Hong Kong (Chen, Yip, Lam & Patil 2011:e532), Peninsula Medical School in the United Kingdom (UK) (Rees, Bradley, Collet & McLachlan 2005:599; Rees, Bradley & McLachlan 2004:86-88), University of Minnesota, Minneapolis (Chang & Power 2000:384-389), University of Melbourne, Australia (Reid, Kgakololo, Sutherland, Elliott & Dodds 2012:55-62), University of Auckland, New Zealand (Wearn, Bhoopatkar, Mathew & Stewart 2013:888). About one-third of 106 Liaison Committee on Medical Education-accredited U.S. medical schools surveyed by

Directors of Clinical Skills Courses use PPE to teach physical examinations (Uchida, Park, Ovitsch, Hojsak, Gowda, Farnan, Boyle, Blood, Achike, & Silvestri 2018:739). Although many institutions globally use PPE as an educational tool, only a few have a formally implemented policy on using PPE (Kelleher & Schafer 2014:826-827; Wearn & Bhoopatkar 2014:826-827). The researcher could not find proof of any formal policy on PPE use at any of the South African universities (Du Preez 2019:personal communication).

Clinical skills combine practical procedures, such as physical examination and therapeutic or treatment skills, and soft skills, such as communication skills (Michels, Evans & Blok 2012:e580). These characteristics are an integral part of the professional identity formation of healthcare professionals. PPE involves role-playing by participants in that one person takes the role of the healthcare practitioner and the other participant that of the patient. PPE is typically practised in the presence of a professional person or educator (McLachlan, White, Donnelly & Patten 2010:e101).

1.2.1 The current status of PPE

Health sciences students in undergraduate programmes need practice and guidance before performing physical examinations and procedures safely. Previously they practised under the scrutiny and guidance of a professional on actual patients in the clinical setting. An increase in student numbers, a decrease in patients' in-hospital stay periods, and patient rights called for alternative teaching methods to be explored (Braunack-Mayer 2001:681-686; O'Neill, Larcombe, Duffy & Dorman 1998:433- 437; Outram & Nair 2008:274). Simulation and clinical skills units or centres were established at many institutions. However, specific procedures such as history taking, physical clinical examination, and some diagnostic and therapeutic procedures need to be practised on actual persons.

Some institutions use simulated patients (SPs) for the training needs of their students. A simulated patient is a taught amateur who realistically represents a person with a specific illness. In contrast, a standardised patient is a highly trained actor who will give the examiner consistent verbal and behavioural responses (Shah, Edgar & Evans 2018:online). The main problem with simulated or standardised patients is the costs involved when using SPs and the time needed to train them (Shah *et al.* 2018:online).

When using PPE as an educational tool, the students enrolled in the course are always available when fellow students want to practice. This results in reciprocity between students with an added institutional benefit (Wearn & Bhoopatkar 2006:958). Rees *et al.* (2004:86-88) and Reid *et al.* (2012:55) conclude that there are differences in willingness to participate in PPE because of gender, religion, maturity, and culture, with male students generally more willing to cooperate than female students. More are eager to partake when they practise only non-intimate areas and non-invasive procedures.

Students have concerns about the feasibility of practising on a student of a different gender when participating in PPE and the influence of lecturers in coercing male students to act as a volunteer for physical examinations (Vnuk *et al.* 2017:657-660). Wearn, Rees, Bradley and Vnuk (2008:1223) report that students from Flinders University and the Universities of Exeter, Plymouth, Auckland and Sydney in Australia are concerned that they accidentally might hurt a fellow student. However, they still maintain that PPE is better than the risk of hurting an actual patient. In a study by Hattingh (2017:104), students from the University of the Free State (UFS) in South Africa also mentioned the duty of care as one of their concerns when participating in PPE.

1.2.2 The rationale for the use of PPE

The number of students in HEI in South Africa increased dramatically over the past few years, while infrastructure did not meet the demand (Mohamedbhai 2015:3 of 6). The number of health professions students also increased, and patients stay in hospital for shorter periods, expanding the student: patient ratio, which influences the amount of practical experience they receive while in training (Labuschagne, Nel, Nel & van Zyl 2014:139).

The knowledge of human rights and specifically the rights of patients are receiving increasing attention, resulting in more patients refusing to consent to students examining them (Braunack-Mayer 2001:681-686; O'Neill *et al.* 1998:433- 437; Outram & Nair 2008:274). Due to the increased demand for clinical service delivery, clinicians have less time to teach students the necessary skills in the clinical setting (Rees, Wearn, Vnuk & Sato 2009:104). This requires students to learn these skills away from the clinical setting but still on real people, which could be peers or SPs

Kearney, Gormley, Wilson and Johnston (2018:2 of 8) report that since the 1970s, SPs have formed a fundamental part of the clinical skills training of health professions

students at many universities globally. SPs provide students with a sense of realism when they practise clinical skills. Evidence shows that this educational strategy is quite useful but warns that it is costly (Manjunath, Venkatesh, Taklikar & Vijayanath 2014:42)

Kearney *et al.* (2018:2 of 8) reported that medical students in their study considered interacting with an SP more realistic than participating in PPE. They regarded engaging with an SP as more authentic than partaking in PPE. This perception may influence the effectiveness of PPE as an educational tool (Kearney *et al.* 2018:2 of 8). According to Chen *et al.* (2011:e528), students who understand why they use PPE and how vital it is for their professional development are generally more willing to participate in PPE.

1.2.3 Factors concerning students participating in PPE

Some factors concerning students participating in PPE include the acceptability of practising on peers, whether the peer is from another gender, race or age, ethnicity and culture (mainly students from certain religious denominations), and students in multicultural classes (Chen *et al.* 2011:e532). Another concern is the body areas that need to be examined.

In a study that was conducted among undergraduate medical students at the University of Hong Kong Li Ka Shing Faculty of Medicine, it was found that the students were not willing to examine or to be examined when it involved intimate body areas, but they would agree to participate in peer physical examinations if they involved non-intimate body areas. Private body areas include the female breasts and inguinal regions, including the genitals of both genders (Chinnah, De Bere & Collett 2011:e28). Study results indicated that students were keen to be the examiner but not so eager to be the patient (Chen *et al.* 2011:e532) and were more prepared to participate in PPE when they were of the same gender. Male students are generally more willing to participate than their female counterparts. However, ethical principles when using PPE should always be considered.

1.2.4 Factors that could increase student willingness to participate in PPE

Chen *et al.* (2011:e533) refer to a study conducted by McLachlan and others in 2010 on the willingness of students to participate in PPE and factors that may change their attitude towards PPE. In the study, the researchers found that increased educator intervention, privacy measures, and the composition of the group changed the views of students toward PPE. Some students indicated that they were comfortable examining

their friends, while others said they would be more comfortable if it were a stranger they had to examine. In the study, the students indicated in their written responses that 65% preferred mixed-gender groups, 71% favoured small groups of four to six students, and 83% wanted privacy arrangements, such as using a curtain.

Student participants from a study conducted at the Faculty of Health Sciences, UFS, in 2015 reported that gender does not cause problems when participating in PPE (Hattingh 2017:108). The participants believed that the way medical students at the institution only practise on people of the same gender might pose problems and uncertainty when examining a person from the opposite gender. Professionals in disciplines such as nursing, physiotherapy, optometry, and occupational therapy, who were represented in the focus-group discussions, practise on different gender identities (Hattingh 2017:108).

Student's willingness to participate in PPE is increased by implementing a PPE policy. The Faculty of Medical and Health Sciences at the University of Auckland, New Zealand, introduced a formal policy on the use of PPE in 2002, which led to productive conversations and solutions for problems that arose from using PPE as the educational tool of choice. The policy has local ethics committee approval and is reviewed regularly (Wearn & Bhoopatkar 2014:826-827). Koehler and McMenamin (2014:431-432) surveyed Australian medical schools to enumerate PPE use and PPE policies in place. Not one participating institution had a policy in place at the time of the survey. The University of Queensland, Australia, introduced a formal policy on PPE use in 2014, and according to a letter published in the *Medical Teacher* (Kelleher & Schafer 2014:827), this policy changed the mindset of the students and facilitators. This policy included aspects recommended by Koehler and McMenamin, such as clarifying PPE and informing students of the benefits thereof, the importance of written consent, management of problems that may arise from the use of PPE, and how not to compromise students who choose to not partake in PPE. The existence of guidelines may assist students and lecturers in managing situations to prevent bias and ensure uniformity in the conduct and decision-making of all stakeholders.

According to the Cambridge Dictionary (2021:online), the definition of the word guideline is "information intended to advise people on how something should be done or what should be done" It might be possible to justify decisions against the guidelines, and it might be that various individuals might take the same action when faced with similar problems. Guidelines may ensure that a policy can be drafted to guarantee a specific

work standard for role-players and require all role-players to be at a particular level of experience and have appropriate qualifications (Bezuidenhout 2015:49-50).

PPE guidelines and policies could address many issues or potential issues for training institutions in a multicultural society. The population of South Africa is one of the most diverse globally. The diversity is reflected in the 11 official languages, ethnicity, and various religions such as Christianity, traditional African religions, Islam, Hinduism, and others (Matthews & van Wyk 2018:1 of 11). Cultural differences and intercultural communication should be addressed during the training of healthcare professionals because they are from diverse ancestries and will encounter patients of all cultures and backgrounds. Students should be stimulated to become culturally competent to reduce cross-cultural misunderstandings when working with patients (Matthews & van Wyk 2018:2 of 11). PPE, as an educational tool, has the potential to assist students in becoming culturally competent practitioners.

1.3 PROBLEM STATEMENT

Previous research on the use of PPE as an educational tool at a South African university indicated that participation in PPE might be challenging because of various factors such as cultural, religious, or personal reasons (Hattingh 2017:95). A lack of understanding or miscommunication about the expectations and perception of the institution and the students regarding PPE participation could pose problems. Clear guidelines regarding what is expected from students and lecturers when participating in PPE are required to prevent misinterpretation and misunderstanding. South Africa has eleven official languages, and the cultural complement of the population constitutes different racial, cultural, and religious groups that all have their own set of values and beliefs. It thus is essential to explicitly set out the rules and expectations for all role players. The lack of best practice guidelines for students and lecturers when PPE is used as an educational tool in SA could cause problems. The researcher addressed this problem and developed best practice guidelines that could be followed when PPE is used as the instructional tool for teaching clinical skills in health professions institutions in South Africa.

Well-written guidelines are crucial for any organisation as they guide people to follow the correct procedures when dealing with specific situations (Power 2017:online). Best practice guidelines on PPE will assist lecturers and students in knowing what the expected behaviour and performance are when participating in PPE. Power (2017:online) states that best practice guidelines promote consistency in decision-

making and help avoid favouritism and unfair treatment of people, and, when implemented thoroughly, guidelines protect the lecturers, students, and the institution. Guidelines could assist institutions in formulating policies on the use of PPE, potentially making a difference in student behaviour. Introducing a PPE policy at universities in New Zealand and Australia (Kelleher & Schafer 2014:827; Wearn & Bhoopatkar 2014:826-827) brought about changes in the behaviour of students. The students were more willing to participate because they understood the reasoning behind the advantages, disadvantages, and use of PPE.

1.4 RESEARCH QUESTIONS

The researcher addressed the following research questions:

1. Which elements should be included in best practice guidelines for the integration of PPE as an educational tool in health professions education?
2. What are the experiences, perspectives, and recommendations of students and lecturers/administrators in health sciences faculties in South Africa regarding the use of PPE?
3. What are the best practice guidelines for using PPE as an educational tool in a multicultural context for the different health professions?

1.5 OBJECTIVES OF THE STUDY

The aim of the study was achieved by pursuing the following objectives:

Phase 1

To conceptualise and contextualise from the literature what elements should be included in best practice guidelines for integrating PPE as an educational tool in health professions education globally, and in a multicultural environment, such as South Africa. This objective was addressed using a comprehensive **literature study** to clarify the concept, current use, challenges, issues, constraints, and needs concerning PPE, both internationally and nationally. From the literature study, the elements were extrapolated and summarised.

Phase 2

To determine from current South African health professions students their experiences, perspectives, and recommendations regarding PPE participation and what they would

recommend for inclusion in guidelines for using PPE in general and for the different health professions. This objective was addressed using **focus-group discussions**.

Phase 3

The literature study results were used to formulate an interview guide to conduct **semi-structured interviews** with the programme directors and clinical skills lecturers of different departments or schools within the faculties of health sciences in South Africa. The interviews were aimed at determining the reasons for implementing PPE as the educational tool of preference for teaching clinical skills at respective departments or schools. Based on the participants' recommendations the researcher was able to determine what should be included in guidelines for PPE use in the South African multicultural context.

Phase 4

The information gathered during the focus group and semi-structured interviews were used to develop preliminary best practice guidelines for PPE as an educational tool. The best practice guidelines developed were submitted via e-mail to a **panel of local experts for validation** purposes in order to elicit the opinions of specialists that supported or rejected the concepts in the proposed guidelines. The panel of experts was also requested to present feedback on what concepts might be missing from the guidelines (concepts that were not addressed) (Guetterman 2019:personal communication).

The study was conducted between 2018 and 2022, with the empirical research phase taking place from November 2019 to November 2020. (Ethics approval number UFS-HSD2019/0627/0110) (*cf.* Appendix A).

1.6 RATIONALE, AIM, AND OVERALL GOAL OF THE STUDY

The rationale justifies all the decisions taken by the researcher and helps the researcher to stay focused on how to accomplish the decisions (Davis 2021:106).

1.6.1 The rationale of the study

The researcher used the perspectives and experiences of students and lecturers of the Faculty of Health Sciences, UFS, as a subject for a master's dissertation in health professions education. The results of that study indicated that participants generally believed PPE to be a valuable tool to acquire clinical examination skills and professional

attributes, such as professional behaviour, empathy, and communication skills towards colleagues and patients. PPE also promotes graduate attributes, such as critical thinking, ethical reasoning, awareness of cultural diversity, and oral communication with different people and in various clinical settings (Jones 2013:600, 601). Participation in PPE increases the level of competence and self-confidence of students, but it should be implemented according to a more structured approach and should be regulated by a formal policy to protect students, personnel, and the institution. The absence of guidelines or official policies when PPE is used as a pedagogical tool for the teaching of physical examination skills of health professions students in the multicultural and multiracial environment of South Africa was identified. Global research results regarding the mastering of physical examination skills, and the opinions and needs of the current bigger health sciences student and lecturer population of South African universities (Hattingh 2017:121) prompted this study.

1.6.2 Aim of the study

The aim of this study was to develop best practice guidelines to teach physical examination skills, simple non-invasive diagnostic or therapeutic procedures and professional attributes to undergraduate healthcare students when PPE is implemented as an educational tool.

1.6.3 The overall goal of the study

The goal of the study was to develop best practice guidelines when PPE is used as an educational tool for various health professional students in the multicultural setting of South Africa.

1.7 RESEARCH PARADIGM, RESEARCH DESIGN, AND APPROACH

The way people see the world (worldview) influences how they interpret phenomena. All research is conducted from the researcher's viewpoint (worldview) or system of values and beliefs. The research paradigm refers to the interconnected practice and thinking processes (epistemology, ontology, and methodology) that regulate the researcher's activities (Botma, Greeff, Mulaudzi & Wright 2016:287).

1.7.1 Research paradigm

This researcher did the investigation from the perspective of social constructivism. Social constructivism is the theory of how people construct their realities and apply the knowledge gained through their life experiences (Thomas, Menon, Boruff, Rodriguez & Ahmed 2014:online).

1.7.2 Theoretical stance

People make use of different cognitive or reasoning processes to judge information and create knowledge. In this study, the researcher followed an inductive reasoning approach and a combination of theoretical, empirical, and methodological literature to contextualise, compare and generalise findings (De Vos, Strydom, Fouché & Delport 2011:303). According to Creswell (2013b:65-66), the inductive reasoning process begins with data gathering from the literature on the topic under scrutiny and the past experiences of participants. In qualitative research, inductive reasoning means the process of moving from the specific to the general, and the qualitative researcher must be open to recognising broad patterns (Shank 2002:130).

1.7.3 Methodological approach

The researcher used a descriptive qualitative case study design to investigate the research problem and compile guidelines that can be implemented when PPE is used as an educational tool in the multicultural South African context. The descriptive qualitative case study approach was executed using focus-group discussions with students and semi-structured interviews with lecturers and programme directors or module leaders at selected universities. According to Burns and Grove (2001:425), focus-group interviews provide helpful information on participants' insights, attitudes, and opinions regarding a specific predetermined topic through a discussion. The group dynamics in focus-group interviews allow the participants to express their views on participating in PPE freely. A detailed description of the results of the focus-group interviews is given in Chapter 4.

In the focus-group interviews, as well as in the semi-structured interviews, the researcher used an interview guide with predetermined questions grounded by the literature review. An experienced facilitator conducted the first focus-group interview with the students,

and the researcher acted as a co-facilitator and took field notes. The rest of the focus-group interviews were conducted by the researcher.

Semi-structured interviews were conducted with the lecturers and programme directors to obtain a more in-depth, comprehensive insight into their opinion of PPE as an educational tool. The participants were asked to make recommendations that might be used in compiling guidelines on using PPE as an educational tool at universities in South Africa.

The researcher used the data gathered during the focus-group interviews and semi-structured interviews to formulate guidelines that can be used when PPE is applied as an educational tool in institutions. A formal process of validating the proposed guidelines was followed using a panel of experts to which the proposed guidelines were e-mailed for validation and input.

Chapter 3 presents a comprehensive elucidation of the study population, sampling methods, data collection techniques, data analysis, and reporting.

A graphic overview of the study is provided in Figure 1.1.

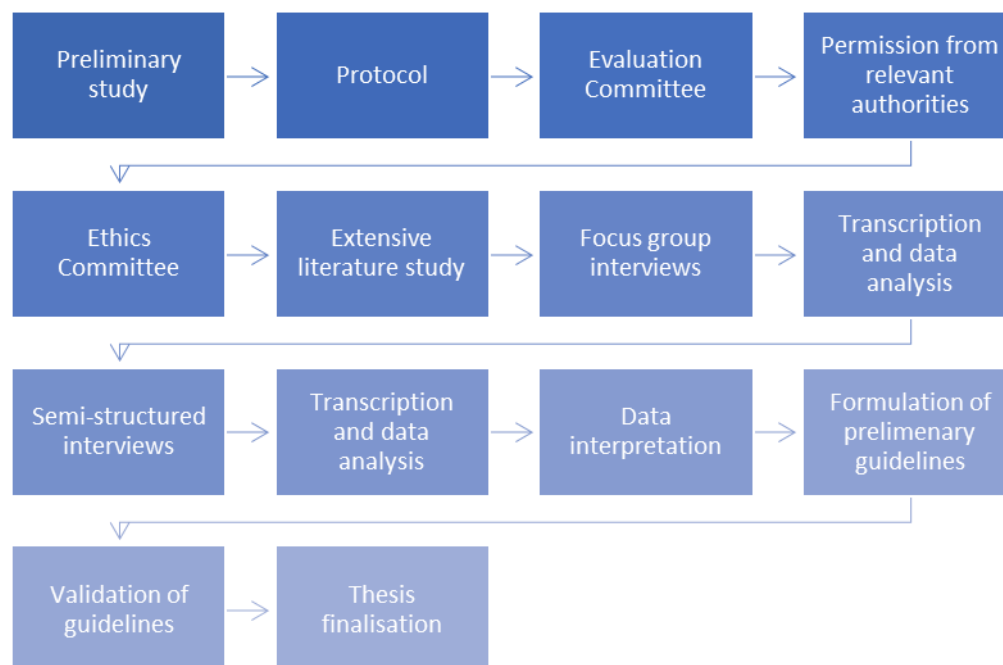


FIGURE 1.1: SCHEMATIC OVERVIEW OF THE STUDY (compiled by the researcher)

1.8 DEMARCATION AND SCOPE OF THE STUDY

This study was conducted in the field of health professions education. The findings of this research can be applied to the different health sciences disciplines, namely Nursing, Rehabilitation and Health Professions, and Medicine. The research aimed to provide guidelines on PPE participation in health sciences to be used by universities across South Africa.

The study aimed to facilitate a safe teaching and learning environment for students and lecturers where optimal clinical skill mastering can occur with the available resources. The researcher attempted to understand and incorporate the expectations of students, lecturers, and the institution into guidelines that will ensure students and lecturers feel safe using PPE as an educational tool. Thus, the study was conducted in the domain of Best Evidence Medical Education (*cf.* Masoomi 2012:online), which strives to move medical education from opinion-based education to evidence-based training.

In a personal context, the researcher completed her bachelor's degree in nursing at the University of the Orange Free State (UOFS) in 1991. She is a professional occupational health nurse and nurse educator registered with the South African Nursing Council (SANC). She worked in the private sector for several years before joining the University of the Free State in 2014. She completed a master's degree in Health Professions Education (MHPE) in 2017, entitled "The experiences and attitudes of students and lecturers regarding peer physical examination in the Faculty of Health Sciences at the University of the Free State".

The researcher is interested in medical education, emphasising ethical and professional behaviour. The researcher believes ethical principles and behaviour must be taught to students as soon as practical work begins. PPE is a suitable educational tool to obtain that goal.

1.9 VALUE AND SIGNIFICANCE OF THE STUDY

The value of a study relates to its relevance to the study population. The more relevant it is to the study population's current problems, the higher the value of the study. A study will also be regarded as more valuable if the results can be disseminated to the larger population the study represents (Botma *et al.* 2016:295).

1.9.1 Value and significance of the study

The study contributes to the scientific body of knowledge by contextualising and conceptualising PPE as an educational tool within the South African environment. This study could assist institutions in compiling a comprehensive policy on the use of PPE at their specific institutions using the best practice guidelines. By using best practice guidelines student challenges such as undressing in front of peers that may look insignificant can be prevented from becoming significant complications.

By gaining insight into the perspectives and expectations of students and lecturers regarding the use of PPE as an educational tool, teaching and learning can be optimised, and potential problems such as obtaining consent from students can be managed before they become permanent.

1.9.2 Contribution

The researcher developed best practice guidelines for using PPE as an educational tool to teach clinical skills to health professions students through this study. Guidelines, thus, will direct the designated population towards the best way of using PPE without specifying the exact method they should follow.

The researcher will submit the findings of this research to academic journals with a view to publication and present the study report at educational conferences to contribute to the scholarship of teaching and learning in Health Professions Education. The researcher will provide evidence-based, practical guidelines to facilitate optimal clinical skills teaching and learning across South Africa by reporting and presenting the research findings.

1.10 ARRANGEMENT OF THE REPORT

In this chapter, Chapter 1, ***Orientation to the study***, the background to the study was provided, and the research problem and research questions were presented. A concise discussion of the goal, aim, and objectives and the research design and methods were detailed. Figure 1.1 provides a schematic overview of the study, followed by the demarcation and significance of the study for Health Professions Education.

Chapter 2, ***Perspectives on Clinical Skills Education and Peer Physical Examination***, provides a theoretical framework for the study. The importance of the clinical skills teachers and their different roles are discussed. Engagement with the literature regarding health professions students and their problems, especially during the Covid-19 pandemic, adds to the body of knowledge. The various ways of teaching clinical skills without using a simulation unit were also scrutinised. This chapter contextualises and conceptualises PPE as an educational tool to teach healthcare students clinical skills and professional attributes in multicultural South Africa.

In Chapter 3, ***Research methodology***, the research design and methods applied are described in detail. The data collecting processes, data analysis, and expert validation are discussed.

In Chapter 4, ***Results of focus-group interviews***, the focus-group interview results are reported.

In Chapter 5, ***Results of semi-structured interviews***, the findings of the semi-structured interviews are reported.

In Chapter 6, ***Discussion of the focus-group and semi-structured interview results***, the researcher clarifies the focus group interviews and semi-structured interviews and compiles best practice guidelines for PPE used as an educational tool.

In Chapter 7, ***Validation and development of guidelines***, the researcher elucidates the validation process and presents the final recommended best practice guidelines.

In Chapter 8, ***Conclusions, recommendations and limitations***, an overview of the research, conclusion, recommendations, and the study's limitations are provided.

1.11 CONCLUSION

Chapter 1 served as an orientation to the reader and provided a brief overview of the research process. From the concise background, the problem of a lack of guidelines when PPE was used as the educational tool of choice was apparent. The research questions could be derived once the overall goal of the study was determined. Based on the literature, it was decided to use a qualitative approach. The research design and methods used were carefully considered, bearing in mind the objectives and how best to

achieve them. The field of study was demarcated with due consideration of relevant fields of study. In determining the scope of the research, cognisance was taken of the interested parties, role-players, existing experts and students, academics and other staff that would be implicated.

The next chapter, Perspectives on Clinical Skills Education and Peer Physical Examination, will discuss the literature regarding PPE and clinical skills education.

CHAPTER 2

PERSPECTIVES ON CLINICAL SKILLS EDUCATION AND PEER PHYSICAL EXAMINATION

2.1 INTRODUCTION

Chapter 1 provided an introduction and background to the study. This chapter contains an introduction to peer physical examination with concept clarification. Incorporated into the discussion is an explanation of the roles and qualifications of clinical educators. A discussion of the literature associated with the different ways of teaching clinical skills and the importance of a policy or guidelines for institutions using PPE as the educational tool of choice will also be addressed. Figure 2.1 is a schematic overview of the aspects discussed in Chapter 2.

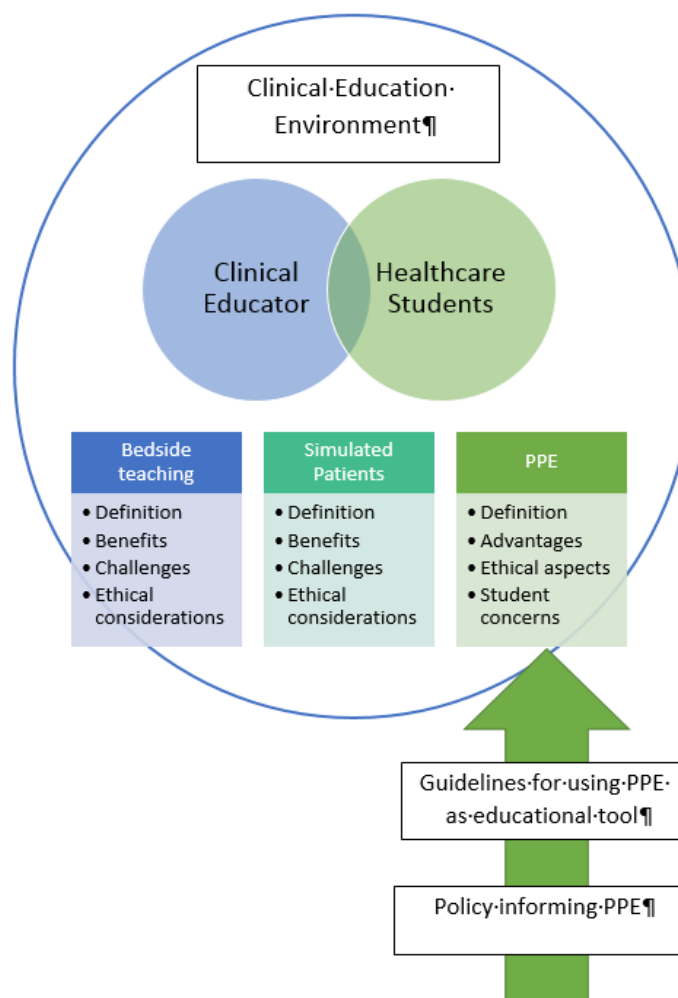


FIGURE 2.1: SCHEMATIC OVERVIEW OF THE DIFFERENT ASPECTS OF CHAPTER 2
[Compiled by the researcher]

The chapter will provide a brief background to clinical skills training. Detail on the health professions educators' role and the role of the clinical educator as described in the literature will be provided. The students as the main clients in the training environment will be discussed by reporting on the generation cohorts, the South African higher education students, and health professions students. The conceptualisation of the higher education environment with the help of the literature and document analysis will be provided and the role of clinical skills training and the effect of the COVID-19 pandemic on the training of clinical skills will be described. Detail regarding different teaching tools to train health professions students will focus on the benefits, challenges, and ethical considerations of bedside teaching, SPs, and PPE will be discussed. The last section of the chapter will focus on the literature report on guidelines informing PPE as a training tool.

2.2 BACKGROUND

This chapter provides a theoretical perspective on the different ways of teaching clinical skills to health professions students and the benefits and pitfalls of each method. As defined by Michels *et al.* (2012:e580), clinical skills include physical examination skills, communication skills, practical procedural skills, and therapeutic or treatment skills. Sahu, Chattu, Rewatkar and Sakhamuri (2019:2) added that clinical competence in these skills could be gained by incorporating diagnostic reasoning, effective communication, and teamwork.

Before skills training centres were the norm at universities, students practised mainly on actual patients and their classmates without much emphasis on human rights. The model used was the Halstedian or 'apprentice' model of see one, do one, teach one (Kotsis & Chung 2013:online). With time, people became more aware of their rights, especially with the emergence of human rights, which led to a decline in patients' availability for training purposes. Grabe *et al.* (in Koehler & McMenamin 2012:e518) noted that patients would consent to have medical students present for some procedures while refusing their presence in other cases.

Clinical skills centres are safe environments where students can repeatedly practise the same procedure until they feel competent without harming a patient. It has the added advantage that professional communication and team-working skills can be taught and assessed in a safe space (Wearn *et al.* 2013:884,885), and the role of the appropriately trained healthcare educator cannot be ignored.

2.3 QUALIFICATIONS IN HEALTH PROFESSIONS EDUCATION

In most cases, healthcare practitioners, except nursing professionals, do not need an education qualification when teaching. Their clinical experience and enthusiasm are the only requirements, but they lack the educational background accompanying a teaching role (Ramani & Leinster 2008:347; Swanepoel 2019:personal communication). Advances in medical education, such as competency-based assessment, new teaching and learning methods, and student-centred teaching, require healthcare professionals to have more than just clinical expertise but also teaching skills (Ramani & Leinster 2008:347).

2.3.1 The roles of health professions educators

According to Harden and Crosby (2000:335-347), educators occupy different roles that change continuously as the educator is busy with various tasks during his/her workday. Harden and Crosby identified twelve roles educators take on without one position taking preference over the other or one being a more important role than another.

The twelve educator roles are divided into six broad categories: information provider, role model, facilitator, assessor, planner, and resource developer. When looking at the educator as an information provider, the role he/she adopts is that of lecturer in the (1) classroom and (2) the clinical environment or practice. The clinical educator is a role model in the (3) work environment and (4) classroom or teaching environment. The role of a facilitator of (5) student learning and a (6) mentor, personal advisor or tutor will be assumed. As assessors, they participate in (7) student assessments during the examinations and (8) curriculum evaluators. The educators must act as (9) curriculum planners and as (10) course organisers in their role as planners. As a resource developer, the teacher must (11) develop or assist in developing the study guide and (12) resource material, such as videos or computer programmes to use in conjunction with the study material. Figure 2.2 illustrates the different roles the health professions educator must fulfil to provide students with the best study material, assessment principles and support possible. The identified roles are related to the scholarship of teaching and learning, but educators have other roles, such as research, administration and leadership, which are equally important. The focus of most universities lately is on research, and consequently, the research role of the educator is becoming more prominent (van Wyk & Van Zyl 2020:3 of 11).

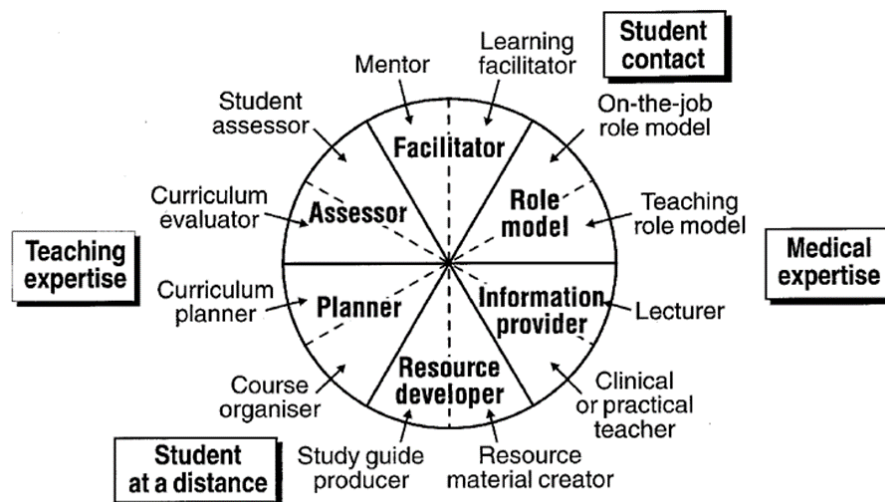


FIGURE 2.2: ROLES OF AN EDUCATOR (Harden & Crosby 2000:335-347)

Teaching practices changed radically over the past few years. The economy, increasing demands from society, and commercialism of healthcare led to a change in healthcare institutions' management. These management changes influence healthcare professionals' training because fewer patients allow students to examine or treat them (Sethi, Schofield, Ajjawi & McAleer 2016:162). Globally, training institutions substituted didactic teaching and apprenticeships with educational models endorsing student-centredness and self-directed learning because critical thinking and lifelong learning are the core competencies required from health professions students (Sethi *et al.* 2016:162).

Health professions education as a speciality developed because of a need for research in medical education to keep healthcare educators up to date with educational theory and practice, especially when there is a need to make curriculum changes (Sethi *et al.* 2016:162). A study conducted at the University of Dundee on graduates who completed a qualification such as a master's in medical education reported that a formal qualification increased the person's self-efficacy and scholarly engagement because of the improved educational theoretical foundation of the person (Sethi *et al.* 2016:166).

2.3.2 The clinical educator

The characteristics of the clinical educator cannot be ignored and, in a study, conducted with medical students at Stellenbosch University (SU), students identified the expected characteristics of excellent clinical teachers (Bray 2013:34). According to the participating students, educators who used the traditional "see one, do one" approach together with constructive feedback, were considered the best. They also applauded enthusiastic educators who came to sessions well-prepared to reach practical outcomes.

The students described these educators that related to and communicated with the students as motivators and creators of a positive learning environment (Bray 2013:34,35).

The results of Bray's study agree with Steinert's (2014:457) on the attributes of the clinical teacher. According to them, the clinical teacher must be enthusiastic, a role model to the students, give feedback, be involved in educational research and evidence-based practice, design and teach activities and support students. Dobkin and Laliberte (2014:348) refer to the importance of explicit subject knowledge from the clinical skills teacher's side. Understanding teaching and learning principles and thoroughly comprehending the curriculum and communication skills are vital. They supported clinical teachers to be mindful. Mindful clinical teachers are aware of themselves, how they feel every day (e.g., tired) and the students' level of experience, and the context (where the teaching happens). The clinical skills teacher uses awareness to guide students in a student-centred way (Dobkin and Laliberte 2014:348).

Ewertsson, Allvin, Holmstrom and Blomberg (2015:282) posit that clinical skills teachers must base their supervision on students' level of knowledge and performance. That will ensure the student develops critical thinking skills and a better understanding of the work. According to Harden and Laidlow (2017:11), a competent clinical skills teacher must be able to present practical skills lectures in various settings, including in the workplace (work-integrated learning). Harden and Laidlow (2017) proclaim that teachers must plan their sessions to accommodate all learning styles to help students achieve the expected outcomes and present the work in such a way that it enhances student engagement. Both Ewertsson *et al.* (2015:282) and Harden and Laidlow (2017:4) believe some form of formal health professions education must be compulsory before health professionals embark on teaching students. The Department of Higher Education and Training in South Africa (2018:7) acknowledge the importance of training academics on how to teach in their "National Framework for Enhancing Academics and University teachers". It is, however, not only the educators that ensure the success of students in HEIs, but the students are equally important and just under half of the South African students enrolling for an undergraduate degree never complete their qualifications (Scott 2018:2).

2.4 GENERATION COHORTS AND HIGHER EDUCATION STUDENTS GLOBALLY

For educators to understand their students, they should understand the characteristics, perspectives and differences between the various generations. The Generational Theory, which discusses the differences between generational attitudes, was first systematically described by Neil Howe and William Strauss in 1991 (Wolf, Carpenter & Qenani-Petrela 2005:186). According to this theory, a person's worldview is shaped by the era they are born in and the environmental issues prevalent during their formative years. This shapes their behaviour patterns and how they perceive and interact with the world (Van der Walt, Jonck & Sobayen 2016:53-54). Individuals of the same generation with the same environmental factors influencing them and thus affecting their way of thinking and behaviour are called generational cohorts (Wolf *et al.* 2005:186).

The majority of the current undergraduate cohort of students are Generation-Y students (born between 1980 and 1996). They are also called millennials, the Net Generation or Digital Natives (Maürtin-Cairncross 2014:564). This generation is optimistic, and confident and wants everything to happen quickly. They are internationally connected, and technology does not constrain them. They can efficiently multi-task, and they value diversity. A challenge identified with millennials is that they perceive ethical principles differently from other generations, especially work ethics. They allow leisure activities to interfere with work time, which may cause problems between them and their lecturers because it contrasts with the work ethics of Baby Boomers (born between 1946 and 1964) and Generation X (born between 1965 and 1979), from which most lecturers originate. They also need instant gratification more than any other generation group and get bored quickly (Van der Walt *et al.* 2016:54-56).

Generation Y students want the educator to treat them as a peer and be active in class because many are kinaesthetic learners who must move while learning (Maürtin-Cairncross 2014:566). The healthcare educator must accommodate Generation Y students' characteristics, which might be difficult for them as they grew up in a world where adults were the decision-makers, and students kept quiet in class. This is especially true for the Baby Boomers, who prefer face-to-face lectures and are workaholics (Cilliers 2017:190). Generation Y students enjoy completing online assessments because they are comfortable with technology. They need a strict rubric with explicit assessment criteria and explanations to study the work thoroughly. The work

must be given to them in portions because they only think in segments and struggle to cope with large amounts of work (Maürtin-Cairncross 2014:566).

Generation Y students prefer input from their peers over input from their lecturers and will make decisions without considering the consequences of their choices. They do not have well-developed thinking skills and do not fully understand academic ethics. This is why they will commit plagiarism without considering ethical implications. Many Generation-Y students struggle to sit still in class and concentrate for long periods because they have a reduced attention span (Maürtin-Cairncross 2014:567).

The upcoming generation starting university is Generation-Z, centennials or iGeneration (born between 1995 and 2015). This generation is the most diverse in terms of race, gender, and sexual orientation and is the first who grew up with the internet and technology always in their midst. They are fast decision-makers and very connected. These students get motivated by pleasing others and work hard to achieve their goals (Eckleberry-Hunt, Lick & Hunt 2018:378). This generation spends much time on the internet and social media because they fear missing out. This leads to less time for face-to-face contact with friends, which may contribute to feelings of loneliness, isolation and depression.

Generation-Z students do not want to attend lectures for a long time; instead, they want to know what is essential to succeed and how to apply the concepts they are learning in a variety of everyday life settings (Seemiller & Grace 2016:23). They come to class for entertainment, not to take notes during the lecture. They enjoy working in groups as long as it is applied and involves creativity, but they are confident working independently at their own pace (Seemiller & Grace 2016:23). Work that requires technology and engagement from their side is their preferred learning mode. Unexpectedly Generation Z students do not want to ask questions in class because of a lack of confidence and anxiety (Eckleberry-Hunt *et al.* 2018:379). When educators ask them to complete an assignment, students prefer and sometimes insist on a clear rubric with instructions accompanying it. Generation-Z students enjoy the flipped classroom educational method (Eckleberry-Hunt *et al.* 2018:379). Generation-Z students tend to struggle with communication skills and are more comfortable with technological devices. They look up to authority figures, and mentoring works well (Eckleberry-Hunt *et al.* 2018:378). These students want to be engaged in decisions that involve them. Many of these characteristics apply to South African higher education students, but many factors and challenges are unique to the South African student.

2.4.1 The South African higher education student

The South African society is racially and culturally diverse, with increasing numbers of individuals qualifying to access HEIs (Magoqwana 2018:113). Students are from diverse backgrounds related to their culture, language, schooling system and race. Many students believe that tertiary education will uplift them and their families from poverty as they come from disadvantaged backgrounds and have financial challenges. They study with government bursaries with unpredictable payment times. This creates many problems, as some bursaries or study loans need to provide more money to buy expensive textbooks and the necessary technology for online and blended learning. Often, the students do not have money for food, and a hungry student cannot concentrate on work optimally (Magoqwana 2018:113-115). The South African university landscape has changed considerably since 2015 with the beginning of student protests, and the #fees must fall movement, as well as with the Covid-19 pandemic and restrictions on face-to-face classes and the move towards online and blended learning environments.

Many students come from rural environments with limited exposure to technology, such as computers and laboratories. When entering university, students are expected to be fully computer literate with background knowledge on working essential laboratory equipment. The issue was confirmed in a survey conducted by Van der Merwe (2011:41) as part of a PhD study, which indicated that only 26% of students had used a computer since they were 12 years old, and 17% of students had less than two years of computer experience. This information corresponds with Geyer and Louw's finding (2020:95,96) that many students do not own a smartphone or computer, which makes South Africa's millennials and Generation-Z students different from their counterparts globally. What does not differ is their eagerness for higher education studies and the use of technology (Geyer & Louw 2020:95,96). The high cost of data in South Africa is a challenge, and HEIs are continually working on ways to curb the cost.

During the Covid-19 pandemic, the high cost of data, financial constraints and limited infrastructure created many problems for many higher education students (including health professions students) as universities suddenly required online teaching and learning. The medical faculty transitioned seamlessly to online learning; there was even the first-ever online examination for final-year students in England (Adefuye, Adeola & Busari 2021:2 of 8). In South Africa, universities and the Department of Higher Education negotiated with stakeholders to obtain free internet access for students and personnel to

certain essential websites to continue online learning (Adefuye *et al.* 2021:3 of 8; Francis 2020:online; Shoba 2020:online). They also improved their online learning management systems (LMS), such as Blackboard, eThuto, and others. The pandemic placed renewed emphasis on the inequality among the student population of South Africa. Many students, especially those from rural areas, struggle to access online study material because they do not have computer devices and have limited internet access (Adefuye *et al.* 2021:5 of 8; Francis 2020:online). The South African Students' Congress (SASCO) even threatened to boycott all online learning if universities did not ensure students had access to the necessary resources (Shoba 2020:online).

This is a major issue in SA higher education, which is even more difficult to resolve in the health sciences due to the full curriculum. There are no time to explain to students what they should have learned in secondary school (Diab, Flack, Mabuza & Moolman 2015:51). Another stumbling block students, and even more so first-generation students, experience is adapting to university life. It is challenging for many students to be without family support, adapt to city life and take care of themselves (Magoqwana 2018:113).

Student diversity and language proficiency impact the South African higher education environment. English is used as the language of instruction at most HEIs in South Africa, posing a problem to students (and lecturers) because, for most of them, English is their second or even third language (Geyer & Louw 2020:95,96). The information on the current higher education students is valuable when designing effective curriculums and practices and deciding on the best way to teach the students (Seemiller & Grace 2017:21).

2.4.2 The South African medical student

The Medical and Dental Professions Board (MDB) of the Health Professions Council of South Africa (HPCSA) is the custodian of undergraduate medical training in South Africa, and they provide accreditation for the number of students who may enrol at each of the training institutions and approve the curriculums (van Heerden 2012:21, 22). Every university has its admission criteria (academic and non-academic requirements), but in general, it is quite challenging to secure a place at one of the universities to study medicine due to the number of applications. In South Africa, it is not only important for future students to have the potential to complete the course successfully but selection instruments must also be aligned with social accountability objectives to grant access to individuals from a disadvantaged background and to ensure the selection fit the

demographic profile of South Africa (van der Merwe, van Zyl, St Clair Gibson, Viljoen, Iputo *et al.* 2016:80). The demographic profile of the South African medical students are moving closer to the distribution of the population. Currently, all medical schools in South Africa select a minimum of 60% of black and coloured individuals to study medicine (van der Merwe *et al.* 2016:80). Medical students are selected from diverse backgrounds and schooling systems, putting additional demands on the curriculums, the education and training and lecturers. The clinical training of medical students is offered in provincial healthcare facilities at primary, secondary and tertiary levels, while the universities are responsible for the academic training and assessment and affording the MB ChB qualification (Maphumulo & Bhengu 2019:2,3 of 9).

2.4.3 The South African professional nursing student

South Africa has a multifaceted nursing education system in terms of the types of nursing education institutions (NEI) and the associated clinical facilities. The clinical facilities can be public, private, or a combination of the two (Vasuthevan 2021:141). The South African Nursing Council (SANC) regulates the nursing education and training standards that all NEI in South Africa must follow (Rabie, Rabie & Dinkelmann 2020:2 of 16). HEIs nursing programmes are accredited by the SANC and the Council for Higher Education (CHE) before they may be presented. The SANC prescribe the number of students that can be selected for the undergraduate programmes, the clinical practice learning hours, and the hours that should be spent on theoretical classes (Mathe, Downing & Kearns 2021:5).

Currently, 19 universities present the four-year baccalaureate undergraduate nursing programme that leads to registration as a professional nurse at the SANC (Vasuthevan 2021:142). Individuals applying to study nursing at universities must meet the criteria for studying at an HEI. Nursing is a selection course with limited placement. The selection criteria should adhere to the demographic profile of the broader South African society.

2.4.4 The South African physiotherapy student

Eight tertiary institutions are presenting the four-year undergraduate degree in physiotherapy (van der Merwe 2020:29). Physiotherapy students are selected after a selection process at all eight training institutions based on their academic merit. Physiotherapy students have a mandatory 16 hours per week of clinical work, approximately 17 hours per week of lecture contact time and about 13 hours per week of independent study, which makes the programme very demanding (Van der Merwe

2020:29). The ratio of physiotherapists per patient in public and private sectors combined are estimated at 1-5 per 10 000 patients in South Africa (WCPT 2019:online).

The HPCSA approves minimum standards for the physiotherapy programme, and training institutions are regularly accredited to ensure compliance. The mode of educational delivery remains the prerogative of the training institution (Van der Merwe 2020:37).

2.4.5 The South African optometry student

Optometry in South Africa is a four-year degree programme which corresponds mainly with the British curricula (Kempen 2020:17). Accreditation and approval of the programme are conducted by the HPCSA and include the management of certain eye diseases as well as prescribing therapeutic drugs to patients.

The optometry programme is divided into a pre-clinical (first and second year) and clinical (third and fourth year) phase. During the pre-clinical years, students receive mainly lectures, while in the clinical phase, they perform practical work together with lectures. The training programme of optometrists after 2001 includes diagnostic procedures, and they can register with the HPCSA as optometrists with diagnostic privileges (Kempen 2020:17).

2.5. CLINICAL EDUCATION ENVIRONMENT

Students' perceptions of their educational environment influence their behaviour and academic development (Schoeman, Raphuthing, Phate, Khasoane & Ntsere 2014:143). A positive educational environment promotes friendliness, academic advancement, and student wellbeing. The educational environment consists of the physical environment and the emotional and intellectual climate (Schoeman *et al.* 2014:143).

Clinical skills teaching changed immensely over the past fifty years. Previously, most clinical skills were taught at the bedside, but because of changes such as hospitals that are busier with more patients requiring attention in a shorter period, the training of students was impacted negatively. Together with rapidly developing simulation techniques, these changes led to changes in the way students acquire clinical skills (Crumlish, Yialamas & McMahon 2009:304; Qureshi 2014:69). Clinical skills centres provide facilities where students practise physical examination and clinical skills on their

peers, simulated patients, low fidelity manikins and part-task trainers (Dacre, Nicol, Holroyd & Ingram 1996:318). Self-directed learning and small group teaching are important components, especially in the medical curriculum. The nursing curriculum used an integrated model where clinical skills are taught throughout the programme in groups of 20 -25 students (Dacre *et al.* 1996:320). Skills centres offer a safe environment where students can practice physical examination and clinical skills under supervision until they feel competent and confident without harm to patients.

Healthcare students must be able to perform a proper physical examination and history taking to make a diagnosis. Teaching undergraduate students to conduct a good history-taking and physical examination takes time because of some HEI group sizes and resource limitations (Uchida *et al.* 2018:738-739). Physical examination forms part of the clinical skills training of students in medicine, nursing, physiotherapy and biokinetics.

In South Africa, the Department of Higher Education provides accreditation for all courses presented at HEIs. Health sciences studies must comply with the respective regulatory professional councils (Kent & Keating 2015:1221-1231). Additionally, students must do clinical rotations, and the professional councils prescribe the number of training hours spent in accredited facilities, usually public hospitals or primary healthcare clinics (Kent & Keating 2015:1221-1231). A positive move for health professions training in South Africa was the shift of the focus toward community-based health services and primary health care (Mlambo, Dreyer, Dube, Mapukata, Couper & Cooke 2018:online). This paradigm shift was implemented at HEIs to align with the Strategic Plan of the Government of SA (RSA DoH 2015:22) to re-engineer primary healthcare and develop a National Health Insurance. HEIs are now expected to produce health professionals that can work in rural communities. Various studies indicated that rural exposure positively influences health professional students' training (Mlambo *et al.* 2018:online). Some medical students regard primary healthcare clinics as the best place to practise clinical skills in practice (Mlambo *et al.* 2018:online). In contrast with their medical student peers, nursing students commence with work-integrated learning hours in the clinical facilities from their first year of training (Mathe *et al.* 2021:5), where they practise their skills on actual patients.

The Free State Province's public sector experiences problems with service delivery and infrastructure maintenance. Staff shortages cause inadequate supervision and teaching of students because the available staff do not have the time or resources to assist the students and take care of patients (Malakoane, Heunis, Chikobvu, Kigozi & Kruger

2020:6 of 14). All these factors influence the educational environment and the training of students. However, other provinces experience the same problems as there has been a steady decline in the quality of the public health sector over the past twenty-eight years which influences healthcare training as Faculties of Health Sciences are using public hospitals as their clinical training platform (Maphumulo & Bhengu 2019:2,3 of 9). This leaves Faculties of Health Sciences with a dilemma as to where their students will get adequate experience in clinical skills training.

2.5.1 Clinical skills

Health professionals must acquire many clinical skills before they become competent practitioners. The concept of clinical skill does not only refer to a practical procedure a student must perform. Clinical skills include physical examination, communication, treatment, diagnostic, and practical skills, depending on the student's profession (Michels *et al.* 2012:e573). Michels *et al.* (2012:e580) argue that clinical skills integrate examination skills, practical procedures, communication skills, and management skills. They further concluded that different domains required different teaching strategies.

Teaching a clinical skill is more than just following the steps to do a procedure or perform an examination. Clinical skills teaching includes clinical reasoning skills and the underlying theoretical knowledge on which the decision is based. Clinical skills education assists with building the professional identity of a student and teaches them about ethical judgement (Michels *et al.* 2012:e.580).

Many universities have clinical skills units, and some have simulation units where students use various methods to learn the skills they need to become competent practitioners (Abay, Turan, Odabasi & Elcin 2017:247). Scientific literature indicates that it is beneficial for the students to have a staff complement with different backgrounds in the skills units to teach the students. The staff with diverse backgrounds extends the range of experience of the students and prepares them to work with different professions. Nurses, physicians, physiotherapists and peers may collaborate in teaching undergraduate students clinical skills (Abay *et al.* 2017:248). Peer teaching may involve PPE or near-peer education, where more senior students teach junior students. It is vital to provide training in the training methodology and the outcomes the students must achieve for all role players (Abay *et al.* 2017:248).

Simulation training complements the existing curriculum and is one of the teaching strategies used in healthcare education. Simulation sessions must be well planned to be successful, and the outcomes the educator wants to meet must be kept in mind. The type of simulator must match the outcomes of the session (Motola, Devine, Chung, Sullivan & Issenberg 2013:e1511-1513). Simulation-based training is beneficial for practising teamwork, communication skills between the same and different professions, and new skills.

Some institutions have simulation units where students use computerised high-fidelity human patient simulators. Part-task trainers, screen-based virtual reality simulators and SPs may supplement these. Research indicated that virtual reality was used successfully in undergraduate and postgraduate medical training (Baniyadi, Ayyoubzadeh & Mohammadzadeh 2020:e125-e126). The benefit of simulation-based healthcare education is that it creates a safe environment for the students to practise skills – if they make mistakes, no harm will be done to the "patients". In such a case, the facilitator usually will stop the simulation, debrief the students, and the students then start all over or continue from where they have ended the session. Educators can simulate rare conditions with simulation, or simulations can be at different levels of complexity as students become more proficient over time (Motola *et al.* 2013:e1520). This was useful during Covid-19 when students could not access the clinical training platforms.

2.5.2 Peer mentoring

Mentoring is essential in health professional education because it supports the students' personal growth and professional development (Andre, Deerin & Leykum 2017:1 of 7). Students starting university generally need guidance to socialise and adapt to their new environment. A mentor system can assist with this and answer the many questions a person may have but not know whom to ask (Andre *et al.* 2017:2 Of 7). William Stewart Halsted, already in the 1890s, understood that peer mentoring was needed and essential in medical education (Kotsis & Chung 2013:5 of 14), while peer mentoring in nursing can be traced back to Florence Nightingale (Yarbrough & Phillips 2022:1).

In nursing education, peer mentoring enhances student success and promotes a culture of caring and support (Yarbrough & Phillips 2022:2). It is a relationship that is vital in the development of nurse leaders and promotes professional and personal development. Peer mentoring in nursing education is defined as "a formal learning partnership between

individuals of different levels of the nursing school experience” (Yarbrough & Phillips 2022:5).

In medical education, the role of the mentor is described as formal and informal and is a vital part of career development and enhancing self-confidence. Peer mentoring is also essential to produce better physicians (Asuka, Halari & Halari 2016:43) and improve communication skills. Peer mentoring positively influences most medical students’ academic, professional and personal growth and helps them to build lasting relationships and eventually succeed in their careers (Cho & Lee 2021:176).

Health and Rehabilitation Sciences claims mentoring improves professional skills beyond discipline-specific training through increased accountability, job satisfaction and reduced stress. Mentees reported that they feel more comfortable talking with a peer than a lecturer because they can relate more easily. Peer mentors encourage a positive academic and emotionally supportive environment, increasing the mentee's confidence and competence and decreasing stress (Yarbrough & Phillips 2022:5).

2.5.3 The effect of Covid-19 on the learning environment

The Covid-19 pandemic starting in 2020, has brought sudden changes to the teaching and learning environment. Covid-19 is the novel coronavirus that causes severe respiratory problems in patients and was first identified in Wuhan, China, at the end of 2019 (Mhlanga & Moloi 2020:online). The lockdown that was declared with short notice at the end of March 2020 by the President of South Africa caught the university environment off guard. Suddenly teaching, learning and training had to move online where possible. Universities had to decide on teaching strategies to best suit courses with practical modules such as nursing, medicine, and other disciplines with practical modules.

Before Covid-19, many healthcare faculties in SA introduced competency-based education and included e-learning (Adefuye *et al.* 2021:3 of 8). This formed part of the move to the Fourth Industrial Revolution (4IR). The 4IR describes cloud computing, 3D printing, artificial intelligence, and blurring the lines between the physical, virtual, and biological worlds. The reality of the South African context is that not all students have access to reliable internet sources or have data or technical devices to move to an online environment (Mhlanga & Moloi 2020:online; UFS 2021:online).

The lockdown, in many cases, negatively affected health professions students (Rose 2020:online). This is a global problem, as described in an article about the challenges and successes of American healthcare students. Students struggled to access the hospitals for clinical rotations required for graduation and had to study online, which is difficult in a course with practical applications. The students felt demotivated and stressed about their future because they did not know whether they would be able to graduate in the allocated time (Rose 2020:online).

In SA, universities nationwide supported students during the lockdown by moving their classes online and providing students with free data to access the learning material (Francis 2020:online). Students were concerned that they had missed so much face-to-face class time that it would be difficult to catch up and graduate within the prescribed time (Francis 2020:online). Many students live in rural areas with poor or no Internet connectivity. They were not allowed to stay in campus residences during the lockdown period to access the Internet (Francis 2020:online). Rural healthcare students were particularly negatively affected by Covid-19 as many students do not have computers, and some must first learn to use the necessary programmes before accessing online work (Adefuye *et al.* 2021:5 of 8). Some students did not take their textbooks with them when they left campus, as the lockdown period was initially declared for only three weeks. With the lockdown extension, they were home for approximately two months without their study material (Francis 2020:online).

Lecturers had to adapt fast and use innovative ways, such as uploading teaching material on the learning management system (LMS) and even social media applications, such as WhatsApp. Using technology for online classes proved difficult for some lecturers and students because they lacked the technical computer skills to use these platforms (Adefuye *et al.* 2021:4 of 8).

Returning students were met with a completely different environment where social distancing, hand sanitising, and wearing masks were compulsory (Mhlanga & Moloi 2020:online). This is difficult in clinical education classes as students must conduct physical examinations and have specific outcomes to reach in each phase or year of the programme. Postponement of training is not an option, and uncertainty about the long-term effect of the pandemic will continue. Virtual training in clinical practice has many limitations.

The following paragraphs discuss various educational methods to teach clinical skills to health professions students. The methods discussed include bedside teaching, simulated patients and PPE.

2.6 BEDSIDE TEACHING

The father of modern medicine, William Osler, emphasised the importance of bedside teaching (Narayanan & Nair 2020:2 of 10). He was adamant that bedside teaching was the best teaching method in healthcare, as illustrated by the following quotes: *To study the phenomena of disease without books is to sail an uncharted sea, while to study without patients is not to go to sea at all.* The second well-known phrase attributed to him is: *The student begins with the patient, continues with the patient and ends his studies with the patient, using books and lectures as tools, as a means to an end* (Narayanan & Nair 2020:2 of 10). Today only about 8% to 19% of teaching occurs at the patients' beds (Qureshi 2014:69).

2.6.1 Definition of bedside teaching

Bedside teaching, per definition, is teaching taking place in the presence of a patient. Bedside teaching, thus, is not only teaching while a person is lying in a bed but all the teaching that is taking place in the presence of a patient (Asani 2014:58; Salam, Siraj, Mohamad, Das, Yousuf 2011:1-6). Asani (2014:58) suggested that the following actions must take place before teaching can be acknowledged as bedside teaching, regardless of where the interaction with a patient takes place. A demonstration of a physical examination and history taking by the attending practitioner, presentation of new cases by students, followed by feedback to them, and personal interaction and communication with a patient.

2.6.2 Objectives and benefits of bedside teaching

Before a bedside teaching session, educators must have a clear objective of what they want to achieve during the session and choose their patients to fit in with that goal. They must also decide beforehand how much time will be spent on a specific patient and a particular skill (Salam *et al.* 2011:4). It is essential to have dedicated time allocated in the daily planner of students for bedside teaching. This is the place where students observe the interaction of the healthcare practitioner with the patient, their family, and colleagues and learn valuable skills in patient care, communication and interprofessional

collaboration (Asani 2014:58). Students also learn with this interaction that a patient is not only an object but an actual person, many times with problems beyond their illness (Erich 2019:605; McGee 2014:1971). The best practice triangle method postulated by Erlich suggests that the student presents the patient to the preceptor in front of the patient for the patient to understand and correct the history. The preceptor helps the student to formulate a treatment plan acceptable to the patient (Erich 2019:605).

Bedside teaching is a patient-centred educational tool, but to effectively use it, the teaching rounds must be separated from the daily rounds with in-patients and fully dedicated to teaching students. During bedside teaching, the integration of theory and practice takes place. Students can see in practice the pathology they learn about in theory. Clinical reasoning is developed and practised, as well as professional behaviour and teamwork (Asani 2014:58; Erlich 2019:605).

Some patients have a feeling of satisfaction, knowing that they assist in the education of future healthcare professionals (McGee 2014:1971).

2.6.3 Challenges of using bedside teaching

Various reasons, such as larger classes and fewer patients willing to let students practise their clinical skills, forced health professions education to change (Taylor & Shulruf 2016:1 of 6). This ensued in introducing teaching methods such as peer physical examination, simulation training, and standardised patients to teach students the necessary skills.

Globally the introduction of strict Labour Laws that limit the number of working hours (including overtime) has reduced the number of hours spent on bedside teaching (Martin, Farnan & Arora 2013:410). This also transpired in South Africa with the promulgation of the Basic Conditions of Employment Act, Act 75 of 1997 (South Africa 1997:online), which prescribed the maximum working hours of the South African workforce.

Having a large number of students around one patient's bed is not ideal, as some of them will not be able to follow what the lecturer is saying or doing, because of practical implications (Asani 2014:58). This may result in students being passive and depending on the academically stronger students to answer all the questions and participate in discussions. Students fear being humiliated if they give a wrong answer. Some teachers

are notorious for humiliating students in front of everyone present at the bedside (Asani 2014:58).

Many healthcare practitioners do not have a genuine interest in teaching students and see it as a compulsory burden that comes with their position (Asani 2014:58). In South Africa, most of the academic staff at healthcare faculties have a dual appointment at the university as well as department of health. Resulting in responsibility to provide clinical service delivery and teaching responsibilities. The requirements from patients, as well as administrative duties, leave little time for actual student teaching. The type of student they have to deal with also changed over time. The generation of students currently studying at universities relies on interactive engagement technology to keep their attention. Most students have smartphones and are accustomed to accessing applications that enable them to access patient data that may come up for discussion during ward rounds (Martin *et al.* 2013:410, 411).

The advancement in technology is one of the reasons why many healthcare teachers sometimes only make limited use of bedside teaching time. Healthcare professionals rely more on technology to diagnose and treat patients therefore, it is often easier to discuss a patient in a conference room with computer facilities than at the bedside (McGee 2014:1971).

Patients and their families often ask questions unrelated to the prepared outcome and language and cultural barriers may prolong the bedside teaching session. These prolonged sessions may have consequences on the ward routine. The ethical considerations when using bedside teaching as a training tool should be considered as well.

2.6.4 Ethics of bedside teaching

It is essential to take the needs of the patients into account during bedside teaching. Some patients will consent to be examined by students if only one or two other students are present in the room. The moment the student numbers increase, the patient feels it is an invasion of their privacy and then feels embarrassed or may refuse to be examined in front of all the people (Koehler & McMenamin 2012:e527). Educators and students, therefore, must be sensitive to the needs of the patients.

Culture, language, and race - that of the student, patient and teacher – may impact on bedside teaching. Educators must take the culture of the patient into consideration. Some cultures and religious groups will permit students to examine them in front of multiple people more easily than others (Koehler & McMennamin 2012:e527). Students who can speak the language of the patient should be allowed to address the patient in their language first to put him/her at ease. Cultural sensitivity must be taught to healthcare students early in their clinical training.

Medical professionalism is another competency healthcare students must receive training in early in their careers. Regardless of the primary teaching method or combination of methods for clinical skills used in the institution, professionalism is a fundamental skill students have to master (Vikram, Mclean, Gibbs & Sandars 2015:74).

2.7 STANDARDISED PATIENTS

The standardised or simulated patient concept has different meanings, although used interchangeably by most people. A simulated patient (SP) is taught the signs and symptoms of a specific illness and realistically plays the role of a patient. There may be differences between student scenarios (Shah *et al.* 2018:online). A standardised patient (SP) is a lay person or trained actor who is taught to portray specific signs and symptoms. A script outlines the role, including character traits, personal and family history and emotional responses (Wilbur, Elmubark & Shabana 2018:3). The standardised patient will provide the same information in each scenario, making this method a more accurate representation of a patient than a simulated patient (Shah *et al.* 2018:online). For this thesis, the terms 'standardised patient' and 'simulated patient' will be used interchangeably.

The first SP was used in 1963 at the University of Southern California, when a neurologist taught symptoms to an art department model to do a role-play for him to assess his students (Barrows & Abrahamson 1964:803,804; Wilbur, Elmubark & Shabana 2018:3). Since then, SPs have played a fundamental role in teaching clinical skills to undergraduate health professions students. They are particularly suitable for assessing communication skills, for example, history-taking, breaking bad news, counselling, and physical examination skills. Standardised patients are also used extensively to teach undergraduate health professions students clinical reasoning skills and practical skills in a controlled and safe environment (Shah *et al.* 2018:online).

SP-based education programmes are generally formalised programmes with a SP coordinator responsible for the recruiting and management of administrative and logistical aspects. In conjunction with the simulation team, the lecturer develops the scenario and trains the SPs to ensure all of them know what to do in the situation. These scenarios are then saved in a scenario bank for repurposing. There is a constant evaluation of SPs as a quality control measurement. If needed, they will be retrained or replaced by someone from the SP bank (Pritchard, Blackstock, Keating & Nestel 2017:1159).

2.7.1 Benefits of using standardised patients

By using SPs, students have the opportunity to practise in a safe environment without endangering actual patients (Shah *et al.* 2018:online). Most students enjoy working in this safe environment and feel positive about the simulation experience. To best use the learning opportunity, students must experience the simulated environment and SP as authentic as possible. When students experience a scenario as fake, they tend to play and not take full advantage of the learning opportunity (Jacobs & Venter 2017:109).

The feedback that students receive from the SPs is valuable and very important (Jacobs & Venter 2017:108). They give feedback on their experience and perception of the students. They clarify whether students made them feel at ease, inspired confidence, and explain when they hurt them while examining them. This feedback is valuable in making students attentive to how others perceive them and changing their approach if necessary (Jacobs & Venter 2017:109).

Practical training with SPs provides students with the opportunity to become confident in a controlled environment. This is especially valuable when they practise challenging situations such as breaking bad news (Alvarez & Schultz 2017:1of 5), and therapeutic touching (Kearney *et al.* 2018:7 of 9). SPs' ability to provide the students with immediate feedback is invaluable when teaching these skills because they are not well known to the students and will be able to give them objective feedback on how their words and touch made them feel.

Basic principles such as respect for patients with different beliefs and cultures can best be taught by exposing students to SPs of different cultures and religions (Kearney *et al.* 2018:8 of 9). Students can make mistakes without fear of humiliation or harm to the patient. It is possible to adapt the SP scenarios to students' skills levels and change

scenarios as they progress. Well-trained SPs can be highly compelling, as described by participants of a study at the University of South Australia, commenting on the "real" symptoms of the SP in the simulation (Phillips, Mackintosh, Bell & Johnston 2017:6 of 10). However, SP training is not without challenges.

2.7.2 Challenges when using standardised patients

The use of SPs has its challenges, especially when the students perceive them as not realistically portraying the "patient". Students lose some of their learning experience as they regard the whole scenario as fabricated and do not interact with the SP as they were supposed to (Baylor, Burns, Struijk, Herron, Mach & Yorkston 2017:801). The SPs must be able to react confidently and realistically when asked questions about their "illness" or when students examine them (Shah *et al.* 2018:5). Some other disadvantages of working with SPs are the financial implication and time constraints when teaching the SPs a scenario.

The costs of using SPs are relatively high. It is time-consuming to teach the SPs a scenario. The actual cost of using SPs also is high, as they are paid per hour (Gillette, Stanton, Rockich-Winston, Rudolph, & Anderson 2017:77). The result is that SPs are only hired for limited hours, and students only have limited time with the SP to practise their skill, reflect, and receive feedback (Alvarez & Schultz 2017:3 of 5; Phillips *et al.* 2017:7 of 10).

It is imperative to ensure that all SPs receive adequate training, know the student outcomes for the session, and also know exactly what their role entails in the training session (Alvarez & Schultz 2017:4 of 5). A limited pool of SPs can also pose challenges. Students complain that they see the same SPs in training and the OSCE, just with different symptoms. That takes away some of the authenticity of using an SP. Using a bigger pool of SPs to choose from could resolve this (Shankar, Dwivedi, Nandy & Dubey 2016:105-106).

One of the challenges institutions are facing when using SPs to assist with teaching clinical skills and compiling physical examinations is the possibility that a student may cause bodily harm to the SP (Gillette *et al.* 2017:73-74). Recommendations from a study among physiotherapy students, conducted by Phillips *et al.* (2017:8 of 10), indicate the value of including the use of SPs in simulation training to make students aware of patient safety issues.

While conducting an examination, students may discover symptoms in the SP of which the SP is unaware; therefore, it is essential to have strategies in place to ensure that everybody involved is clear on the procedure to follow in such instances. It is also advisable that the SP fits well with a specific condition or symptom to fit the scenario. The lecturer or person allocating SPs must ensure they are otherwise healthy and fit for the role they must portray (Shah *et al.* 2018:5 of 10).

The naked body of a person has specific connotations in certain cultures and religions, making it difficult for persons belonging to that culture or religion to examine them when they are partially undressed. This may influence students' performance when they must perform a physical examination on the SP (Sörensdotter & Siwe 2016:1297).

2.7.3 Ethical considerations when using standardised patients

Students must always remember that an SP is an actual person with feelings, playing a role for educational purposes. Patients may feel uncomfortable with specific procedures, and it is essential always to ask for consent before any procedure or examination, even if it is a "not intimate" procedure (Kearney *et al.* 2018:2 of 9). SPs may feel dehumanised when students violate the boundaries of the consent asked, such as another student entering the space where the student is busy examining the SP (Kearney *et al.* 2018:5 of 9).

In most cases, students are not allowed to perform invasive clinical examinations such as pelvic or breast examinations on standardised patients. A few medical schools, for example, in Sweden, Australia and Prague, employ gynaecological teaching associates where these examinations are performed on SPs (Carr & Carmody 2004:1382; Grankvist, Olofsson & Isaksson 2014:51; Sörensdotter & Siwe 2016:1296). These teaching associates receive specific training to assist students in mastering the gynaecological examinations. They sometimes work in pairs without the presence of a physician, but this is not yet a generally accepted practice globally.

To be an SP can be very emotionally exhausting, depending on the scenario. Debriefing SPs after each session is necessary to ensure they leave the characters and the problems associated with the "character" behind (Jacobs & Van Jaarsveld 2016:203.204).

An alternative to using actual patients in bedside teaching or SPs can be PPE as a teaching tool for health professions students.

2.8 PEER PHYSICAL EXAMINATION

This section will be discussed against the background of the set definition used for this study, stating that: *PPE is the educational method where health professions students act as models for their peers to learn and practise physical examination skills, simple non-invasive diagnostic or therapeutic procedures and professional attributes under the supervision of a professional person or lecturer (cf.1.1.1).* Health professions students in this definition include undergraduate medical students, nursing students, physiotherapy students, optometry students, students in exercise and sport sciences (biokinetics) and occupational therapy. Non-invasive procedures do not involve equipment that breaks the skin or destroys health tissue (Merriam-Webster 2019:online). A diagnostic procedure is a test or procedure performed on an individual that assists the health professional in identifying a disease through appropriate investigations and procedures (Merriam-Webster 2019:online). PPE is an educational tool used globally to teach health professions students physical examination skills or surface anatomy (Vnuk *et al.* 2017:653). The students develop their skills by practising in pairs or in small groups on fellow students with a lecturer or facilitator present to ensure they perform the skill correctly (Vaughan & Grace 2016:1 of 11). Metcalf *et al.* (1982:641-643) were the first to describe the use of PPE. At the University of Nebraska College of Medicine, personnel at the Department of Anatomy made use of Living Anatomy laboratory sessions to teach students to conduct a complete anatomical and functional examination while working in either single-sex or mixed-sex pairs. At the end of each year, the students had to complete a questionnaire comprising seven questions on gender preferences, sensitive areas to examine, embarrassment while examining sensitive areas, and professional conduct (Metcalf *et al.* 1982:643). All the students believed examining the opposite gender was important. The groups that were mixed gender scored higher on professionalism and empathy than the single-gender groups (Metcalf *et al.* 1982:643).

Currently, many institutions use PPE to teach their students clinical skills and surface anatomy. Literature is available on PPE use in healthcare professions such as medicine, nursing, physiotherapy and osteopathy (Vaughan & Grace 2016:2 of 11). However, most of the literature does not include South African students. Many studies were conducted on the perceptions and attitudes of medical students regarding participation in PPE, but not so many in other healthcare professions. Students in different professions will have

different worldviews that will influence how they experience participating in PPE (Wearn *et al.* 2013:885).

Wearn *et al.* (2013:885) stated that nursing students generally feel more comfortable examining their peers than students from other health professions. They are comfortable examining non-sensitive body areas, and as they progress in their studies, they become more comfortable participating in PPE (Wearn *et al.* 2013:884-888). Nursing students are also predominantly female, which may influence their experience of participating in PPE (Wearn *et al.* 2013:885). The contact time with actual patients is higher for nursing students than any other health profession students (Wearn *et al.* 2013:885), which could influence their experience of PPE. This compares well with the South African context. Nursing students in SA practise physical examination skills using PPE and practising on actual patients during the clinical rotations. Communication skills are practised during the clinical rotations because nursing students begin with work-integrated learning in their first year already (Lombard 2020: personal communication). When practising physical examinations using PPE, nursing students expose the necessary body areas, such as the chest, abdomen and back, by moving their clothes.

Optometry students do not undress when practising physical examination skills and diagnostic procedures, but they perform more invasive diagnostic procedures such as pupil dilation, fitting contact lenses and performing applanation tonometry or gonioscopy (Kempen 2019: personal communication). In a study by Kempen on optometry students, it was concluded that students should have the discipline and opportunity to practise on their own, but only when they are confident and comfortable with performing the basics of the skill. Because the skills are often more invasive and with the student: facilitator ratio making it difficult for facilitators to be present with one student all the time, the facilitator should ensure that students have conceptualised, visualised and verbalised the skill before they have to practise on their own (Kempen 2020:234).

Physiotherapy training relies heavily upon PPE when training students in most skills (Barnes 2020: personal communication). Physiotherapy students are required to change into special gym clothing for practical sessions. During practice sessions, students will be asked to undress so their peers can practise a procedure or skill. The examiner covers the examinee with a towel. In physiotherapy, the different genders practise on one another (Barnes 2020: personal communication; Van der Merwe 2019: personal communication). Examples of clinical skills training using PPE in physiotherapy are active and passive movement patterns, neuro-musculoskeletal functioning and

assessment, respiratory functioning, and evaluation and treatment of pelvic floor dysfunction, although the latter is not part of undergraduate physiotherapy training in South Africa (Hattingh 2017:21). Pelvic floor dysfunction treatment includes perianal and internal digital examination and assessment of the pelvic complex, for which a formal tertiary qualification is available in Australia, the UK and the Netherlands (Delany & Frawley 2012:33-39).

Medical students use PPE mostly when being taught and practising non-invasive procedures and surface anatomy, and most of the students accept that as part of the curriculum (Outram & Nair 2008:24). South African medical students use PPE to practise physical examination and communication skills during clinical skills classes. Medical students must expose their chest and abdomen for their peers to practise physical skills. Depending on the institution, different rules apply, such as genders practising separately. When a lecturer demonstrates a procedure or examination where exposure is required, they ask for a male volunteer (Swinfen 2019: personal communication).

Students in osteopathy use PPE from the beginning of their training and consider it very important to acquire the necessary clinical skills for their careers (Vaughan & Grace 2016:2 of 11). In the study, students older than twenty years were concerned about sexual awareness when participating in PPE and, in general, were not so keen to participate (Vaughan & Grace 2016:4 of 11). There are many benefits when using PPE as an educational tool.

A study by Chang and Power (2000:385) found that medical students felt more comfortable practising on their peers than a stranger. This was confirmed by Wearn and Bhoopatkar (2006:958), although Rees *et al.* (2005:601) reported that some students were afraid their classmates would denounce them if they practise on one another. They felt embarrassed, nervous and uncomfortable examining a peer with whom they have a bad relationship.

2.8.1 Benefits of using PPE

One of the main benefits of using PPE as an educational tool in an institution is the way students can learn surface anatomy and become familiar with the landmarks of a healthy body before they go into the clinical areas and study abnormalities (Koehler *et al.* 2014:1 of 7; Wearn & Vnuk 2005:90). The students study surface anatomy under the supervision

of a qualified person. This qualified person may be a lecturer, clinician, facilitator, or anyone with specialist knowledge of the subject.

The first use of PPE to study surface anatomy makes it easier for students to progress to physical examinations. The reported comfort of students with therapeutically touching patients may be attributed to their early exposure to being a simulated patient (Chinnah *et al.* 2011:e27-e28). The Peninsula Medical School in the UK used innovative teaching methods for students to reflect on their knowledge of anatomy and apply it in clinical practice with patient contact. Studying anatomy using PPE increases the confidence levels of the students as well as their communication skills because the students must explain what they expect from each other (Chinnah *et al.* 2011:e27-e28). A study by Hattingh (2017:95) indicated that students from the University of the Free State (SA) also regarded PPE as beneficial to increase their competence as well as their confidence levels.

Feedback from a student on a blog of the University of Queens, Canada, emphasised the importance of participating in PPE when he wrote:

Student practising was an extremely important tool in my medical education. Friends would give me good feedback that was non-threatening and, most times easier to swallow than that which a faculty member provided.

PPE can also be a valuable tool to train professional attributes such as communication skills and professionalism. The advantages of participating in PPE as an educational tool will be explored under individual headings.

2.8.1.1 Communication skills

Larson, Leslie and Kruk (2017:e14888) investigated patients' perceptions of care depending on the communication between them and the healthcare provider. The study included seven Sub-Saharan countries and concluded that the poor quality of communication between patients and healthcare providers was a significant cause of patient dissatisfaction. The Health Professions Council of South Africa (HPCSA) regards communication skills as fundamental. It is one of the core competencies they require South African medical students to achieve during undergraduate medical training (Van Heerden 2012:21).

The UFS Executive Committee of the Senate approved eight graduate attributes for integration into the academic curriculum in 2018. Two of these graduate attributes have to do with communication, namely oral and written communication. According to the UFS policy document (UFS 2018:3), verbal communication is prepared and purposeful, increases understanding, and changes the listener's attitude, beliefs, or behaviour. Part of the definition of written communication is that students be taught to use technology to write down their ideas. Both these concepts (verbal and written communication) are important in healthcare training because students must communicate with patients, consider their values and beliefs, be objective, and use technology to assist them in communicating with patients (Larson *et al.* 2017:2).

Many undergraduate health professions students feel uncomfortable when confronted with a patient for the first time. They find it terrifying to talk to a stranger and ask intimate questions. The University of St Andrews in the UK presents communication workshops for students to reduce their anxiety (Dennis, Warren, Neville, Laidlaw & Ozakinci 2012: 330). However, the study reported that some students felt these anxiety workshops had a negative connotation and did not want to participate (Dennis *et al.* 2012).

At the UFS, a study among medical students about communication skills (Swinfen 2020:111-112) concluded that students were not skilled in recognising the importance of patient-centred communication and breaking bad news. Good communication between the health care provider and the patient leads to better compliance on the side of patients. Healthcare providers are more satisfied when the patients adhere to their prescribed treatment. In another study, participation in PPE, which includes communication skills in the training programme from early in the curriculum, will assist students in becoming professional and confident in using these communication skills, especially if the training partners are rotating (Hattingh 2017:98).

2.8.1.2 Professionalism

According to the International Council of Nurses (ICN), professionalism can be defined as working autonomously and cooperating with other professionals while being assertive, accountable, and advocating for the patient (Aydin Er, Sehiralt & Akpinar 2017:240). Jha, Mclean, Gibbs and Sandars (2015:74) add that professionalism is a multifaceted concept that includes geographical location and culture together with a person's attitude, values and beliefs. This is important, especially in South Africa, where eleven official languages and different cultural groups exist.

According to the professional boards or council regulations, acting professionally is not something taught at universities in a module, but most universities integrate professionalism into the curriculum. For example, the University of Pretoria (UP) teaches professionalism by integrating it into the curriculum in all modules together with attributes such as interpersonal skills, healthcare, the law, group work and more (Du Preez, Pickworth & Van Rooyen 2007:285). Participants in a focus-group interview in a study conducted at the UFS were outspoken in their support of the benefit of PPE in preparing them for professional conduct when in the clinical areas (Hattingh 2017:99).

2.8.1.3 *Therapeutic touching and palpation of patients*

Touching somebody in a clinical setup is also part of professional conduct and it means showing empathy, communicating, soothing and healing through touch. Touching can also negatively impact when the person who is "touched" considers it inappropriate, misunderstands it, or feels it is an invasion of their privacy (Singh & Leder 2012:online).

Healthcare practitioners, such as physiotherapists, nurses, osteopaths and occupational therapists, continuously use therapeutic touching in their daily work-life, but in medicine, it has mostly diminished to palpating or percussing patients (Verghese 2009:1179). Medical students at the University of Plymouth's Peninsula Medical School in the UK reported that participating in PPE made them feel comfortable touching (palpating) the naked and half-clothed patients they had to examine. The fact that they had a "real-life" human to examine since beginning with anatomy and clinical skills made it easier to adopt a professional attitude to cope with situations such as these (Chinnah *et al.* 2011: e30). The student's knowledge of surface anatomy contributed to their feelings of accomplishment when examining a patient.

Rees *et al.* (2005:599) indicated that while students participate in PPE, they are exposed to different body shapes and sizes and become accustomed to that. Rees *et al.* (2005:601) reported that first-year students from the Peninsula Medical School in the UK commented that participating in PPE helped them understand and know how a healthy body feels and that there always is a variation in body shapes and sizes. This contributes to their confidence and competence when working with patients in clinical settings, but what is neglected in medicine is touching the patient for anything more than diagnostic purposes (Singh & Leder 2012:online). According to Verghese (2009:1181), patients expect to be examined during consultations, and while students use PPE to practise clinical skills, it is an excellent time to teach them about this expectation. Medical

students must understand the importance of "touch " for patients. For the patient, it means *I will always be there, I will see you through this, I will never abandon you, I will be with you through this to the end* (Verghese 2009:1182).

Nursing students from a university in New Zealand completed the Examining Fellow Students' (EFS) questionnaire (Wearn *et al.* 2013:885). This questionnaire asks students to indicate from twelve body regions which ones they will not be willing to let a peer of the same or opposite gender examine. The researchers adapted the questionnaire to include which body regions the students would not feel comfortable touching on a patient because "touching" in healthcare is imperative (Wearn *et al.* 2013:887). The third-year nursing students were more willing to touch patients than the first-year nursing students. An increase in experience leads to a rise in the ease with which students use touch as a therapeutic skill (Wearn *et al.* 2013:887). Appropriate touching is part of developing professionally.

2.8.1.4 Feedback

When participating in PPE, participants receive immediate feedback on their skills performance from their peers (Chen *et al.* 2011:e526). Peer feedback may have a positive or negative result as students sometimes learn incorrect practices from their peers and then struggle to unlearn this behaviour (Hattingh 2017:98). Students are assisted in self-reflection and developing insight into their level of knowledge (Rudland, Bagg, Child, de Beer, Hazell, Poole, Sheehan & Wilkinson 2010:121). Ajjawi and Regehr (2019:652) explored the various definitions of feedback and performance, and reassurance was the two concepts that stood out. According to the authors, feedback is a dynamic process where everybody can restructure their knowledge and practices. According to Ajjawi and Regehr (2019:653), feedback comprises educators and applies to everybody who contributes meaningfully to behaviour change or reassurance.

Feedback is essential to improve performance and should respectfully challenge students' way of thinking while changing their behaviour (Ajjawi & Regehr 2019:652). Positive feedback from peers and lecturers increases student motivation, state of mind, and perseverance with the workload and learning new skills (Pitt, Bearman & Esterhazy 2020:243). According to Chen *et al.* (2011:e526), the immediate feedback that students receive when practising on their peers is one of the benefits of using PPE as an educational tool in medical education. Students can practise the same procedure on their peers until they feel competent because it is a reciprocal relationship. Both students learn

from each other and can provide valuable feedback to the other during the examination or procedure, which a standardised patient or actual patient cannot do (Koehler *et al.* 2014:1 of 7).

Students feel positive about receiving feedback from the facilitator, especially when that happens in a small group environment, as demonstrated by this extract from a study report from Stellenbosch University:

Our demonstrator called me up, I remember I did it incorrectly, and it was embarrassing, but because she corrected me and had her there, she showed me no, this is wrong and how to do it. To this day, I know how to percuss. I will never get it wrong, so it was positive to have her there to correct our mistakes (Bray 2013:16).

Issenberg and McGaghie (in Bray 2013:5) proclaim that clinical skills lecturers must be enthusiastic and prepared for their classes and emphasise the importance of feedback and formative assessments instead of concentrating on summative evaluation. Enough practising time must be available for students to become competent and confident in the skills they have to learn.

2.8.2 Cost of PPE

PPE is regarded as a practical and cost-effective way of teaching clinical skills to health professions students, as students are available in class. There is no need to employ and pay standardised patients (Hendry 2012:2 of 9). Most of the time, the students are available to practise on one another, or they can get hold of a friend to come and practise with them when they want to practise a specific skill (Koehler *et al.* 2014:2 of 7). This argument is supported by Wearn and Bhoopatkar (2006:958), who stated that the students always were readily available. The cost and availability of SPs are factors to consider. There is a possibility that one cannot find the correct SP or the SP is not available when the students have clinical skills training sessions.

Although PPE has many advantages, as discussed, there are also challenges to consider when using PPE as an educational tool.

2.8.3 Challenges in using PPE

Lecturers and facilitators should be mindful of students' feelings of embarrassment when undressing and participating in PPE. Studies indicate that most students accept examining non-intimate body areas of same-gender peers (O'Neill *et al.* 1998:435; Rees *et al.* 2004:86; Wearn *et al.* 2013:886; Manjunath *et al.* 2014:44). Some of the challenges such as gender, culture, religion and ethnicity, ethics and touching of body parts will be discussed in the following paragraphs.

2.8.3.1 Gender

The gender of participants influences the perceptions of students participating in PPE. Most of the students are more willing to be the examiner than to be examined (Chen *et al.* 2011:e529; Rees *et al.* 2004:86; Vaughan & Grace 2016:6 of 11). Students will participate more easily in PPE if someone of the same gender can examine them instead of a person of the opposite sex (O'Neill *et al.* 1998:434; Rees *et al.* 2004:86; Rees *et al.* 2005:603). Body image and the fear of negative feedback or being mocked by their peers could account for their unwillingness. Female students felt more uncomfortable and embarrassed to undress in front of peers than male students. However, body image also influences male students. Men are equally preoccupied with appearance as women and do not want to undress in front of peers because of fear of ridicule (Vnuk *et al.* 2017:659; Hattingh 2017:106-107).

Rees (2007:803) conducted a study where she found that especially female students were at risk of negative self-esteem if they did not comply with the physical appearance and image they perceived as beautiful. According to a study by Vnuk *et al.* (2017:658-660), male students are often forced by the lecturer and fellow students to be the patient when participating in PPE. The males feel obliged to undress because women need to be protected and cannot undress in front of the class. However, in the same study, some female participants indicated their willingness to undress for male students to practise on them.

A specific student will often see it as his/her duty to volunteer to be the patient while practising skills (Hattingh 2017:106-107; Vnuk *et al.* 2017:659). The problem is that the specific student will miss valuable learning experiences as he/she will not have time to practise if they always agree to be the patient. Male students also feel bereaved of the opportunity to practise on females. When they encounter a female patient, they are

unsure about how to handle the examination and what they are allowed or not allowed to do (Bray 2013:22; Hattingh 2017:106-107; Vnuk *et al.* 2017:659).

Another concern students have when practising physical examinations of the opposite gender is that they know their classmates reasonably well. It may be very awkward to undress in front of and examine peers or be examined in one class and sit next to the same students in another class (Barnette, Kreiter & Schuldt 2000:368). A study by Barnette *et al.* (2000:369) concluded that male students are more comfortable with mixed-gender examinations. Female students are more uncomfortable being the patient in a mixed-gender partnership, but when it is a partnership between females, they feel safer when their partner is a friend and not a stranger. Another study conducted in Australia with first-year medical students (Reid *et al.* 2012:56) indicated that female students were more willing to undress in front of their peers when male students were not present.

The students prefer small group practice instead of in front of the entire class. Burggraf *et al.* (2018:2 of 8) conducted a study on physical examination participation in the third year (first year in clinical training) of medical students of the Faculty of Medicine of the University of Duisburg-Essen in Germany. The students completed a questionnaire on physical examination participation. This study determined that both genders prefer to be examined in small groups instead of the whole class. The students also prefer a tutor that is knowledgeable and able to explain the theory behind the examination or procedure in the small group before demonstrating it there. The authors also concluded that both genders prefer to be examined by a peer of the same sex, and their participation willingness depends significantly on the body region to be examined (Burggraf *et al.* 2018:6 of 8).

Making PPE compulsory can influence students' attitudes toward PPE significantly.

2.8.3.2 Voluntary or compulsory

Whether participation in PPE should be compulsory or voluntary renders conflicting answers. Hattingh and Labuschagne (2019:384) reported that students and lecturers at the UFS revealed that they had different approaches when asked this question. The students do not want to feel obligated to participate in PPE, while some of the lecturers thought it is essential because it teaches them empathy with their patients, as they know how it feels when exposed.

Braunack-Mayer (2001:684) and Outram and Nair (2008:276) stated that students should have the freedom of choice to participate in PPE. Unfortunately, this is often not the case as they are scared they will jeopardise their academic progress when refusing to participate and because of peer and institutional pressure.

Outram and Nair (2008:275) determined that participation in PPE must always be voluntary with informed consent, and there must be a policy or guidelines regulating it. O'Neill *et al.* (1998:433- 437) purport that such a policy needs to include privacy of settings, the availability of trained professionals to supervise the PPE, and whether to include intimate body areas. The reality is that peer pressure and pressure from authority figures result in students participating in PPE without informed consent (Hattingh 2017:100-101).

2.8.3.3 Culture, religion and ethnicity

Braunack-Mayer (2001:685) suggested educating students and lecturers on cultural and religious differences because students may have religious or cultural reasons for not participating in PPE. Certain religions or beliefs do not allow females to expose their bodies to males, and sometimes even females, who do not share their faith (Rabin 2010: online). Rabin supported a study by O'Neill *et al.* (1998:online) that concluded that Muslim women are less likely to be the examinee even when a chaperone is present. Rees *et al.* (2004:604) reported that students who do not associate with any religious faith participate more easily in PPE than students who belong to a religious conviction. Chen *et al.* (2011:e529) and Outram and Nair (2008:274) reported that students with a non-Western background, such as those from the Middle East or Malaysia, are less likely to participate in PPE. There are not many studies on the African continent regarding cultural or religious influence on using PPE as an educational tool.

In New Zealand, some Māori has strong views on where people can touch them. They do not want to be touched on their heads and shoulders, and students should respect that (Wearn & Vnuk 2005:94). Students should consider their group's diverse cultural, personal and educational differences.

Bray (2013:34) concluded that medical students at Stellenbosch University were dismayed by tutors who were ignorant about or chose to ignore their religious or cultural reasons for not undressing in front of other students and pressured them to do so.

Hattingh (2017:107) proposed that students and lecturers should have an information session on the customs and beliefs of their region's most relevant cultures and faiths.

2.8.3.4 Duty of Care

Physical and psychological harm to PPE participants should be considered. Wearn and Bhoopatkar (2006:963) reported that the rate of accidentally finding something wrong in a peer is about 1.5% per year. They purport that when students with a pre-existing condition volunteer to be the patient, lecturers do not have a clinical duty of care for the well-being of the students (Wearn and Bhoopatkar 2006:959). Still, there is a duty of care insofar as lecturers must restrain themselves from causing unnecessary anxiety to students or asking students to perform activities that can harm them.

The students from the Peninsula Medical School (UK) were concerned about their physical and emotional safety when participating in PPE (Rees *et al.* 2005:602). They questioned infection control while participating in PPE and shared their fear that they would accidentally harm fellow students while examining them. It is not only the physical harm but also the emotional safety of students from an abusive background who now have to participate in PPE that was concerning.

At the medical school of the University of Auckland, NZ, a protocol was put in place that must be followed should somebody identify a problem or accidentally hurt a fellow student, but the onus still rests on the affected student to follow up on the problem (Outram and Nair 2008:274). In Australia, the process of managing abnormal findings is regulated by a formal process covered in the policy of the institution (Wearn, Nakatsuji & Bhoopatkar 2017:41).

2.8.3.5 Intimate body areas

Most health professions students find participating in PPE an acceptable way of studying clinical skills and surface anatomy. They are, however, reluctant to participate when it involves intimate body areas such as the female breasts and the groin areas (Rees *et al.* 2004:604). Most students from Western backgrounds regard areas such as the genital, rectal and female breast areas, the so-called *societal sensitive areas*, as parts they would not want their peers to examine or examine those parts of their peers (Wearn & Bhoopatkar 2006:958). Some cultures might regard examinations such as ear, nose,

Metcalf *et al.* (1982: 641-643) described how first-year medical students at the University of Nebraska performed socially sensitive examinations as part of their living anatomy programme between 1977 and 1981 and the students were positive about examining peers of the opposite sex and intimate body areas. The students proclaimed that it helped them to understand that the doctor-patient relationship is a "sexless one" (Metcalf *et al.* 1982:643). The current scenario, however, is different from what was described in 1982. Students do not want to undress for non-intimate examinations such as abdominal or thorax examinations. As mentioned earlier, primarily male students volunteer for a demonstration, but they are often reluctant due to concerns about body image and fear of being held up as an object of ridicule. When it is a small group of four or five students, getting a volunteer for a demonstration is easier, but still not for intimate body areas.

Students often link intimate body areas with sex (Rees *et al.* 2009:924) and would rather allow a peer of the same gender to examine them than one of the opposite gender. Female students feared being sexually harassed if they participated in PPE of intimate body areas. Male students were worried about sexual harassment or inappropriate touching accusations if they partake in PPE of intimate body areas (Rees *et al.* 2009:924). The male students suggested that a supervisor/chaperone should be present whenever students performed an intimate examination of a female student to protect them against accusations of sexual harassment. This is even more concerning in the South African context because contact-related crimes and other serious crimes, such as assault (+18%), increased in the last quarter of 2021-2022 (SA crime stats 2022:online). These contact crimes include murder, attempted murder and sexual offences, as well as common assault and robbery. With students coming from autocratic and culturally diverse societies, especially intimate touch could be interpreted as assault and/or sexual harassment. For this reason, the researcher supports the suggestion by Rees that supervisors should always be present.

Religion may influence the definition of an intimate body area. Some Muslim women refuse to be examined by a male doctor even if a chaperone is present (Rees *et al.* 2009:924). Some students use euphemisms when referring to intimate body parts. This may be to distance themselves from embarrassment and appear to be well-mannered when talking (Rees *et al.* 2009:924).

Braunack-Mayer (2001:682) posits that the social relations among students make it difficult for them to examine the intimate body areas of peers. Kim, Choi and Woo (2015:131) assert that, based on the rule of double effect, there are four conditions to

which any action must adhere to justify its use ethically, despite the negative result of the action. In the first instance, the step must be morally acceptable; secondly, the intention must be morally good; thirdly, good ends do not justify evil means; and, fourthly, the good effect must be more significant, or at least equally significant to the adverse outcome (Kim *et al.* 2015:131). When applying the rule of double effect (that means it is sometimes permissible to cause harm as a side effect) to examining intimate body areas of peers, it might be ethically justified, but there are alternatives available that can be used without exposing students (Kim *et al.* 2015:131).

Sensitive body areas, as described by Metcalf and associates in 1982, include the "female breast, pelvic organs, external genitalia, rectum, anal canal and anus, the male external genitalia, inguinal region, rectum, prostate, anal canal and anus" (Chang & Power 2000:384). Students are willing to participate in PPE as long as these sensitive areas are excluded (O'Neill *et al.* 1998:433-437).

Students may feel that participating in PPE infringes on their human rights and could take legal action against the training institution. An example of such action is when three sonography students from Valencia College in Orlando filed a lawsuit against the college in 2015 because they had to participate in transvaginal sonography (Andrews 2016:online). The college initially alleged that participating was voluntary. When the three women complained that they felt uncomfortable participating, mainly because a male student was present, the lecturers threatened them with lower grades and yelled at them. According to the faculty, students had to "undergo invasive transvaginal ultrasound procedures to become better sonography technicians" (Chuck 2015:online).

Examining intimate body parts should be handled with care and caution, with explicit adherence to ethical behaviour and guidelines to guide the lecturers and students and protect institutions against litigation. Intimate body part examination and self-consciousness and embarrassment are closely linked.

2.8.3.6 Embarrassment

Students from the Peninsula Medical School (UK) reported feeling embarrassed, nervous and uncomfortable when examining a peer. Especially when the two do not get along very well or have to examine sensitive areas such as the breasts or groin (Rees *et al.* 2005:601). The students felt self-conscious, and exposing intimate areas felt

"awkward" stating they suffered from a negative self-image because of their weight, scars, medical conditions, and imperfect bodies.

The students also claimed they were embarrassed because of their close relationship with their classmates. Health professions classes usually are not that large, and because students are doing rotations with different groups of students, they get acquainted with one another. They are scared that their classmates will denounce them for some reason and that they will be outsiders (Rees *et al.* 2005:602). Some students feel safe when their friends examine them (Wearn & Bhoopatkar 2006:958). They have a trust relationship with their peers while others think it is better when it is a relative stranger. When students feel unsure or self-conscious, it could lead to inappropriate behaviour.

Wearn and Vnuk (2005:95) discussed the introduction of PPE at Flinders University (Australia). The students were prepared for PPE by discussing scenarios with them. One example was an embarrassed student who did not want to undress. The students suggested a group of three could be a solution to prevent any uncomfortable responses from the affected student. Students also do not need to disclose why they don't want to be examined. The students also discussed PPE as a way of getting physical contact with a peer you have romantic feelings for. The inappropriateness of the situation was highlighted both now between students and later between a health professional and a patient (Wearn & Vnuk 2005:95).

2.8.3.7 *Inappropriate behaviour*

Some students enjoy being funny during practical sessions, especially when the lecturers or facilitators are absent. This habit may lead to accidents and injuries when they use the medical equipment in ways it was not meant for (Koehler *et al.* 2014:1 of 7). Lecturers must be aware of such behaviour and warn students of the consequences of deliberately using medical equipment in ways it should not be used.

Some students regard participation in PPE as artificial because the peer can anticipate what to expect when practising an examination, for example, taking a position without being instructed to do that (Hattingh 2017:99; Koehler *et al.* 2014:1 to 7). To avoid this unacceptable behaviour, constant supervision is suggested. The SoN at the UFS has an undergraduate student-to-supervisor ratio of 10: 12 students per supervisor per clinical skills module, while the SoM has a ratio of between 22 and 30 students to two supervisors per clinical skills module. The SANC and the National Department of Health

(2013:86) recommend that the ratio of supervisors to students per clinical module in nursing should be 1:15 and the HPCSA recommends a supervisor: student ratio of 1:20 (HPCSA 2017:4).

Supervision and guidance from lecturers could ensure ethical behaviour Wearn and Bhoopatkar (2006:957-963) regarded a policy that includes confidentiality arrangements as essential. Health professional students should be held accountable and responsible for their actions when posting images of fellow students or patients on social media because cyberbullying is a far-reaching problem for those involved (O'Reilly, Dogra, Whiteman, Hughes, Eruyar & Reilly 2018:607). Cyberbullying is challenging to define because of aspects such as anonymity, how permanent the data is or difficulty in enumerating the people that would see the post. However, a working definition of cyberbullying includes three aspects, intention to harm, repetitive nature and a clear power imbalance (Gaffney, Farrington, Espelage & Ttofi 2019:135). Students must constantly be reminded of the importance of professional conduct and ethical behaviour, and participating in PPE is one of the best ways of teaching and enforcing these concepts (Braunack-Mayer 2001:681-686).

Chinnah *et al.* (2011:e36) describe professional attitudes as the ability to win the trust of patients, obtain informed consent, maintain patient confidentiality and use suitable language to describe body structures or tests according to the ability of every individual patient. Lastly, treat patients with dignity and respect.

2.8.4 Ethical considerations regarding participating in peer physical examination

Sometimes students struggle with inappropriate behaviour, such as disgust, arousal or embarrassment, when examining patients (Chinnah *et al.* 2011:e31). A response such as that can have severe consequences for the student because of complaints of unprofessional conduct. PPE assists them in developing a professional and ethical attitude that fits their chosen profession.

The four principles approach of Beauchamp and Childress will be used in the discussion of the ethics of PPE. The principles are beneficence, non-maleficence (imposing the minimum harm to reach a goal), autonomy (individual makes own decisions) and justice/fairness (fairness and equality) (Beauchamp & Childress 2009)

2.8.4.1 Beneficence

Health educators must ensure they provide a safe and trusted environment where the students can learn and practise their skills until they feel competent and confident. One of the core competencies healthcare students must develop is establishing a trusting relationship with a patient through excellent communication and showing interest in the patient. Regular eye contact is necessary for many cultures to gain a patient's trust (Hattingh & Labuschagne 2019:381). This is also important when practising PPE.

Beauchamp and Childress (2009) clarified beneficence as the moral obligation to do the right thing. This is integral to the professionalism that must be instilled in all health professions students and is rooted in the core competencies needed to safely and ethically practise when qualified (HPCSA 2014:online).

2.8.4.2 Empathy and respect for and dignity of patients

Participation in PPE teaches students empathy because they can relate to how the patients feel when undressing for examinations or when healthcare workers expose them in front of many unfamiliar faces (Koehler *et al.* 2014:2 of 7). Williams and Stickley (in Vanlaere, Timmermann, Stevens & Gastmans 2012:77) posit that empathy is a physical sensation. People are physically aware of a feeling before becoming aware of it cognitively. By experiencing the uneasiness of exposure in front of others, the students learn a vital component of empathy. According to Wearn *et al.* (2008:1219), students' experience when examining their peers is different from what they experience when examining a patient because the patient does not feel well, causing an imbalance of power between the patient and student.

Participating in PPE teaches students the importance of respecting patients' dignity. This is not something that can be illustrated in a formal lecture. When students experience the anxiety of being exposed in front of other people, they can relate to a patient's feelings of worthlessness and embarrassment because of a lack of privacy and respect from the attending health professional (Braunack-Mayer 2001:682; Chang & Power 2000:387; Hattingh 2017:98).

According to Delany and Frawley (2012:33-39), educators must show respect to their students by providing them with an information session or letter explaining the benefits of participating in PPE. The educators must clarify for the students the difference

between the professional clinical relationship they use when participating in PPE, and the standard friendship relationships they have. Educators must address the importance of informed consent, what that session entails, and the consequences of and alternative arrangements for students when they do not participate in PPE (Delany & Frawley 2012:33-39; Vaughan & Grace 2016:7 of 11).

2.8.4.3 Non-maleficence

Non-maleficence is the moral obligation not to harm any person. It is difficult to uphold in healthcare as most procedures or treatments have some side effects which people might experience as harmful. In the classroom setting, students will not be treating patients, but they will treat their peers. Communication with peers must be open and direct when explaining a procedure. The fact that they know each other well may influence how they perform an examination or treatment during practice not to hurt a fellow student (Kim *et al.* 2015:130).

The first question that arises is: What is the duty of care if a student finds something wrong with a fellow student? The fact that the students know one another very well impacts their feelings of unsettlement regarding discovered health issues. It will also affect confidentiality, becoming general knowledge among students (Koehler *et al.* 2014:4-6 of 7). According to Outram and Nair (2008:274), the University of Auckland, NZ, has a protocol in place at the medical school for such instances, affording the onus on the student to follow up on the possible problem. Students at the University of the Free State (SA) have similar concerns (Hattingh 2017:104). As far as could be ascertained from university website searches and personal communication, there is no policy or guidelines to follow at South African universities.

A study by Hattingh (2017:106) revealed that the optometry students at the UFS instil anaesthetic or mydriatic eye drops in one another's eyes for training purposes. Kempen (2020:17) explains that this practice was legislated after 2001 and is a current exit-level outcome of the degree in optometry. The students consent to this as their lecturers thoroughly explain to them the reason for doing this. This agrees with Delany and Frawley (2012:33-39), who alleged that students must understand the reasoning behind the exercise to decide on participating in PPE. It is the educator's responsibility to ensure students know this reasoning. The problem with instilling eye drops in students' eyes is adverse reactions and side effects that a person may have. The lecturer explains the

risks to the students, but the outcome will not be known until after it has been instilled. This makes it a significant risk for students, lecturers and the institution.

2.8.4.4 *Autonomy*

Respect for autonomy in medical ethics does not mean the absolute right of a patient to choose what he/she wants to do with his/her life. Respect for autonomy has an additional qualification, namely that it must be among "equals" (Gillon 2015:113). When healthcare professionals register at their respective boards or councils, they have a moral obligation not to harm people (patients). This moral obligation of no harm to people often conflicts with a patient's autonomous decision. In effect, the healthcare provider must explain to the patient the benefit and consequences of each procedure and decision. It also means that healthcare providers, because of their profession, must try to convince a patient not to make a poor decision (Gillon 2015:113).

2.8.4.5 *Informed consent*

PPE plays an integral part in health education practices globally. Research indicates that students are more willing to participate when they know what they can expect (Braunack-Mayer 2001:684). Informed consent includes more than rhetorically asking, "Do you mind if I perform ...?" and then, in many cases, continuing with the examination or procedure without waiting for an answer from the person.

Delany and Frawley (2011:539) and Power (2011:539) supported the fact that students need more information before they can take an informed decision on participation in PPE. At the same time, Outram and Nair (2008:275) accentuated the significance of a clear, written policy in which informed consent is essential. The National Health Act, Act 61 of 2003 of South Africa, and the Guidelines for Good Practice of the Health Professions Council of South Africa (HPCSA 2008:online) required all health professionals to obtain informed consent before commencing any examination or procedure. Before invading somebody's privacy, one must practise an examination, technique or skill.

In a survey performed in the medical programme at Auckland University in 2004 (Wearn & Bhoopatkar 2006:962), a vast majority of the students reported that they had read the participant information letter on PPE before signing the consent form. This can be regarded as a good role model of healthcare professionals' ethical and professional behaviour before conducting any procedure on a patient. The participant information

letter includes all the body areas that are included in PPE and the dress code for coming to class.

Although students sign consent to participate in PPE, peer pressure and pressure from the institution have an influence. There often are no alternative arrangements when a student does not want to participate in PPE or they are not aware of the available alternatives. Therefore staff and the institution are responsible for ensuring that all students are aware of how to access alternative arrangements (Braunack-Mayer 2001:685; Delany & Frawley 2012:33-39). Students participating in a study conducted at the University of Stellenbosch (Bray 2013:22) indicated that they wanted clinical educators to ask for consent before using them in class as simulated patients.

2.8.4.6 Justice/fairness

Justice or fairness is the principle that guides people when distributing resources, benefits, risks or costs fairly among all involved (Kim *et al.* 2015:131). When looking at educational practises and specifically participating in PPE, justice means every student must get a chance to be a health practitioner, and every student must get an opportunity to be a patient. One student cannot act as the patient all the time because they lose valuable practising time and subsequently struggle in the clinical rotations

2.9 GUIDELINES WHEN PPE IS THE EDUCATIONAL TOOL OF CHOICE

According to Vaughan and Grace (2016:6 of 11), the Medical School of the University of Queensland called for the development of guidelines for good practice when they use PPE as the educational tool of choice, as currently, no such guidelines exist for any healthcare profession. Vaughan and Grace (2016:7 of 11) suggested that the following aspects should be included in good practice guidelines when PPE is used in osteopathy and other health sciences. The importance of obtaining informed consent after students have been formally informed about what to expect from PPE before classes commence. There must be discussions on ethical issues such as gender, religion, or any other that may arise from participating in PPE. Vaughan and Grace (2016:6,7 of 11) also recommended that students choose their PPE partners and that alternative arrangements be available if they decide not to participate in PPE. Guiding rules could be useful for all role players.

2.9.1 Rules when practising PPE

Evans and Patel (2012:56-58) state that ground rules should be established specifically for the session before the commencement of any session where PPE will be used. The first rule always is to respect one's partner. Treat partners as if they are actual patients, meaning ask for consent, ensure privacy, make sure all information stays confidential, and do not judge peers because of body art they may have. Decide beforehand and explicitly set the rules stating what body areas may be touched (Evans & Patel 2012:56-58).

The Protection of Personal Information Act (POPIA) No 4 of 2013 was enacted in South Africa on 1 June 2020 (South Africa 2013). This act protects the privacy of every citizen of the RSA, as enshrined in the Constitution of the Republic of South Africa (South Africa 1996). POPIA safeguard certain conditions that must be met to ensure the information of individuals are safe and protected. The act influences the way students can share photos they took of classmates on social media or notice boards, as that may be seen as an infringement of an individual's right to privacy. As far as possible, obtain informed consent before posting any information (*cf.* 2.8.4.5). Any healthcare professional should be cautious when sharing information on social media (Nevhutanda 2018:online) as this may cause ethical problems such as bridging confidentiality.

Wearn and Vnuk (2005:92) reported that the University of Auckland (NZ) introduced a revised clinical skills course in 2001 where students measured blood glucose with a digital glucometer by capillary sampling. Informal discussions were conducted with the Human Subjects Ethics Committee, and it was decided that PPE and blood glucose sampling place students in the role of human subjects. Formal ethical approval should be applied for the programme to continue. Applying for ethical clearance was a valuable exercise as a document was compiled that included the teaching format, ethical issues were discussed, a list of body areas that will be examined was attached, and a participant information sheet was completed. The ethics application had a consent form and a document to report any significant clinical findings. To prevent coercion of students by lecturers or facilitators, students were given verbal and written information before the first session and completed consent forms could be returned by hand, internal post or drop box (Wearn & Vnuk 2005:92).

2.10 POLICY ON THE USE OF PPE

Faculties of Health Sciences globally use PPE to teach students clinical skills and surface anatomy. Most of them do not have formal policies on how to deal with any discrepancies or issues that may occur while students participate in PPE (Koehler *et al.* 2014:1 of 7).

A written policy ensures consistent action and decisions on a particular matter from different people involved (Bezuidenhout 2015:49-51). Geyer (2013:79) defines a policy as "an action that a particular organisation requires for a specific purpose, which should be drafted within the relevant law and regulations".

A policy provides guidance so that problems can be managed uniformly and without bias across all departments in an institution. The policy document protects employees, institutions, and customers (students) because any potential problem will be dealt with in accordance with the stipulations of the policy document. (Bezuidenhout 2015:49-51). Policy documents are institution-specific and prescribe actions required for a specific purpose. Policies should follow legislation and the ethical rules of the applicable profession (Geyer 2021:106).

2.10.1 What should be included in a PPE policy?

Koehler *et al.* (2014:1 to 7) reflected on what should be included in a policy for Australian medical schools. Australia has a multi-cultural society where they practise cultural sensitivity, and the problems they raise regarding PPE are universal. The researchers argue that staff and students must be involved in drafting such a policy to take ownership of the policy and increase adherence. According to the authors, no formal PPE policy was implemented at an Australian university before 2014.

According to Koehler *et al.* (2014:1 of 7), a formal written PPE policy should include the following nine aspects:

1. Participation in physically examining peers must be compulsory because every student must be competent in the physical examination as a requirement of their degree.
2. Not all students need to act as patients. If students have a reason or concern, they can choose not to role-play the patient. It is unnecessary to provide a reason why they choose not to be examined, but they must still examine their peers.

3. Written consent must be obtained from the participants at the beginning of the year and verbal consent before each examination. Participants must know that they can withdraw their consent at any time before or during an examination.
4. Students and personnel must always treat PPE information as confidential.
5. Professionalism is essential; thus, all participants must know that inappropriate behaviour will not be tolerated.
6. At the beginning of the year, students must be informed that they are responsible for seeking medical assistance should somebody pick up an abnormality in them.
7. Supervisors must take reasonable and practicable precautions when students participate in PPE to ensure they feel safe (O'Neill *et al.* 1998:433- 437).
8. Supervisors must ensure confidentiality is maintained, investigate every incident that might happen during PPE participation impartially, and act accordingly as soon as possible.
9. There must be a PPE procedure manual available with an explanation of how to comply with the PPE policy (Koehler *et al.* 2014:2 of 7).

Wearn and Bhoopatkar (2014:826), in a letter to the editor, commented on Koehler and McMenamin's proposed components of a PPE policy (2014:430-433), with their own success story at the University of Auckland, New Zealand's medical programme. At The University of Auckland, a formal PPE policy with regularly reviewed ethics approval has been in place since 2002. Students receive written information during their introductory week at the beginning of the programme and are asked to sign consent after a discussion at the beginning of their clinical skills lesson. One of the forms at the University of Auckland is an "event recording form" facilitators use to record abnormalities.

The University has a fitness-to-practice policy dealing with unprofessional behaviour (Wearn & Bhoopatkar 2014:826). All students must participate in examining their peers, but to be examined by a peer is voluntary. Concerns based on religion, ethnicity and culture are dealt with individually. Students must obtain verbal consent from their peers with each session, although they have signed consent at the beginning of the programme.

Kelleher and Schafer (2014:827) also commented on the article of Koehler and McMenamin (2014:430-433). They agreed that there was a need for a formal PPE policy in Australian medical schools and informed them that the School of Medicine at the University of Queensland in Brisbane, Australia, had implemented a PPE policy at the beginning of 2014. This policy was consistent with Koehler and McMenamin's

recommendations, and students had to sign written consent after they had been informed about the benefits, potential problems, and plan to follow in such an instance when participating in PPE. An action plan exists to ensure student learning is not compromised when they do not want to participate in PPE (Kelleher & Schafer 2014:827). Participation in examining their peers is compulsory, while acting as a patient is voluntary, although students are encouraged to participate. Students who do not want to participate must discuss it with the lecturer, who will keep all discussions confidential. The formal PPE policy was accepted very well by staff and students from the School of Medicine at the University of Queensland in Brisbane, and everybody is aware of their roles and responsibilities (Kelleher & Schafer 2014:827).

Outram and Nair (2008:275) suggested that a policy on PPE participation is invaluable. Such a policy must indicate that participation is voluntary, and that confidentiality will be maintained. Written informed consent can be regarded as best practice; however, not always as necessary. Students must know beforehand what they will do in a session to make an informed decision on participation (Outram & Nair 2008:274-276; Rees 2007:801-807). Braunack-Mayer (2001:681-686) proposed guidelines on informed consent when participating in PPE and posited that students should choose their PPE practising partners. Students and clinical skills educators must know the procedure to follow should a student not want to join in PPE and how such students would be accommodated to prevent them from losing out on learning activities (Wearn & Bhoopatkar 2006:957-963). Students and lecturers must behave professionally and always maintain confidentiality. Specific steps to follow should be laid down for instances when one of the students accidentally hurts a fellow student or make an abnormal diagnosis.

2.11 GUIDELINES FOR WHEN PPE IS USED AS AN EDUCATIONAL TOOL

Evidence-based guidelines development is a structured process of prioritising content, creating evidence, making informed decisions, and distributing the guidelines (Nieuwlaat, Wiercioch, Brozek, Santesso, Kunkle *et al.* 2021:4722). The researcher developed guidelines to use when PPE is the educational tool of choice at a South African university. Guidelines can be defined as general rules and information given (recommendations) on how something should be done (Cambridge Advanced Dictionary 2018:online).

Shekelle, Woolf, Eccles and Grimshaw (1999:594) made a list of the steps that are needed to develop guidelines. This list includes searching and retrieving literature, health services research, clinical and group experts, and writing and editing. All the guidelines must be externally reviewed for content validity, applicability and clarity.

Shekelle *et al.* (1999:596) proposed three fundamental principles for strong guidelines:

1. Guideline development needs sufficient resources, finances, research skills and experts.
2. there must be a systematic review of the evidence for every guideline; and
3. Translating the evidence into a guideline is best done in a multidisciplinary group.

These steps were used as a guide for this study, where the researcher used focus groups with students from healthcare training institutions, semi-structured interviews with lecturers and a literature review to substantiate the proposed guidelines for South African healthcare training institutions using PPE. Validation of the guidelines was done with the help of educational experts.

2.12 CONCLUSION

The chapter provided literature background on clinical skills training and the role of the health professions educator, and the role of the clinical educator. The student profiles were described in the light of current literature by reporting on the generation cohorts, the South African higher education student and the healthcare student. The higher education environment and the role of clinical skills training, and the effect of the COVID-19 pandemic on the training of clinical skills provided context with the help of the literature and document analysis. Detail regarding different teaching tools to train healthcare students focusing on the benefits, challenges and ethical considerations of bedside teaching, SPs and PPE were discussed. The last section of the chapter provided background on the literature reports on guidelines informing PPE as a training tool. The importance of PPE guidelines was discussed to inform individual policies at the various HEI.

In the next chapter, Chapter 3, **Research Design and Methodology**, the research design and methodology for qualitative research, focus groups and semi-structured interviews will be discussed in detail.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In Chapter 2, an overview of the literature regarding PPE contextualised the current uses and trends. This chapter is devoted to research design and methodology. The focus will elucidate the research methodology and design used to achieve the research objectives. The researcher will discuss the theoretical perspectives of the research methodology and design, which will be followed by an elucidation of the data collection process, sample selection, and data analysis. The ethical considerations and the reliability, validity, and trustworthiness also will be discussed.

3.2 RESEARCH PARADIGM

Lincoln and Guba in Nieuwenhuis (2016:52) explain paradigms as follows: "paradigms represent what we think about the world (but cannot prove) As we think, so do we act". Our actions in the world, including the steps we take as inquirers, cannot occur without reference to those paradigms. Schwartz and Ogilvy (1979:2) describe a paradigm as "the lens through which we see everything." A paradigm can influence and guide the researcher in specific ways to complete the research.

Nieuwenhuis (2016:52) states that a research paradigm constructs a worldview as a set of assumptions or beliefs about essential characteristics of reality. Reality can be explained depending on the way a person looks at phenomena. How people see the world (worldview) influences how they interpret phenomena. According to Botma *et al.* (2016:39), every researcher must know the philosophies associated with "the scientific nature of seeing knowledge" and a well-established worldview because all research is conducted from the researcher's viewpoint (worldview) or system of values and beliefs.

Botma *et al.* (2016:39) mentioned three philosophical points of departure to direct the researcher's activities. They are epistemology (how a person can know social phenomena), ontology (the belief of what social reality is), and methodology (how a person gains knowledge about the world). Epistemology is the philosophical branch concerned with the theory of knowledge. What is the foundation of our knowledge? What

is the relationship between the knower and what is known?" (Krauss 2005:762,763; Nieuwenhuis 2016:67).

Ontology asks the question, "What is reality?" and views the nature of reality. Broadly, three distinct ontological positions can be distinguished: realism, materialism and idealism (Nieuwenhuis (2016:57). Realism differentiates between how the world is and how individuals perceive the world. Positivists held this position. Materialism declares that only material features, such as economic relations, are vital to values and beliefs, and experiences do not shape the world (Nieuwenhuis 2016:58). Idealism, the position most qualitative researchers hold, states reality is only knowable through the human mind and socially constructed meanings (Nieuwenhuis 2016:58).

The researcher investigated from the perspective of social constructivism. Constructivism focuses on the interests and abilities of learners to achieve specific educational goals (Thomas *et al.* 2014:online). Social constructivism is the theory of how people construct their realities and apply the knowledge gained through their life experiences (Thomas *et al.* 2014:online). According to social constructivists, people create knowledge, and the student is actively involved in learning (Botma *et al.* 2016:288, Illing 2014:335). Knowledge is developed (constructed) as learners make sense of their experiences, meaning the content and context of learning (how it is acquired) are intertwined. The driving force of knowledge acquisition or adjustment of existing beliefs lies in reasoning conflicts. Ideas or knowledge must be modified to reduce this dissonance of thinking. The social environment tremendously influences knowledge development (Appleton & King 2002:online). Interaction with others, thus, is necessary to create and transfer knowledge.

Constructivists see the world and what is happening around them as accomplishments of social actors instead of something external that constrains them. Constructivists also regard the categories people use to help them make meaning of the world around them as social products that are constructed in and through interaction with others (Bryman 2016:29-30). Interaction with others, thus, is necessary to create and transfer knowledge.

In healthcare, pre-existing experiences and understanding generate acknowledged information. Healthcare professionals and researchers use this pre-existing knowledge to integrate and develop new beliefs and new meanings (construct knowledge) to solve problems. Constructivism focuses on the individual's learning that occurs because of their interactions within a specific social context (Bezuidenhout & Cronje 2021:266).

Using PPE in clinical skills teaching involves multiple individuals (staff members and students), all with their viewpoints and preconceived ideas, who must work with the facilitator to construct the meaning of the new knowledge they acquire (Thomas *et al.* 2014:online). Thus, social constructivism focuses on the meaning-making (construction of reality) from information within a social context (Baxter & Jack 2008:545).

3.2.1 Theoretical stance

People use different cognitive or reasoning processes to judge information and create knowledge. In this study, the researcher will follow an inductive reasoning approach and a combination of theoretical, empirical and methodological literature to contextualise, compare and generalise findings during data analysis (De Vos *et al.* 2011:303). According to Creswell (2014:65-66), the inductive reasoning process begins with data gathering from the literature on the topic under scrutiny and participants' past experiences. In qualitative research, inductive reasoning means the process of moving from the specific to the general, and the qualitative researcher must be open to recognising broad patterns (Merriam & Tisdell 2016:17; Shank 2002:130). The identified patterns are then analysed to form themes or categories to create a conceptual framework.

The researcher encourages the use of constructivism as epistemology. Lecturers cannot just transmit knowledge to students, they must actively construct it. They construct knowledge through the interaction of what they know (theory) and the activities they encounter (Mogashoa 2014:52). Students acquire knowledge through involvement with the content instead of the mere repetition of theory. An important aspect of the constructivist learning theory is that students should be actively engaged and collaborate with others (Botma *et al.* 2016:288, Illing 2014:335; Thomas *et al.* 2014:online). Students learn by experiencing things and reflecting on the experiences (Bada & Olusegun 2015:67).

Constructivism as a learning theory is student-centred (Bada & Olusegun 2015:68). The educator acts as a facilitator that urges students to be actively involved in their own learning. They (educators) also ensure an appropriate learning environment is available where students can practice active learning (Bada & Olusegun 2015:67).

3.3 THEORETICAL PERSPECTIVES ON THE RESEARCH DESIGN

According to Creswell and Plano Clark (2011:4), the word methodology refers to the philosophical foundations of the research process and probes the researcher to ask questions and choose a specific method. In contrast, the research design is the terminology used for collecting, analysing, interpreting, and reporting the data (Creswell and Plano Clark 2011:58). The research design is the blueprint of how the researcher will execute the study, what the researcher wants to achieve, and how it will be completed (De Vos *et al.* 2011:143; Bezuidenhout & Strydom 2021:202). Therefore, this is the golden thread that links the research question to the data collection until the study is concluded. The research design is based on philosophical assumptions, research skills and the research questions to answer.

3.3.1 The research design

Trafford and Leshem (2012:91) propose that researchers should consider the six questions proposed by Kipling (Kipling 1902:online) when designing their research, and is illustrated in Figure 3.1. These questions permit the researcher to understand the research design with more ease. When answering these questions, researchers can build a good framework of what they want to do, how they will design their research project, and how to conduct the study. The researcher applied these questions to the research design.

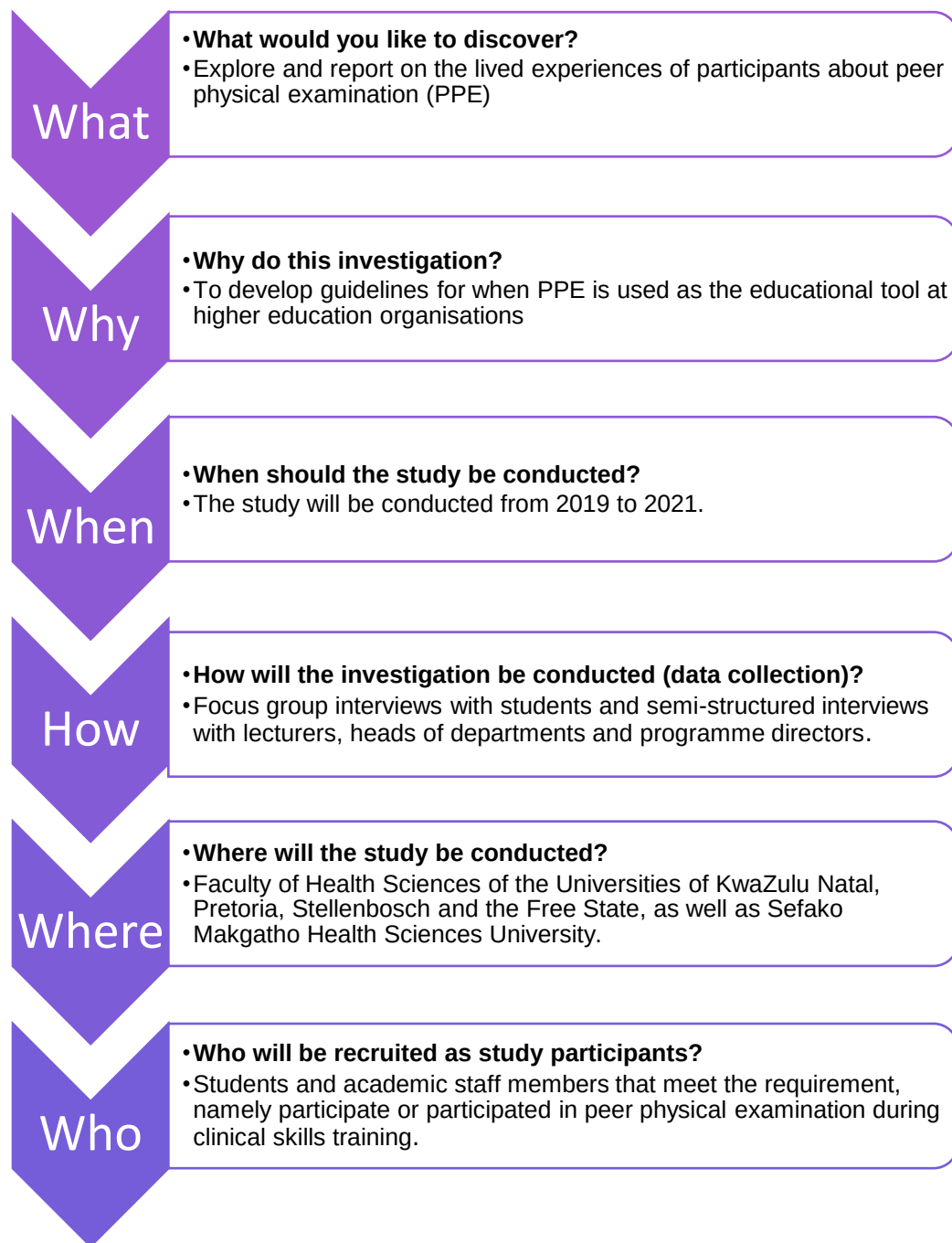


FIGURE 3.1: QUESTIONS USED IN PLANNING AND DESCRIBING THE RESEARCH DESIGN (Adapted by the researcher from Trafford & Leshem 2012:90,91).

3.3.1.1 The qualitative research design

To address the research questions, the researcher employed a qualitative research design. The qualitative research design is the blueprint that guides the collection, analysis and interpretation of data to answer the research questions. Qualitative research discloses the story behind numbers and not the frequency of occurrence (Bezuidenhout & Strydom 2021:202; Botma *et al.* 2016:182,189). Qualitative research

aims to develop, describe and give meaning to a phenomenon (Nieuwenhuis 2016:53). The data obtained usually are word-based and need transcription and coding. Then a theme is deduced, interpreted and deliberated from the information. In qualitative research, the research process itself is central, and researchers are cognisant of their effect on the process (Nieuwenhuis 2016:53).

Morris and Burkett (2011:31) describe qualitative research characteristics to understand the interpretation people have of a specific phenomenon. Botma *et al.* (2016:195) qualify this when they state that qualitative studies are contextual because the collected data is only valid in a specific context and is not supposed to be generalised as in quantitative generalising research. A person is (people are) the primary collection tool in qualitative research, which leads to rich data. The collected data are people's perceptions, which can change and will influence and alter the way they see the world and the data. Qualitative researchers are interested in how people give meaning and make sense of their world (Bezuidenhout & Strydom 2021:200). "The information must form a thick or dense description of the phenomenon" (Botma *et al.* 2016:199). This approach contrasts with that of quantitative researchers, who have no interaction with the study participants, and rely primarily on quantifiable data that can be analysed with statistical methods (Botma *et al.* 2016:82, 83). Qualitative research involves multiple perspectives.

An advantage of using a qualitative approach is that a detailed description of participants' feelings, opinions and experiences are described by considering multiple perspectives and interpreting various ideas (Creswell & Creswell 2018:209; Mertens 2015:20). Disadvantages of qualitative research are that it is time-consuming (Polit & Beck 2017:530), researcher-induced bias or subjectivity is challenging to identify (Creswell & Creswell 2018:223-224; Merriam & Tisdell 2016:16-17), and data collection might pose challenges. Finding dates that suit all stakeholders for a focus group interview proved to be tedious, especially during the lockdown because of the Covid-19 pandemic.

In this study, the researcher used a descriptive qualitative case study design to investigate the research problem to compile guidelines that can be implemented when institutions use PPE as a teaching method in the multicultural South African context. The researcher applied the descriptive qualitative case study design, using focus group discussions with students and semi-structured interviews with lecturers and programme directors or module leaders at the pre-selected universities for data collection.

Qualitative case study research involves the in-depth study of a specific phenomenon within its social context using different viewpoints (Babbie 2014:302; Baxter & Jack 2008:544). Robert Yin (2003 in Baxter & Jack 2008:545) proposes four conditions a researcher should consider when deciding on the case study design:

1. When the answer to the questions "how and why" is the focus of the study.
2. When the researcher is not able to manipulate the behaviour of the participants in the study.
3. When contextual conditions are believed to be relevant to the phenomenon under study.
4. When the boundary between the context of the phenomenon and the aspect under investigation is unclear (Baxter & Jack 2008:545).

Miles and Huberman (2018:24) define a case as an occurrence in a controlled setting (the unit of analysis). At the same time, Johnson and Christensen (2008:406) describe it as a "bounded system", which could be a person, an institution, a programme, a policy or a system. To determine the case, researchers must ask themselves, "Do I want to analyse the individual, a programme, a process, or the difference between organisations?" The answer to these questions will help demarcate the research topic, because one of the problems experienced with case study research is that the subject can be so broad that it is hard to answer the research questions with one study (Baxter & Jack 2008:545-547).

A specific problem or issue is studied with case study research to gain in-depth knowledge and understanding. The researcher needs to understand the issue and describe the difficulties and benefits of the case from different viewpoints (Creswell 2013:123). A descriptive study is a method used by qualitative researchers to carefully observe and then scientifically describe their observations to answer questions relating to what, where, when and how. Descriptive studies usually explain the phenomenon and its implications (Babbie 2014:91).

The shared perspectives and experiences of the participants in the study were used to describe different views on the benefits and problems relating to participating in PPE. Case studies build on the knowledge of existing appropriate literature and their context. The researcher used deductive logic (existing body of knowledge) instead of inductive logic (the views of the participants) to formulate the case (*cf.* Creswell 2013:123). According to Merriam and Tisdell (2015:37), the criteria for a case study are particularistic

(it concentrates on a single phenomenon), descriptive (detailed description of the phenomenon), and heuristic (enlightening the readers' understanding of the phenomenon).

The researcher used focus group interviews with students and semi-structured interviews with lecturers and heads of departments as the data collection tools in this qualitative study. The researcher investigated the experiences of students and lecturers of five different South African universities to understand better their experiences and perceptions regarding participating in PPE.

For a university to be included in the research population, it has to offer medicine, nursing, and at least three health and rehabilitation science professions. The researcher selected these professions, as it is well documented that medical and nursing students use PPE as an educational tool. Health and rehabilitation science professions such as physiotherapy and optometry also extensively use PPE as an educational tool. Table 3.1 summarises the target population.

TABLE 3.1: SUMMARY OF DISCIPLINES OFFERED AT SOUTH AFRICAN UNIVERSITIES

	University of Limpopo	University of Pretoria	Sefako Makgatho Health Sciences University	Stellenbosch University	University of Cape Town	University of the Free State	University of KwaZulu-Natal	Walter Sisulu University	University of the Witwatersrand
Clinical medical practice		X							X
Oral hygiene		X	X				X		X
Orthotics and prosthetics								X	
Speech therapy			X	X	X		X		
Audiology			X	X	X		X		
Pharmacy	X		X						X
Dentistry		X	X				X		X
Biokinetics				X		X	X		
Occupational therapy		X	X	X	X	X	X		X
Physiotherapy		X	X	X	X	X	X		X
Dietetics	X	X	X	X		X			
Optometry	X					X	X		
Nursing	X	X	X	X		X	X	X	X
Medicine	X	X	X	X	X	X	X	X	X
The universities marked in purple complied with the inclusion criteria and were included in the study.									

The universities included in the study were the University of Pretoria, Sefako Makgatho Health Sciences University, Stellenbosch University, University of the Free State and the University of KwaZulu-Natal.

3.4 METHODS OF INVESTIGATION

Qualitative data collection methods in the health professions mainly comprise focus group interviews, semi-structured interviews, in-depth interviews, tape and video recordings, observation, field notes, document analysis and visual material (Botma *et al.* 2016:204). In qualitative research, researchers directly interact with the person or group with the best knowledge or information researchers seek on the topic (Botma *et al.* 2016:203-204). The qualitative research process may follow a non-linear sequence, where data collection and analysis happen simultaneously. This process continues until data saturation has been reached and no new information is forthcoming (Nieuwenhuis 2016a:87; Tavakol & Sandars 2014a:751). The researcher will collect data, reflect on the collected data, identify gaps in the data and plan further data gathering (Nieuwenhuis 2016a:87). This is not the final in-detail data analysis. Qualitative researchers must put their preconceived ideas and views on the researched topic into the background and listen to participants' experiences and opinions without prejudice. Setting an opinion aside is called bracketing and is very important for objectively viewing the data collected. One way of doing this is for the researcher to keep a reflective journal to record how their beliefs could have influenced the data interpretation (Tavakol & Sandars 2014b:838). At the end of each interpretation session, the researcher reflected on personal biases that could affect the analysis process.

The researcher used a literature review, focus group interviews and semi-structured interviews in this study. An advantage of conducting interviews is that participants can provide information on past and present practices, and the researcher controls the questions asked. It is also a good way of collecting data when direct observation will not provide the required answers (Creswell & Creswell 2018:264). The limitation of interviews as a data collection method is that the information provided is indirect. It is the view of the interviewee, and everybody is not equally perceptive or well-versed to say what they mean. The researcher's presence may be a limitation and lead to bias as participants might tell what they think the researcher wants to hear. It is equally true that not all researchers know how to conduct an interview. The quality of the interview and focus group depend primarily on the facilitation or communication skills of the researcher (Botma *et al.* 2016:205). Interviews are conducted in a quiet place away from the natural

setting where the action happens that influences the data (Creswell & Creswell 2018:264). The researcher recorded the interviews with the permission of the participants, transcribed all interviews verbatim while the discussion was still fresh in her mind, and identified themes and subthemes in each transcription.

The study was divided into four phases with Phase four validating the proposed guidelines. Phase one comprised the literature study, which was done to conceptualise the research and put it into perspective. The researcher conducted Phases two and three simultaneously at the various universities. Phase four was conducted after data analysis and the development of preliminary guidelines to use when PPE is the educational tool of choice.

A summary of the phases of the study is provided in Table 3.2.

TABLE 3.2: SUMMARY OF THE RESEARCH PROCESS IN THE DIFFERENT PHASES

	Information on PPE	Students	Programme directors and clinical skills presenters
Phase 1	Comprehensive literature review		
Phase 2		Focus group interviews	
Phase 3			Semi-structured interviews
Phase 4		Development of guidelines and expert panel review for guideline validation	

3.4.1 Literature study

An "integral part of serious research", according to Trafford and Leshem (2012:67), is conducting a thorough literature search. The literature study must be well-planned and systematically executed to allow the researcher to engage extensively with the existing body of knowledge in the research field. The goals of conducting a literature study are to become familiar with the current body of knowledge and experts on the topic, summarise what is known on the subject and identify the knowledge gaps. It further assists with developing research concepts and a conceptual framework to conduct further research to contribute to existing knowledge (Neuman 2011:124; Trafford & Leshem 2012:68, 70).

Singleton and Straits (2017:544) contend that the literature review is aimed at contextualising a problem by considering related theory and research while ensuring researchers are familiar with the topic they explore. The literature study can be described as an overview of scholarly work done in the specific field the researcher wants to investigate. The researcher can obtain information from credible sources such as scientific journal articles, conference presentations, research reports and dissertations, scientific books and credible websites.

The researcher used the literature study to provide the necessary background to the study, gain new information on PPE use globally and nationally, and justify current research on using PPE as an educational tool in a multicultural context. The researcher consulted the following scholarly resources: abstracts, journal articles and unpublished theses from the database of the library of the UFS. The databases consulted were: Academic Search Complete, Africa-Wide Information, CINAHL with Full Text, Education Resource Information Center (ERIC), Health Source, MasterFILE Premier, MEDLINE with Full Text, PsycARTICLES, PsycEXTRA, PsycINFO, SocINDEX with Full Text and SPORTDiscus with Full Text. The researcher could only obtain information on PPE use from Academic Search Complete, Africa-Wide Information, MEDLINE with Full Text and PsycINFO. Keywords the researcher used in the search included the following: "peer physical examination"; "PPE in health professions education"; "PPE in nursing education"; "PPE in allied health education"; "PPE in medical education"; "training on peers" and "peer learning". Databases were checked regularly for new publications.

3.4.2 Focus group interview

Focus group interviews or focus group discussions are a conventional data collection method in qualitative research, initially described by Merton and Kendall in 1946 (Stalmeijer, McNaughton & Van Mook 2014:923). They called it a "focused interview". Focus group interviews are suitable for a researcher with a constructionist paradigm concerned with how people make meaning from their experiences (phenomenology), and the social interaction between people and their society. The participants' ideas, feelings, communications, and environment are central to the researcher (Stalmeijer *et al.* 2014:924). The assumption behind focus group interviews is that group interviews will widen the range of responses and act as a catalyst to trigger forgotten details of experiences (Nieuwenhuis 2016a:95).

3.4.2.1 Theoretical background of focus group interviews

Focus group interviews can be defined as "data collection through group interaction on a topic determined by the researcher" (Chioncel, Van der Veen, Wildemeersch & Jarvis 2003:497). It is conducted to understand better how a group of people feels or thinks about a specific issue. With the focus group interview, the researcher wants a discussion and debate among participants because the group dynamics form part of the gathered data. Focus group interview participants build on others' comments and share and refine their views on the discussion topic. The researcher obtains an in-depth perspective on the research topic that is not possible with individual interviews or questionnaires (Botma *et al.* 2016:211; Merriam & Tisdell 2016:114; Nieuwenhuis 2016a:90). Logistics can be challenging when conducting focus group discussions with participants living and working at different universities in different cities in South Africa (Nieuwenhuis 2016a:97.) Another reported limitation is that it may not represent the target population because the sample size is too small (Nieuwenhuis 2016a:97).

In qualitative research, the quantity of data collected is not of prime importance; instead, the richness and detailed descriptions are more important. The researcher is looking for richness in data; that is why the number of focus groups depends on the research aim or purpose and the answers gathered from participants. When the responses are more diverse, there will be a need for more focus group discussions to determine the cause of the various reactions. Useful and important concepts and information might be missed if the researcher conducts an inadequate number of focus group interviews. When saturation is reached after a few focus group discussions, there is no need to continue. The goal is to provide trustworthy answers to the research questions (Botma *et al.* 2016:211).

According to Botma *et al.* (2016:211), key role players in focus group interviews are the participants, facilitators, and independent observers. When conducting focus group interviews, it is imperative to keep in mind that the conversation is not taking place under normal circumstances. Not all participants will know each other, which may influence the way they interact. Information collected may be biased because of group dynamics, such as overbearing participants or an unskilled facilitator. The quality and focus of the discussion depend on the skills of the facilitator (Nieuwenhuis 2016a:97). Thus, the facilitator's role is significant, because the facilitator must ensure one or two participants do not dominate the discussion; furthermore, the facilitator must prevent the viewpoints of less assertive participants from being ridiculed by others (Nieuwenhuis 2016a:97). A

skilled facilitator should be experienced in facilitating focus group discussions and have excellent communication and facilitation skills. It would be of value if the facilitator is well informed about the topic under discussion and can place comments in perspective and follow up on remarks (Botma *et al.* 2016:212). The facilitator must be familiar with the interview guide and create a welcome, friendly atmosphere to ensure the participants feel at ease. The facilitator must be able to think and listen simultaneously and not impose his/her view of the topic on the group. The facilitator must be aware of group processes and control the group discreetly (Botma *et al.* 2016:212, 213). There should be continuous communication between the facilitator and participants and the group members to promote understanding of different viewpoints. The interaction among participants is noted to become part of the data that are collected and analysed. Participants might be willing to share more information on their feelings and experiences if they identify with other participants (Creswell 2014:191).

It is essential to record the focus group discussion and distinguish between speakers while transcribing (video recordings of the focus group discussion are useful). Using an independent observer to make field notes is also of great value. According to Botma *et al.* (2016:217) writing down field notes and concentrating on the interview or focus group might be problematic for the researcher and make the participants uncomfortable thus the co-facilitator can make field notes in the case of focus group interviews. The observer can note participants' body language, the atmosphere within the group, group dynamics, and personal interpretations of the discussion while it transpires (Lune & Berg 2017:119; Nieuwenhuis 2016a:96). Lune and Berg (2017:119) define field notes as what is said (between the researcher and others or among the participants), practices and interactions among and between participants and connections between and among the observed conversations and practices. LoBiondo-Wood and Haber (2018:263) state that observations are not restricted to any particular action or behaviour. It represents a description of the more general social situation.

3.4.2.2 Target population

According to De Vos *et al.* (2011:223), the word population sets boundaries on a study unit. It refers to a group of individuals with shared characteristics. The entire target population may not be available for the study because of various reasons, nor is it always practical to involve the whole population. A smaller example of the target population is the accessible population (Botma *et al.* 2016:124).

In this study, the shared factors were that participants had to be students studying towards a degree in a healthcare profession at one of the nine universities where a medical (MBChB) degree is presented. (When compiling the protocol and recruiting participants, the tenth medical school at the Nelson Mandela University (NMU) was not yet established). These universities included: University of Cape Town (UCT), the University of the Free State (UFS), University of KwaZulu-Natal (UKZN), University of Pretoria (UP), Sefako Makgatho Health Sciences University (SMU), Stellenbosch University (SU), University of Limpopo (UL), Walter Sisulu University (WSU) and the University of the Witwatersrand (Wits). All participating students should have completed clinical skills modules where they were exposed to peer physical examination.

To be included in the target population, an institution had to offer medicine, nursing as well as at least three of the health and rehabilitation sciences, such as physiotherapy, optometry, occupational therapy and sports and rehabilitation sciences (biokinetics). The included institutions used PPE to a greater or lesser extent as an educational tool to teach clinical skills to health professions students. The universities included in the target population were the UFS, Sefako Makgatho Health Sciences University (SMU), University of Pretoria (UP), Stellenbosch University (SU) and the University of KwaZulu-Natal (UKZN).

3.4.2.3 Survey population

It is key to explicitly describe the inclusion criteria used to select participants (Brink, van der Walt & van Rensburg. 2018:116) because the researcher may not have access to the entire population. This study's accessible or survey population were students at the identified universities (*cf.* 3.4.2.2) that were currently or had previously been exposed to PPE in a clinical skills module. All South African universities' Faculties of Health Sciences use PPE to a greater or lesser degree to teach clinical skills to their students. The survey population was the students at the identified universities who met the inclusion criteria (offer medicine, nursing as well as at least three of the health and rehabilitation sciences). Only the students who complied with the inclusion criteria were used in the focus group interviews.

3.4.2.4 Sample size and number of groups

Sampling must be done according to a fair selection of participants. There must be no preference or bias in selecting a person or group because the researcher knows them or

would like to include them in the study (Botma *et al.* 2016:13). The language used to collect data, the researcher's and participants' geographical locations and personal views are examples of sampling bias sources that must be avoided. In some instances, the study design influences the choice of the sample that will be used, as not all sample types will be suitable to assist the researcher in answering the research questions (Brink *et al.* 2018:126).

Focus group participants were selected because they shared characteristics or experiences, in this case, participating in PPE. The group size depends on the type of information the researcher needs. Carlsen and Glenton (2011:7) confirm that there is no agreement among authors on the number of participants for focus groups or the number of focus groups required for a study. Any number of participants between four and twelve is suggested (Krueger & Casey 2009:66-68; Tong, Sainsbury & Craig 2007:349-357), with the ideal group size between four and eight people (Kitzinger 1995:300). A smaller group of four to six people is advisable when they need to discuss a topic in depth. Fewer members result in all having more time to speak, though groups of up to 12 participants are standard (Tong *et al.* 2007:349-357). When group members share perceptions, the focus group can consist of more participants, but care must be taken to ensure the group is not so large that some participants feel threatened or do not get a chance to participate in the discussion (Onwuegbuzie, Dickinson, Leech & Zoran 2009: 3). The larger the focus group, the more experienced the facilitator must be to ensure that all group members participate. (Botma *et al.* 2016:211).

According to Krueger and Casey (2009:66), three to six focus group interviews should be sufficient to obtain an adequate number of responses from participants for data saturation. Data saturation is the point in the research when no new information is obtained (Polit & Beck 2004:308; Rabiee 2004:656). More must be scheduled if data saturation has not been reached after the proposed number of focus group interviews. However, the emphasis is not on a big sample representative of the entire population but on including enough participants to reach the data saturation point. Qualitative research generally has fewer participants than quantitative studies.

In this study, the sampling method was purposive because only participants exposed to PPE were recruited. Purposive sampling is a form of non-probability sampling and is based on the researcher's judgment regarding the participants' knowledge about the phenomenon being explored (Brink *et al.* 2018:124; Maree & Pietersen 2014:178). According to McMillan and Schumacher (2001:400), purposive sampling is appropriate

for obtaining rich data for in-depth understanding. In this study, the researcher explored students' experiences and perceptions towards participating in PPE and what they thought should be included in best practice guidelines when PPE is used as an educational tool.

The researcher attempted to conduct at least a focus group interview per included university. The Covid-19 pandemic and subsequent lockdown changed the way data collection was done. The first focus group interview was face-to-face, and the other focus group interviews were conducted via Zoom®. One university's students did not respond to numerous invitations to participate in a focus group interview, but after conducting four focus group interviews, data saturation was reached, and data collection was terminated. Figure 3.2 shows the academic programmes of students participating in the focus group interviews.

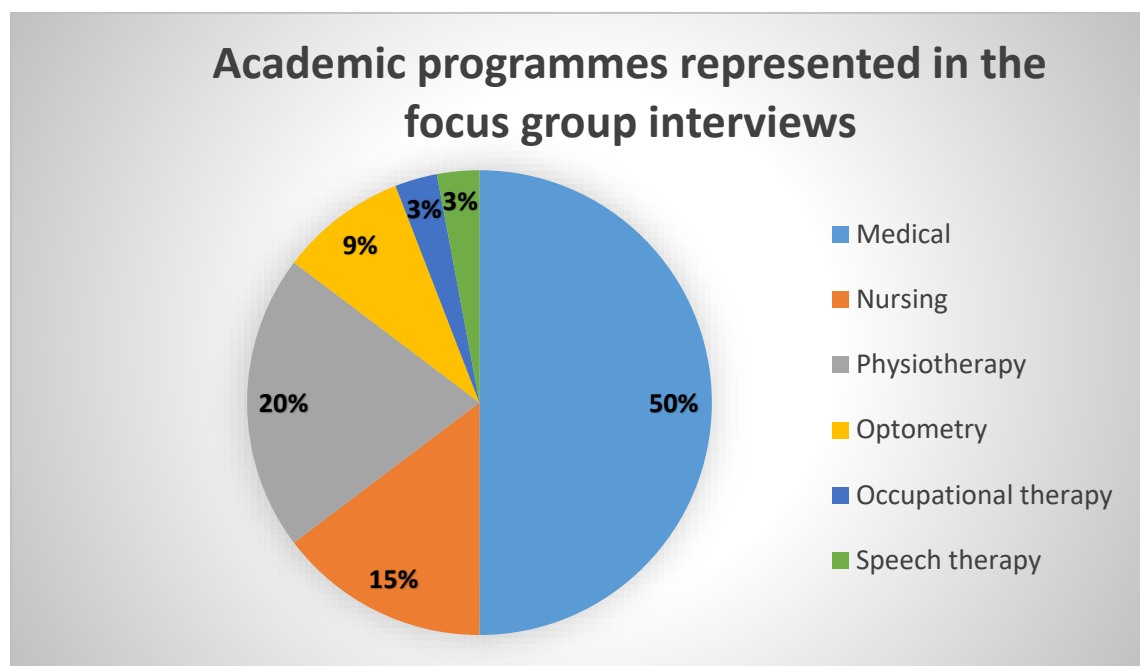


FIGURE 3.2: ACADEMIC PROGRAMMES REPRESENTED IN THE FOCUS GROUP INTERVIEWS

3.4.2.5 Focus group interview guide

The questions in the interview guide should be open-ended to encourage participants to share their views and opinions (Bezuidenhout & Strydom 2021:218). A format commonly used in focus group interviews is the funnel structure where the facilitator will begin with broad and less structured questions to make the participants comfortable and then proceed to the questions covering the research topic (Botma *et al.* 2016:211;

Nieuwenhuis 2016a:96). Botma *et al.* (2016:211) suggest less than ten questions in the interview guide that should be stated informally, clear and in words the participants would use.

The researcher compiled an interview guide that contained questions grounded on the comprehensive literature study on the use of PPE as an educational tool. Appendices B and C include the focus group discussion guide and informed consent letter.

The interview guide consisted of the following two questions:

1. What are your experiences and perceptions regarding peer physical examination (PPE)?
2. What should be included in best practice guidelines when peer physical examination is used as an educational tool?

3.4.2.6 The exploratory interview

Conducting a pilot study or exploratory interview in qualitative research is essential to ascertain whether the researcher can collect relevant data with the proposed interview questions. The exploratory interview also ensures that the interview questions are clear to participants (De Vos *et al.* 2011:394,395).

The researcher tested the proposed questions for the focus group interview guide in an exploratory interview with two students from the UFS who recently completed their clinical skills module where they participated in PPE. The students were in their third year of study at the School of Clinical Medicine. The interview took place in the office of the researcher and lasted 24 minutes. The researcher made a voice recording on two devices. The aim was to refine the guide and the interview process. The data collected did not form part of the data collected for analysis. The explorative interview assisted the researcher in estimating a timeframe for the focus group interviews. The participants gave verbal feedback on the process and the interview questions.

The researcher did not change the interview questions but added probing words/phrases to assist the participants with aspects of PPE participation. The length of an actual focus group interview was expected to be longer as only two participants were involved.

3.4.2.7 *Focus group interview data collection*

Focus group interviews with students from four of the five participating universities were conducted. Students of the fifth university did not reply to invitations to participate in the research study. Participants comprised students of the following academic programmes, medicine, nursing, physiotherapy, occupational therapy, and optometry. Focus group interviews were conducted between October 2019 and October 2020 due to challenges in obtaining consent and ethical clearance from some participating universities. Most people worked from home due to Covid-19, and it proved challenging to obtain approval. It was a challenge to find the correct people to ask for permission and later to obtain email addresses and telephone numbers. All the focus group interviews were conducted in English because it was a common language of tuition for all the participants.

An experienced external facilitator was used for the first focus group interview with students from the University of the Free State. The researcher planned on using the same facilitator for all focus group interviews, but due to the declaration of a global pandemic by the World Health Organization (WHO) as a result of Covid-19 and the national state of disaster declared by President Ramaphosa under the Disaster Management Act of 2002, the plan had to be adapted due to the travel restrictions and national lockdown (South Africa 2020:online). The researcher had to deviate from the protocol and asked for an amendment. Approval from the HSREC to conduct the remainder of the focus group interviews virtually and for the researcher to act as the facilitator was requested and approved (Appendix A).

The facilitator for the first focus group is a senior lecturer at the Central University of Technology (CUT) and has ample PPE experience and knowledge in facilitating focus group interviews. The researcher provided background information about the current study to the facilitator through the study protocol, and they had two discussions before the focus group interview. The facilitator received an extended interview or discussion guide with questions to prompt participants when needed (Appendix B).

The researcher contacted the class leaders of the survey population at University A to circulate the recruitment information. Included in the recruitment email were the information letter and informed consent form (Appendix C). Some participants signed the informed consent letter and sent it back to the researcher, while others only confirmed via WhatsApp that they would attend the focus group interview. Those participants

signed consent on entering the interview room. Each participant received a hard copy of the interview guide on entering the room to read the interview questions.

Fifteen participants from four academic programmes participated in the first focus group interview. It was held in the debriefing room of the Clinical Simulations and Skills Unit of the School of Biomedical Sciences at the Faculty of Health Sciences, UFS. The tables were arranged in a boardroom configuration resulting in participants being able to see each other. Voice recorders were placed on the tables, and a video camera was in the back left corner of the room to record the focus group for transcription purposes later. The camera was set up in such a way that it recorded the entire room and all participants. The researcher used her phone as a third recording device to record all the activities in the room. The researcher was the independent observer and was situated in the back of the room behind the camera (see Figure 3.3). As the literature recommends, participants received water and light refreshments to keep them comfortable (Krueger & Casey 2009:77-80). The participants consented to be video recorded as part of their informed consent. The Clinical Simulation and Skills Unit was a familiar site for the students. It was a neutral space where the participants could be comfortable without any distractions. The focus group interview was convenient for all participants, and no other people were in the unit at the time of the focus group interview.

Synchronous online interviews, such as focus group interviews, can be conducted by using Skype, Zoom, Microsoft Teams and more (Willemssen, Aardoom, Chavannes & Versluis 2022:1, 9 of 11). The researcher used Zoom because the free application allows interviews of up to 40 minutes with 25 participants at a time. The interviews on Zoom could be video recorded and downloaded on the computer of the host without third-party assistance (Archibald, Ambagtsheer, Casey & Lawless 2019:4 of 8). This assisted with focus group interview transcription because it was clear who was speaking, the sound was good, and it assisted with privacy and confidentiality because it was directly downloaded on the laptop of the researcher. Another advantage of using software applications such as Zoom is that interviews can be conducted with people safely in their homes and geographically located in a different town (Archibald *et al.* 2019:4,5 of 8).

The researcher recruited participants for the online focus group interviews with the assistance of a contact person at each of the chosen universities. The contact person sent the class leaders' names and contact details to the researcher. The class leaders were asked via email to assist the researcher in recruiting participants for the study. The class leaders received the "Focus group participant's information and informed consent

document" (Appendix C) to distribute to their classmates and then reported back to the researcher with prospective participants' names and email addresses. The researcher sent invitations to this group via email and assured them that participation was voluntary and that they could revoke their consent at any time during the study.

A suitable date and time were set, and prospective participants who agreed to participate in the online focus group interviews were emailed or contacted via WhatsApp to ensure they sent back signed informed consent forms. The researcher saved these signed documents digitally on a password-protected computer. Prospective participants were reminded of the focus group interview one week before the time, a day before the interview and on the morning of the interview. They were reminded that the online focus group interview would be audio and video recorded. Each received a number to display on the screen instead of their name. Participants were asked to keep their cameras on during the focus group interview to note their facial expressions.

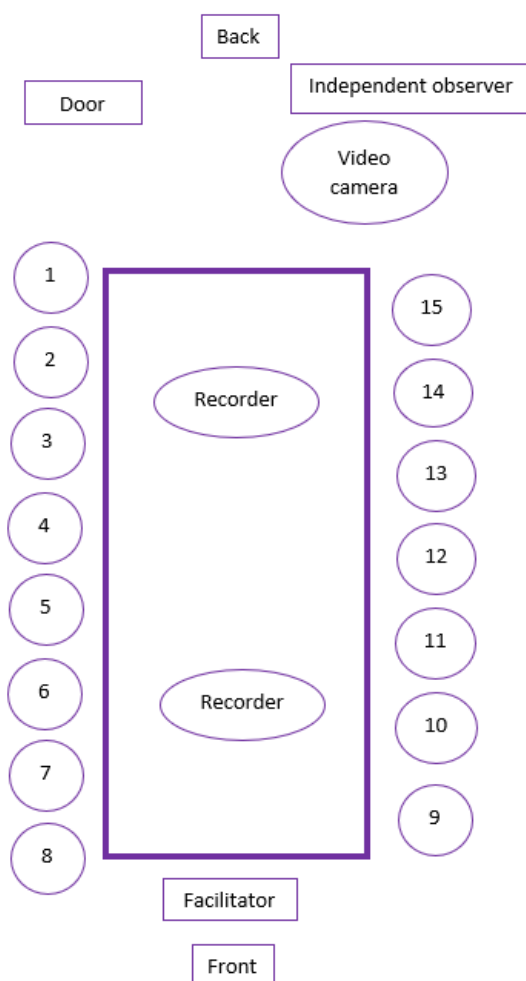


FIGURE 3.3: LAYOUT OF THE ROOM DURING THE FIRST FOCUS GROUP INTERVIEW (FA)

The second focus group, conducted online, comprised eleven participants from three academic programmes. The third focus group interview included four participants from three programmes, and the fourth focus group interview had four participants from four programmes (see Figures 4.1-4.4). The gender and ethnicity composition of the focus group participants is illustrated in Table 3.3. One of the universities did not respond to multiple requests to participate in the study. Data saturation was reached by the end of the third focus group interview, and the researcher and supervisors decided to exclude the non-responding university.

The researcher offered the online participants a data voucher with the third focus group reminder. The cost of data in South Africa is expensive, and to prevent participants from not attending the focus group interview, the researcher offered vouchers. No participants from the first online focus group accepted the offer. Three participants took the proposition in the second focus group and two participants in the final focus group interview. Participants in the first focus group interview received food and beverages.

TABLE 3.3: DEMOGRAPHICS OF FOCUS GROUP PARTICIPANTS

	MALE	FEMALE	WHITE	INDIAN	MIXED RACE	BLACK
PARTICIPANTS' ETHNICITY			15	5	8	6
PARTICIPANTS' GENDER	10	24				

The process followed by both facilitators during all four focus group interviews was as follows:

Step one

Participants were welcomed and received a short introduction to the purpose of the study. Ground rules were set and assured participants that every contribution would be valued (Botma *et al.* 2016:210-212; Kitzinger 1995:300; Wilkinson 2004:177). Participants were assured that they could withdraw at any time during the focus group interview by signing the revocation of the participation letter. The researcher then would delete all data generated by that participant during transcription. No participant in any of the four focus group interviews made that choice. Each participant received a number to use instead of their name. Participants of focus group one displayed the numbers in front of them, while the participants of focus groups two to four added the number to their video image on Zoom. The researcher documented the disciplines of each participant

and their number – no names were recorded. Participants were asked to use the number on the card or displayed on the screen when addressing someone else.

Step two

The facilitator posed the first interview question and initiated discussions. The initial response was a bit slow with some of the groups, but there was good interaction once the discussions started. The facilitator first asked general questions to gain the participants' trust and then moved to more specific questions about the study. When discussions on the first interview question reached a point where no new information was generated, the facilitator posed the second question, and the process was repeated.

Step three

When there were no more remarks or discussions, the facilitator closed the interview by thanking each participant for their contribution. The researcher recorded all the focus group interviews, including those on Zoom, on two voice recorders and downloaded and clearly marked them after each focus group interview. The researcher reviewed the recordings immediately after the virtual focus group interviews to make field notes. The video recording of the first focus group interview was also downloaded and marked. One of the advantages of using Zoom is that meetings are video recorded on the host computer without third-party software, making transcription easy (Archibald *et al.* 2019:4 of 8). The researcher used the recordings to transcribe the interviews verbatim.

Willemsen *et al.* (2022:2 of 11) regard virtual synchronous (in real-time) focus group interviews as valuable, especially in reducing time, money and geographical location constraints. The quality of the data is comparable to that of face-to-face focus groups. There might be challenges such as communication because of unstable internet connections that may cause delays in response times or participants breaking up, making them difficult to follow. The discussion flow might also be problematic because participants do not elaborate on their views. Willemsen *et al.* (2022:5 of 11) propose fewer participants (four to five) per virtual focus group, while Gill and Baillie (2018:671) suggest three to eight participants. The researcher had eleven participants in the first virtual focus group; the problem experienced was the length of the focus group interview which was almost two hours (*cf.* Figure 4.5). Participants lose concentration when it is that long, and the cost of data in South Africa is very expensive, making it difficult for some to attend. Facilitation of face-to-face and synchronous online focus groups are considered the same because the facilitator must ensure the discussion flows and nobody dominates the discussion (Gill & Baillie 2018:672; Willemsen *et al.* 2022:6 of 11).

The researcher transcribed each interview immediately after the session. She analysed the field notes made during the discussions, the group dynamics, and the participants' responses. After each transcription, the researcher listened to the recording while reading the transcripts to increase accuracy (Botma *et al.* 2016:231-233; Nieuwenhuis 2016a:123,124). Corrections were made where needed. Transcripts were given to an independent person with ample experience editing theses and dissertations to check all transcripts for credibility before analysis. This was an essential step as none of the participants wanted to do member checking to ensure credibility (Nieuwenhuis 2016a:123). The transcripts were also sent to the supervisor to ensure the correctness of transcription.

3.4.2.8 Focus group interviews data analysis

Qualitative data analysis is used in an attempt to establish what participants think of a specific phenomenon by analysing their opinions, attitudes, understanding, knowledge, feelings, and experiences about the aspect; it is the process of sense-making and interpreting the collected data. Data analysis and data gathering in qualitative research may occur almost simultaneously (Botma *et al.* 2016:220).

According to Seidel's model, as described in Nieuwenhuis (2016b:100), there are three crucial elements in qualitative data analysis: noticing, gathering, and reflection, interlinked and cyclic. Analysing, therefore, means that, while the researcher is busy with, for example, reflection, he/she will see some gaps and then go back and collect the data needed to fill the gap. When the researcher has all the data, it must be remodelled into a manageable format for reporting. Four cognitive processes are essential in all qualitative data analysis: understanding, creating, theorising, and recontextualising (Botma *et al.* 2016:220). Qualitative data analysis is time-consuming and must be systematic, chronological, verifiable, and continuous. A researcher notices a pattern in the data, asks questions about the trends, forms assumptions, confirms or rejects the assumptions, seeks more data and continues to ask more questions, analyse the data, and test the assumptions (Botma *et al.* 2016:220).

The researcher made verbatim transcriptions and analysed the focus group interview data herself. Transcribing the interviews was done while the discussion was still fresh in the researcher's mind to report non-verbal cues that must be included in the transcript. Transcriptions were verified against the voice recordings to ensure that all data had been captured correctly and to ensure trustworthiness. The transcriptions also were sent to an

independent person to check their accuracy against the voice recordings and increase trustworthiness. The independent person checked and corrected the transcriptions where necessary. This person has fourteen years of experience in data transcription and editing research dissertations and theses (Appendix O). The researcher drafted tables in a Microsoft Word document with the following headings for each transcribed interview: paragraph number, person speaking, transcription, non-verbal cues, and themes. The researcher numbered each paragraph in the transcript.

Data analysis of the four focus group interviews was systematic and sequential (Krueger & Casey 2009:115). The researcher followed the analysis continuum (raw data, descriptive statements, interpretation) with five stages as described by Rabiee (2004:657) to analyse the data.

- Stage one: Become *familiar* with the data by reading and re-reading the transcripts and watching the video recording of the interview.
- Stage two: Identify a draft *thematic framework* by focusing on what people said and writing notes in the margins to develop categories.
- Stage three: Highlight quotes in different colours and sifts through the notes to indicate the section of the thematic framework to which it belongs. This step, where data are reduced to smaller, manageable sections, is called *indexing*.
- Stage four: The highlighted quotes are moved into a single document under the appropriate thematic content. This is called *charting*.
- Stage five: *Mapping* of the data takes place. This means the quotes were placed under specific themes and categories as identified, and interpretation can occur (Rabiee 2004:657-658).

The researcher analysed each focus group interview separately. Each university's focus group interview was printed on a different colour paper. The researcher read through the transcripts to familiarise herself with the content. Notes were made in the margins of the transcripts as the researcher read through them to identify draft thematic frameworks. During indexing, quotes were highlighted in different colours to indicate the section of the thematic framework where it belongs and then moved into a single document under the appropriate thematic content (charting). Lastly, data mapping occurred when the quotes

were placed under specific themes and categories and interpreted. The classic analysis strategy reduced data during the indexing phase (Krueger & Casey 2009:118-122). The researcher used the same steps for each separate focus group interview. The process described in Krueger and Casey (2009:118-122) to categorise the data (cf. Figure 3.4) was used. Each focus group interview was identified by the letter "F" followed by a letter of the alphabet, for example, FA, FB, FC and FD. Numbers identified the participant speaking. A detailed explanation of the codes used to identify quotes is given in Chapter 4 (cf. 4.3).

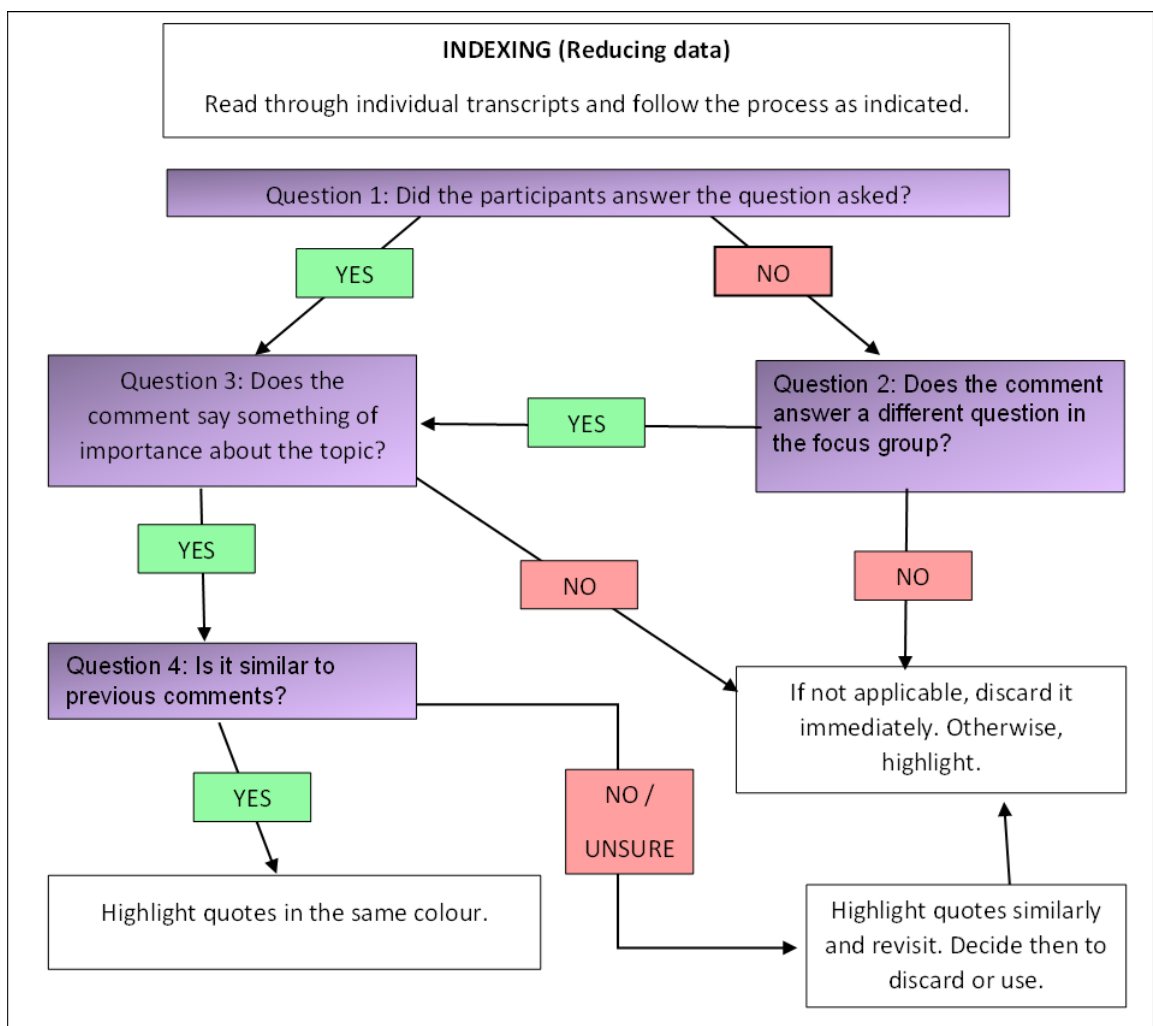


FIGURE 3.4. INDEXING PATHWAY (Adapted from Krueger and Casey (2009:118-122)).

All documents were sent to the supervisor for co-coding and verifying the authenticity of the analysis. This increased the trustworthiness and quality assurance of the study (Nieuwenhuis 2016a:125).

3.4.2.9 Focus group interviews: Data interpretation and reporting

Interpretation of the data depends on the researcher's understanding of and involvement with the data. The researcher must "create meaning" from the analysed data, find patterns and draw insightful conclusions (Botma *et al.* 2016:230; Nieuwenhuis 2016a:120). Enough time should be spent with the data to gain deeper insight beyond the facts. The researcher should explain how the analysed data validates existing knowledge or bring a new understanding to the body of knowledge on the topic (Nieuwenhuis 2016a:120).

The two focus group questions were (i) students' experiences participating in PPE and (ii) what they recommended should be included in future guidelines. A summary of the findings will be provided in Table 4.1, and the results are presented in Chapter 4 (*cf.* 4.3).

The researcher used the consolidated criteria for reporting qualitative research (COREQ) checklist as the basis when reporting the analysed data (Tong, Sainsbury & Craig 2007: 349-356). This method was specifically developed for reporting in-depth (including semi-structured) and focus group interviews. The checklist comprises 32 criteria each with an additional descriptor (Tong *et al.* 2007:351). The checklist is divided into three domains namely the research team and reflexivity, study design and analysis and findings (Appendix P). Each domain has specific criteria the researcher should report about to enhance the rigour, comprehensiveness, and credibility of the study (Tong *et al.* 2007:352).

3.5 RESEARCH TEAM AND REFLEXIVITY

The personal characteristics of the researcher, promoters, and facilitator and their relationship with the focus group participants are discussed in the next section. Tong *et al.* (2007:351) indicated that these might impact data collection, analysis, interpretation, and presentation.

3.5.1 Personal characteristics of the researcher

The credentials of the researcher were provided in Chapter 1 (*cf.* 1.8). The researcher works as a lecturer at the School of Nursing (SoN), UFS, training undergraduate and post-graduate nursing students. During the first focus group interview, the researcher acted as an observer and made field notes on participants' non-verbal and verbal

reactions. During the virtual interviews, the researcher acted as a facilitator and made field notes and observations during the replay of the video recordings of the focus group interviews. According to Rabiee (2004:656), a note-keeper or observer must observe non-verbal interactions, group dynamics, and view exchanges. This enables a fuller description of the data (Botma *et al.* 2016:218).

3.5.2 Personal characteristics of the supervisors

The promoters are both experienced in qualitative research and were available to guide, supervise and assist the researcher with their research expertise. They are both well-known medical professionals in Health Professions Education (HPE) and are involved as supervisors in ongoing research projects in this field. Both have been published extensively.

Their experience in qualitative research contributed to the validation of collected data and the research findings. It also was valuable in ensuring the validity and trustworthiness of the study.

3.5.3 Personal characteristics of the focus group facilitator

An experienced female academic staff member of the Central University of Technology (CUT) facilitated the first face-to-face focus group interview. The facilitator has a PhD and is an experienced researcher and supervisor. She is well acquainted with PPE and the facilitation of focus group interviews. The facilitator was not personally involved in the research. Therefore, there was no bias or personal gain from her side in the study.

The facilitator has all the abilities of a good facilitator, as discussed in Botma *et al.* (2016:212). These abilities include adequate background knowledge of the research topic, being comfortable with group discussions and research methodology, being friendly and a good listener, encouraging participation and involving all participants. In addition, the facilitator can deal with the constantly changing dynamics in a group, draw responses from quiet participants, and look for emotional reactions (Krueger 2002:online). Before the first focus group interview, the researcher and facilitator had a few meetings to discuss the study. She also received a hard copy of the research protocol to acquaint herself with this study's information.

The following are examples of where the independent facilitator used probing during the first focus group development:

Communication skills. Have you found any issues with communication skills while doing peer physical examination? [FA42]

Anything else? Hmm, do you perceive participating in PPE as artificial? So, if you have to examine you, or you? Do you feel that it's an unnatural thing, or do you feel that it assists in what will happen in practice? Let's go with number 9. [FA59].

Interesting. Do you think it will be better for you to practise on different partners each time? I know that we talked about you partnering up with someone that you're sort of comfortable with; you build friendships. But do you think it will be advisable or a better learning experience to swap many times? [FA76].

The researcher conducted the online focus group interviews via Zoom® (cf. 3.4.2.7). The researcher is experienced in facilitating group discussions and well acquainted with PPE. Because the researcher has preconceived ideas about PPE participation, she used journaling to reflect on her feelings about PPE participation to prevent bias while conducting the focus group interviews. The credentials of both facilitators contributed to the credibility of the findings of the focus group interviews (Tong *et al.* 2007:351). In addition, the researcher made notes on the participants' reactions and non-verbal aspects while watching the recording of the virtual interviews afterwards. All these factors contributed to the transparency, validity and trustworthiness of the focus group interviews. Examples of quotes where the researcher probed the participants during focus group discussions are:

*Do you think they must make it compulsory for you to participate in PPE?
Is it mandatory for you to participate currently? [FC16]*

It also helps you with communication skills when you practise it on your peers. Number 1 and 2? [FC35]

When you are practising on your peers, especially in physiotherapy, do you do that on males and females, or do you do it only on one gender? [FD32]

There must be more information for the students before they enrol for courses to know what they are in for. Is that what you say? [FD122]

Were you ever scared that you could accidentally harm your fellow students while you were doing your examinations? (to number 9 following up on a comment) [FB33]

So, do you think it should be voluntary and not something that should be compulsory as part of the module? [FB82].

3.5.4 The researcher's role and reflexivity

Qualitative research is interpretative in nature, and the researcher is typically involved with the process from data collection to analysis and interpretation (Bezuidenhout & Strydom 2021:201). For this reason, qualitative researchers need to be aware of how their social and professional identity, values, and beliefs may influence the research (Polit & Beck 2017:561). The way researchers acknowledge that their frame of reference and experiences may impact their interaction with participants is called self-reflexivity (Bezuidenhout & Strydom 2021:201). During self-reflexivity, researchers reflect on and identify their biases, values and personal background that could unduly influence the researcher's interpretations of the data. These include aspects such as gender, culture, and socio-economic status (Creswell & Creswell 2018:211).

The researcher has eight years of experience presenting clinical skills to medical and nursing students and assisting with OSCEs of medical, nursing and optometry students. Thus, it is worth noting that the researcher entered the research field with her own beliefs and views on participation in PPE, which has the potential for bias and a negative influence on the research process. The researcher's ideas could lead to misinterpretation of data, or she could actively look for evidence to support her position (Creswell & Creswell 2018:211). The fact that the researcher acted as a focus group facilitator made the potential for bias in the research study more significant.

The researcher considers herself an insider because she presented clinical skills to nursing and medical students and is familiar with the curriculum and requirements of the programmes. Researchers who share multiple identities and/or have profound experiences are called total insiders (Ross 2017:326; Saidin & Yaacob 2016:848,849). According to the literature, some advantages of being an insider include easiness of access to participants and building relationships with them. Data collection is responsible and considerate of the values and norms of the community under investigation. Because the researcher is familiar with the social context, there is a richness in data interpretation (Ross 2017:327). Challenges might be that the researcher or participants might believe they have a shared understanding of concepts prohibiting discussion, or colleagues and peers feel obligated to participate because of prior relationships. Some topics might also be difficult to discuss because of the relationship between the researcher and participants, or unequal power play might be problematic. Researchers might impose their values, beliefs, or biases on the study (Berger 2015:224; Ross 2017:327). The researcher was familiar with some individuals in the first focus group that could have

played a role, but she was only an observer. The participants in the other interviews were unknown to the researcher who acted as a facilitator in those focus group interviews.

The researcher identified these possibilities and self-reflect before each focus group and semi-structured interview. The researcher used journaling to jot down her feelings and perceptions regarding the use of PPE, any gender biases or other judgements that could be problematic while collecting or analysing data. During the research study, the researcher completed the “I am wellness” course through the UFS, and one of the modules was how to self-reflect. It helped the researcher to self-reflect constructively. It was also of assistance to have an independent person read through the transcripts while listening to the recordings to ensure correct transcribing.

3.5.5 Relationship with participants

The researcher, promoters and focus group facilitator were familiar with the teaching and learning environment of the participants of the first focus group. Most participants were familiar with the researcher and one of the promoters because they presented classes to them. The focus group facilitator did not know any of the participants, so there could not be any undue influence or bias from her side. Participants of the face-to-face and virtual focus group interviews were aware that the study was aimed at generating data for the researcher's PhD (*cf.* Appendix C: Consent to participate in a focus group interview).

The participants were welcomed and reassured that their names would stay confidential and that no comment or remark would be linked to a specific person or university. Only the researcher, independent reviewer and promoters would have access to the video recordings of the interviews. The researcher could not ensure anonymity because participants knew each other. Still, they were reminded that the content of the focus group interview was confidential and should not be shared with others.

The researcher acted as a facilitator for the virtual focus group interviews. The researcher did not know the participants of the virtual focus group interviews, which lessened the chances of influencing any of them.

3.6 SEMI-STRUCTURED INTERVIEWS

Interviewing is one of the best and most popular methods to generate knowledge of people's feelings (Fontana & Frey 2000:645). Stella, Lingard and Kennedy (2014:375) stressed the importance of interviews in qualitative research, especially in medical education, to access participants' perspectives and experiences.

3.6.1 Theoretical background of semi-structured interviews

A research interview is not a spontaneous discussion of a specific topic. It is systematic and has structure and a purpose (Merriam & Tisdell 2016:107). It is a conversation during which the interviewer asks the interviewee questions on a specific topic while actively involved in the process. Interviewing as a research technique depends on the interviewing skills of the researcher because not everybody feels comfortable talking to a stranger. Poor phrasing of questions, inadequate knowledge of the research goals, and the interviewees' frame of reference may lead to insufficient data collection (De Vos *et al.* 2011:343). Kvale (2001), in De Vos *et al.* (2011:342), explains interviewing in qualitative research as an "attempt to understand the world from the viewpoint of the participant".

Semi-structured interviews are interviews with predetermined, open-ended questions that the participant must answer. The principle behind semi-structured interviews is that participants understand the world in various subjective ways; therefore, each participant's individual perspective and experiences need to be explored (Botma *et al.* 2016:208-209). Researchers only want to obtain information on a specific topic or event from the participants. In this study, the researcher used an interview guide with predetermined, open-ended questions to guide the researcher through the interview (Botma *et al.* 2016:208-209).

Semi-structured interviews might be an easy way of collecting data but structuring the interview guide takes time and cognition (Kallio, Pietilä, Johnson & Kangasniemi 2016:2955). The interview guide facilitates collecting richer, more textured data from a participant than would be obtained with a questionnaire. The researcher can develop a detailed picture of a participant's beliefs or perceptions regarding the specific topic and follow up on interesting issues during the discussion. The interviewee may share a different view, facts, or concerns that the researcher had not considered (Kallio *et al.* 2016:2959; Ryan, Coughlan & Cronin 2009:310). The interview questions guide the

semi-structured interview flow, although the question order is not specific (Merriam & Tisdell 2016:110).

Researchers should use good communication skills to build rapport with the participants and be well acquainted with the interview guide. They only occasionally should refer to the interview guide to ensure that questions are not omitted (Botma *et al.* 2016:2010). The researcher may ask additional questions to qualify unclear information or to obtain more information. It is imperative to note that good interview skills are of the utmost importance when conducting semi-structured interviews. The language used must be of such a nature that the interviewee effortlessly understands the questions but should not lead the participant to the specific answer the researcher wants (Botma *et al.* 2016:85; Edwards & Holland 2013:95-96). It is challenging to precisely reproduce a semi-structured interview, as the discussion flow differs with diverse participants. Each participant needs different probes, and the environment where the interview takes place must be conducive to both the interviewer and interviewee. The scheduling of the interview may also influence the outcome of the conversation. Because of all these factors, it is crucial, for the sake of transparency, to accurately write down the method of data collection and analysis in semi-structured interviews (Nieuwenhuis 2016a:94).

The researcher conducted fourteen virtual semi-structured interviews using Zoom and four face-to-face interviews. Internet data collection has strengths and weaknesses to consider when conducting an online interview (Merriam & Tisdell 2016:116). An advantage is that the researcher and interviewee need not be in the same geographical location. A disadvantage may be that not everybody might have access to stable internet or know how to use the available data collection programmes such as SKYPE or Zoom. There is the possibility of compromising ethical issues such as a breach of confidentiality when using computer-mediated communication (Merriam & Tisdell 2016:115,116).

The researcher invited each participant via email to participate in the study, providing an information leaflet and consent form. If the participant answered the email invitation, a link was created specifically for that purpose on Zoom. Participants signed consent before the meeting and sent their consent forms via email to the researcher. The online semi-structured interviews were recorded and downloaded on the researcher's password-protected computer for safekeeping.

3.6.2 Target population

The target population for the semi-structured interviews were the lecturers or clinical skill presenters in the different health professions at the Faculties of Health Sciences at the nine universities presenting the MBChB degree, nursing and three of the following health and rehabilitation sciences: dietetics, physiotherapy, occupational therapy, optometry (cf. 3.4.2.2). The programme directors or heads of departments (HODs) of the various departments of the universities mentioned above were included into the target population. (cf. Table 3.1.)

3.6.3 Survey population

The survey population for the semi-structured interviews were lecturers and HODs from the five universities that met the inclusion criteria for the study (cf. Table 3.1.). The researcher contacted a liaison person at each university to obtain the contact details of the clinical skills lecturers and heads of departments. The liaison, a lecturer in the Faculty of Health Sciences at each university, provided the contact details of the heads of departments and programme directors of the different departments. The researcher contacted the HOD of each department to request a name list and contact details of the persons presenting clinical skills. An email was sent to all qualifying participants inviting them to participate in the research. Every week the researcher followed up via email and arranged interviews via Zoom with those who indicated they were willing to participate in the study.

3.6.4 Sample size

Fourteen semi-structured interviews with lecturers and clinical skills presenters and four with HODs were conducted. The participants represented all the identified professions, namely medicine, physiotherapy, nursing and optometry. The number of interviews per profession for lecturing staff and HODs will be discussed in Chapter 5 (cf. 5.4.2).

3.6.5 Semi-structured interview guide

The researcher compiled the questions of the interview guide (Appendix D) after conducting the literature study while keeping the research questions in mind (cf. 1.4). The researcher used the same interview guide for online and face-to-face semi-structured interviews. The interview guide included open-ended questions to provide

participants with the opportunity to share their views and perspectives on the use of PPE as an educational tool. The interview guide also contained a list of probes or aspects that could be used to probe a participant for more information if not provided initially (Gill & Baillie 2018:670).

According to Kallio *et al.* (2016:2960), questions in the interview guide must not be leading, and they must be clearly worded to get the richest possible data from the participants. The researcher wants to obtain the personal feelings of a participant regarding the topic. The researcher may use words such as *what*, *who*, *where*, *when*, *how*, and sometimes, *why* to start questions to encourage participants to express their views (Kallio *et al.* 2016:2960).

3.6.6 Explorative interview

The researcher conducted two explorative interviews to finalise the semi-structured interview guide. One interview was with a lecturer at the School of Nursing, UFS and the other was with a School of Health and Rehabilitation Sciences lecturer, UFS. The explorative interviews were conducted to finalise the semi-structured interview guide and clarify any uncertainties in the questions. It also assists in determining an estimated time frame for the interviews. The data from the explorative interviews were not included in the research.

3.7 INTERVIEW ENVIRONMENT

The four face-to-face interviews were conducted in the offices of the participants because they could choose the time and place, and qualitative interviews typically happen in the natural setting of the participant (Creswell & Creswell 2018:257). Interviews were voice recorded on three recording devices to ensure audibility when transcribing (cf. 3.4.3.6).

The fourteen virtual semi-structured interviews were conducted at a time that suited the participants. The researcher interviewed the participants using Zoom, which was convenient because a video recording of the interview was available to download and save on the researcher's computer (Archibald *et al.* 2019:6 of 8).

All the interviews were conducted in English because it is the language of teaching at the participating universities and spoken and understood by all participants.

3.7.1 Semi-structured interviews: data collection

Semi-structured individual interviews for the academic personnel were the data collection method of choice. The participating personnel members all were from different seniority levels that might have influenced the answers, should it be group interviews. The researcher conducted all the interviews, either face-to-face or via Zoom, using the same interview guide. The interviews were initially planned to be face-to-face, but the researcher resorted to synchronous Zoom interviews because of the global COVID-19 pandemic and subsequent travel restrictions. The face-to-face interviews were audio-recorded on two recorders and a cell phone, and the virtual interviews were audio and video recorded with the recording functions of Zoom.

Participants received the semi-structured interview information and informed consent document, which explained the nature and purpose of the study, the problem the researcher had identified and the goal of the study. Participants were assured that whatever they said would be confidential and not linked to a specific person or university. Participation was voluntary, and participants could withdraw from the study at anytime. Participants were contacted via email and telephone to make an appointment. When a participant confirmed the interview date and time, the researcher created a Zoom link and sent it to the participant. Interviews were audio and video recorded and saved on a password-protected computer, while a copy of it was transferred to a flash drive and locked away at a safe place in the researcher's office.

The researcher transcribed all semi-structured interviews verbatim under the following headings: the person speaking, paragraph number, transcription, non-verbal cues and theme. Transcriptions were verified against the voice recording to increase trustworthiness. Participants were given the opportunity to check the transcript for correctness, but only three out of eighteen accepted the offer. (The researcher contacted them via WhatsApp). The researcher also requested an independent person to check the transcriptions to increase accuracy and reliability. (cf. 3.4.2.7)

3.7.2 Semi-structured interviews data analysis

The semi-structured interviews were analysed similarly to the focus group interview data. The analysis continuum included: raw data, descriptive statements, and interpretation, with five stages described by Rabiee (2004:657) (cf. 3.4.2.8). The researcher numbered every semi-structured interview from G to Z and printed each one on a different colour

paper. It made distinguishing between transcriptions easier while analysing. Information was treated confidentially without revealing the affiliation of participants.

3.7.3 Semi-structured interviews: Reporting

Data interpretation and reporting of the semi-structured interviews were conducted in the same manner as the focus group interviews. The researcher conducted and transcribed the interviews resulting in in-depth knowledge and understanding of the data. Themes and categories were identified, and conclusions were drawn, as indicated in Botma *et al.* (2016:230). The supervisor of the study acted as a co-coder as he was not involved in the actual data collection process. The data were transcribed and anonymous, so it did not present any ethical problem or conflict of interest.

Table 5.1 (*cf.* Chapter 5) summarises the findings, with a more detailed report in Chapter 5 (*cf.* 5.5).

3.8 DISCUSSION: FOCUS GROUP AND SEMI-STRUCTURED INTERVIEWS

In Chapter 6, the results of the focus group and semi-structured interviews will be triangulated with the literature on PPE. Table 6.1 (*cf.* Chapter 6) summarises the data discussed in Chapters 4 and 5. The theoretical framework influences the collected data by placing it in a broader context (*cf.* Merriam & Tisdell 2016:88).

3.8.1 Developing Guidelines for PPE use as an educational tool

When developing guidelines, it is fundamental to understand the values and preferences of the end-users to assess the acceptability of the proposed recommendations or guidelines (Langlois, Tunçalp, Norris, Askew & Ghaffar 2018:79). Evidence is necessary to develop and implement guidelines.

The literature study and the concepts derived from data collection inform guideline development from students, lecturers, and heads of departments. The researcher considered the themes and categories from the focus group and semi-structured interviews and compared them with the literature on PPE. Mutual themes identified between the data and literature were included in guidelines for using PPE as an educational tool. The researcher verified the data again to determine whether any South

African perspectives on the use of PPE were not covered in the literature. These were included in the proposed guidelines for when PPE is used as an educational tool.

3.8.2 Expert review

The proposed guidelines were submitted to eight experts in various professions for validation. This group was purposively selected because of their expertise in providing an objective opinion on the proposed guidelines (Dijkstra, Galbraith, Hodges, McAvoy, McCrorie *et al.* 2012:3 of 8). In collaboration with the supervisors, the researcher selected the validation panel members from lecturers with experience in PPE at the participating universities. There are no South African experts on PPE, but the researcher, in collaboration with the supervisors, selected panel members with at least five years of experience in clinical skills training and who are well-published in their respective fields. Each has at least ten years of experience working at an academic institution and is regarded as a specialist in their profession. Expert reviews provided the researcher with independent feedback. They evaluated the proposed guidelines, provided input and responded to the researcher (*cf.* Coulter, Elfenbaum, Jain & Jonas 2016:3 of 9).

3.8.3 Expert panel

The researcher invited the selected review panel members to request whether they would be willing to form part of the panel. Initially, ten people were contacted. Seven prospective participants were willing to participate. The researcher invited them via email to participate in the study as expert panel members. One of the identified panel members nominated another suitable person as a panellist to replace a prospective panel member who could not accept the invitation. After verification of this person's credentials, the researcher invited the individual as a panel member. Finally, eight prospective panel members were ready to review the proposed guidelines. The panel consisted of two professional nurses, three physiotherapists, one optometrist and a medical practitioner and professional nurse training medical students. The panellists did not participate in the initial semi-structured interviews but taught clinical skills to undergraduate healthcare students.

The researcher compiled a document on GOOGLE forms that panel members had to complete and evaluate (Appendix E). The proposed guidelines were included in the document, and participants answered each question. They could also email the researcher if they had suggestions not included in the proposed guidelines. Participants

had three weeks to complete the panel and give feedback, and the researcher reminded them weekly via email to complete the document. Seven panellists completed the feedback and document. Two sent suggestions via email, while one only completed the document.

The researcher conducted a second validation round of the proposed guidelines. During the second round, the researcher emailed the recommended guidelines deducted from the first round (*cf.* 7.3), together with the researcher's definition of PPE and an exclusion list of the intimate body areas that fall outside the scope of PPE participation, to the expert panel. The panellists had a week to reply with suggestions regarding the final guidelines. Seven panellists replied with comments and suggestions (*cf.* 7.4).

The feedback from the review panel was saved on a password-protected computer and interpreted. The guidelines for using PPE as an educational tool were finalised with the input of the validation panel. The researcher identified best practices in the use of PPE as described in the literature and triangulated it with the data from the focus groups and semi-structured interviews. It was validated by inputs and recommendations from the expert panel to finalise and contextualise the guidelines.

3.9 ENSURING THE QUALITY OF THE STUDY

The quality of a qualitative study depends on the trustworthiness of the collected and analysed data. The criteria proposed to evaluate the trustworthiness of qualitative research are credibility, transferability, dependability and confirmability (Brink *et al.* 2018:157; Nieuwenhuis 2016b:114-116).

3.9.1 Trustworthiness, uniformity (reliability) and validity of the focus group and semi-structured interviews

Qualitative validity can be ensured using the following strategies recommended by Creswell (Botma *et al.* 2016:231-232):

Triangulation of different data sources by investigating evidence from various sources, comparing the data and constructing themes can increase validity. The researcher used a literature review, focus group interviews and semi-structured interviews as methods for data collection.

The researcher provided a detailed description of the setting and several viewpoints in the themes in a **rich (detailed) and thick description** (Botma *et al.* 2016:231-232).

According to Creswell and Creswell (2018:260) it is essential to **highlight the position of a researcher** because it is difficult to separate data interpretation from aspects such as the past experiences of the researcher, prior understanding, and context or the person. The researcher is a professional nurse who worked for several years as the Clinical Simulation and Skills Unit coordinator at the School of Biomedical Sciences, UFS, teaching medical students clinical skills. She also assisted the School of Nursing in skills training for nursing students.

Both Schools use PPE as an educational tool, but no policies or guidelines regulate or guide the use. It captured the interest of the researcher because she is interested in ethical and managerial principles. The researcher knew the UFS participants personally, and it was, thus, essential to remain neutral.

The researcher engaged in self-reflection to **clarify any bias** she might bring to the study (Botma *et al.* 2016:231-232). Reflection thus is an essential characteristic of a qualitative researcher. During the study, the researcher kept a journal and reflected on how her personal feelings and experiences might influence the result interpretation. **Credibility** is enhanced when discussing conflicting information.

For researchers to develop an in-depth understanding of the phenomenon under study, they must spend an **extended period** in the field. **Peer debriefing** could improve the accuracy of the account (Botma *et al.* 2016:231-232). The researcher has worked with medical students in the Clinical Simulation and Skills Unit for six years and has extensive PPE knowledge.

3.9.1.1 Trustworthiness

Trustworthiness (believability or credibility) is important in qualitative research and ensures accurate findings (Brink *et al.* 2018:157). In this study, trustworthiness was ensured by adhering to the criteria identified by Lincoln and Guba, as described in Botma *et al.* (2016:233-235) and Brink *et al.* (2018:158). These criteria are the following:

- *Truth value (credibility)*: Credibility asks the question, “How similar are the findings with reality?” (Shenton 2004:64). Credibility requires that the researcher makes every effort to ensure that the findings and interpretations are correct and reflect

the meaning of the participants. Ensuring the correctness of the participants' views was accomplished by verbatim transcribing the focus group discussions, reading through transcripts several times to ensure data accuracy, and asking an independent transcriber to read through the transcripts and compare the content to the recordings for correctness. Four focus groups and eighteen semi-structured interviews (four face-to-face and fourteen virtual) were conducted before data saturation was reached. All interviews were video and voice recorded, transcribed and confirmed by the researcher, an independent transcriber and the supervisors. Member checking was done by three of the semi-structured interview participants.

- *Applicability (transferability)*: Transferability discusses the applicability of this study's findings to other groups or situations (Shenton 2004:70). By describing the methodology in detail, a person who wants to use the results in another group or situation can judge the transferability. The qualitative researcher is concerned with defining observations within the context of the observations and avoiding generalising findings (Brink *et al.* 2018:159). This study's strategies to enhance transferability include the number of participants involved, a detailed description of the data collection techniques, and the data collection period.

The research process is outlined clearly in this chapter. Details include a clearly defined target population (*cf.* 3.4.2.2; 3.6.2), the survey population (*cf.* 3.4.2.3; 3.6.3) and sample size (*cf.* 3.4.2.4; 3.6.4), exploratory interview process (*cf.* 3.4.2.6; 3.6.6), data interpretation and reporting process (*cf.* 3.4.2.9; 3.6.8). These details ensure possible transferability as well as dependability.

- *Consistency (dependability)*: Dependability considers whether the results of this study can be replicated by using the same participants and similar circumstances. Petty, Thomson and Stew (2012:383) caution that dependability in qualitative studies is difficult to achieve because people differ, and there is a time-lapse even if one uses the same participants.
- A reliable research instrument that should be compiled after consulting several data sources and using an exploratory interview to iron out problems before data gathering can increase a study's dependability (consistency). When a study lacks dependability, credibility is also unlikely (Brink *et al.* 2018:159). The semi-structured interview guide was compiled after completing a comprehensive literature review on PPE.
- *Neutrality (confirmability)*: The post-analysis findings reflect the participants' opinions and the actual conditions of the research focus, not the researcher's perceptions. To prevent prejudices, the supervisors co-coded the collected data.

The same procedure to interpret, code, and recode the raw data was applied, and the study promoters did a validation. Each step of the research process was described in detail. The researcher used self-reflection and journaling to prevent any personal bias.

- *Authenticity*: Polit and Beck (in Brink *et al.* 2018:158) include authenticity as a criterion to ensure the trustworthiness of qualitative research. Authenticity refers to the level to which a researcher objectively and fairly reports on different truths. A text has legitimacy if it describes the participants' diverse opinions, not only those consistent with the research findings. The participants' views were included in the findings of this study, even if it was inconsistent with those of the researcher (Botma *et al.* 2016:234).

3.9.1.2 Uniformity (Reliability)

The reliability of qualitative research refers to the consistency and standardisation of results when observations or measurements are repeated under the same conditions or over time (Creswell & Plano Clark 2011:133). The reliability of the focus group and semi-structured interviews were addressed by using the same data analysis method for all the interviews and by triangulating the data from the interviews and the literature survey. The researcher transcribed all the focus group and semi-structured interviews and coded and analysed all the data. The supervisor was also the co-coder in analysing the data of both the focus group and semi-structured interviews.

3.10 ETHICAL CONSIDERATIONS

Ethical decision-making is not always a straightforward process. The concepts of right and wrong lie on a continuum and do not contradict each other. Ethics reflects the morality or values and norms of a community (Kruger 2017:99-100).

To understand the definition of ethics and its implications for research, the researcher considered three principles that guided the research process: respect for people, beneficence and justice (Botma *et al.* 2016:1-31). Participants are autonomous, and their autonomy was demonstrated by allowing them to choose whether they want to participate in the research. The researcher avoided persuading participants to participate in the study (Botma *et al.* 2016:9).

Respect for the participants was shown by maintaining confidentiality. This means that information shared by participants was stored on a password-protected computer and not shared with persons outside the study without the consent of participants. Complete anonymity could not be achieved because it involved face-to-face interviews. Anonymity means that even the researcher does not know which response was given by whom (Botma *et al.* 2016:17-19).

Information that may influence data confidentiality is the participants' opinions on participation in PPE, racial or religious prejudices, or the disclosure of any other personal information. It is challenging to guarantee confidentiality in qualitative research, as the participants of a focus group discussion see each other, and some know each other. Sometimes, when a sensitive topic is under review, participants may ask that the researcher assign aliases to prevent easy identification (Botma *et al.* 2016:18).

The researcher continuously considered the safety of the interviewed participants. The virtual platforms were activated as per the study participants' preferences, although they chose ZOOM as a virtual platform to conduct the interview. The audio and visual recordings of the interviews were kept in the virtual platforms and downloaded to the researcher's password-protected computer. The computer-typed transcripts were kept in a lockable cupboard during the data collection and analysis phase. Transcripts will be archived for five years.

The principle of justice in research means the participants will be treated fairly, and the researcher will follow the research protocol (Botma *et al.* 2016:19). A contact number was available for participants to call if they felt they were mistreated. The researcher would pay for any damage or trauma the participants believed they suffered due to the study. None of these instances occurred.

The beneficence principle is safeguarded by the belief that participants must be protected from harm and should benefit from the study (Botma *et al.* 2016:20). The benefit may be a new treatment, which the participants will test, or a psychosocial value, which increases the participant's self-esteem. In this study, the participants were not involved in any intervention. They chose what they wanted to share about their experiences and feelings about participation in PPE. There were no risks involved in this study.

The researchers and the institution they work for will benefit from the study. The researcher will receive recognition for the work done, and the institution will have increased its research capacity (Botma *et al.* 2016:20-22).

3.10.1 Approval

The researcher received approval from the Health Sciences Research Ethics Committee (HSREC) of the UFS with ethical clearance number **UFS-HSD2019/0627/0110** (Appendix A1). All documents relating to the study contain the allocated reference number of the HSREC.

The researcher contacted the Faculties of Health Sciences of the UKZN, University of Pretoria, Sefako Makgatho Health Sciences University and Stellenbosch University to establish each institution's procedure to obtain permission to continue with data collection at the respective universities. Stellenbosch University (SU) did not require the study proposal to be submitted for formal ethics approval from their institution. They provided Institutional Permission through the Service Desk ID **IRPSD-1563**, allowing the researcher to proceed with the project at the University (Appendix A4). Once the researcher obtained institutional permission, the Nursing, Health and Rehabilitation Sciences, and Medicine departmental ethics committee chairs were contacted for approval to involve their students and lecturing staff in the research project (Appendix F). The researcher obtained staff members' names and contact details from the University of Stellenbosch website. The names and contact details of the student representatives of the professions involved were obtained from lecturers who were interviewed.

At the University of Pretoria, the researcher had to submit a formal ethics approval application to the Faculty of Health Sciences Research Ethics Committee. The researcher received approval with number **688/2019** (Appendix A3). The researcher then contacted a liaison person at the School of Healthcare Sciences who provided names and contact details of lecturing staff and student representatives to contact for interviews.

Sefako Makgatho Health Sciences University's Research Ethics Committee (SMUREC) granted ethics approval for the study on receiving the ethics approval of the HSREC of the UFS. Reference number **UFS-HSD2019/0627/0110** (Appendix A5). Permission was obtained from the Deans of Medicine, Science and Technology and Healthcare Sciences to interview their staff and students as part of the study.

The University of KwaZulu-Natal required a formal ethics application. It was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and granted full approval, reference number **HSSREC/00001699/2020** (Appendix A2) The researcher received the contact details of personnel and student representatives from a liaison person at the University.

3.10.2 Informed consent

Informed consent is one of the most important ethical principles to protect participants in a study from harm. According to Brink *et al.* (2018:31), informed consent comprises three elements: information needed from research participants, participants' cognitive ability, and the fact that consent is voluntary. Researchers can provide participants with the required information to make an informed decision in writing, verbally, or audio or video recording while considering the participants' cognitive abilities and the ethics committee's requirements (Brink *et al.* 2018:32).

Obtaining informed consent already starts with participant recruitment. Consent is implied but not valid if someone agrees to participate in the research without having the necessary information. A completed consent form is an enhancement of the principle of justice that declares that all participants should be treated fairly (Botma *et al.* 2016:16-18).

3.10.2.1 Informed consent in terms of the focus group interviews

Written informed consent was obtained from the focus group interview participants in this study (Appendix C). The participants were provided with a short overview of the research. The researcher explained the nature and purpose of the study, who would benefit from the study and the approximate time required to participate in a focus group discussion. The document explained that the data would be password protected and stored. The researcher maintained confidentiality by allocating a number to each focus group participant by which they had to address one another. Only the researcher had a record of each participant's name and assigned number in a focus group interview. Transcripts did not include participants' names or that of their universities. It was challenging to ensure anonymity because some focus group participants knew each other. The participants pledged to keep the information shared during the focus group interview confidential. Still, because it could not be guaranteed, the researcher specifically asked

in the consent form that all participants must refrain from disclosing sensitive or personal information during focus group interviews.

Three of the four focus group interviews were conducted online during the lockdown period in South Africa. Only the first focus group interview was conducted face-to-face. The rest of the focus group interviews were conducted via ZOOM. Participants agreed in their informed consent documents to be audio and video recorded, as ZOOM records the meeting as conducted on the computer. The researcher assigned numbers to the participants to display when they were reminded of the focus group interview via email, as they were allowed online into the ZOOM chatroom by numbers instead of their names. In that way, the researcher assured confidentiality.

Participants were assured that participation was voluntary, and they could withdraw at any stage during the research without retribution. Participants completed the consent forms online and emailed or sent them back by WhatsApp to the researcher. All signed consent forms were saved on the researcher's computer. The original ZOOM recordings and backup audio recordings were marked and stored on the researcher's computer. Two copies of all the electronic files were saved on flash drives and locked away in a cabinet in the researcher's office. Transcripts were treated strictly confidentially. Only the researcher and study promoters were allowed to see the transcripts.

3.10.2.2 *Informed consent in terms of the semi-structured interviews*

The consent document used for the semi-structured interviews contained the same information as the consent document for focus group interviews (Appendix G). There were a few differences, such as the time allocated for a semi-structured interview, and no numbers were assigned to these participants.

The researcher conducted eighteen semi-structured interviews with lecturers from five different universities. Five of the interviews were face-to-face, and the rest were online via ZOOM. Participants completed the consent forms and sent them via email to the researcher. The signed consent forms and the verbatim transcribed interviews were stored safely and confidentially on a password-protected computer. Two copies of the interviews and transcripts were stored on flash drives in a locked cabinet in the researcher's office.

3.10.3 Right to privacy

Information collected during the focus group and semi-structured interviews were treated as strictly confidential. Personal information did not appear on any transcripts or datasheets. All computers on which data were stored were password protected and only accessible to the researcher.

The researcher used number coding to protect participants' privacy during focus group interviews. A number was assigned to each participant and placed in front of them. The facilitator and participants used the number instead of a participant's name when addressing someone or making a remark (Kruger 2014:PowerPoint). No names should be used during the interview, only the participants' numbers. If somebody used a participant's name during the interview, the researcher replaced it with the appropriate number during transcription.

The researcher's name and contact details were available to all participants. Participants were informed that the research results would be published in peer-reviewed journals and presented at conferences.

3.11 CONCLUSION

Chapter 3 provided an overview of the research design and methodology used in this study and the procedures followed by the researcher to collect, analyse and interpret the data.

In Chapter 4, ***Results of Focus Group Interviews***, the researcher will present the results from the focus group interviews conducted as part of this study. This chapter reports on the second phase of the research design used in the study.

CHAPTER 4

RESULTS OF FOCUS GROUP INTERVIEWS

4.1 INTRODUCTION

This chapter will present the results of the focus group interviews conducted with students from four universities in South Africa. The focus group interviews were conducted as part of phase 2 of the study (*cf.* Table 3.2).

Focus group interviews allow participants to share their thoughts on the topic under discussion, providing participants with a better perspective. As discussed in Chapter 3 (*cf.* 3.4.2.7), participants generate new ideas and consider the opinion of others (Brink *et al.* 2018:144). Four focus group interviews with health professions students from different universities were conducted to understand their experiences and perceptions regarding participation in PPE. The first focus group interview was conducted face-to-face, and three virtually via Zoom® due to the travel restrictions during the COVID-19 pandemic.

4.2 REPORTING QUALITATIVE DATA

The researcher discussed the data analysis, interpretation and reporting of the focus group interviews in Chapter 3 (*cf.* 3.4.2.8-3.4.2.9). This study used the consolidated criteria for reporting qualitative research (COREQ), a 32-item checklist to report the focus group and semi-structured interviews (Appendix P). This checklist is divided into three domains covering the critical aspects of qualitative research, namely research team and reflexivity, study design and data analysis and reporting and was specifically developed with researchers reporting on interviews and focus group interviews (de Jongh, van der Willik, Milders, Voorend, Morten *et al.* 2021:2 of 11). The research team and reflexivity were extensively reported in Chapter 3 (*cf.* 3.5), and the study design relating to focus group interviews in Chapter 3, 3.4.2.

4.2.1 Focus group interviews

Focus group interviews are planned interactions where participants respond to the questions of a facilitator. According to Alsaawi (2014:151), focus group interviews

can generate high-quality and rich data when participants argue and debate with each other. The collaboration and interaction within the group create qualitative data (Botma *et al.* 2016:210). The number of participants per focus group interview depends on a facilitator's experience and the number of participants required to generate a discussion (Alsaawi 2014:152; Botma *et al.* 2016:211). Focus groups usually comprise between four and twelve participants (Krueger & Casey 2009:66-68), with the average number of participants between four and six (Botma *et al.* 2016:211). The first focus group interview comprised 15 participants because some students were initially unsure whether they would be available for the interview, which urged the researcher to invite extra participants.

4.2.2 Participant selection

The researcher used purposive sampling in the study. According to Rabiee (2004:656), care must be taken when selecting participants because they must feel content with other group members to contribute to the discussions. The researcher anticipated conducting five focus group interviews with participants from healthcare faculties at five different universities in South Africa; however, she did not predict a precise number of participants because the number of participants depends on the invitation acceptance percentage, which is difficult to predict. The students of the fifth university did not reply to numerous invitations from the researcher, and a decision was taken not to conduct the last focus group because, after four focus group interviews, it was clear that data saturation had been reached as the same information and themes emerged in the interviews.

Figures 4.1 to 4.4 indicate the number of participants per university, professional field, gender and race. Recruitment and selection of the participants are described in Chapter 3 (*cf.* 3.4.2.4). No participants refused to participate or revoked their participation during the study. As illustrated in figures 4.1-4.4, participants represented various ethnic groups in South Africa and both genders. It was important for the researcher to have diverse ethnic, racial and gender representation in the focus groups to gather data from various perspectives. Female representation was still twice as high as that of male and white students as a single representative cohort, almost double the nearest cohort of colour.

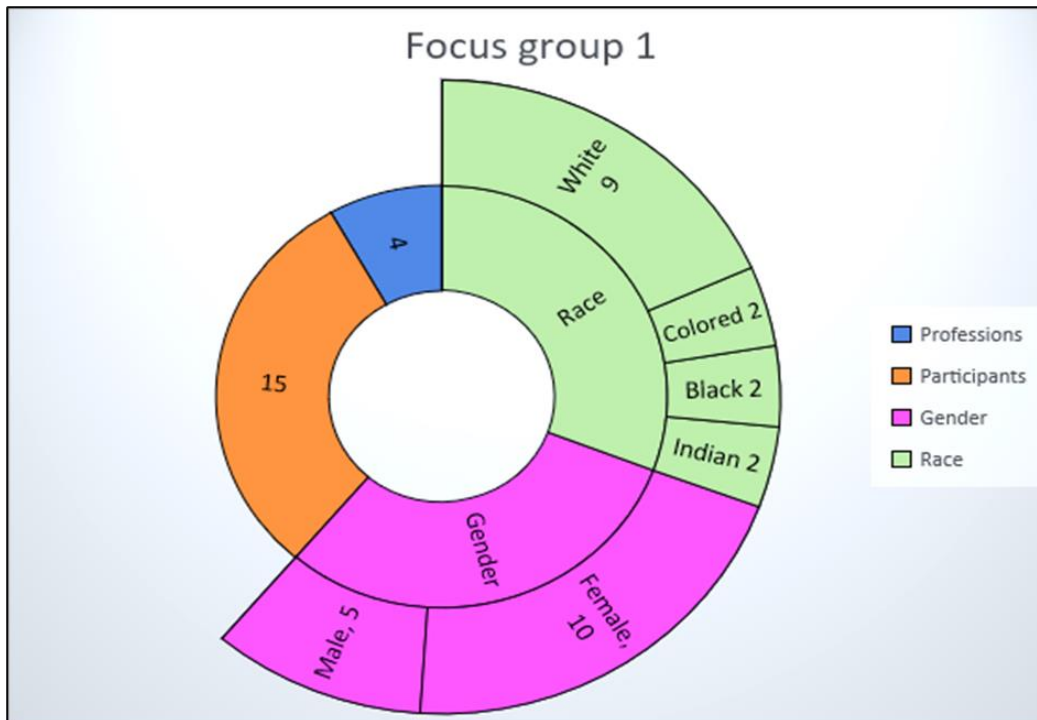


FIGURE 4.1: NUMBER OF PARTICIPANTS IN FOCUS GROUP INTERVIEW ONE, THE NUMBER OF PROFESSIONAL STUDY FIELDS PRESENT, GENDER, AND RACE

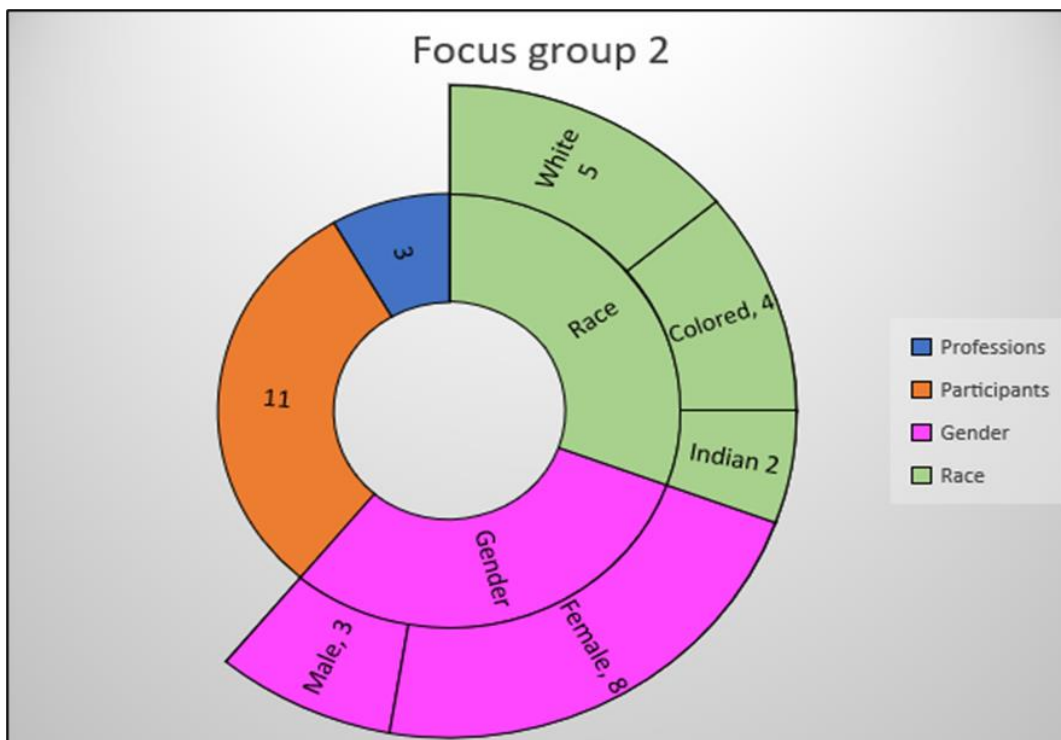


FIGURE 4.2: NUMBER OF PARTICIPANTS IN FOCUS GROUP INTERVIEW TWO, THE NUMBER OF PROFESSIONAL STUDY FIELDS PRESENT, GENDER, AND RACE

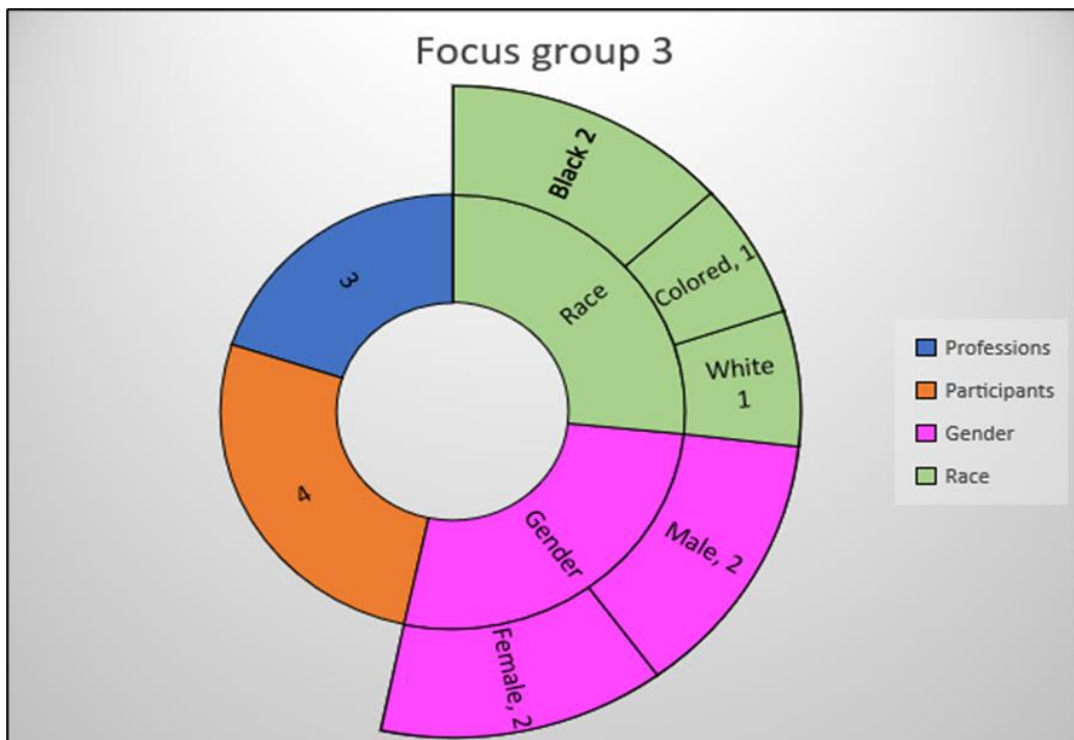


FIGURE 4.3: NUMBER OF PARTICIPANTS IN FOCUS GROUP INTERVIEW THREE, THE NUMBER OF PROFESSIONAL STUDY FIELDS PRESENT, GENDER, AND RACE

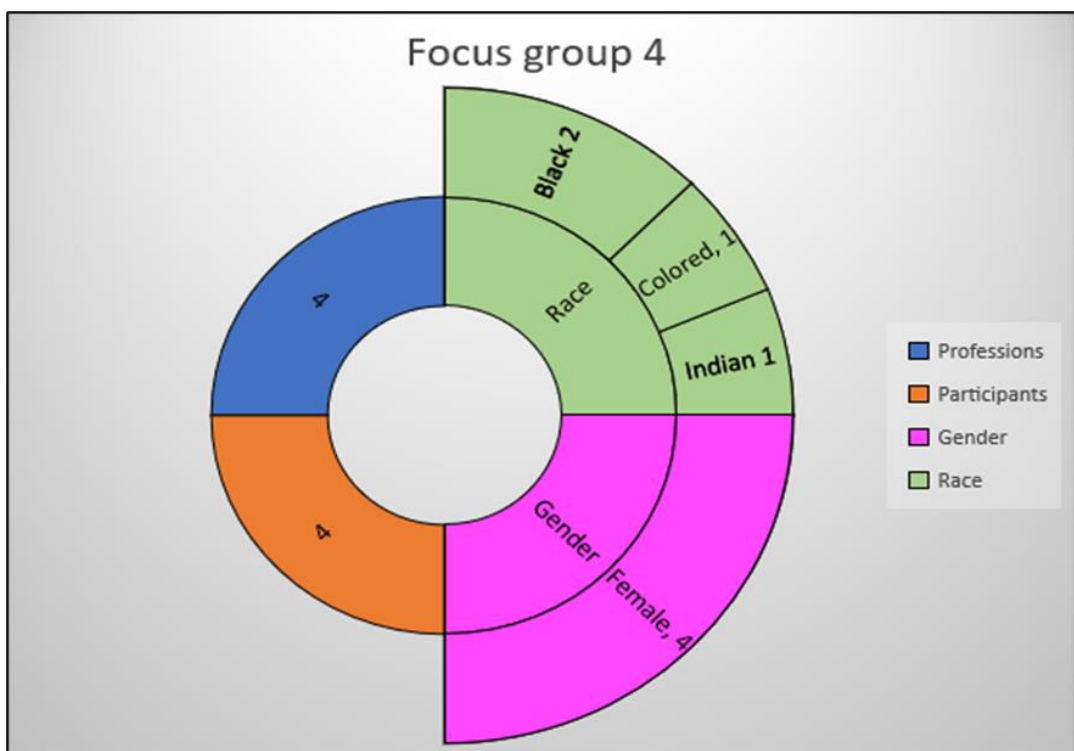


FIGURE 4.4: NUMBER OF PARTICIPANTS IN FOCUS GROUP INTERVIEW FOUR, THE NUMBER OF PROFESSIONAL STUDY FIELDS PRESENT, GENDER, AND RACE

4.2.3 Duration of the focus group interviews

The focus group interviews ranged from 50 minutes for the face-to-face interview to 98 minutes for the virtual interview, which lasted the longest. The time this focus group interview took could be due to the number of participants that attended the focus group interview. Figure 4.5 indicates the number of participants and the length of the focus group interview.

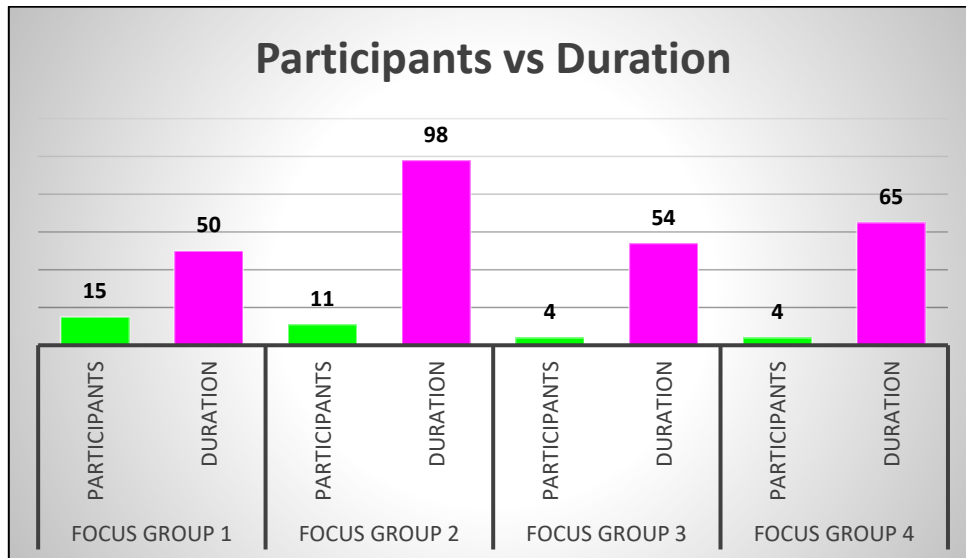


FIGURE 4.5: NUMBER OF PARTICIPANTS PER INTERVIEW AND TOTAL DURATION OF THE INTERVIEW

4.3 REPORTING THE FINDINGS

Participants were requested to answer two questions during the focus group interviews:

1. What are your experiences and perceptions regarding peer physical examination (PPE)?
2. What should be included in best practice guidelines when peer physical examination is used as an educational tool?

During the analysis process (cf. 3.4.2.8), the researcher concentrated on the two focus areas of the research questions and identified themes, categories and sub-categories (cf. Table 4.1).

TABLE 4.1: DATA ANALYSIS: FOCUS GROUP INTERVIEWS

FOCUS AREA	THEME	CATEGORY	SUB-CATEGORY
EXPERIENCES AND PERCEPTIONS	Learning environment	Compulsory/voluntary participation Undress Safe environment Partner rotation Supervision	<i>Appropriate attire</i> <i>Barriers to undressing</i> <i>Trust</i>
	Ethics	Consent Professionalism Communication Empathy	<i>Timing of consent</i> <i>Communication with students</i> <i>Patient communication</i>
	Social media	Protection of privacy	
	Students' experience of PPE	Authenticity Competence Confidence	
	Diversity	Gender Religion/culture	
	Duty of Care	unintentional harm to a peer	<i>Liability</i> <i>Indemnity</i>
Practice GUIDELINES	Setting clear expectations	Pre-brief students Enough supervisors Smaller groups	<i>Standardisation of information</i> <i>Group rotation</i>
	Cultural diversity	Diverse races	

In the following sub-sections, the data will be reported in detail. The researcher coded the text as follows: each focus group received a letter between A and D, while participants received a number when entering the room. If it was a medical student, the number was preceded by an M, for nursing students by an N, for optometry students by an O, for physiotherapy students by a P, and for occupational therapy and speech therapy by an OT and an S respectively. The paragraph number then followed. An example of coding is FAM15;46, which means focus (F) group A, Medical student number 15, and paragraph 46 of the transcription.

All four focus groups will be reported on simultaneously. The researcher analysed the data according to the process described by Rabiee (2004:657) (*cf.* 3.4.2.8). The researcher spent much time interpreting and constructing meaning from the

transcribed data and reporting it using identified themes, categories and sub-categories as described in the COREQ checklist by Tong *et al* (2007:349-356).

4.3.1 Focus area: Experiences and perceptions

The researcher used the same questions in all four focus group interviews. Participants had to share their experiences and perceptions regarding PPE in the first question posed to all focus group participants. The researcher identified six themes (*cf.* Table 4.1). (See Appendix H for the complete analysis of the focus group interviews).

4.3.1.1 Theme 1: Learning environment

Remarkable changes happened in the medical education environment over the past fifty years (Crumlish *et al.* 2009:304). The learning environment changed to accommodate more students and advanced technology (*cf.* 2.6.3).

Category 1.1: Compulsory/voluntary participation

The participants were ambiguous about whether participation in PPE should be compulsory. Some were outspoken in supporting that all participants should participate in PPE,

but you knew what you were studying. You chose to study this as well. So, you can't really have too much of a problem with it, I'd say, because you knew it was coming [FAO10;24],

while others were more concerned about the rights of students to refuse to participate in PPE, as a medical student in one of the focus groups remarked.

It is definitely not compulsory. Obviously, everyone has the right to refuse, and then he would maybe just demonstrate it on a doll or something like that. I don't know what he would do, but he can't force you [FCM1;18].

Most of the students participating in the focus group interviews believed the experience students gained from participating in PPE outweighs any negative perceptions. It might be challenging for a facilitator or lecturer to demonstrate a

physical examination on a manikin, as suggested by the student, and SPs are only sometimes an option because of budget restraints. Compulsory participation in PPE should be encouraged but cannot be enforced.

Category 1.2: Undress

Some participants find it challenging to undress in front of their peers and lecturers. Participants expressed that undressing as a part of participation in PPE should be communicated better to them early in their studies and even before they began their studies in health sciences. That would assist them in making an informed decision on whether they should continue or even commence with studies towards a degree in healthcare.

We discussed expectations in orientation, but undressing was not something that was seriously emphasised. I think it was something that was just looked over. There was no importance placed on it [FDP1;39].

We did have a problem with someone who didn't want to undress. That was during our second year. It was really a big matter. I also know of a student who actually dropped the course and said that if that is what is going to be happening, I can't manage, so she left the course [FDP1;35].

My biggest fear is the fact that my lecturers will possibly see me without my top and possibly bra too, and I will have to look them in the face the next day - even if they are doctors, that felt awkward [FAM15;12].

Lack of information before commencing their degrees and before each session can leave students underprepared with consequences as described in the above quotes.

Male and female participants are equally reluctant, although a male participant, most of the time, might volunteer after some encouragement.

I found that some people are more comfortable exposing certain things and some clearly not, but in an instance where males should

expose themselves for a chest exam or whatever, then lots of males are still reluctant to do it. That makes learning the skill, the practical part, quite difficult because then you feel like you haven't actually seen a real examination [FAM9;20].

Participants also said they feel embarrassed to expose themselves in front of the lecturers. One participant expressed her feelings as follows:

My biggest fear is the fact that my lecturer will possibly see me without my top and possible bra too, and I will have to look at them the next day, even if they are doctors, that felt awkward [FAM15;12].

Although students realise the advantages of PPE, many of them feel embarrassed to undress in front of peers and lecturers. By informing them well in advance, they could prepare themselves better or find alternative solutions. If issues regarding undressing are handled with sensitivity, many of the misconceptions regarding PPE and undressing could be resolved, for instance, with appropriate attire.

Sub-category: Appropriate attire

Participants raised the fact that they had to wear comfortable, easy-to-remove clothes to the skills classroom. This would ease their participation as they do not need to remove many layers of clothing. The person carrying out the examination can correctly feel and examine the "patient".

We get told that, okay guys, wear comfortable clothes, wear like hmm, pants, stuff like that because we have to undress so that we get like exposure and stuff. And, as you can actually see, it's necessary. I feel like it's necessary so that we have to see what's actually happening when they say, Touch the scapula. You need to be able to know where it is. Because if a person is wearing a jersey, it's like really hard [FDO4;17].

By wearing the appropriate clothing, it becomes easier only to expose the areas necessary for that specific system, and it could address students' concerns and barriers to undressing.

Sub-category: Barriers to undressing

Some participants find it challenging to undress in the presence of fellow students. Getting used to a stranger touching part of their body could be difficult and perceived as violating their privacy.

I think in terms of classroom environment, it might violate some people's privacy as there is a class of, say, 30, and all of them see you because you are exposed. [FAP126]

It is more challenging to undress when different genders are involved because many students have problems with body image, while others may have cultural or religious barriers.

Some of the classes have males and females, so some people feel more uncomfortable dressing or undressing or actually examining their peer in front of the opposite gender, so I think that is also a bit of a barrier [FAP118].

I found that some people are more comfortable exposing certain things and some clearly not, but in an instance where males should expose themselves for a chest exam or whatever, then lots of males are still reluctant to do it. [FAM921]

From the responses of the focus group participants, barriers that influence undressing during PPE are students' self-perception, exposure in front of big groups and lecturers, mixed genders, certain body areas and strangers touching them. Therefore, it is important to create a safe environment for PPE training.

Category 1.3: Safe environment

PPE should be practised in a safe environment where a lecturer or clinical facilitator is always present to assist students with questions or problems relating to the examination or skill they practise. This was echoed in the responses of participants:

I think the great thing about the whole peer education is that there is always a lecturer present, and there is always someone you can ask to help [FAP12;66].

... You need to know what normal looks like so you can identify abnormal, and so to do it sort of in a sterile environment with your peer that you know doesn't have a heart murmur is going to help you to identify something is not right here because it is totally out of what you've practised [FAM9;60].

Participants feel safe asking questions while learning because they know they are all on the same level and learn together, although the setting is an artificial environment.

Here at least, we have an idea of what we are doing even though it is not completely what it would be like in a different setting like in a hospital. [FAO10;61]

Students describe how they form close bonds because they practise together and on one another, where they have to expose themselves and feel vulnerable. They verbalised that they feel safe within their group.

I also think we've felt safe. We have had a class for four years and longer. So, getting exposed to each other every day really contributes to us being more confident in our bodies and exposing ourselves to our peers because we know each other. We know where we stand. We know each other on a physical level, hmm haha (laughs) [FAP11;53].

So, you become closer, also on a friendship level, to the people, and you sort of buddy up, so you know this one I can trust, this one not yet, and you find a comfort zone within the friendship group as well [FAM9;55].

Students feel safe in an environment where there is a sense of familiarity (peers for several years) and enough supervision in a simulated environment. This assists in trust formation.

Sub-category: Trust

Participants know they are in these practical sessions together, and although they might feel uncomfortable, they learn to trust their classmates not to hurt them while

practising their skills. The students expressed their trust in each other while practising.

You are scared when you are practising on a friend, a colleague or whoever, and you are also scared when you are doing it on a patient – especially for the 1st time. But there is also a sense that at least you know your friend will forgive you, or they will be okay with it, and they will understand. In contrast, when you have to practise or do it on a patient for the first time, I don't expect someone who is sick and in pain to really tolerate my incapability [FBM10;37].

I think you also have to acknowledge the fact that between 1st and 2nd year, a class as a whole gains more trust in each other. With that trust, it means that you are more comfortable performing these kinds of techniques [FBM5;67].

Trusting each other creates a learning environment where students feel safe. This makes it easier to examine and be examined by various classmates.

Category 1.4: Partner Rotation

According to Rees (2007:801), most students prefer to examine peers of the same gender, and male students are more comfortable participating in PPE than females. It is, however, important that students practise on more than one partner and, if possible, on both genders. Students must get used to the different body shapes and sizes, and the best way is to examine as many different people as possible.

It builds confidence. The moment you practise on diverse people, different shapes, and genders, you get into the field as a practised professional who doesn't have experience with just one body shape or just one type of person. You get a bit uncomfortable, but that's the whole point, that's what you need to be doing [FAP11;78].

The participants reported that they usually group together with friends known to them. The advantages of multiple partners lead supervisors to encourage

participants to practise on multiple people. Some participants could see the advantage of participating on a variety of body shapes and sizes.

If you think that you know what I practised on this person and the next person is going to be exactly the same, you realise that there's actually a huge difference. Because in my experience practising on different people, I learned a lot because they have different body shapes and sizes. [FAM13;77]

We are encouraged to swap partners as much as possible and especially in every class we try, but we tend to move to your comfortable partner. I think the thing about changing people with my degree is that we actually change our technique, for example, massaging. If a patient has a bigger bulk of muscle, you have to repeat the technique, or you have to do it deeper, or your hands have to move differently physically. So, if you don't do that, you won't master the skill [FAP12;81].

Exposing students to various persons prepares them for the clinical environment where they are going to function in future. Not only technical skills but also preparation for professionalism, communication and ethical behaviour.

Category 1.5: Supervision

Participants explained that most of the time, one facilitator supervises the entire class while they practise a new skill. Some participants were satisfied with the arrangement:

We don't need more supervision. If there's one doctor in the room, that's enough. Usually, our groups don't exceed 15 people [FCM1;53],

while others believed that one supervisor is not enough for an entire practical group:

Physically one supervisor cannot be everywhere. So, there are rooms where peers are examining each other and performing sort of medical things on each other, and there's no supervisor present [FAM9;1,28].

Participants complained that it wasted time to wait for the lecturer to ensure they performed a skill correctly:

Another thing that used to bug me was the time it took to practise, and then the lecturer must go around to all the different groups to see what they did. I guess it's nice because you get that one-on-one lesson, but it was a dead waste of time [FBP9;32].

All participants agreed that supervision is essential when learning new skills.

You could be using the wrong technique, so if there is supervision, you know exactly what you should do rather than when you are just doing it without anyone watching you. [FDS3,18].

Supervision creates a safe learning environment on the condition that the student-to-supervisor ratio is appropriate to prevent injuries (if students perform procedures such as tonometry), ensure training and correction of techniques, and ensure personal safety. It depends on the class or group size and the training activity for the session; therefore, one should have an individualised approach when looking at supervision for PPE sessions.

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4.3.1.2 Theme 2: Ethics

Category 2.1: Consent

Participants felt that consent to participate in PPE is just as important as asking for permission to examine a patient.

Consent is not something that you just use to get it out of the way. It is just as important as to do every technique and procedure right – it is part of the whole thing [FBM2;93].

However, according to the participants from all focus groups, obtaining consent to participate in PPE is not regularly done at many of the participating universities.

We did not sign anything with regard to treating our peers, but everyone seems to be okay with it [FDP1;47].

Some participants believed that consent should be given per session so facilitators could explain what would be expected during the session. It would also be an excellent role-modelling opportunity for students to remind them how to treat their patients.

I think it is important to get consent per session. It also creates a healthy habit of asking consent between the patient and the doctor, being in a clinical setting as well and because I can think it is less likely for a student asking consent throughout the degree on their peers, it is also mindful for asking consent to a patient and consent in general, is quite important. [FBM5,90].

Sub-Category: Timing of consent

Most participants did not sign any form of consent before participating in PPE. In contrast, some departments signed consent at the beginning of a course without explaining to students what PPE is or what will be expected of them.

We actually did sign consent in the first year [FDP1;41].

Not one of the participants reported that their departments or schools had an information session to explain PPE and sign a consent to participate document before they were required to participate.

I think consent also comes down to respect because as soon as you touch a person, you are in their personal space, and I think you need to respect that. So, it can't be a blanket thing that applies forever, and it has to be signed every time you approach someone, you get consent. [FBM3,91]

It is imperative to obtain consent before using PPE as an educational tool, and the timing of the consent is important. When students are used to the fact that they should sign consent to participate in PPE and still ask for consent before touching the body of their peers, it will become a habit which they most probably would continue with when practising on patients. The example set by supervisors could teach students communication and professional qualities when obtaining patient consent.

Category 2.2: Professionalism

The participants agreed that participation in PPE enhanced the development of their professional attributes, such as their relationships with others, cooperating with diverse people and establishing values.

We treat the person as a patient. You have to introduce yourself. This is what I'm going to be doing to you. Do you allow me to do this to you? You would not necessarily use terminology like hard terminology like you use in class. You make it simpler for your clients. Stuff like that. So yes, I feel like it is good [FDO4;79].

The students are encouraged to practise their professional attributes or non-technical skills until it is embedded as second nature.

And the whole thing again with switching partners. It develops your professionalism because now you're used to your friend, and you get there like, 'Ja, my name is ... and blablabla'. It's like you know that part, let's skip that, but now if you try it on a new person, it forces you to prepare to actually be a professional, you know to introduce yourself and everything. Do everything properly [FAM11;62].

Participating in PPE assists participants in becoming accustomed to asking difficult or intimate questions without feeling uncomfortable.

I think it is very important to practise on peers or somebody that is going through the same thing that you are – just to work out the awkwardness because it is quite awkward if you are being put in a position where you have to ask a patient "please lie at this angle" or "take off your shirt", and to just work-out the process of all so that you are comfortable and not feeling awkward in front of a patient because they might think "does this person know what they are doing. [FBM4,69]

They always tell us about the doctor/patient, the health professional and the patient relationship, which is very unusual because it becomes very intimate very quickly. You learn a patient's name and then ask them about their sexual history within a space of two seconds. It is quite abnormal actually, and referring to the history, I think it definitely helps to practise this stuff, to just have a normal conversation and ask these questions, which I find quite hectic in a lot of instances. With someone you know and trust and have a relationship with already, it definitely helps to practise where there was a scenario where you practised vs. a scenario where you walk

into and don't have that relationship. Also, to know how to be sensitive about things. [FBM1,63].

Professional attributes could be challenging to teach and often do not come naturally; therefore, students have to be taught. Effective communication improves patient care, and PPE could be a useful tool to prepare students.

Category 2.3: Communication

Good communication skills are of utmost importance for healthcare providers as it is one of the determinants of whether patients disclose information or adhere to prescribed treatment (Larson, Leslie & Kruk 2017:2 of 9). Excellent communication skills include asking patients for consent before invading their privacy by touching them when examining.

I remember when we had to do an examination of the abdomen on a peer. I kind of forget to ask if it's OK if I examine. Yes, the person was already undressed, but you have to ask. Because now the person doesn't know what you're going to do so you have to explain to them. Because now the moment you start touching and invade. Now I did not tell you to do that. I did not know to which extent you were going to do it, so you have to communicate with your peer and tell him exactly what you're going to do and what they expect you not to. [FAM7,38]

Sub-category: Communication with students

Communication with students is crucial for the success of PPE. The students must know what to expect and how to dress when arriving for class. Participants complained about participation in PPE because they felt unsure of what to expect from a session. They wanted more information regarding the content of a session to know how they should prepare themselves for the requirements of the session. Communication in this regard is linked to consent before each session (cf. Category 2.1, Timing of consent), as the same participants raised it.

A lot of times, there's no clear expectation given. You get to class, and you know that you have to expose, but you don't know, for example, what you will have to expose or for how long or for which

reason. Then you might, for example, be asked to lift your top, and then you did not know that you would be expected to do that, and you might feel uncomfortable [FAP12;16].

Communication with students could be used to role-modelling good communication skills and help students with their communication with students as well.

Sub-category: Patient communication

Effective communication is a critical skill all health professionals should learn, as research indicates the quality of communication between patients and healthcare providers greatly influences their satisfaction levels (cf. 2.8.1.1). Participants agreed that PPE improves the way they explain what they expect from a patient and prepare them to speak to patients and their families with confidence.

Helps a lot with learning to communicate with patients and peers.

You don't feel so scared when speaking to strangers about intimate issues. [FCN4,34]

Help a lot with communication skills. Since you are better prepared to know that if a patient responds in a certain way you know to probe that patient better if they are trying to resist. [FCN3,33].

The participants learn to consider their patients while participating in PPE. This is an important attribute for healthcare professionals because the WHO promotes the implementation of person and people-centred practices (WHO 2015:11).

I think that is very valuable – to ask the patient upright what they are comfortable with or asking the patient how they would like to be incorporated in the procedure [FBM5,55].

Not only communication skills but also empathy could be sensitised with PPE.

Category 2.4: Empathy

Participating in PPE is a good way to teach empathy towards patients and their families. The participants expressed their embarrassment and discomfort when a healthcare professional examines and exposes them or makes an insensitive

remark. When participating in PPE and experiencing these feelings themselves, participants are sensitised to refrain from acting like that when they begin to work in the clinical areas.

Feeling of maybe humiliation fades, as many people had said, but I also feel that in the stages when we still are learning, it exposes you or to learning empathy for your patient one day. Because I mean, if you think, Oh, I would have put a towel there now. If you think in the future, if I treat a patient, I will consider that. I think there is a lot of space to learn how to protect someone's privacy and how to make them feel comfortable [FAP12;56].

And that you consider asking your patient or your model, are you comfortable? Am I hurting you? Tell me when I hurt you. So, you don't just blindly go into it to hurt someone. Hmm, ja and I, once again I think you need to know what hurts to know what to do what doesn't hurt if that makes sense. You need to know, oh, I press too hard, or I shouldn't do this because this hurts cause this model's normal is not the same as the normal of the other model I practised on. [FAP12,66].

Participants experience examinations first-hand from a patient perspective and can explain better to the patient how an examination or procedure feels because they have experienced it.

And then, also to feel how it feels to have this uncomfortable feeling in your eye like to have the feeling, and then you can tell that to your patient. This is how it got to feel. You've experienced it. You know. It would help if you told them it got to be uncomfortable. Because if you never experienced it yourself, then you don't really know how to explain it to your patient [FAO18;58].

... it was quite cool because it was nice to know and kind of feel the examination ... it was almost as if getting the patient's perspective. This is what it feels like when someone does not have hot and warm hands, or what cold hands feel like on the body, or when someone pushes too hard, or someone pinches you, or when someone doesn't feel confident, you can almost feel confidence in the fingers – I know that sounds weird, but it's true [FBM1;21].

Empathy for patients can be developed by putting students in these uncomfortable discussions or examinations, and it was clear from the focus groups that students valued the exposure,

4.3.1.3 Theme 3: Social media

Category 3.1: Protection of privacy

Many students are very active on social media and share pictures and experiences on social media platforms. These social media platforms include Facebook, Twitter, Instagram, and WhatsApp (Siddiqui & Singh 2016:71). Participants state that while participating in PPE, students are in a vulnerable position and often partly undressed, and they do not want people outside the safety of the classroom to see their photos or videos. Ensuring students' privacy is of utmost importance, and some departments have an agreement that should be signed to ensure privacy while practising skills and examinations.

We (occupational therapists) sign something that says no photos are allowed on social media. Nothing in class is allowed to be taken outside without that person's consent, so everyone's privacy is protected in terms of social media. Nothing may be put up or get shared if a person did not give consent or did not know about it or gave consent or whatever [FAO10;83].

Some participants, however, are comfortable seeing themselves on social media pages without giving consent.

We do have those people that post videos on social media. But it's like we don't mind in class because we all get along and stuff like that. We don't mind another person posting you [FDO2;104].

Another participant disagreed with this statement as he felt you would not know about somebody's feelings regarding photos or videos if you did not ask for consent to post them.

I would like to disagree because I feel you are going to know I'm not comfortable. [FDO4,112].

Participants of other focus groups agreed that consent is necessary before their photos or videos of them may be taken to protect their privacy.

Asking students not to take pictures or videos without asking first because I think if one is assured that what happens there stays there, there might be more willing to participate in PPE [FBM5,96].

Social media, in general, and specifically with PPE, is of major concern. Clear and specific guidelines regarding social media use should inform guidelines to protect student vulnerability, consent and even litigation.

4.3.1.4 Theme 4: Students' experience of PPE

Category 4.1: Authenticity

Most of the participants regarded participating in PPE as artificial. They felt it was helpful, but it was not the same as examining an actual patient because a peer can anticipate what one wants them to do and often does not have pathology. In some instances, participating in PPE defeats the purpose, for example, if the outcomes were communication. It could mean students do not need to communicate with their partners to get the required response.

I think to a degree, it is an artificial setting because it's not a real-life setting [FAM9;60].

When we practice on each other, it's not the same as when you are working with an actual patient [FDO4,2]

We're not really getting exposed to the real world, and the real patient's what's really out there. We're just seeing our peers and most of the time; our peers don't have any conditions that we can treat, so in a way, I feel a bit worried that we're not as competent as we could be [FDO4,14]

Your peers will sit still and keep their eyes open because they know they have to practise as well. So, it's nice to have someone who understands like you need to like pass and get this clinical skill under your belt so just ja it's nice to have someone to practise on [FAO18,58]

Participants agreed that participating in PPE had definite advantages because peers could provide informed feedback while practising, which no other teaching method, such as practising on standardised patients or manikins, can do. A peer

can provide feedback or tell you when you do something incorrectly. Most of the time, patients or simulated patients cannot give the same level of feedback needed to promote learning.

Your peers can give you a response. They can actually help you by saying you did this wrong, do it again, and so on. There is a definite benefit to PPE [FCM2,70]

You learned where things are supposed to be, and having people count out ribs to feel the intercostal spaces – having people count it out, it drummed it into your memory –was actually quite a cool experience. The model learned a lot as well – as we didn't get to practice ourselves, we did learn a lot [FBM1,21]

Although training with PPE is only partially authentic, the benefits outweigh the disadvantages. This training environment helps students to improve their competence and confidence.

Category 4.2: Competence

The participants of all four focus groups agreed that PPE made them feel more competent when working with actual patients. The fact that they can practise a specific skill or examination repeatedly until they feel competent without compromising a patient's health makes participating worthwhile.

I think practising on each other is very valuable, and it helped me a lot. I think with practical procedures, you can know all the theory behind it, but it's only when you have to do it that you realise that you don't exactly know how to position your hand, etc. Only when you do it, you realise what you actually don't know. With a small detail, you actually don't know what you missed out on [FBM1;63].

I think it is very important to get that relationship across to the students that you need to understand that doing it in the class setting is not unnecessary and not just fun and games. It is to ensure that it is safe and a good practitioner when you enter the field. Practising with their peers in the clinical setting isn't non-essential - it is part of the education – part of your rules [FBM10;56].

Participating in PPE builds on the knowledge and skills of students. It begins by teaching them how to use basic equipment such as a stethoscope until they can perform full examinations independently. Participants must continuously build on previous knowledge and experiences. They learn what is normal on peers to be able to recognise pathology in actual patients.

When we were learning on our peers, it was more based on where we should put our hands, where do I put the stethoscope, and how must the patient lie, rather than, 'oh, my gosh, his liver was so 'normal', because it was not about that. It was about learning 'how' and 'where' and 'why' instead of 'what's wrong?'. Once you got that good foundation, you know your technique is right, so if I do my technique properly on a patient, I optimise my chances of finding that thing I am looking for [FBM2;71].

I think it is good to practise on your peers because then you know what normal is or what normal sounds like. If you just go to the hospital and you're practising on patients, there is usually something wrong with them, so you don't get to distinguish as well between what is normal and what is not [FCM1;2].

With scaffolding of knowledge and skills and knowing the normal leads to competence, and it builds confidence.

Category 4.3: Confidence

Participants were unanimous about the confidence they gained when participating in PPE. They nodded their heads in approval across all four focus group interviews when talking about gaining confidence in performing skills and doing examinations while participating in PPE.

In a clinical setting, where one actually works with patients, it helps a lot with confidence, knowing that you practise on another human being instead of a plastic model [FBM4;24].

I also think the main thing it builds is confidence. So, the moment you practise on diverse people, different shapes, different genders, you get into the field as a practised, a professional that doesn't have experience on just one body shape or just one type of person, and

you get a bit uncomfortable, but that's what you need to be doing
[FAP11;78].

Confident students and practitioners contribute to their clinical performance and professional attributes and the role of PPE in building confidence cannot be ignored as reflected in participant comments.

4.3.1.5 Theme 5: Diversity

Category 5.1: Gender

Participants noted they should feel competent to examine both genders, but in reality, it is difficult for male students to become competent in examining females because their female peers are reluctant to undress in front of them. Most males do not get a chance to examine a female before entering clinical areas.

I feel like the male students may have somewhat of a back draw is like the females get to practise on the females like I'm going to take the example of the placement of ECG leads again. Hmm, a female student will know exactly where to place an ECG lead on another female, whereas we don't get to practise that on an actual person as male students [FCM2;8].

On the other hand, female students gain competence in examining both male and female bodies. When they enter the clinical sites, the initial embarrassment of examining somebody of the opposite gender is not there anymore. Examining female breasts, however, is particularly problematic for male students:

Breast tissue is unmovable, or it hangs down, or it's like very, very difficult. Honestly, practising on your peers doesn't prepare you for that. You only get prepared for that when practising on patients [FCM1;10].

Participants feel students should get exposure to examining and being examined by both genders, especially in physiotherapy, which is a very hands-on profession, to learn the difference in muscle tone in the different genders.

We actually mix because the more exposure, the better cause you don't know if you only are treating female patients or only males. So, we get to mix around [FDP1;33].

I think that for examinations that don't require as much exposure, for example, then it's also beneficial to start practising on someone of the opposite gender so that you can slowly ease yourself into possibly awkward situations so that you can handle it professionally [FAM9;80].

Practising on both genders is not restricted to physiotherapy students because all healthcare professionals must practise on various body shapes to get the most from their PPE experience. Every person feels and reacts differently because of the person's muscle tone, fat layer, and general condition.

The majority of my learning was done on the male specimen, and the only time I would try out techniques was when I went home and practised on my sister, and that was quite rare. When you go into a hospital, it's a bit of a shock to try and adjust the techniques to a female, if that makes sense. [FBM6;23].

I think that if you ... I know some people may feel uncomfortable, but if you don't practise on different genders, you may not be able to treat the patient one day if you only exposed yourself to, let's say, females, if you are one [FAM9;26].

It depends on the profession of the students and how much exposure they get to examining students from opposite genders. One aspect that did not come out during the focus groups was the LGBTQIA+ community and the effect of PPE as an educational tool. In the best practice guidelines, special attention should be given to gender and special groups.

Category 5.2: Religion/culture

Besides gender, religion greatly influences whether students will undress in front of their peers or let their peers examine them for educational purposes. This may be due to religious guidelines, but personal preferences or interpretations also influence students. Participation in PPE makes students aware of diversity and to respect it. A participant explained this aptly:

From our point of view, we are not allowed to have any contact with the opposite gender. So, that is entirely null, regarding showing ourselves, everyone has their way of interpreting it, but in terms of male and female, it's a no; in terms of female and female, it depends on the person, but that's not a restriction, so some people are a bit more conscious like it affects how you will examine to expose the chest. Some people will not be happy about it, and some will. Examining the opposite gender is entirely out of the question, but with the same gender, there also are differences [FAM19;14].

Participating in PPE transpires across cultures, religions, languages and races. It teaches students to examine diverse people, each with their traditions or practices. Students learn from one another about the unique traditions of a culture or religion and to respect patients and community members that do not come from the same backgrounds.

If someone feels uncomfortable doing the PPE with you because of religious reasons, you are not in a position to force them or judge them. You have to be respectful of their culture their religion [FDS3;114].

You may find an Islamic patient who does not comply with the guidelines you've been given, so that's why I think it is important to ask your patient specifically because they might have other things that you have to take into consideration [FAP12,97].

Participating in PPE is excellent for teaching students about the traditions of different cultures, religions and races. This is very important because of the diverse society we have in South Africa. Students have the opportunity to examine and interview peers from various cultures, religions and races. This assists them in feeling comfortable and competent when examining actual patients.

When examining our peers, I think we are all at that level of understanding that it is for learning purposes, and we are all used to doing this. We do have Muslim peers in our class. They do not hesitate to remove their scarf and even during religious times like Eid when your scarf has to be worn [FDS3;26].

Sometimes there are ethical differences or particular diversity, and you are not completely aware of what is acceptable regarding

physical contact in terms of someone of a different culture or race or ethnic group for that matter [FAM15;12].

Cultural and religious differences can make the use of PPE as a teaching tool more complicated, but it also provides opportunities to help students in their professional development and respect for others. It also provides the opportunity to prepare students in a safe and non-threatening environment for the diversity of patients they will encounter in the clinical environment.

4.3.1.6 Theme 6: Duty of care

Category 6.1: Unintentional harm to a peer

Participating in PPE comes with a risk that a person might accidentally injure a peer or that an illness or abnormality previously unknown to the person will be discovered during an examination. Sometimes, an interesting abnormality can create a teaching moment if shared with the class. Is it fair to expect that from a student? Often, the students feel uncomfortable or self-conscious about the discovery.

She felt a little uncomfortable, and then the lecturer as well came and said, 'Okay, how would you feel if we presented this to the class and everything?' And the peer was definitely: 'No. There's no way I'm doing this because they can already see how everyone reacted, and they don't want everyone else to react the same way [FAM13;143].

Participants will not harm their peers deliberately, but because they are inexperienced, it can happen. Optometry students practising diagnostic procedures on peers could inflict corneal epithelial damage when practising procedures such as measuring intraocular pressure. Corneal abrasions can be very painful, and complications such as infections could have serious consequences. These concerns are also linked to the supervision and the student-to-supervisor ratio. On the other hand, some people are more sensitive to pain, and for them, the discomfort when inflating a blood pressure cuff might feel as if their peers are hurting them. Hurting or harming a peer should be a concern, but it could also be a matter of perception.

I don't think anyone in the health sciences faculty is here to hurt someone else, so if they do, it really is an accident. Hmm, and you learn through those accidents. So, I don't think anyone here intentionally goes too far because it's funny or something like that [FAO10;71].

When we're putting a contact lens into a patient's eye, we have to keep their upper eyelid tight and wide open, and sometimes that can be hurtful to the patient because they want to blink their eyes, and that could hurt if we keep it open and they want to blink their eyes. So, in that case, we tell the patient, please tell me if you are experiencing pain, and then we stop and start again. But I have not hurt anyone doing peer physical examination. Not that I can think of [FDO2;57].

Participants in one of the focus group interviews asked for a protocol or guide to assist when they find something wrong with a peer, and the lecturer is not present.

A guide to what if you find something wrong during an abdominal examination on a peer and the lecturer isn't present at that stage [FAN4;134].

Unintentional harm remains a concern for everyone using PPE. As stated above by a participant, a protocol should be in place guiding lecturers and students on what to do if something abnormal is detected or a student is injured. Liability is a major concern, which could be avoided if proper guidelines and protocols are in place and followed.

Sub-category: Liability

The participants expressed concern and wanted clarity on who would be liable should somebody make a mistake and accidentally hurt a peer. They are all inexperienced, and an accident or misjudgement may happen specifically because the lecturer or facilitator is not constantly present with all groups. In some professions, such as optometry, more invasive procedures are performed, e.g., fitting contact lenses or measuring intraocular pressure. This is a real concern when using PPE as an educational tool because students could indeed harm their peers.

I think the person facilitating that class or presentation should be liable because that person takes it upon himself to teach you a certain skill and then gives you the instruction to practise this on your peers. We have these 15 minutes of facilitation there. Then he's responsible because he gave you the order to do so [FAN2;73]. I think that the most experienced person in the room in that field. So, it is most of the time, the presenter of the class or the lecturer so the person who really knows what they're doing [FAO10;75].

Liability is a reality, especially with students performing invasive diagnostic procedures on their peers. Clear guidelines or policies should be in place to protect the institution, lecturer and students. Liability is closely linked to indemnity.

Sub-category: Indemnity

According to the *Cambridge Dictionary* (2021:online), indemnity is "protection against possible damage or loss, especially a promise of payment, or the money paid if such damage or loss". There is uncertainty among the participants about whether indemnity must be a part of participation in PPE. Most of the students do not sign an indemnity declaration; if they do, it is done in their first year as part of the initial documentation before they can continue their studies.

I definitely do feel that there should be indemnity forms because they were the ones who injured you. They should be liable for any costs incurred or any sort of that due to that [FDS3;125].

We do things like taking the blood pressure on your peer like there's not, there aren't any severe risks associated with that. I don't think we need indemnity [FCM2;41].

We have been signing indemnity forms from our first year, and it is so important. So, indemnity forms are important and should be emphasised. We have been getting these forms from the first year, and no one has actually sat to read them out to us. We just sign it because it is a requirement [FDP1;128].

Blanket indemnity signed at the beginning of their studies, often does not specifically state the possibility and who is liable if a student is hurt. Duty of care when using PPE and the guidelines informing liability and indemnity are often

neglected but should explicitly be addressed by the institution and clinical departments.

4.3.2 Focus area: Future best practice guidelines

The second question posed to the participants was what they wanted to be included in best practice guidelines when PPE is their institution's educational tool of choice. Two themes emerged, namely setting clear expectations and diversity.

4.3.2.1 Theme 1: Setting clear expectations

Setting and managing clear expectations means communicating what students can expect from the institution and lecturer, what level of support they'll receive, and their goals. Setting expectations is an ongoing process because role players' situations always fluctuate.

Category 1.1: Pre-brief students

Participants want to know in advance what they will do in a specific session regarding participation in PPE. They can then prepare for the session by donning appropriate clothing or preparing themselves if a volunteer is needed for a demonstration. They want to avoid being placed on the spot in the class to volunteer for a demonstration.

Maybe hmm, they can before the session. They can tell us, okay, a volunteer will be required, a male volunteer [FCM1;47].

There's no clear expectation given. You get to class, and you know that you have to expose, but you don't know, for example, what you will have to expose or for how long or for which reason. Then you might, for example, be asked to lift your top, and then you did not know that you would be expected to do that, and you might feel uncomfortable [FAP12;16].

Part of the pre-briefing must be to explain the goal, importance, and reasons behind examining diverse people. According to the participants, it will make a difference if they know the reasoning behind switching partners instead of being told to change partners.

Some additional guidelines should be given on how to get the most out of your experience. For example, I now consider that I could get the most of my experience by switching partners with every examination or every session. I think that could make a huge difference [FAM11;32].

Category 1.2: Enough supervisors

The students expressed their concerns about the number of supervisors during practical sessions. Support can be provided by ensuring there are more supervisors to ensure students learn the skills better without learning the wrong techniques that must be unlearned.

Usually, we only have one supervisor in a practical session ... usually, for a big class, they don't tend to get to everyone. Always try, but I think maybe have revision classes with more supervisors to assist [FAP12;122].

As mentioned previously, the ratio of the supervisor to student is important in the learning environment to support learning, but the participants explicitly expressed the need for support by means of enough supervisors.

Sub-category: Standardisation of information

Another concern raised by participants was that the groups did not receive the same information. The practical implication was that students were practising examinations wrong, and when asked questions during assessments, they could not answer because they had not received the same information.

And I think consistency between groups is such a big thing. In our 3rd year, we had such a big fight over examining a liver because one facilitator said to do this on inspiration, and another said it must be done with expiration. There is no 'one-way' for putting a drip, but there is 'one-way' to correctly assess chest expansion [FBM10;78].

Students feel confused and disadvantaged when the information provided to various groups needs to be more consistent. Support to the students in the form of uniform information could assist them in achieving the goals set to them.

Category 1.3: Smaller groups

Participants asked that groups be smaller, with a lecturer in the small group. That will help them get more individual attention from the lecturer and learn the skills more quickly because they will have more time to practise.

Small groups are more effective - to just get a 1:10 ratio practising on each other. Tell the group what you expect them to do [FBM10;78].

There should be space where you can say, okay, whoever wants to practise on the other gender, and they are comfortable with that, there will be another room with a lecturer also there [FAM11;08].

Sub-category: Group rotation

It is crucial to lay down ground rules, such as the rotation of partners. Explain to the students the rationale behind the rule to help them take ownership and responsibility for following these rules. According to Barnes (2020: personal communication) rotation of partners is especially important in physiotherapy, which is a very hands-on profession. One of the students suggested that group rotation would be helpful and even gave advice on how students could be introduced to this as evident in the following quote.

Today, this is your partner because I think out of free will, you really don't always choose someone else. And just for the bigger picture of educating the students, forcing them to have ... not forcing them but like, here's your partner for today, [FAP12;153].

When students have a choice, they will continue partnering with their friends and never get the opportunity to practise on various body sizes and shapes. This is what this student meant by “out of free will”.

Group size, supervisor-to-student ratio, group rotations and consistency in the information provided to students are requirements set by the participants of what they can expect from the institution and lecturer and the level of support they'll receive to achieve the goals.

4.3.2.2 Theme 2: Cultural Diversity

Category 2.1: Diverse races

Participants appreciate the diversity that is already incorporated in participating in PPE. They feel there must be more emphasis on the practical exposure a student will get to prepare them for the diverse environment they will be working in

I think, for the first time in a long time, we have had the privilege of practising on different races. That is something that feels we take for granted because that is not something you always get exposed to. So, in terms of examining different races, I found that different people expect you to go to different details depending on their race, specifically speaking. Some require you to explain exactly what you are going to do. Some don't want you to get so physical. Some want you to be discreet in your movements, and so on. I think exposure to practising on different races from the early onset of our studies [FAM15;91].

Participants felt intercultural awareness should deliberately be emphasised and even trained for students. The participants voiced the need to know more about what is acceptable in different cultures and religions and what they should avoid doing.

I feel like we don't know enough about the different cultures and what's accepted or not. As we are practising now, if we don't get exposed, that will affect us in the future, and this is thrown at us, and we have no clue how to deal with this because we don't know what is expected. I think with the results of the guidelines, we should have a clearer indication concerning different groups about what is acceptable and what is not [FAM15;19].

Sometimes there are ethnic differences or particular diversity, and you are not completely aware of what is acceptable in terms of physical contact in terms of someone of a different culture or race or ethnic group for that matter [FDM1;12].

Participants expressed a need for cultural diversity awareness and training. PPE could be a useful tool to assist in this, but it must be incorporated longitudinally into

a curriculum. When PPE is utilised as a training tool in a culturally diverse society, clear guidelines could assist in avoiding conflict, racial discrimination and ethnic insensitivity. This remains an issue that should be handled with great care and sensitivity.

4.4 CONCLUSION

In this chapter, the student's perceptions and experiences were reported under the following themes: Learning environment; Ethics; Social media; Students' experiences of PPE, Diversity and Duty of care. Their recommendations for practice guidelines are: Setting clear expectations and addressing cultural diversity. Based on the remarks of the students, they are generally satisfied to participate in PPE, but some issues and concerns were identified.

In the next chapter, Chapter 5, **Results of the Semi-structured Interviews**, the researcher will report on the perceptions and recommendations of clinical skills lecturers and programme directors.

CHAPTER 5

RESULTS OF SEMI-STRUCTURED INTERVIEWS

5.1 INTRODUCTION

This chapter presents the results of the semi-structured interviews conducted during phase three of the study. The researcher conducted semi-structured interviews with clinical skills lecturers and heads of departments in the Faculties of Health Sciences of five South African universities offering medicine, nursing, optometry, and physiotherapy programmes to explore their views on using PPE as an educational tool in clinical skills teaching.

As visually presented in Table 3.2: **SUMMARY OF RESEARCH PROCESS IN THE DIFFERENT PHASES** (cf. Chapter 3), phase 2 and phase 3 were executed concurrently. Eighteen semi-structured interviews were conducted with clinical skills lecturers and heads of departments.

5.2 RESEARCH TEAM AND REFLEXIVITY

The researcher conducted and transcribed all eighteen semi-structured interviews. Four interviews were conducted face-to-face, and the rest virtually. In Chapter 3 (cf. 3.5), the research team, their personal characteristics, and reflexivity are discussed for both the focus group interviews and the semi-structured interviews. The researcher explains the relationship with the participants in the next paragraph.

5.2.1 Relationship with participants

The first four semi-structured interview participants were familiar to the researcher and promoters because they work together in the same health sciences faculty. They are aware that anonymity cannot be guaranteed but were willing to participate. The virtual interview participants were not known to the researcher or supervisors. They were recruited through a liaison at their specific institution (cf.3.6.3).

All the participants signed the informed consent document before the interviews commenced and had the opportunity to revoke their approval throughout data collection, but none had done that. Lecturers participating in the virtual interviews sent their signed

informed consent documents via email. The same informed consent document was used for face-to-face and virtual participants (*cf.* Appendix G: Semi-structured informed consent). The researcher adapted the consent form for each university by including the HSREC number of the specific university in addition to the number of the UFS. The researcher assured the participants that distinguishable information would not be used in the thesis or any articles resulting from this research.

5.3 STUDY DESIGN

The theoretical background, participant selection, and data collection of the study are discussed in detail in Chapter 3 (*cf.* 3.6).

5.3.1 Theoretical background

In Chapter 3 (*cf.* 3.6.1), the researcher discusses the theory of semi-structured interviews. According to Kallio *et al.* (2016:2955), interviews are the most frequently used data collection method in qualitative research, with semi-structured interviews topping the list.

5.3.2 Participant selection

The recruitment and selection of participants were discussed in Chapter 3 (*cf.* 3.6.3; 3.7.1). The researcher used purposive sampling to select the research participants. Figures 5.1 -5.4 show the numbers and ethnicity of participants involved in the semi-structured interviews. The ethnicity of participants is provided as proof that this study included the voices of culturally diverse individuals.

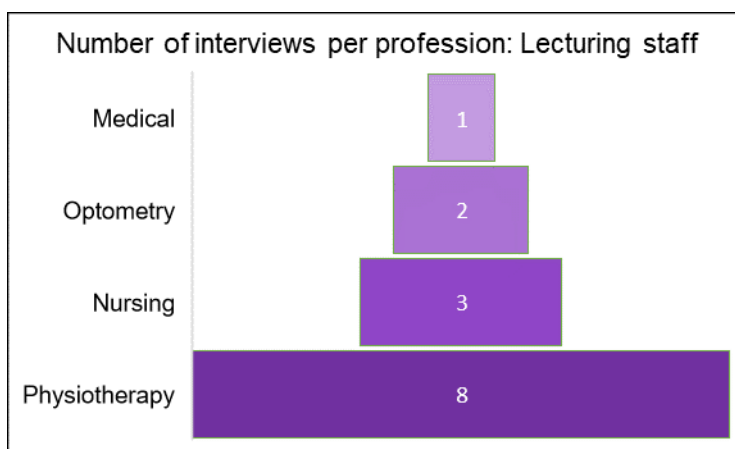


FIGURE 5.1: NUMBER OF INTERVIEWS PER PROFESSION: LECTURING STAFF

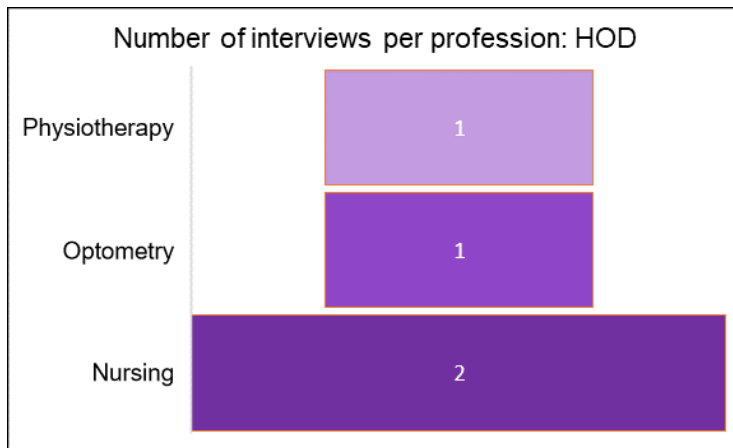


FIGURE 5.2: NUMBER OF INTERVIEWS PER PROFESSION: HOD

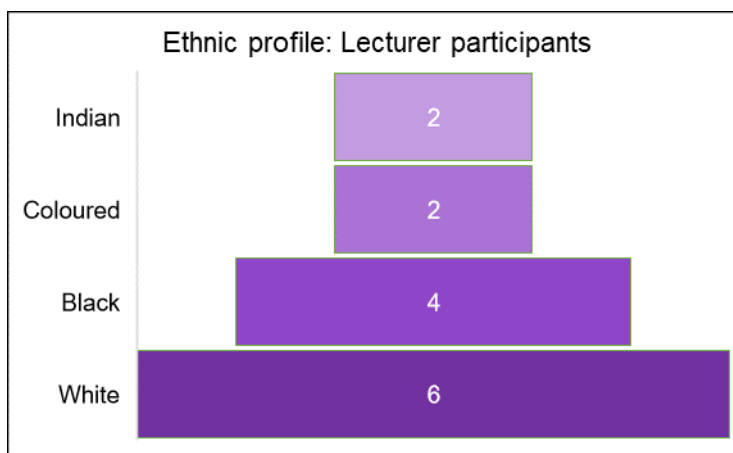


FIGURE 5.3: ETHNIC PROFILE: LECTURER PARTICIPANTS



FIGURE 5.4: ETHNIC PROFILE: HOD PARTICIPANTS

5.3.3 Duration of semi-structured interviews

The duration of the semi-structured interviews ranged from 21 minutes to 56 minutes. No significant difference in duration could be ascribed to either face-to-face or virtual interviews – the differences occurred randomly.

5.4 REPORTING THE FINDINGS

The interview guide is available as Appendix D. The researcher used these research questions to formulate the interview guide:

1. Which elements should be included in best practice guidelines for integrating PPE as a training tool in health professions education?
2. What are the experiences, perspectives, and recommendations of lecturers/administrators in health sciences faculties in South Africa regarding the use of PPE in a multicultural context?
3. In your opinion, what should be included in best practice guidelines for using PPE as an educational tool in a multicultural context?

Analysis of the semi-structured interviews was conducted similarly to the focus group interviews (*cf.* 3.4.2.8). Themes, categories and sub-categories were identified according to the process described by Rabiee (2004:657) and reported on using the COREQ checklist (Appendix P) (Tong *et al.* 2007:349-356).

TABLE 5.1: DATA ANALYSIS: SEMI-STRUCTURED INTERVIEWS

FOCUS AREA	THEME	CATEGORY	SUB-CATEGORY
ELEMENTS TO BE INCLUDED IN BEST PRACTICE GUIDELINES	Logistics	Consent	<i>Timing of consent signing</i> <i>Content of consent</i>
		Disclosure/indemnity Duty of care	<i>Responsible for care</i>
	Student participation	Voluntary/compulsory participation Exposure	<i>Power coercion</i> <i>Special attire</i> <i>Voluntary/compulsory exposure</i>
		Environment	<i>Safe environment</i> <i>Supervision ratio</i> <i>Trust relationship</i> <i>Relaxed environment</i>
	Student population	Diverse partners Culture	<i>Religion</i> <i>Race</i>
		Gender	
EXPERIENCES, PERSPECTIVES, AND RECOMMENDATIONS	Social media privacy	Social media practices	<i>Demonstration videos</i>
	Professional attributes	Professionalism Communication Empathy Respect	<i>Personal experience</i>
		Teaching and learning	<i>Scaffolding and mastery of learning</i> <i>Peer-assisted learning</i> <i>Standardised patients</i> <i>Confidence</i> <i>Peer mentoring</i> <i>Peer assessment</i> <i>Peer feedback</i> <i>Financial implications</i>
WHAT COULD MAKE PPE BETTER	Communicate information	Negotiate boundaries	

Each semi-structured interview was identified by using the letter S followed by a letter ranging from G to X. Then the L for lecturer followed by an N (Nursing), M (Medicine), P (Physiotherapy), O (Optometry), and finally, the paragraph number, for example, SUL112. The complete analysis is available in Appendix I. The researcher used the words lecturer and participant interchangeably in this chapter.

5.4.1 Focus area: Elements to be included in best practice guidelines

The researcher used the same questions in all eighteen semi-structured interviews. The questions were not asked in sequence, but the flow of the conversation guided the interviewer, and finally, the researcher only ensured that all the questions were asked. Six themes emerged from this question which will be discussed in the following paragraphs. Data analysis was done according to the analysis continuum. It includes the raw data, descriptive statements, and interpretation, with five stages described by Rabiee (2004:657) (*cf.* 3.4.2.8).

5.4.1.1 Theme: Logistics

According to the Cambridge Advanced Learner's Dictionary & Thesaurus (2021:online), the meaning of logistics is to organise an activity to happen successfully and effectively. This is a theme that repeatedly appeared in the semi-structured interviews. Participants want the teaching and learning to be effective, with engaging and participating students.

Category 1.1 Consent

Most participants admitted that they did not formally obtain consent from their students for participating in PPE. Most participants described participation as an unwritten approval where students consent to participation because they come to class.

I think maybe we should add a consent form just to have ourselves covered
[SPLP130].

It is like non-written consent [SQLP126].

We actually do not have any type of formal consent ... [SSLO138].

Some participants alluded to their departments having a blanket consent form that students sign at the beginning of their first year, while others claimed that consent would only be needed if one drew attention to it.

I think it's probably the question of when you start making it an issue, then it becomes that they might conclude, that they might think, 'Oh, I can walk out of this altogether or this and then don't do it anymore' [SILM125].

I think it's a blanket consent at the beginning of their first year because from here right through, it's going to be the same [SGLP116].

Participants use PPE as a training tool in an unstructured way to obtain consent. There is no uniform approach to the timing as well as the content of the consent.

Sub-category: Timing of consent signing

The participants differed on when it would be necessary to sign consent before participating in PPE. One of the participants explained that they used to interview all prospective students before starting the course and explained to prospective students during the interview that exposure as part of participation in PPE was part of the course work (compulsory). The particular institution changed its application process resulting in

an application process where students are not interviewed anymore, so they cannot explain and obtain informed consent.

We interviewed everyone, and we got consent there. Now it's part of the application process, so they give consent, but it's not. This is part of the documentation. There is consent, but it's not something that's focused on, whereas previously, we were able to have interviews with all the students and say: Are you aware that this is a practical course you have to expose? So, it was far more overt, but they no longer allowed us to do interviews. So, there is consent, but it's not as overt as it used to be [SVLP1,62].

Some participants explained that they had the students sign consent yearly because the practical skills class is a year module.

We usually let them sign every year of the practical clinical year because our practice is a year subject. Every year, they sign that if they are needed to do peer examinations or PPE, they have signed and are aware [SOLN132].

They actually sign consent every year because we had a set of guidelines or things that you may not play on the physio equipment that you know about plagiarism and all those things [SHLP118].

One participant believed it was necessary to inform students that they would have to expose themselves and participate in PPE, but consent is needed only for specific examinations such as, e.g. abdominal examinations.

I still think it is necessary to inform them at the beginning of their training that there will be occasions like that, ... So, I would say that it is individual or linked to the specific occasion to get consent [SKLO234].

There was no agreement on the exact way and best timing for consent. However, all participants believed obtaining consent and individualising it for a specific session is necessary, as explained by [SKLO234]. The content to be included in the consent was another area without agreement.

Sub-category: Content of consent

The participants disagreed on the content of the consent form. A few declared it should be a blanket consent that covers anything, while another purported that it is an ethical agreement where the goal is to reach the students' core competencies.

I'm not entirely sure, but I think it's a blanket consent at the beginning of their first year because from here right through, it will be the same [SGLP116].

I think from the third year, they signed the consent form specifically because they have to do the VBI-test and the ligament test, where things could be particularly dangerous. [SPLP130]

Participants discussed the specific content to be included in the consent. Should it be blanket consent, or should it be for a specific session? Students should also be informed about the session and the risks; therefore, informed consent is necessary. Blanket consent is not comprehensive enough but still practised in some departments.

Category 1.2: Disclosure/ indemnity

A participant mentioned they compiled a booklet with rules to guide the students because they encountered problems with students playing on the equipment without supervision.

We had one student jumping on the physioball, which is why we implemented the disclaimer, and he fell off, but it was not in the class. It was during a break, and he was injured. He actually fractured a neck vertebra, and the students came and called us, and we got him stable and phoned the ambulance. So, it was his negligence. He was not supposed to be standing on the round ball, thinking I did not know what. But in any case, that is why there is a disclaimer now in their little booklet that they sign that you may not use the physio balls unless it is in a class and for therapeutic purposes. So, with things that students do, we develop new documentation and guidelines and update them to cover all the holes that they (laughter) invent. So, documentation evolves, saying we know it is not our responsibility. The university will not be liable for the medical cost if you do not follow the rules set out in the class by the lecturer under controlled circumstances [SHLP34].

This situation requires students to take responsibility for their actions, but it should be disclosed to them. By explicitly including disclosure and indemnity in the consent, the lecturers and institution are protected against liability. Another aspect is the actions to be taken if pathology is detected or a student gets injured.

Category 1.3: Duty of care

Participants agreed that accidents might happen, and a student may hurt or injure a peer while participating in PPE. At one of the institutions, optometry students fitted contact lenses as part of their eye examination, and a scleral lens was suctioned onto the cornea. Luckily there was no permanent damage to the student's eye.

A sclera lens was suctioned on the cornea, and like there was no way that we could get this lens off. So we did not have suitable pliers, so we took him downstairs to the second floor (Ophthalmology), and they put the pliers under the lens and popped it off. So that is the only instance in the last seven years that we had [SKLO238].

Another example where an examination at optometry did not go as planned is the following. The students (both optometry students) were practising at home. Luckily, there was no permanent damage.

We had one student who put the wrong drops in his girlfriend's eyes. And then, she was not dilating fast enough, so he instilled it in the other eye, so she ended up having bilateral cycloplegia, and she could not study for her test because he had put the wrong drops in her eyes [SKLO265].

The participants gave examples of incidents where one person accidentally injured his peer while participating in PPE. The following incidents were reported in physiotherapy departments. Physiotherapy is a profession where students use their hands to pressure various trigger points or manipulate muscles. It is easy for an inexperienced person to hurt somebody else accidentally.

We do mobilisations on the vertebrae in the back, and before the class, we indicate to them that you may have treatment soreness ... we had incidents where students would come back and say it is day three now, and we still have those symptoms. So, if we are concerned, we would then refer them for physio treatment with the fourth years at the sports clinic, which is for free, or sometimes we pick up that there are

conditions that the student did not realise that they have ... then we would call them in and actually refer them to a private practitioner.... We do not engage in class because everybody says I have a headache. So, our principle is if we pick something up, we will refer [SHLP131].

You need to identify a trigger point, and there is a fair amount of pressure that you need to use if you palpate and different types of palpation methods. So, when students are still learning, they press a little harder on the trigger point. You will hear one student screaming, but it is simply because the assessment technique was not correctly executed [SULP132].

The participants agreed that if a student is accidentally injured or pathology is identified, they will immediately refer the student for professional care, but it is through their own initiative, not because there are guidelines in place in the departments.

Sub-category: Responsible for the care

None of the interviewed participants has a formal policy or guidelines regarding steps they should take in case of accidental student injury or if pathology is identified in one of their students.

We have not talked about how we deal with that, but when we discussed it informally in the tearoom, we say, hopefully, they have experienced it personally, so they know not to do it to somebody else. This comes in when we fit contact lenses, the biggest problem. It tends to scratch the eye, so they are fiddling in the person's eye [SRLO118].

If you find something abnormal, the policy is to, oh well, not the policy, but the kind of unwritten policy is to advise them to see their GP. We do not try and pretend that we are their doctors [SILP144].

We do not have a policy in place, but we have a physio clinic on our campus, so I shall generally refer the student to the physio clinic [SWLP112].

From the remarks of the participants, it is clear they expect students to seek their own medical care. Medical facilities at some universities are privatised, and students would

have to pay a consultation fee. In contrast, public healthcare in South Africa is free of charge but with long waiting periods and often a lack of resources. Without clear guidelines on what to do if something happens to a student, it mainly depends on the lecturer what will happen to those students.

5.4.1.2 Theme: Student participation

Participating in PPE helps students learn from each other and provide feedback to fellow students on their technique or how they have experienced the examination.

Category 2.1: Voluntary/compulsory participation

Most participants indicated that participation in PPE is compulsory at their institutions, and generally, their students do not have a problem participating.

At the beginning of their first year, they are instructed in a class, the guardian class, that is part of our requirements that they must be willing to undress, either for teaching skills on them or they must practise it on each other. [SHLP16].

But in terms of participating in PPE, they do not really have a choice. We team them up, and you will sit as a patient, and generally, there is compliance from them [SRLO116].

One participant revealed that lecturing staff do not explain to students that they can choose whether they want to participate. The students are left under the impression it is compulsory to participate in PPE.

So, strategically, we do not mention that they have a choice. So, we say that you will be sitting in as patients for each other. So, at the outset, they do understand that there is a mutual benefit` [SSLO124].

One person said she asked for a volunteer but then found that students are allocated to volunteer according to a roster.

I ask for a volunteer, and they are actually allocated according to the roster [SGLP126].

Another participant said you could not force students if they do not want to participate. On further exploration, she admitted that they never had any problems regarding student participation at their institution.

If a student does not want another student to examine him. You cannot force them. Then you have to make another plan [SJLN112].

Student choice to participate in PPE remains an important consideration, and alternative options should be available if there are no volunteers. Lecturers cannot force students to participate; although students are often unaware, they have a choice.

Sub-category: Power coercion

When implementing PPE as a learning strategy, lecturers must clearly understand the outcomes they want to reach and communicate them to the students. The students should understand the rationale of using PPE as the educational tool of choice and the benefit participating will bring them. Students who need help to link the outcomes with the learning strategy and the overall benefit will not be motivated to participate. They will only participate because the lecturer is more senior than them and in a power relationship with them.

One must watch out for that if you implement it as an educator, so I am asking you if you are a senior now, you sort of feel obligated, so you do not actually want to do it. It is not actually free will. It is power coercion [SJLN1107].

According to the participants, lecturers should guard against using their position of power to force students to participate in PPE, especially where they have to expose certain body areas.

Category 2.2: Exposure

According to most of the participants, their students must expose specific body areas while practising clinical skills. Initially, students are reluctant to do that, but as the year continues, they feel more comfortable in their group.

We have blanket cover rules regarding exposure during a clinical examination. They are discreetly exposed, and none of the private parts is exposed, so examining the shoulder, for example, they put a towel around them, or we tell them to come in with a boob tube to cover those parts. [STLP126].

They keep on their underwear. Or we have gym clothes that we provide, and it is a prerequisite because it's a set pack that the first years are getting before they come here, and they have to buy a uniform [SHLP112]

Participants disclose that students of the same gender practise on each other. In this specific discipline, facilitators will be from the same gender when facilitating a group of half-dressed students. The rationale behind this is to protect the students from embarrassment and prevent harassment complaints.

Suppose it is something like you have to take off your clothes. In that case, they will usually be of the same gender, and we assign, with the skill like with this chest examination, males with males, and then a male facilitator—a female with a female and a female facilitator [SJLN126].

According to a participant, their students practise skills over their clothes. They do not let them undress, which also prevents embarrassing moments.

We do not let the students undress fully. So basically, it was just a case of doing it over the clothes and not exposing too much. Maybe a leg or an arm you can expose, you know [SLLN112].

Female students must lift their bras for some examinations and loosen them for others, such as practising percussion skills. The student being examined will lift her breasts most of the time to prevent touching a private body area.

But I mean, then they have to take off their bra, the female, because you cannot percuss over the ribs over the bra. You can still get away with the chest examination but not with the percussion of the liver [SJLN138].

The females keep their bras on, so what they need to do when they want to feel the apex beat, the person who is being examined will lift their breasts themselves. So, they do not touch each other's breasts [SILM11517].

No participants mentioned touching other intimate body parts except breasts. According to Hendry (2013:811), the students feel extremely negative towards participating in PPE when intimate body areas such as the breasts, genitalia and the groin are to be examined (cf. Chapter 2, 2.8.3.5). Exposure could be managed by making use of special attire for certain examinations.

Sub-category: Special attire

Some participants reported they have a dress code for when students attended clinical skills classes. According to the participants, physiotherapy and occupational therapy students wear uniforms when attending clinical skills classes. Medical students must wear their white coats or scrubs. Nursing and optometry students do not wear uniforms when attending practical classes in the clinical skills units.

It is mandatory for them; it's also in their study guide; they come in full gym clothes. So, the girls will have the ski pants and sports bra provided for them, and the boys will come in those shorts, knowing they should be topless [SOLN18].

They keep their underwear on, or we have gym clothes; it's a prerequisite because it's a set pack that the first years are getting before they come here, and they must buy a uniform [SHLP112].

According to the physiotherapy participants, their students have specific comfortable clothes they have to wear when attending clinical skills classes. It makes it easier for students to practise their skills because the clothes make exposing a body area easier for examination purposes.

Their practical gear is a short and a tank top, so we won't expect them to stand in their underwear, but at least the tank top might be rolled up into a crop top [SGLP110].

The girls have special gym bras that they will wear for us because they need to be able to undo them when they lie on their tummies if you assess the thoracic spine or palpate all the vertebrae. So, if you just have a regular gym bra on and a sports top, which is usually solid at the back, you cannot palpate [SQLP118].

One participant mentioned that their students practise skills over their clothes. This is not an acceptable practice because they'll do it with patients too. Allowing students to wear special attire may help to make students more comfortable and willing to expose the required body areas.

Sub-category: Voluntary/compulsory exposure during PPE

Participants representing physiotherapy were adamant that students should be able to expose the required body area during a practical clinical examination. According to them, undressing is necessary to thoroughly evaluate a specific body area. Physiotherapy students have specific clothing they wear while participating in PPE.

They also know that when they come to study physio, they have to undress. We have a Muslim girl in the class who even undresses [SQLP122].

It is mandatory for them; it is also in their study guide; they come in their full gym clothes. We always try to advocate for exposing the areas around the area we are treating so you can observe trick movement [SPLP116]. We have blanket cover rules regarding exposure during a clinical examination. They are discreetly exposed. None of the private parts is exposed ... [STLP126].

Exposing is so important in physiotherapy that some institutions notify students about undressing during physical examination on their application to the programme. It is part of their selection criteria.

First-years that are from a different religion might have problems with undressing, and even they get notified before they even start. When they actually applied, it's part of the document they had to go through explaining the selection process [SGLP112]

Participants said they sometimes receive complaints from Muslim females that they are not allowed to expose themselves in class. They even had to inform the parents of some students about why it is essential for the student's future.

Muslim females would come quite regularly with those type of complaints and say we are not allowed to expose our bodies. At times an issue might have been escalated to the parents. We'd have to discuss and counsel the parents why this needs to happen. [STLP116]

The rest of the participants interviewed were not so specific about students having to undress during clinical skills practice.

We don't let the students undress fully. So basically, it was just a case of doing it over the clothes and not exposing too much. Maybe a leg or an arm you can expose, you know. [SLLN112].

Another participant said that exposure depends on the skill they will practise in their institution. They let female students practise in sports bras and shorts, but they must wear those and undress.

Undressing depends on the skills they will be performing and the body part they are working on. For instance, if they have to work with the chest, they've got a special uniform, you know, that is comfortable enough. They wear sports bras and shorts that look decent enough if it is a girl [SXLP140].

One participant said they let students wear a theatre gown and sometimes their swimming costumes, but they must participate.

So, we usually let them wear ... they keep on their underwear and wear a theatre gown. Just so that they, I think that is important, also actually feel how the patient feels that must actually be physically exposed in totality. So actually, what we sometimes did on some groups previously, they came with their swimming costumes, it is sort of exposed, but it is also something they feel a bit, I sometimes think, more comfortable with than underwear [SOLN18].

Swimming costumes might also assist in the case of religious students because most religious people find it challenging to expose themselves to others and even more to the opposite sex, especially outside wedlock. It is challenging for females from certain religious orientations to undress or expose themselves in front of males.

We've had Muslim females whom we have to consider that we would ask them what they are comfortable with, so in their instances, they do not mind being in the gym clothes, but they only want the area to be exposed. So, they cover with a towel just to help make them feel comfortable [SPLP120].

They also know that they have to undress when they come and study physio. We have a Muslim girl in the class who even undresses [SQLP122].

Most religious convictions have strict guidelines and customs that students must adhere to and respect. This is not unique to one specific religion.

5.4.1.3 Theme: Environment

Undergraduate students are still beginning their careers and must learn to examine, diagnose and treat patients. In most instances, students are not initially ready to work with patients, because of a lack of knowledge and skills. By practising under supervision on their peers, they become competent and comfortable with the examinations they have to perform.

Category 3.1: Safe environment

Participants of the semi-structured interviews were of the opinion that participation in PPE ensures a safe learning environment for students with all learning styles.

So, the students have to learn kinaesthetically as well, so they have to take the knowledge from anatomy and physiology and apply it with the visualisation in their mind while they are palpating or whatever it is they are doing. So that kinaesthetic learning takes place, it is quite difficult, and without practising on their peers, they won't be able to do so [SVLP110].

Students practising in small groups or pairs become comfortable in their small groups. They feel safe making mistakes and trying new procedures because they know they are all busy learning. Participants felt their students benefited from participating in PPE because they could see others struggle with some examinations. There was group cohesion after a short while of participating together.

Once they are familiar with each other, I think it is a comfortable learning environment for them to make mistakes or whatever [SRLO112].

The main success, I think it's a safe place where they can learn well. And I think because they respect each other, it works well and if their attitude is not as good as it is [SILM172].

They need a safe environment where they can just learn the skills. So, they don't feel stupid if they make a stupid mistake. [SILM152,54]

Some participants felt that it is essential for students to practise on their peers to become competent before they touch patients. According to them, patients are more vulnerable than students because they have an actual problem.

My concern with that would be where they would have perfected their technique—such vulnerable patients. A patient goes to the hospital because they need help or assistance. The fact that they need medical care makes them vulnerable, so I wouldn't want my students who had not practised or perfected the technique to do that on them in the first place on a patient. So, no. I would say no; it is safer on peers [STLP154].

It is important to ensure that students feel safe while participating because they are still very in experienced.

... on the other hand, we do not want to expose our students to uncomfortable situations for themselves as well, where they are not feeling confident they have not had too much experience in a clinical setting [SSLO12].

The use of PPE as a training tool assists in creating a safe environment for students to learn and practice on each other and helps to develop trust among group members. But the learning environment where students have to learn on actual patients creates a situation where patients are vulnerable. Allowing students to become more experienced reduces the risk to patients. A safe environment and trust were also mentioned during the focus group interviews.

Sub-category: Trust relationship

Participating in PPE while practising clinical skills creates a feeling of unity in the group. The students are exposing themselves, making mistakes and learning together. They learn to trust their group members.

It is almost creating a safe zone where they can practise with each other. It gives them a feeling of camaraderie and being together in a team. It really helps them with teamwork. And I think they do. The principle is that they must respect each other, and they do. And I think that's what makes it work so well [SILM152,54].

I seriously think that's the only way we can teach people before you put them on patients because the trust relationship is different. We are both students. We're helping each other to learn [SHLP1,96].

Some students feel more comfortable doing it on each other than on somebody they don't know. So, it's all about. I mean, they have a relationship with each other [SJLN120].

The flip side to the last comment is that some students don't trust their group members. This may cause relationship problems within the group.

They have a relationship with each other, but it differs. I don't know, you get students that, depending on the type of students, because, like I said because I think some students don't trust other students [SJLN120]

Students could have personal or cultural barriers that could affect the trust relationship.

When the students become more comfortable working together, they trust each other and share more personal information.

In the third and fourth years, when they know they are in a safe space and are sitting as a patient for someone they know, they will say, I am on x medication. ... The better they know their colleagues and peers, they feel they can share that they are, in fact, on Epilim or antidepressants [SKLO287].

The trust relationship could be beneficial for student learning contributing to a more relaxed environment, but there could be barriers. This is where the development of best practise guidelines and the subsequent policy development by individual institutions assist in safeguarding students and lecturers to feel safe and comfortable working with their peers.

Sub-category: Relaxed environment

Participants commented on how they observed students' enjoyment in participating in PPE and felt that the students learnt more because they were more comfortable examining their peers than SPs or actual patients. Some students were observed to be initially uncomfortable but appeared to become more relaxed, which was felt to be due to an appreciation of the value of participating in PPE.

It's a really good tool to use because, I mean, with classmates, they tend to relax a bit more than with a lecturer. Most of the students actually really love it because they feel that they learn more [SXLP116].

They also get more at ease in doing it. They also understand the value of it. It also gets better [SLLN142].

In a more relaxed environment, students will learn more effectively and allow them to make mistakes in a safe and non-threatening environment. Supervision of students contributes to creating a safe environment.

Category 3.2: Supervision Ratio

The participants emphasised the importance of sufficient facilitators for the number of students when presenting clinical skills. Without enough facilitators, the students could practise performing a skill incorrectly or sit and talk instead of practising because they know the facilitator cannot supervise them all. The students also echoed these aspects during the focus group discussions. Supervision in clinical skills teaching implies direct observation of the student while performing the skill. Infrequent observation leads to a lack of feedback which influences the development of clinical skills in the student (Kogan, Hatala, Hauer & Holmboe 2017:287).

It is usually you as a facilitator with approximately 75 students, but we sometimes, in preparation for practical tests, invite another lecturer to assist you because we have some part-time lecturers, but most of the time you are alone, and it's a struggle. I'm not going to lie. It's a struggle [SXLP146].

We have approximately 24 students in a group. The facilitators vary from session to session. Sometimes we will have three facilitators, and sometimes we will have one male and one female facilitator for the thorax. There was once a situation where I was the only facilitator, so that was not ideal [SILM131].

Participating in PPE should be supervised by a lecturer or healthcare professional because the students are inexperienced and can easily learn a wrong technique or practise an examination wrong. It is difficult to unlearn something.

PPE will only help if the facilitator-to-student ratio is high enough; otherwise, it's just ignorance. Then they just learn the wrong things, and in future, they first need to unlearn what they have learned incorrectly, which is not easy [SILM158-162].

The HPCSA has guidelines regarding the number of students per lecturer or clinical facilitator to ensure the students receive the required attention when learning new skills (HPCSA 2017:4). The universities attempt to follow these guidelines, but it is sometimes impossible to comply with the requirement because of staff shortages.

According to the HPCSA, there is supposed to be one lecturer per 20 to 25 students. So up until two years ago, we were one to 40 in a class. We are usually between 30 and 40 in a class, so one educator will go around checking, helping, and checking if students ask questions. For now, we've changed it somewhat for the majority of the time. About two are in the practical class where they do the physical examinations [SGLP152].

So, the HPCSA requires that if it is less than 20. I can look up the specific requirements for you now if you would like that. Then it should be one. If more than 20 students are in a class, there should be 2 or 3 facilitators. And unfortunately, due to our staffing numbers, we cannot do that [SHLP120].

According to The Nursing Education Stakeholders (NES) Group (2012:49), comprising representatives from the SANC, nurse managers, DENOSA, FUNDISA, CPAS, NEA, and PHEPSA, there should be one Clinical Nurse Preceptor present for every 16 to 20 students.

Although there are prescribed ratios of facilitator to students, it could be challenging to adhere to the guidelines because there are often staff shortages and delays in appointments of new facilitators, posing challenges to the practical implementation thereof.

5.4.1.4 Theme: Student population

South Africa's student population is a diverse group of people. Diversity is more than differences in race and gender. Diversity represents the differences that shape the perspectives and lived experiences of people. These perceptions include gender, race, ethnicity, sexual orientation, religion, class, language, ideas, values, nationality, age, ability, and culture, among other (Phillips 2019:3 of 28). In the South African context, diversity plays a vital role in the teaching and learning environment as people from various cultural groups speak any of the eleven official languages in one class.

Category 4.1: Diverse partners

The participants of the semi-structured interviews stated that students must mix their groups to be inclusive because they will not only work with one specific gender or culture.

"What I tried is that they don't practise on the same person the whole time. So that they are able to feel different people and different structures, when it is the next demonstration, we swap partners so that we can get a feel for different bodies so that you are not used to just one body and are not flustered when you get to the real world [SPLP18].

Another participant's opinion on changing partners is almost the same as the previous one.

If I see it is the third class, and you are still with the same person, then that is not right. You need to swap because you need to feel the difference in muscle tone whether the person is stressed out or not [SHLP178].

However, one of the participants stated that students participate more and learn better when choosing their partner, regardless of whether that is an inclusive group.

Whether it is black students or Indian students, or Muslim students somehow, they tend to learn better and perform better when they are paired up or put in a group with people they are most comfortable with. Because then the barriers are all down [SRLO124].
Then we just said, 'Let's forget about trying to force them to mix, let them choose the group that they are comfortable to work in because then their learning and growing are more productive, and we have found that that works' [SRLO124].

Many of the participants emphasised the importance of diverse partners when practising with peers. According to most participants, it would benefit students to practise on a variety of body shapes to gain the most from their PPE sessions. Every person's body shape feels different, and they react in various ways when examined or interviewed by a student. When students practise on more than one person during clinical skills training, it enhances their knowledge and confidence about how different body shapes feel and look when they perform their examination.

... we do not keep them with the same partner all the time. ... Patients come in all shapes and sizes [STLP156].

The students also mentioned this during the focus groups, and they also recognised the advantages of being exposed to various body shapes and cultural differences when changing partners.

Category 4.2: Culture

Culture, gender, and religious convictions are often intertwined, and separating one from the other can be challenging. Some students from certain cultures will repeatedly practise on students of similar gender and culture.

We do have Muslim students, and their parents are not happy for them to expose and that kind of stuff [SVLP124].

Actually, we do have cultural problems. Although it is not invasive, we have a lot of Muslim female students in our programme historically [SRLO124].

We have instances because of cultural groups and preferences; for example, certain cultural groups may not expose their faces. [SSLO132].

Some participants felt embarrassed or found it problematic to undress in front of peers, despite being of the same culture, language, race group, and background.

Even though they might be in inverted commas from the same culture, they still feel uncomfortable undressing in front of a peer [SGLP16].

In many cultures, older women find it challenging to expose themselves in front of younger students, especially of the opposite gender.

There were many older female students, so they were actually not comfortable with sharing or interacting with the young male students [SOLN118].

Students often tend to turn to their own culture when performing practical examinations because they are more comfortable unless they are consciously reminded of the need for training on diverse groups.

So, they tend to pair themselves up or ask if they can be paired with one of their friends or someone, they are more comfortable with. So, a few years ago, we said we have to break that because we live in a diverse country. We cannot have people still wanting to stick to their comfort

groups because, as a training institution, we have to teach them to work in diversity [SRLO124].

I must say that the different cultures usually pick one another to practise on. We are quite strict because we practise different cultures in all our procedures to mix them up. You expose them in everything that they do so that they gradually get used to that, and by the time they get into the practical part where they need to practice, they still very much want to go to their same culture, but then we need to remind them okay let us split up [SLLN126].

On the other hand, some participants reported that if students from the same cultures are grouped together, they perform better. In many instances, they are grouped beforehand, and it might not be to the advantage of the students to force them to work in a diverse group.

We mix groups, and we tell them they are not allowed to change, but what we found was that inadvertently, we found they don't perform best under those circumstances. Whether it is black students or Indian students, or Muslim students, they tend to learn better and perform better when paired up or put in a group with people they are most comfortable with. Because then the barriers are all down [SRLO124].

The advantage of mixing cultural groups is that it prepares them for the clinical areas and for future practice, but sometimes students learn better if they are kept in the same group. One could find the best way to promote learning by individualising the group distribution for specific sessions.

Sub-category: Religion

Religious diversity is defined as the coexistence of two or more religious communities in a specific geopolitical setting suggesting only the presence of religious differences (Lindsay 2015:online). Religious diversity and the differences between groups of people is an important aspect to consider when considering PPE in a module or a programme. The participants reported that when students participated in PPE, differences in religious convictions should be considered, and lecturers should be sensitive to these customs suggesting religious pluralism or "respect for the otherness of others", which exists when followers of different religious beliefs coexist in the same society (Aspeninstitute 2019:online). For instance, some religions, such as the Muslims, may not expose

themselves to people of the opposite gender and will sometimes feel reluctant to expose themselves to their own gender who does not belong to their religion. Students and lecturers should respect that.

We do have Muslim students, and their parents are not happy for them to expose and that kind of stuff [SVLP124].

We have a lot of Muslim female students in our programme historically. I don't know. We had a lot of them, a fair percentage of them. And some of them are okay. You get the more conservative ones that do not want to be assessed by a male. So, you cannot pair them up with a male.

There are all those dynamics [SRLO124].

One of the participants mentioned that some Muslim students practise on both genders because they realise they must gain confidence to practise their chosen profession. Participating in PPE happens in a safe environment conducive to learning.

Students, including Muslim and male students, practise on a female student and vice versa. They have to practise being able to do that with confidence. So, if we do not allow them to do it in the class, then where will they practise it? [SVLP134].

Another participant mentioned that female Muslim students participate in PPE, although they are reluctant to undress in the presence of females of other religions.

Some of the Muslim girls were quite shy to undress in front of the other girls, but they didn't, you know, they didn't feel, not to the extent that they did not want to participate in the PPE. [SILM134]

A participant lecturing optometry said students who fast during the month of Ramadan or for any other reason said they are not allowed to use eyedrops for dilating during eye examinations as it is absorbed systemically.

Before, we've had students as well the Muslim students that fast, you know, Ramadan or whatever, they said they couldn't use the drops because it's going into them. They are taking it in. So, then you respect it and say OK, its fine. This month you cannot dilate, so you must then, instead of going two-two, that student then goes with another pair of students because they don't sit as a patient, but they can still do the procedure on other patients. [SKLO123,24]

A participant disclosed that a colleague discussed PPE and the participation of students for educational purposes with the Muslim Medical Association, a group in Durban (SA). The Association does not foresee any problems regarding participation because the students should learn to examine diverse people from any community as these will be the patients the students will see during their community service.

We do have Muslim students, and their parents aren't happy for them to expose and that kind of stuff. We have discussed this with the Muslim Medical Association, a group in Durban. I didn't do it; a colleague of mine spoke to them, and they said that this is not seen as an affront if they suitably expose. They are within a closed environment. We put screens up and that, and we allow the Muslim females to work on each other and that kind of stuff. But then they have to be able to palpate the patient because when they're going to community service, they'll be serving a community whose citizens are of South Africa, anybody can come. They have to be able to provide that service to anyone. So, they have to, as part of the learning process, they have to be exposed for others, and they also have to be able to assess and palpate different genders and cultures as well. [SVLP124]

The participants mainly discussed matters concerning the Muslim religion but did not mention issues with other religions, such as the Jewish, Hindu or Christian faiths. It is imperative always to be sensitive and accommodating to all students, whether religion, culture, or race. Clear communication and an explanation of the reason and benefits of PPE might assist in resolving problematic issues.

Sub-category: Race

The participants also touched on racial dynamics but suggested that it should be discussed in an open conversation. According to the participants, it is important to discuss any racial and religious prejudices that students may have. It must be a place where they can trust each other and discuss even difficult topics, such as racial and religious differences and accept the opinions of others.

Also, racial dynamics, but that is coming from time to time. Even when it is a peer, there are ingrained perceptions in all of us, and then they do not want black male students to come so close and work on them [SRLO124].

I think gender should be discussed, as well as race and religion. I think those three things are important. We need to discuss that and have an open conversation [SMLN128].

In a culturally and racially diverse society, lecturers and institutions should be sensitive and accommodating towards the students and abide by institutional policies and procedures. Lecturers should also set their own biases aside. The gender of students also has the potential to be controversial. The following category discusses practices regarding handling gender practices that the participants raised.

Category 4.3: Gender

Gender differences between students participating in PPE are often problematic because female students do not want to expose themselves to male students. The participants only mentioned male and female students and did not mention students that identify as LGBTQ+.

We have a lot of Muslim female students in our programme historically. And some of them are okay; you get the more conservative ones who do not want to be assessed by a male [SRLO124].
I think gender should be discussed. We need to discuss that and have an open conversation. The reality is that when you come to practice, you cannot negotiate anymore [SMLN128].

Lecturers will often use male students when demonstrating a new examination or technique to the entire class (cf. 2.8.3.1). It is not always fair towards the male students; therefore, SPs could be an option as mentioned by a participant:

We shall do a demonstration on a male that will be willing, or we will arrange that there is one model (SP) [SJLN138].

A few of the participants reported they let their students practise on both genders,
They practise on males and females. We've got both in the class, and they practise on them both, yes [SQLP120];
Especially the male students that have to do something on a female student [SGLP16].

It is mainly physiotherapy and optometry students who practise on both genders, while the majority of participants reported their students to practise on the same gender. Optometry students need not undress; therefore, it is usually not a problem, but especially physiotherapy, medicine and nursing have to undress, which could create problems.

The males don't get to be exposed to the female anatomy, so that is a bit sad for them, ... [SILM117],

It is males with males, and then it was a male facilitator—a female with a female and a female facilitator [SJLN126].

The LGBTQ+ community should also be considered, although the participants only mentioned male and female students and did not mention students that identify as LGBTQ+. The next theme will look at the effect of social media on student participation in PPE.

5.4.1.5 Theme: Social media privacy

Technology has become a global concept, and by the time young people reach adolescence, most have access to a smartphone or computer and social media. Social media can be described as any digital tool or application that allows users to interact socially by creating and consuming content (Nesi 2020:116). Social media includes applications such as Facebook, Instagram, Twitter, WhatsApp, Snapchat, YouTube, and more. Social media emerged as a theme during the student focus group discussions as well (cf. 4.3.1.3).

Category 5.1 Social media practices

This generation of students and society utilise social media to disseminate information. Most people have smartphones, making access to cameras and the Internet easy and immediate. Therefore, it is important to inform students that they must obtain consent from everybody in a photo or video before uploading it onto any social media platform, such as WhatsApp groups, Facebook and the like, because of student privacy. The Protection of Personal Information Act, Act 4 of 2013, was enacted on 1 July 2020 (South Africa 2013:online). This act makes provision for data to be de-identified when used on a public platform such as social media platforms (Swales 2021:2). When somebody wants to post a photo of himself together with his friends in the clinical skills laboratory,

they must seek the explicit consent of everybody in the image before it is posted, or it could be regarded as an infringement of the right to privacy. The participants echoed this sentiment.

They must get permission before posting anything on social media [SLLN134].

They sign a document, not that I think at the end of the day the document is as legally binding as we would want it to be, but they get informed at the beginning of each year regarding posting lecture videos on social media, photos of peers, and photos of patients. Even having it on your WhatsApp profile and things like that [SGLP162].

The participants agreed that students should learn to ask for consent before posting anything that happened in class or on the clinical platform on social media platforms. It is crucial to make students aware of the POPI Act and the consequences of breaching the act (Swales 2021:2).

They have to have consent; everything must be covered, all the basic ethical things and not the face. They are not allowed to put in any pictures of patients, family or anything. [SOLN126].

A participant said they must remind their students about the ethics of posting photos or information on social media without consent because the students sometimes forget, especially when it is a fellow student in the image.

It has happened that someone will post something on Facebook. So, we just have to remind them about its ethics. So, we try to ensure that our students understand the ethics of protecting a patient's identity, even if the patient is a fellow student and not putting that in a public space without the patient's consent, so we try to train them in those things [SRLO128].

Another participant disclosed that having a paragraph on social media in the module guide will be of value.

It's probably a good idea to put something in the module guide to say they're not allowed to post pictures on social media. But they already have special lectures in their first year, the first semester, about ethics, social media, and what one may share [SILM142].

According to one of the participants, their university will take disciplinary steps against students that distribute photos or videos on social media.

They sign a disclosure that they may not distribute any photos or anything on social media and that the university will discipline them. We will take it to the authorities if they do that. So, they do sign a disclosure, and they're well aware that there will be disciplinary steps if they don't do it. So, we haven't had any incidents like that at all [SHLP162].

Two participants believed sharing photos or videos on social media platforms is acceptable. The first said that participants often asked a peer to take a photo or video of them performing a skill, which affirmed their consent. The other said she did not have a problem when students shared images on social media as long as they performed the skill on a manikin.

Well, I mean if the peer is giving the one being examined, the student or the friend a phone saying, 'Hey listen here, quickly take this'. Then it is probably fine, but I mean the person consented that you are doing it on [SJLN146].

They like to, and I do not have a problem. It is allowed to take photos when they take blood from a plastic arm. So, they get their friends to take a photo of them and share it with their family [SILM138].

The practice of sharing demonstration and training photos and videos on social media platforms is in line with what the students said in the focus group interviews (cf. 4.3.1.3). However, the POPI Act and the consequences, if images are shared without consent remains a major concern, and as the participants suggested, strict guidelines should guide students and lecturers.

Sub-category: Demonstration videos

According to some participants, the students often asked permission to record lecturers while demonstrating a specific skill to make studying easier. These videos are not allowed to be shared on social media platforms.

You are allowed to make a video of me when I demonstrate the technique, but it is not allowed to go onto any social platform. So they are not allowed to share it on WhatsApp groups. They must send it individually to each other or as an email, but they cannot post it on the physio's Facebook page. They are not allowed to paste it on YouTube. [SQLP130].

Participants from physiotherapy disclosed that they teach some techniques that are outside their books. Students can take a video after asking for consent, but it should not be shared on social media platforms.

They ask if some of our techniques are outside the books we teach. It's coming from history. The way we were taught. So, there would be a technique that they would like to videotape with their phone to practise again at home. But then the rule is that they must go and ask for informed consent, and the student taking the video must sign that it is for educational purposes only and may not be posted on Facebook, WhatsApp, or whatever. So, they do sign a disclosure ... [SHLP162].

Clear and specific guidelines regarding social media should inform policies to protect the role players' vulnerability and possible litigation regarding the POPI act. The next theme addresses professional attributes, and social media concerns can also be linked to professionalism and respect.

5.4.1.6 Theme: Professional attributes

Participating in PPE teaches students professional attributes such as ethical and professional conduct and communication skills. These are skills that students must physically practise until they become second nature. Most higher institutions have to develop graduate attributes in students. At the UFS, the graduate attributes to be developed include critical thinking; problem-solving; oral communication; written communication; ethical reasoning; civic engagement and entrepreneurship. These attributes should be developed in students through the curriculum of the degree for which they are enrolled. (UFS Centre for Teaching and Learning (CTL):2018:online). However, students in health sciences need to comply with the core competencies required by the HPCSA as well. These competencies are based on the CanMEDS principles and include additional to the healthcare practitioner, communicators, collaborators, leader and manager, health advocate, scholar and professional (HPCSA:2014).

Category 6.1: Professionalism

Students are practising how to act professionally when participating in PPE or working with patients. The participants reported that students explain a procedure or examination

better when working with an SP than when participating in PPE. With their peers, students take shortcuts and do not explain procedures or ask for consent.

*... they will be able to consider ethics because you have to ask permission to do this thing. Someone will just come and touch the others. They do not get to be reminded that they were supposed to get permission first. By the way, you were supposed to use layman's terms or tell my patient to lie on the tummy because they are not doing it amongst each other [SXLP138]. So, if the patient has to expose his/her back so that the physio can see and do what they have to do, then it's not that the issue isn't that the patient didn't want to expose his/her back, it's **how** the student asks the patients to expose their backs. So, this is something that we try to teach the students from the very beginning, that they learn to get consent and be comfortable with asking a patient to undress a specific area so that they can do the examination. So, they have to learn to approach their patients suitably. So that's one side. And if they struggle to do that with each other, they'll struggle even further with actual patients [SVLP122].*

Students should be reminded that participating in PPE requires the same professionalism as when attending to an actual patient. Ask for consent to touch the peer, explain the procedure and ensure your peer is comfortable.

... it's still teaching them the skill of explaining to and comforting the patient, informing them what will happen and making them comfortable with the process [SGLP120].

Even if it is a fellow student, they always have to say, 'I'm going to touch your shoulder', 'Make you move your shoulder'. 'Is that okay with you?' So they can't just impose what they want to do even if it's their own classmate [SILM129].

Professionalism is also closely linked to how one communicates with colleagues and patients. The next category that will be discussed is communication.

Category 6.2: Communication

The participants were of the opinion that SPs are better at teaching students communication skills than participating in PPE. Students can learn from a stranger (the SP) in a safe environment when working with an SP. Well-trained and experienced SPs

can provide feedback to the student, "in character" or as the patient would experience it, and "out of character" as they experienced the student's approach (Shah *et al.* 2018:4 of 11).

Standardised patients would be even better, especially if you are trying skills, such as communication. The focus is on getting proper informed consent or explanations and things like that. I think standardised patients are the golden boy in this area, but you have to think resource-wise. It is expensive, and someone needs to train them [SGLP132].

I think SPs are often good for communication because it's a challenge if you don't expect anything [SHLP148].

With an SP, the way of communication has to be different. Now I cannot say flex your knee. I must say bend your knee [SXLP106].

Participants warned that to authenticate the PPE experience, students must explain to their peers what they want them to do. A patient or SP will not know how to sit or where to turn, and this information must constantly be communicated to the peer taking the patient role. Without effective communication PPE as an educational tool will not function accurately.

I think you need to approach it like with an SP, GIVE THE MODEL INFORMATION, how you want them to sit, and what you want them to do. Prep them well so that you can get a more, a little bit more, of an authentic examination [SGLP170].

The participants agreed that SPs are better for training students' communication skills even though the costs involved when using SPs should be considered. Communication skills and empathy can be taught, and training is necessary to comply with the requirements of the professional boards (Swinfen, Labuschagne & Joubert. 2022:115).

Category 6.3: Empathy

Patient outcomes are improved, and more accurate symptom and diagnostic information can be conveyed to patients through empathic communication skills. There is a need for healthcare students to learn how to apply empathic communication skills during their interactions with patients (Archer & Meyer 2021:e5244). The semi-structured interviewees emphasised and agreed that participating in PPE teaches students empathy. The students experience the examinations from a patient's perspective, which is excellent to make them understand the vulnerability of their patients.

They had to take each other's blood pressure for the first time, and then I think they really felt how painful it can be if you put the cuff on. They can actually get a very good tool to use because they experience it from the patient's perspective. Because the one said to me she never actually knew that it because they were like should it be this painful then you say you can see if you pump it up too high. Now the students feel what the patient feels, so for me, they got that deeper understanding. You can actually see that they are much more aware of how it feels to be exposed. You know how scared you feel when you want to roll somebody over, so it is really very successful for me. I think they get a little bit of the experience from the side of the patients, so they are much more aware and actually much more empathetic because they know what it feels like. [SOLN136].

The participants explained their reasoning for supporting participating in PPE concerning its importance in imparting empathy and compassion for their patients in students.

We try and install that to get into that idea of explaining and asking and, hmm, making the person comfortable and especially giving them the idea of exactly what is expected and what will happen. Hmm, because we want them to do that perfectly when they get to the hospital. Because that is even more, exposing a very vulnerable population [SGLP120].

It is actually good because they feel how it feels if somebody does, for instance, when they have to draw blood, and they use each other, I mean how it feels to, you know, to insert the needle and have a bit of compassion as a for the patients [SJLN16].

Although communication training with SPs was considered better, empathy training helps students experience the feeling of being a patient. The comment of a participant [SSL184] summarises the importance of participating in PPE to teach students empathy.

I think empathy is very important when using this tool because it gives a student a real direct experience of being a patient when they sit as a patient [SSLO184].

Sub-category: Personal experience

Participation in PPE provided students with valuable personal experience they could not acquire anywhere else. This contributes to their professional development and how they care for patients.

The personal experience of how it feels to be exposed, how it feels to be assessed, how it feels, so I think you do not only learn to assess but also learn to be assessed. You also learn from that personal experience [SMLN12].

... because they experience it from the patient's perspective. The one said to me she never actually knew (how painful it could be) because they were like should it be this painful when you say you can see if you pump it up too high or you know how they feel, so they are much more cognisant of what it feels like [SOLN136].

A participant remarked that when students personally experience the embarrassment and discomfort of some examinations, they will know how to prevent hurting their patients.

When we discussed hurting fellow students informally in the tearoom, we say; hopefully, they have experienced it personally, so they know not to do it to somebody else [SRLO118].

Interestingly, a participant mentioned that one of the students who never wanted to participate in PPE did not master the skill well.

He never felt what the technique felt like. So, his skills were not that great where I think if you are the model, you also have a feeling of what it feels like [SQLP126]

Category 6.4: Respect

Students participating in PPE learn respect for patients, their environment, and colleagues. Students learn to reciprocally respect their peers' privacy and use that when working with patients, their families and the communities.

... mimic the clinical setting as much as possible. Ensure all other sides of the communication side, the respect for personal space and respect for privacy, are all adhered to in a classroom setting [SVLP1,64].

When you are palpating someone, it is actually quite an intimate thing, you are in their personal space, and clinically you need to be very respectful of that, and we need to make sure of that [SVLP167].

The success of PPE as a result of students' feelings of safety and respect for each other was described as follows:

The main success, I think, it is a safe place where they can learn well. And I think because they respect each other, it works well if their attitude is not as good as it is [SILM172].

Professional attributes such as professionalism, communication, empathy and respect have to be trained, and PPE and SP simulation are excellent tools to use. One should, however, select the best tool to achieve the learning outcomes.

5.4.2 Focus area: Experiences, Perspectives, and Recommendations

The perspectives and recommendations of the participants are shared under one common theme, teaching and learning. Scholarly teaching can be defined as using scientifically gathered evidence and is associated and underpinned by a theory and philosophical understanding to maximise learning through effective teaching (Potter & Kustra 2011:3).

5.4.2.1 Theme: Teaching and learning

PPE as an educational tool has teaching and learning benefits for lecturers and students. The lecturer is a facilitator of learning and provides feedback to the students while the students practise and learn from one another.

Category 2.1: Scaffolding and mastery of learning

Participants unanimously regard PPE as an excellent educational tool that allows students to practise a skill or examination until they feel competent. When they get to the clinical areas in the hospitals or clinics where they work with patients, they are confident to carry out the procedures.

I feel that it is essential; it got to happen; their peers are training grounds in many respects. They need to perfect what they have to execute on sick

or needy patients, on people just like themselves, before taking it out on more vulnerable people [STLP14].

Experiencing it and feeling how it feels, then they can say to each move your hands here and try and do it like this, and you know because they now both are experiencing what this technique feels like. It is then much easier to guide the other person to what is better when you are the therapist [SQLP128].

According to the participants, the students must first learn to do a routine physical examination on a person without any pathology before examining actual patients. They must distinguish between what is expected and abnormal when doing a physical examination. That is one of the reasons why lecturers use PPE as an educational tool because most students are still young and without any pathology.

PPE is effective. Students know that they are learning on an asymptomatic person, feeling fairly healthy tissue, looking at fairly normal movement and assessing that. Obviously, the bridge between assessing pathology then is something they'll have to do between the classroom and the clinical setting [SVLP150].

The value of PPE is getting to know the normal as I think most of our students are relatively healthy. So, getting to know the normal before you see the abnormal in the hospitals and obtaining informed consent from someone [SGLP12].

Having a stepwise approach from learning and repeated practice on a normal healthy fellow student to patients with pathology ensures mastery of learning and improves students' confidence.

Sub-category: Confidence

Many participants confirmed they observed that students became more comfortable and confident performing a specific skill or examination while participating in PPE. It is a safe environment where they are allowed to make mistakes without severe consequences.

Students become comfortable and confident doing a technique, so when they do it on a patient when they work clinically, they have the confidence to do it. It is not the first time they have done it [SQLP140].

Students can safely practise on somebody they know, and trust boosts their confidence.

I think PPE is beneficial for students because it allows them to become confident performing the skill first. Second, they get the opportunity to do it on an actual patient. So it is much more natural than doing it on a manikin, for example. It also allows them to see what one another does and how they go about doing the procedure, so they learn from one another during the procedure. Not only from someone demonstrating it [SLLN16].

Category 2.2: Peer-assisted learning

The participants agreed that PPE is used extensively in undergraduate health professions education and, to some degree, in postgraduate studies. They endorsed the positive aspects of peer-assisted learning. Peer-assisted learning is a globally used teaching approach in healthcare education to teach clinical skills, especially communication, physical examination, resuscitation skills, and technical procedures. It is also widely used in anatomy, physiology and problem-based learning (Bugaj, Blohm, Schmid, Koehl, Huber *et al.* 2019:1 of 14). Peer-assisted learning is portrayed as students assisting one another to obtain the required skills in an appropriate environment. It is mutually beneficial for all individuals involved and enhances their confidence. Research suggests that with peer-assisted learning sessions, retention is higher than with traditional teaching methods (Bennett, Morris & Mirza 2018:1472).

The students share information. If it was just one student and an SP, there's no one to share with, but if it's a group of students with an SP, they can share, but if it's a peer, they learn more. I suppose it depends on what you want to achieve at the time. [SXLP148].

I think you build a relationship of trust with the patient. The patient has to trust you that you know what you're doing, so you can't come with a book and say ok, let me see, I have to put my thumb 2cm to the left. I would run if I were a patient, but you can do it with a peer. Saying hold the book. Ok, do you think I am 2.5cm left now? Do you feel that my fingers are on the fibula's head? So, you can have that conversation because you're both in the learning process. [SHLP170].

Sub-category: Peer mentoring

Peer mentoring is included in PPE, especially in departments or schools where senior year groups assist with skills development and assessment of junior student groups. The use of older students as tutors or mentors for younger students is a well-established teaching method (Salerno-Kennedy, Henn & O'Flynn 2010:84). Peer mentoring is described as students being supervised and assisted by a student or peer of more or less the same level of training and social stance, but not as experienced as the lecturer or facilitator (Andre, Deerin & Leykum 2017:1,2 of 7). This differs from using PPE, in that with PPE the students have similar experiences and are in the same year group.

We also use PPE for peer mentoring to an extent because we find that our students sometimes tend to learn certain things a little bit easier or better from a fellow student or a peer [SSLO14].

Both students benefit from the relationship, although it might take some time to get accustomed to the idea of being a "patient" for your peer. Research has found that peer mentoring among undergraduate medical students occurs more than any other type of mentoring relationship and benefits students' self-directed learning, professional development and career choices. It also creates comfortable interactions and friendships (Cho & Lee 2021:176).

Sub-category: Peer assessment

Peer assessment is an integral part of participating in PPE. Students evaluate each other according to a checklist or rubric to ensure they have followed all the steps correctly, and while they do that, they learn as well.

I think for them actually to learn on each other and teach each other, I think that has a dual purpose, so they actually learn to do the physical examination, but also they actually learn how to assess each other as well [SOLN16].

Sub-category: Peer feedback

Students are more open to feedback from a peer than a lecturer because they are more comfortable with their peers. According to some participants, that is one of the benefits of participating in PPE. Feedback is a process that assists students in developing insight

into their clinical thinking and reasoning skills and should be part of any curriculum (Carless 2016:online). Feedback also involves aspects such as care, trust and relationships between people. It must be honest, constructive, and without excessive praise, which may be difficult because what one person perceives as harsh criticism, another may perceive as productive (Carless 2016:online). Peer feedback might be problematic because for it to be meaningful, students should have developed critical assessment skills, which some students still need to achieve (Pitt *et al.* 2020:245). Still, with multiple experiences through scaffolding of tasks, the grades of all students can improve. These improvements can be attributed to the collaborative learning environment that peer feedback promotes (Pitt *et al.* 2020:245).

I find that they are just a little bit more open to feedback that comes from a peer. They don't see it as much as criticism. Although feedback from an academic is not necessarily criticising, it is constructive feedback to help them. They are more comfortable in that space where fellow students say, hey, you missed this, or you should have done it that way, or you held this target at an incorrect distance. They feel less on the spot and less under examination or judgment when a peer gives them that feedback than when an academic or professional gives them feedback [SRLO112].

The students provide honest feedback to their peers. According to participants, students learn together from the feedback they provide each other.

So that is nice because they are brutally honest and critical. And I think that's part of learning. It's not authoritative, the lecturer is not the one that's always saying nasty things, and you should be better. Sometimes your colleague says you're not doing the technique the way you should, or you should have done the exercise better - I did not feel it stretch where you said it would stretch. I think it also has a good component of reflective learning. Someone the same age in your class may say that you didn't listen to what the lecturer said. You are not doing the technique the way it was shown or something like that. I find that quite valuable [SHLP142].

The definition of PPE is the educational method where health professions students act as models for their peers to learn and practise physical examination skills, simple non-invasive diagnostic or therapeutic procedures and professional attributes under the supervision of a professional person or lecturer (*cf.* 1.1.1). Peer feedback is beneficial

for the students and enhances their confidence. It should be used to supplement and augment the clinical instructor.

Category 2.3: Standardised patients

Participants believed that using SPs and participating in PPE when teaching clinical skills have advantages and disadvantages. Standardised patients have been synonymous with medical education for about fifty years (Himmelbauer, Seitz, Seidman & Löffler-Stastka 2018:1 of 6), and most students and lecturers are pleased working with them. They are valuable in teaching students communication skills but need a skilled instructor to train them to portray a patient authentically. Some universities use trained actors as SPs, while others use a volunteer system (*cf.* 2.7-2.7.3 Chapter 2).

Some participants believed using SPs is better than participating in PPE during clinical skills training. The SPs must be trained adequately for the students to benefit from the sessions. According to the participants, SPs work particularly well to teach professional attributes and communication skills to the students.

Simulated patients work well for the interview process but not for physical examinations. So, it is better to have symptom-free people because there is less risk of injury or anything like that [SVLP114].

Standardised patients would be even better, especially if you practise communication skills. The focus is on getting proper informed consent or explanations and things like that. I think standardised patients are the golden boy in this area [SGLP132].

One of the participants believed that using SPs was better than using PPE because students tend to forget basics such as asking for consent when practising on their peers.

I think it is much better for the students to practise on the SPs than their peers. I know there are advantages to practising on each other, and having the whole group practise on SPs would be expensive. Still, given an opportunity, I think that will be the best way because now they're going to be able to consider ethics. After all, you have to ask for permission to do this thing. Someone will just come and touch their peers, so they don't get to be reminded that they were supposed to get permission first. It is like, by the way, you were supposed to use layman's terms, or you were

supposed to tell my patient to lie on the tummy because that is what they do amongst each other [SXLP136,138].

If students only practise on their peers, they are flustered when they get to an examination or OSCE, and suddenly there is a total stranger on whom they must examine or perform a procedure.

We need to use standardised patients more in the formative part because they are very comfortable with each other and when they come to an OSCE. It is somebody they have never seen. It surprises them, so we now have formative OSCEs where they can get used to that, too [SILM152].

Sub-category: Financial implication

Using SPs is expensive because they are getting paid per hour, and the training time is added (cf. 2.7.2). One of the factors contributing to PPE being used instead of SPs to teach students clinical skills is budgetary constraints. Participants repeatedly mentioned the cost of SPs to teach students clinical skills.

Standardised patients, I think, are the golden boy in this area, but you have to think resource-wise. It is expensive, and someone needs to train them [SGLP132].

One of the reasons we have to use PPE is because of budgetary constraints where we cannot get access to simulated patients [SSLO14]. If probably the SPs were not expensive, then that would be a good thing to have as often as possible so that students practise on the SPs [SXLP142].

Standardised patients are a good and often better option for training students, but the financial implications often force lecturers and institutions to use PPE. The participants agreed that SPs are a good option but not financially sustainable.

5.4.3 Focus area: What could make PPE better

Participants were asked to indicate what could make PPE a better educational tool. In response, most participants thought that most aspects are already covered during the semi-structured interview however, the communication of information needs more attention.

5.4.3.1 Theme: Communicate information

George Bernard Shaw once said, "*the single biggest problem in communication is the illusion that it has taken place*" (Brainy quote 2021). Participants agreed that students should be informed about what they need for clinical skills classes and which body areas they would have to expose during specific classes to prepare themselves. Better communication of information can defuse possible uncomfortable situations for students and facilitators. One of the participants specifically addressed the human aspect associated with undressing during PPE.

We are very flexible and accommodating. We are human beings. We are not dealing with robots, so we talk to the students. ... And then, we will negotiate with the students and see what they are comfortable with, and we will take it from there [SULP112].

The main function is to communicate information about important matters to the students, such as what is required or expected from them. Students tend to be more willing to participate in PPE when there is clear communication of information, either written or spoken, because they feel included in the process. This is in line with what one of the focus group participants said (*cf.* Category 2.3 Chapter 4):

A lot of times, there's no clear expectation given. You get to class and know that you have to expose, but you don't know, for example, what you will have to expose or for how long or for which reason. Then you might, for example, be asked to lift your top, and then you did not know that you would be expected to do that, and you might feel uncomfortable [FAP12;16].

Communication of information to students is essential for the success of PPE. The students must know what to expect, what the clothing requirements are, and what will be expected from them during a session. Communication of information should include information about the content of a session, what they should prepare and the requirements for the session.

Category 3.1: Negotiate boundaries

The semi-structured interview participants agreed that the students should know beforehand what would be expected of them. There must be clear boundaries regarding

what the students might be asked to do and what will never be expected in a clinical skills class. Students and lecturers could negotiate the inclusion of specific skills in PPE.

It is important to have very clear boundaries on what skills may be used for using peers and where you draw the line. Hmm, I think it is very important that the lecturers and the students agree on that. I think the department should have clear guidelines, but I also think there should be a negotiation between the lecturer and the student before engaging in PPE [SNLN134].

Participants were also clear that lecturers should be open to their students' suggestions regarding the classes' operational requirements. They should negotiate an agreement that suits both parties to prevent conflict among students and between the lecturer/facilitator and the students.

One must be careful using PPE, as it may create conflict among students. Things like I don't want to be examined by you because I don't like you. So, one thing is I think they should choose. It should be their choice of self-determination there. You can't assign; say you will do it on you. That is out. [SJLN1,5,7]

Communication of information to students also links with the logistics and should be included under the logistical aspects of the best practice guidelines. Communication of information is also linked to consent before each session. Negotiations with students make the process more inclusive, make them feel part of the process, and help set boundaries of what is expected during a session. This is an important aspect mentioned by the students as well as the lecturers.

5.5 CONCLUSION

This concludes reporting of the results of the semi-structured interviews. In the following section, Chapter 6, **Discussion of the Results of the Focus Group and Semi-structured Interviews**, the researcher will triangulate the results with literature on PPE and the results from focus group interviews.

CHAPTER 6

DISCUSSION OF THE RESULTS OF THE FOCUS GROUP AND SEMI-STRUCTURED INTERVIEWS

6.1 INTRODUCTION

The study identified several factors that students and lecturers deemed necessary to include in the guidelines for PPE when it is used as an educational tool. Most of the data that emerged from the focus group interviews with students and the semi-structured interviews with lecturers and HODs correlated, often only phrased differently. Participants of all the interviews focused on informed consent, a safe environment to practise and the advantages of participating in PPE in developing professional attributes. The main differences between the two groups are the themes generated.

An analysis of the focus group and semi-structured interviews discussed in Chapters 4 and 5 were presented, the themes, categories and sub-categories were compared, and similarities and differences were identified. The researcher combined the results of the focus group and semi-structured interviews into one table. These results were then triangulated with the theoretical framework as elucidated in Chapter 2. The discussion will follow the identified themes and categories represented in Table 6.1:

Data triangulation of focus group interviews, semi-structured interviews, and the literature aided the researcher in compiling guidelines when PPE is used as an educational tool at a higher education institution. In the final step of the research process, the guidelines were sent to eight experts to review and validate the proposed guidelines via e-mail. The experts are from different universities and professions, but all have experience in teaching clinical skills and using PPE as an educational tool (*cf.* 3.8.2, 3.8.3).

6.2 COMBINED QUALITATIVE DATA

The researcher combined the results of the focus group interviews with the students and the semi-structured interviews with the lecturers and HODs into one comprehensive table. There are many similarities between the categories and sub-categories, but they have thematic differences that vary slightly. The researcher immersed herself in the

reported data and compiled the following combined table of themes, categories, and sub-categories. The data will be discussed following the order of table 6.1.

TABLE 6.1: COMBINED THEMES AND CATEGORIES OF SEMI-STRUCTURED AND FOCUS GROUP INTERVIEWS

THEME	CATEGORIES	SUB-CATEGORIES
Ethics	Consent	<i>Timing of consent signing</i> <i>Content of consent</i>
	Compulsory/Voluntary participation	<i>Power coercion</i>
Learning environment	Safe environment Supervision Undress/exposure	<i>Trust relationship</i> <i>Appropriate attire</i> <i>Barriers to undressing</i>
Duty of care	Unintentional harm to a peer Disclosure/Indemnity	<i>Responsibility for care</i>
Professional attributes	Professionalism and communication Empathy Respect and negotiate boundaries	<i>Personal feelings and experiences</i>
Student population	Diverse partners and partner rotation Culture Gender	<i>Religion</i> <i>Race</i>
Students' experience with PPE	Authenticity Competence and Confidence Scaffolding and mastery of learning Peer-assisted learning	<i>Peer mentoring</i> <i>Peer feedback</i>
Social media	Protection of privacy	<i>Demonstration videos</i>
Setting clear expectations	Pre-brief students Enough supervisors	<i>Standardisation of information</i>

6.3 ETHICS

The ethical aspects of participating in PPE might pose some challenges as there are diverse students from various denominations, genders, races, and cultures present in one class. Literature on the advantages, disadvantages and student attitudes regarding participation in PPE is growing, but the ethics of using students as patients and obtaining consent needs to be improved (Wearn & Bhoopatkar 2006:957).

6.3.1 Consent

In modern healthcare, obtaining informed consent is a foundational concept. It requires the healthcare professional to engage in a discussion process that includes at least three elements: disclosure of information, decision-making capacity and voluntariness (Zhong,

Northrop, Sahota, Glick & Rostain 2019:2). To disclose means to provide the person involved with enough information about the benefits, risks and alternatives about the intervention to make an informed decision (Zhong *et al.* 2019:2). The capacity to make a decision depends on the decision-making abilities of a person and voluntariness requires the person to be free from intimidation or influence. Outram and Nair (2008:275) reported that participation in PPE should be voluntary with informed consent (*cf.* 2.8.3.2), but the reality is that it does not happen like that. Braunack-Mayer (2001:684) indicated that students are more prepared to participate when they know what to expect (*cf.* 2.8.4.5).

Students depend on their lecturers for information; however, in tertiary education, lecturers may expect them to seek some information independently (Delany & Frawley 2012:35,36). The students cannot make informed decisions about participating in PPE as some participants of the semi-structured interviews admitted they need to formally obtain consent from their students. As one participant said:

I think it's probably the question of when you start making it an issue. Then it becomes that they might conclude that they might think, 'Oh, I can walk out of this altogether or this and then don't do it anymore, [SIL25].

Some universities do not have a formal consent process regarding participating in PPE. Reid *et al.* (2012:56) reported that the University of Melbourne in Australia did not have a formal consent procedure to follow in obtaining consent when students participated in PPE, but the students were orientated regarding PPE as a teaching and learning method, including appropriate behaviour and dress code. Generally, no alternatives are available if someone does not want to participate because lecturers expect students to participate in PPE. In South Africa, most universities do not let students sign consent to participate. In the words of one of the focus group participants:

We did not sign anything concerning treating our peers, but everyone seemed okay with it [FDP1;47].

The University of Auckland in New Zealand, which has a diverse student population, has a policy that students can choose whether they want to be examined, but it is compulsory to examine fellow students. Students should obtain verbal consent from their peers before commencing the examinations (Wearn & Bhoopalkar 2014:826-827).

Obtaining informed consent before participating in PPE can be a teaching moment where students learn the requirements of obtaining informed consent. This could assist with the lack of formal training in obtaining informed consent at most universities globally (Delany

& Frawley 2012:36; Zhong et al. 2019:3). A focus group student interviewee remarked on the importance of obtaining informed consent and the habit it creates within the students.

I think it is important to get consent per session. It also creates a healthy habit of asking for consent between the patient and the doctor in a clinical setting. Because I think it is less likely for a student to ask consent throughout the degree on their peers, it is also mindful that asking consent from a patient and consent, in general, is quite important. [FBM5,90].

Consent was one of the first aspects the participants in the focus group interviews and the semi-structured interviews mentioned, which suggests the importance of this aspect. However, it is essential to remember that consent to participate in PPE is twofold, as the students should consent to participate and then consent to the specific examinations.

Another important facet of consent is ensuring students know what is acceptable to share on social media. The Protection of Personal Information Act was enacted on 1 June 2020, stipulating that you need the consent of every person involved before sharing information on any platform (*cf.* 2.9.1). This has consequences for lecturers in the way marks are distributed but also when they want to videotape students for educational purposes. Some lecturers will allow videos to be taken of them explaining or demonstrating a concept with the understanding that it will only be used for the benefit of the student and not shared on social media platforms. There will also be a “patient” involved, depending on the demonstrated examination. Participating in PPE is the ideal way to teach students about patient confidentiality. Healthcare professionals must protect their patients' confidentiality and not share their images on social media platforms (Pera & van Tonder 2015:87.88). When participating in PPE, students must be made aware that they are building their professionalism and cannot share information about their patients (peers) on any social media platform. According to Braunack-Mayer (2001:681-686), participating in PPE is one of the best ways to teach and enforce professional conduct. A participant in a semi-structured interview shared this information.

"It has happened that someone will post something on Facebook. So we just have to remind them about its ethics. So, we try to ensure that our students understand the ethics of protecting a patient's identity, even if the patient is a fellow student and not putting that in a public space without the patient's consent, so we try to train them in those things [SRL28].

6.3.1.1 Timing of signing consent

The students need the necessary information to make an informed decision on participation in PPE (Delany & Frawley 2011:539; Power 2011:539). A participant in the focus group interviews explained that they signed consent at the beginning of their first year, but only some students immediately began with practical classes.

We actually did sign consent in the first year [FDP1;41].

Koehler *et al.* (2014:2 of 8) state that although written consent should be obtained annually at the beginning of the academic year, verbal consent should be obtained during every class in which students examine one another. They add that students must be informed that they can withdraw their consent at any time. Some students sign a document in their first year and only begin with practical classes eighteen months later in the second semester of their second year. Delany and Frawley (2012:33) proposed a three-step communication process drawing from the principles underpinning informed consent in research and clinical practice. This includes providing students with the necessary information to make an autonomous decision about whether they want to participate in PPE.

A semi-structured interviewee explained that their department interviewed prospective students, explained to them about PPE and that participation is compulsory. By doing that, prospective students knew what the department expected from them as students (*cf.* 5.4.1.1).

We interviewed everyone, and we got consent there. Now it's part of the application process, so they give consent, but it's not. This is part of the documentation. There is consent, but it's not something that's focused on, whereas previously, we were able to have interviews with all the students and say: Are you aware that this is a practical course you have to expose? [SVL62].

While the method mentioned above may be excellent for informing prospective students of PPE, there might be better times for obtaining informed consent. According to Delany and Frawley (2012:37), the first step in obtaining informed consent is to have an explicit rationale linking the goals and methods of teaching where PPE is used to the ethical dimensions of the teaching process. Secondly, provide risks, benefits and a process for participating in PPE to the students, which they can adapt and use as informed consent

for their students. Thirdly if a student does not want to consent, offer alternative educational methods (Delany & Frawley 2012:37).

Notably, no focus group participant reported that PPE was explained to them. A few signed a consent form at the beginning of their first year but did not know the meaning of PPE. They are also not informed of alternative arrangements when they do not want to participate in PPE. This correlates with the literature where students want the lecturers to respect them and ask for consent before using them as patients (Bray 2012:22).

So, it can't be a blanket thing that applies forever, and it has to be signed every time you approach someone you get consent. [FBM3,91].

Healthcare professionals and researchers highly value informed consent regarding patients and research participants. That concern should apply to students as well.

6.3.1.2 Content of consent

According to the National Health Act, Act 61 of 2003 of South Africa and the Guidelines for Good Practice of the Health Professions Council of South Africa (HPCSA 2008:online), all health professionals should obtain informed consent before any examination or procedure. According to the Guidelines (HPCSA 2008:online), patients, and in this instance, students, should receive sufficient information to make an informed decision on their treatment (or whether they want to participate in PPE). The National Health Act (South Africa 2003) stipulates that the benefits, risks, costs and consequences associated with a procedure must be explained and also the person's right to refuse the service with an explanation of the implications and risks of such a refusal. This also applies to students participating in PPE.

Vaughn and Grace (2016:6 of 11) discussed the importance of informed consent (*cf.* 2.9), while Koehler *et al.* (2014:1 of 7) reflected on what should be included in a formal written PPE policy (*cf.* 2.10.1). The semi-structured interview participants disagreed on the content of the consent. Some felt it could be a blanket consent while others were of the opinion that it should address the specific session or for a specific examination or procedure. The following two quotes demonstrate the differences in opinion.

I'm not entirely sure, but I think it's a blanket consent at the beginning of their first year because from here right through, it's going to be the same [SGL16].

I think from the third year, they signed the consent form specifically because they have to do the VBI test and the ligament test, where things could be particularly dangerous. [SPL30

Hendry (2019:812) proposed that a written policy or protocol should be available to the students with the benefits and disadvantages of participating in PPE. It should also contain the alternatives available if a student wants to refrain from participating in PPE. He further declares that students should provide informed consent for every PPE session they participate in. Explicitly discussing PPE with the students and obtaining informed consent remains important. The students want to know what to expect when they sign up to participate in PPE.

6.3.2 Compulsory/Voluntary Participation

Students must be actively involved in class activities, and lecturers must communicate with their students what they expect from them and not stay aloof all the time (Haralseid, Friberg & Aase 2015:e1). Students should be informed of the lesson outcomes and any prior knowledge they need to make the most of the learning opportunity (Sahu *et al.* 2019:3). In the focus group interviews, students expressed the desire to know what the outcomes in a clinical skills session are and what would be expected of them. They want to know beforehand when they must participate in PPE or be a volunteer so that an examination or procedure can be demonstrated, as illustrated by a medical student's quote.

Maybe hmm, they can before the session. They can tell us, okay, a volunteer will be required, a male volunteer [FCM1;47].

Vaughan and Grace (2016:7 of 11) reported that The University of Queensland Medical School called for the development of guidelines in the absence of national or international guidelines on good PPE practice. One aspect that should be included in the guidelines is the alternative for students who choose not to participate in PPE.

Traditionally health professional students acquired clinical skills on actual patients in the hospital, as patients become more aware of their right to refuse to be examined by a student, the number of patients to practise on has decreased (Qureshi 2014:69). Patients also stay in the hospital for shorter periods. While they are in hospital, they often are too sick to be examined and practised on by an inexperienced student (*cf.* 2.5). All these

factors have contributed to healthcare students need to participate in PPE (Braunack-Mayer 2001:682; Rees *et al.* 2009:922).

Students are under a lot of pressure from peers and lecturers to participate in PPE. They are scared to risk their academic careers by refusing to participate (*cf.* 2.8.3.2). Braunack-Mayer (2001:684) and Outram and Nair (2008:276) declared that students should have the freedom to choose whether they want to participate in PPE with Braunack Mayer suggesting there should be alternatives available when students refuse to participate.

Participants from the focus group interviews were unclear regarding compulsory participation, with some outspoken in support of mandatory participation in PPE while others had doubts. This optometry student was in favour of compulsory participation.

There will be moments when you feel uncomfortable and have to undress for practical reasons or depending on your course. I think some are more physical as well than others, maybe, but you knew what you were studying. You chose to study this as well. So, you can't really have too much of a problem with it because you knew it was coming. [FAO10,24]

Most focus group participants supported voluntary participation, as seen from another optometry student's quote.

I don't think it should be compulsory, there definitely should be some form of consent whether you are comfortable participating or not. If you are, that is fine, and if you are not, that is also fine. [FDO2,110]

A medical student believed that everybody has the right to choose, so participating can never be compulsory.

It is definitely not compulsory. Obviously, everyone has the right to refuse, and then he would maybe just demonstrate it on a doll. I don't know what he would do, but he can't force you [FCM1;18].

Most students believe the experience of participating outweighs any negative aspects, and as such, they participate without complaining. Participants from the semi-structured interviews confirmed that PPE participation at their institutions was mostly compulsory.

At the beginning of their first year, they are instructed in a class, the guardian class, that is part of the requirements that we have that they must

be willing to undress, either for teaching skills on them or they must practise it on each other. [SHL16].

Another lecturer participant described it as the students do not have a choice; it is compulsory to participate, and they comply.

But in terms of participating in PPE, they do not really have a choice. We team them up, and you will sit as a patient and generally, there is compliance from them [SRL16].

One lecturer participant revealed that they leave the students with the impression that PPE participation is compulsory.

So, strategically, we do not mention that they have a choice. So, we say you will sit in as patients for each other. So, at the outset, they understand that there is a mutual benefit` [SSL24].

However, another revealed that students could not be forced to participate if they do not want to.

If a student does not want another student to examine him, you cannot force him/her. Then you have to make another plan [SJL12].

Koehler *et al.* (2014:1 of 7) proposed nine aspects that should be included in a formal written PPE policy. The first one was that participation in PPE should be compulsory to ensure all the students are competent in physical examinations as per the requirements of their degrees (*cf.* 2.10.1). The second is that not all students need to act as patients, but every student should examine their peers. This situation could lead to a situation of power coercion.

6.3.2.1 Power coercion

Students may only participate because lecturers are in a relationship of power towards them, making coercion unavoidable (Wearn & Bhoopatkar 2006:958). Students want to pass the module, and because there are often no alternative arrangements, they must practise their physical examinations to pass the assessment at the end of the semester (Braunack-Mayer 2001:685; Delany & Frawley 2012:33-39). Sometimes the power relationship is more pronounced, as in the case of Valencia College in Orlando (Chuck 2015:online), where students filed a lawsuit against their college because they were threatened with lower grades if they did not participate in PPE (*cf.* 2.8.3.5). Extreme cases such as these were not reported in any interviews the researcher conducted.

A semi-structured interview participant cautioned against power coercion in the relationship with students.

One must watch out for that if you implement it as an educator, so I am asking you if you are a senior now, you sort of feel obligated, so you do not actually want to do it. It is not actually free will. It is power coercion [SJL107].

Another lecturer participant agreed with this when she said students are not in a position to say no to a lecturer.

If you are the model in the OSPI or the practice, you don't have a choice. If you are the model, you kind of can't say no [SGL:22].

Lecturers and facilitators should be cautious and keep the power relationship between them and their students in mind when requesting students to undress for a demonstration.

6.4 LEARNING ENVIRONMENT

When participating in PPE, students want to be sure that it is a safe environment to express themselves without fear that somebody will ridicule them or that they will get hurt in any way (Hendry 2012:online; Wearn & Vnuk 2005: 89,90). A safe environment also implies that students feel sure they will not be touched inappropriately, as Wearn and Vnuk (2005:93) state. They reported that a Participant Information Sheet was used to list and explain appropriate places to touch participants for example emphasis was put on avoiding touching Maori and Pacific students' heads and shoulders (*cf.* 2.9.1).

The learning environment should be conducive to learning, as Evans and Patel (2012:56-58) stated, establish ground rules such as the areas that may be touched, confidentiality and avoid being judgemental. This should be confirmed before each session (*cf.* 2.9.1) to create a safe environment.

6.4.1 Safe environment

Clinical skills centres are safe environments where students are taught, assessed and can repeatedly practise the same procedure under supervision until they feel confident and competent without harming a patient (*cf.* 2.2). Currently, many institutions use PPE to teach students clinical skills and surface anatomy (*cf.* 2.8).

They need a safe environment where they can just learn the skills. So if they make a stupid mistake, they don't feel stupid. [SIL52,54]

Outram and Nair (2008:274) reported that students felt comfortable participating in PPE. There are, however, some concerns because some cultural and religious groups have reservations about participating in PPE (cf. 2.8.3.3). Some students also were nervous about the possibility of sexual harassment complaints from fellow students whom they had to examine. According to Outram and Nair, a policy should be in place to guide students and staff members, especially on sensitive issues, but also in general. Secondly, students that find it unacceptable to participate in PPE must be assisted with sensitivity, and thirdly, staff training is essential (Outram & Nair 2008:276).

A study conducted by Mclachlan *et al.* (2010:e104) indicated that one of the factors that influenced willingness to participate in PPE was the presence of a tutor or supervisor (cf. 1.2.4). This was confirmed in this study as a student in the focus group interviews remarked:

I think the great thing about the whole peer education is that there is always a lecturer present, and there is always someone you can ask to help [FAP12;66].

Some students feel safe when participating in PPE in a group with their friends, while others prefer strangers (Mclachlan *et al.* 2010:e104). The focus group participants acknowledged that they formed strong bonds with their class and group of friends, which made it easier to be themselves and practise PPE.

We have had a class for four years and longer. So, getting exposed to each other every day really contributes to us being more confident about our bodies and exposing ourselves to our peers because we know each other. We know where we stand. We know each other on a physical level, hmm (laughs) [FAP11;53].

The lecturers in the semi-structured interviews referred to how comfortable students became in their practice group facing the possibility of making mistakes and trying out new procedures. They were not scared that the others would laugh at them because they all were learning. A participant who is a nursing lecturer summarises it as follows.

But I think in the first instance they need a safe environment where they can just learn it. So, if they make a stupid mistake, they don't feel stupid.

You know. It's almost creating a safe zone where they can practise. Listen to the heart sounds, listen to the breathing sounds. Just practise the steps together. And I think it does give them a feeling of camaraderie, of being together in a team. It really helps them with teamwork [SIM 54,55].

Students learn from each other, ask questions, make mistakes and know there is a supervisor to assist them. This is in accordance with a study by Kempen (2020:254,255), concluding that a safe learning environment for students includes a familiar environment where they are free to ask questions and learn from each other.

Lecturer-participants were of the opinion that patients are more vulnerable than students, and because of that, it is safer to first practise on peers.

I wouldn't want my students who had not practised or perfected the technique to do that on them in the first place on a patient. So, no. I would say no, it is safer on peers [STL54].

This is in agreement with the literature of Wearn and Vnuk (2005:90) and Wearn *et al.* (2008:1223-1224), who declared that it was better to learn by examining your peers than by examining actual patients. There should be guidelines stipulating that supervisors ensure students are safe when participating in PPE.

6.4.1.1 Trust relationship

Establishing a trusting relationship with patients is one of the core competencies health professional students should develop (HPCSA 2014:online). Students should also establish trusting relationships with their peers when participating in PPE. The students report they feel safe in their friendship group, where they know one another. The bond the students form with peers in their small group is strong, and they feel safe exposing themselves there (*cf.* 2.8.3.6).

Creating a safe zone where they can practice with each other. It does give them a feeling of camaraderie, of being together in a team. It really helps them with teamwork. And I think they do. The principle is that they must respect each other ... [SIL 52,54].

This agrees with findings by Chang and Power (2000:385) and Wearn and Bhoopatkar (2006:958), stating that medical students would rather practise on their peers than on a stranger. Rees *et al.* (2005:601) reported that students felt uncomfortable, nervous, and

embarrassed when they examined a peer with whom they did not have a good relationship or when they had to examine an intimate body area. Some students are even scared that their classmates will denounce them when they practise on one another (cf. 2.8).

I mean, they have a relationship with each other, but it differs. I don't know, you get students that, depending on the type of students, because, like I said because I think some students don't trust other students [SJL 20]

Some students felt uncomfortable while practising on their peers, but they learnt to trust one another and expressed that in the focus group interviews.

You are scared when you are practising on a friend, a colleague or whoever, and you are also afraid when you are doing it on a patient – especially for the 1st time. But there is also a sense that, at least, your friend will forgive you, or they will be okay with it, and they will understand. In contrast, when you have to practise or do it on a patient for the 1st time, I don't expect someone who is sick and in pain to really tolerate my incapability [FBM10;37].

A semi-structured interview participant also indicates that students might feel uncomfortable initially, but they quickly experience the value of participating in PPE and become more relaxed.

It's a really good tool to use because, I mean, with classmates, they tend to relax a bit more than with a lecturer. Most of the students actually really love it because they feel that they learn more [SXL16].

A semi-structured interview participant mentioned that as students continued working together, they became more comfortable and trusted one another to share personal information.

In the third and fourth years, when they know they are in a safe space and are sitting as a patient for someone they know, they will say, I am on x medication. ... the better they know their colleagues and peers, they feel they can share that they are on Epilim or antidepressants... [SKL2,87].

Students in the same class learn together, creating a trusting relationship. They participate in PPE to learn and make mistakes together.

I seriously think that's the only way we can teach people before we put them on real patients because the trust relationship is different. We are both students. We're helping each other to learn [SHL96].

Most participants mentioned they feel safe and comfortable practising PPE with their friends. Braunack-Mayer (2001:683-684) said it is inhumane to observe a person as predominantly learning material, and letting friends practise together prevents this.

6.4.2 Supervision

Clinical supervision contributes to the professional development of less experienced healthcare practitioners (Snowdon, Leggat & Taylor 2017:2 of 11). During supervision, less experienced students use the knowledge and expertise of their supervisors to address their knowledge gaps; therefore, a good supervisor should be competent and confident to teach and motivate students (*cf.* 2.3.2). They don't need to know everything; instead, they must be open about their inabilities and say how they will find the correct answers for the students (Rudland *et al.* 2010:118). Supervision in PPE is very important as it can ensure ethical behaviour, such as appropriate touching from the students (*cf.* 2.8.3.7). The presence of supervisors also creates a safe space where learning can take place (*cf.* 2.8.3.5).

Some students are concerned because only one or two lecturers or facilitators are present when they practise their skills. This is only sometimes enough to ensure the students practise doing an examination or technique 100% correctly.

Physically one supervisor cannot be everywhere. So, there are rooms where peers examine each other and perform medical things on each other, and 'there's no supervisor present [FAM9;128].

Some focus group participants complained because they had to wait to perform a skill in front of the facilitator or supervisor to ensure it was correct before leaving a skills session.

Another thing that used to bug me was the time it took to practise, and then the lecturer must go around to all the different groups to see what they did. I guess 'it's nice because you get that one-on-one lesson, but it was a waste of time [FBP9;32].

Effective supervision ensures the integration of skills and knowledge. One of the goals of clinical education is for students to master and implement an understanding of clinical practises and procedures. It also assists in developing professional attributes such as communication, interpersonal relationships, problem-solving and conflict management (ASSAF 2018:132). Supervision is imperative in successfully teaching students clinical skills, and any guidelines on PPE as a teaching tool should include guidance about the supervisor-to-student ratio.

6.4.3 Undressing/Exposure

Most health professional students use PPE to teach clinical skills, and the students are generally comfortable participating because they regard it as beneficial for their competence and confidence (Chinnah *et al.* 2011:e27,e28; Hattingh 2017:95). Students from all the programmes, except optometry, have to expose themselves to their partners while participating in PPE. According to Wearn *et al.* (2013:885), nursing students are more comfortable examining their peers than other professions, which might result from their higher contact time with actual patients than students from different professions (*cf.* 2.8).

During practical sessions, the students will be asked to undress to expose the area that will be examined. Undressing or exposing may mean lifting a shirt to expose the abdomen to almost undressing up to your underwear in physiotherapy, depending on the skill or examination practised (*cf.* 2.8).

Undressing depends on the skills they will perform and the body part they are working on. For instance, if they have to work with the chest, they have a special uniform that you know is comfortable. They wear sports bras and shorts that look decent enough if it is a girl. [SXL30]

Only non-invasive procedures and surface anatomy are taught as part of the curriculum using PPE as the educational tool. More invasive procedures, such as breast examinations, are taught using manikins and part-task trainers. Students preferred to know in advance the body areas that are included in PPE and the dress code for specific days (Wearn & Bhoopatkar 2006:962).

Many times, there's no clear expectation given. You get to class and know that you have to expose, but you don't know, for example, what you will have to expose, for how long or for which reason. Then you might be

asked to lift your top, and then you did not know that you would be expected to do that, and you might feel uncomfortable. [FAP12,16]

When students know what to expect, they can wear appropriate clothing to make exposure easier.

6.4.3.1 Appropriate attire

Semi-structured interview participants from physiotherapy reported that they have special attire for their students to wear when attending practical classes. It makes it easier to expose body areas that will be examined.

Their practical gear is a short and a tank top, so we will not expect them to stand in their underwear, but at least the tank top might be rolled up into a crop top if you need to feel for chest expansion or auscultate lung segments and things like that [SGL10].

The other professions reported that their students either wore their uniforms (occupational therapy), a white coat with private clothes (medicine), or private clothes (nursing and optometry).

Having a dress code policy is important because it is part of the professional grooming of a student (Aslam, Jawad, Hotiana, Mahboob, Ashfaq & Jawad 2021:1696). This is part of the hidden curriculum of healthcare education. Surveys conducted in Australia and the USA with medical students found that 13% of USA and 3% of Australian male medical students who responded to the survey preferred wearing a necktie, while 58% of USA students and 13% of Australian that responded felt a white coat should be routine attire (Bramstedt, Colaco, De Silva, Rehfield & Blumenthal-Barby 2016:244-254). (cf. 2.8.1.2).

A profession's identity is built by, among others, theoretical knowledge, practical training, dress code and posture (Aperibense, Silva, Santos, Almeida, Nelson & Peres 2019:7 of 14). Wearing a uniform enhances homogeneity. It makes a person part of a group, reinforcing equality. Students in practical classes should wear uniforms to increase their feeling of reality. It will assist students in visualising themselves as professional people and help them overcome the feeling of awkwardness when examining their peers (Carrero-Planells, Pol-Castañeda, Alamillos-Guardiola, Prieto-Alomar, Tomás-Sánchez & Moreno-Mulet 2021:2 of 6). Distinguishing between uniforms (part of their professional identity) and the practical, relaxed clothing they wear while participating in PPE could

help students during the training sessions. Gym clothing worn in clinical skills training is there to make undressing easier to access the different areas to practice physical examination training. (cf. 2.8)

We get told that, OK guys, just wear comfortable clothes, wear like hmm, pants stuff like that because we are like on splints, and then we have to undress so that we get like exposure and stuff. And, as you can actually see, it's necessary. I feel like 'it's necessary so that we have to see what's actually happening when they say touch the scapula. You need to be able to know where it is. Because if a person is wearing a jersey, it's like really hard. [FDO4,17]

From the perspective of students participating in the focus group interviews, they want to know in advance what to expect when entering the clinical skills class to dress appropriately.

We get told, ' Okay guys wear comfortable clothes, wear like hmm, pants stuff like that because we have to undress so that we get like exposure and stuff. As you can see, it is necessary [FDO4;17].

It is not only the attire but also the barriers to undressing that influence PPE participation. Students become comfortable when undressing and therapeutically touching one another, overcoming the awkwardness of touching another person's half-clothed body. According to Chinnah *et al.* (2011:e30), students expressing their comfort in touching naked and half-clothed patients relates to their PPE participation (cf. 6.4.1; 6.4.1.1).

6.4.3.2 Barriers to undressing

Many students are reluctant to participate in PPE because they have a visible scar or deformity on their body and do not want the rest of the class to see it, or they feel anxious and embarrassed about their body shape or size (Rees *et al.* 2005:601). This problem was highlighted by studies by Vnuk *et al.* (2017:659) and Hattingh (2017:106-107). Students are more willing to participate if somebody from the same gender can examine them (cf. 2.8.3.1).

Some of the classes have males and females, so some people feel more uncomfortable dressing or undressing or actually examining their peers in front of the opposite gender, so I think that is also a bit of a barrier. [FAP118].

Body image influences male and female students, with both genders dreading exposing themselves in front of their peers (Vnuk *et al.* 2017:659). This study by Vnuk *et al.* indicated that when participating in PPE, male students are often forced to be “the patient” and undress in front of the class or a small group because female students should be protected.

I found that some people are more comfortable exposing certain things and some clearly not, but in an instance where it is preferable that males expose themselves for a chest exam or whatever, then lots of males are still reluctant to do it. That makes learning the skill, the practical part, quite difficult as well because then you feel like you haven't actually seen a real examination you've seen. [FAM9,20]

For some students, it is difficult to undress or expose themselves to others, even of the same gender, culture, language, or background (*cf.* 1.2.3). The students must have the boldness to tell that to the lecturer or facilitator, and together they must make alternative arrangements as far as possible to accommodate the student. Chen *et al.* (2011:e532) stated that students are keen to participate and be the examiner but not so eager to be the patient.

Culture, religion and ethnicity can also challenge participating and undressing PPE because, for some religions, exposing the female body is unacceptable (*cf.* 2.8.3.3). Some non-Western students, such as those from the Middle East and Malaysia will less likely to participate in PPE (Chen *et al.* 2011:e529; Outram & Nair 2008:274), and in Australia, some Maori students do not want to be touched on their head and shoulders (Wearn & Vnuk 2005:94).

These barriers should be integrated when compiling guidelines for when PPE is the educational tool of choice. What happens during PPE participation should be kept confidential, and consent must be obtained per semester. Explain to the students what is expected from them and what alternatives are available for those who choose not to participate (*cf.* 2.10.1)

6.5 DUTY OF CARE

A problem that might arise when using PPE as an educational tool is that one of the students might identify an illness or abnormality. Another problem is that a peer might

accidentally hurt another while practising. In both cases, the question arises: Who will treat and assist the affected person?

Outram and Nair (2008:274) suggested that the affected student should take responsibility for obtaining care. Koehler *et al.* (2014:379-386) recommended that the obligation to seek assistance for an identified problem lay with the student, and secondly, there should be a written protocol to follow. Wearn and Bhoopatkar (2006:963) reported incidences of finding an abnormality in a peer as about 1.5% per year (*cf.* 2.8.3.4).

6.5.1 Unintentional harm to a peer

Students do not deliberately harm their peers when practising, but they can quickly press too hard or do something wrong because of their inexperience.

I don't think anyone in the health sciences faculty is here to hurt someone else, so if they do, it really is an accident. Hmm, and you learn through those accidents. So, I don't think anyone here intentionally goes too far because it's funny or something like that [FAO10;71].

Sometimes, because students want to have fun, they may misuse equipment that might injure or accidentally hurt their classmates (Koehler *et al.* 2014:1 of 7). Constant supervision can prevent this, but the reality at most South African universities is that lecturers and facilitators cannot constantly be present in each room (*cf.* 6.7). Unauthorised use of equipment must be regularly discussed with students (*cf.* 2.8.4.3). According to Koehler *et al.* (2014:2 of 7), inappropriate behaviour should be addressed by the supervisor on a case-by-case basis because of the variety and severity of incidents that may happen. These incidents can sometimes be used as teaching moments for the class.

The researcher established that none of the universities involved in this study had a formal policy or guidelines on PPE participation and the steps to follow if something abnormal was detected or a student was injured during a training session (*cf.* 2.8.4.3).

If you find something abnormal, the policy is to, oh, well, not the policy, but the kind of unwritten policy is to advise them to see their GP. We do not try and pretend that we are their doctors [SIL44].

We do not have a policy in place, but we have a physio clinic on our campus, so I shall generally refer the student to the physio clinic [SWL12].

Wearn *et al.* (2017:41) revealed that eight out of 13 institutions have a form of a policy in Australia. The process of consenting and managing abnormal findings is well established, and they have an “event recording form” for when an abnormality is detected in a student. It is important to have a written policy to protect the student, educator and institution (*cf.* 2.10). The content of the policy must be discussed with students at the beginning of each year so that they can be familiar with what to do in an emergency as a focus group participant stated:

A guide to what if you find something wrong during an abdominal examination on a peer and the lecturer isn't present at that stage [FAN4;134].

A written policy or protocol will safeguard students, lecturers and institutions, as everybody will know what to do when an abnormality is found in a student or a student accidentally gets hurt (*cf.* 2.10). The development of an event recording document which the student can take to his medical practitioner will assist both students and lecturers.

6.5.2 Disclosure/Indemnity

One lecturer participant said some students would not disclose an abnormality because they were afraid that would result in them not being allowed to continue their course. This might be the case, but when students are practising on one another, it is better to disclose any abnormality before it worsens due to inexperienced peers. Koehler and McMenamin (2014:432) stated that it is important to explicitly explain to students that refusal to participate in PPE will not jeopardise them.

He had quite a severe kyphoscoliosis, and the other students examining him said they just wanted to look at his back, and I noticed that he got kyphosis and scoliosis. And then I just said to him, 'Did it give you any pain?' and he said, 'No', but I realised that even if it did, he might see it as some indication that he would not be allowed to go on with his medical training, so he might not tell me if it is a problem [SIL44].

Student participants report that they often feel uncomfortable or self-conscious when something abnormal is detected. Sometimes the lecturer wants to showcase the abnormality to everybody in the class. Lecturers must consider the student's feelings when asking because lecturers are in a position of power. The student might agree because they are afraid to say no, as demonstrated by this quote from a medical student in one of the focus group interviews.

She felt a little uncomfortable, and then the lecturer came and said, okay, how would you feel if we presented this to the class and everything? And the peer said, 'Definitely no. There's no way I'm doing this because I already could see how everyone reacted, and they didn't want everyone else to react the same way, but eventually, he agreed [FAM13;143].

Wearn and Vnuk (2005:94) reported that some students would volunteer to be a patient when they knew they had a pre-existing problem such as a scar or heart murmur. A student participant shared an incident when a peer had an actual problem that she disclosed. According to her, she gained much experience because it reminded her in follow-up classes to be careful and look for clues to prevent her from hurting patients.

This person genuinely does have something that hurts and could cause harm, and I just was being extra careful and making sure that the eye contact was genuine and permanently there, and to ask 'Is it okay continuously?' I learned quite a lot from it, and I try to implement that when I practise on my peers. It's just to make constant eye contact and to make sure by saying, 'Am I doing it hard enough?' or 'Please let me know [FBM5;35].

Participating in PPE teaches students to be sensitive towards others and respect the person and his feelings. A policy with a detailed plan to follow in cases where students have issues will assist lecturers and facilitators (Koehler & McMenamin 2014:432).

While student participants discussed accidentally hurting a peer, they wanted to know who would be liable if they accidentally hurt a peer. Some courses have more invasive procedures they perform than others. An example is optometry students that fit contact lenses or dilate pupils. Most students do not sign an indemnity form, and they are unsure whether it should be part of participating in PPE.

I definitely do feel that there should be indemnity forms because they were the ones who injured you. They should be liable for any costs incurred or any sort of costs due to PPE [FDS3;125].

At one of the universities, students in physiotherapy signed an indemnity form at the beginning of each year. However, this is a departmental arrangement and not applicable to the entire faculty. They implemented the indemnity rules after a student hurt himself on a physioball when he jumped on the ball during a break in class.

We had one student that jumped on the physioball, which is why we implemented the disclaimer, and he fell off, but it did not happen during or in the class. It was during a break, and he was injured. He actually fractured a neck vertebra, and the students came and called us, and we got him stable and phoned the ambulance. So, it was his own negligence. He was not supposed to be standing on the round ball, thinking I did not know what. But in any case, that is why there is a disclaimer now in the little booklet that they sign, namely that you may not use the physio balls unless it is in a class, and it is for therapeutic purposes [SHL34].

Signing an indemnity form and implementing a policy on PPE participation might protect all stakeholders in case of an accidental injury of a student. It is important to note that indemnity will not completely absolve institutions and lecturers from litigation should a student get hurt because it is still the lecturer's responsibility to ensure all precautions are followed.

6.5.2.1 Responsibility for care

Braunack-Mayer (2001:683) commented on students being to verify whether a finding is abnormal. Good supervision solved that problem; however, the problem of who is responsible for providing care to a student when an abnormality is identified persisted. Wearn *et al.* (2017:43) recommend that a policy on PPE participation must be implemented so that every participant and stakeholder knows what to do when an abnormality is detected. According to Wearn and Vnuk (2005:91), the Australian Medical Council suggests that medical schools have a responsibility towards their students to provide health advice in case a problem is detected. Wearn *et al.* (2017:43) reported that the incidence of abnormal findings at their medical school (University of Auckland) is very low, even less than the 1.5% per year reported by Wearn and Bhoopatkar (*cf.* 2.8.3.4).

As the following quotes revealed, participants of the semi-structured interviews needed clarification on the correct way to manage abnormal findings in their students. The first participant said they referred to the students' general practitioner,

If you find something abnormal, the policy is to, oh well, not the policy but hmm, the kind of unwritten policy is to advise them to see their GP. We don't try and pretend that we are their doctors. We can't give them medical advice, so we just advise them to go and see a doctor. [SIL44]

While another reported, they did not have a formal discussion on abnormal findings yet.

We haven't talked about how we deal with that, but when we discussed it informally in the tearoom, we say, hopefully, they have experienced it personally, so they know not to do it to somebody else. [SRL18]

A written protocol and event recording form that is discussed with all personnel and students will be of value to everybody involved in PPE. Students and supervisors have specific duties regarding the duty of care when participating in PPE. Generally, everybody involved in PPE acts in good faith that everything will go according to plan during a practical session. Students are morally obligated not to harm their peers, and the supervisors must ensure a safe place to practice. The researcher believes there should be a process to follow in cases where a student is hurt or an abnormality is discovered. Students must be encouraged to disclose any existing conditions or problems to ensure their safety and protect their peers from accidentally hurting them during a session.

6.6 PROFESSIONAL ATTRIBUTES

Participation in PPE is valuable in teaching students attributes such as empathy, confidentiality, respect, professional communication and more (Hattingh & Labuschagne 2019:382). Students learn the values and beliefs they will use in their careers, address patients with respect and attend to the needs of patients and make them comfortable

The students must connect that you are busy developing your professionalism, behaviour, attitude, and skill. It is cognitive. It is a skill, but it is also affective. Person-centred values and beliefs [SML74,76].

Wearn and Bhoopatkar (2006:962) argued that lecturers and facilitators model good professional practice to the students by obtaining informed consent and providing a safe environment to practise.

6.6.1 Professionalism and communication

Professionalism as a skill is needed by every healthcare professional (cf. 2.6.4). According to Jha *et al.* (2017:240), professionalism is multidimensional and includes a person's culture, attitude, values, beliefs and geographical location (cf. 2.8.1.2). Chinnah *et al.* (2011:e31) describe professionalism as the ability to win patients trust and consent, maintain patient confidentiality, the use of appropriate language to describe body structures or tests to be done according to the capability of the individual patient and to treat patients with dignity and respect. However, Burggraf *et al.* (2018:7 of 8) reported that 25% of students have difficulty setting boundaries with their peers and, as a result, feel exposed when they are exposed in front of their peers. Clear, direct communication about the behaviour expectations when participating in PPE and professionalism concepts will help improve behaviour. Lecturer participants in the semi-structured interviews also emphasised this.

Teachers should teach them the skill of explaining and comforting the patient, informing them what's going to happen and making them comfortable with the process. [SGL 6]

Even if it is a fellow student, they always have to say I'm going to touch your shoulder, make you move your shoulder. Is that OK with you? So they can't just impose what they want to do even if it's their own classmate. So I think that's very important. Before we do any peer physical examination, there's the question of explaining to someone what you're going to do and asking permission first before coming into their personal zone [SIL29].

Good communication skills are essential for healthcare practitioners to build a trusting relationship with their patients to obtain the necessary information for a diagnosis. Most people must learn communication skills, and as patients become aware of their rights, health professional students should learn how to communicate effectively. According to Ranjan, Kumari and Chakrawarty (2015:online), communication skills include listening and acting on a person's non-verbal and verbal communication. These skills can be practised as part of PPE to improve students' confidence and communication skills as they work in small groups with peers they trust while in a supportive environment.

In the South African context of healthcare, students must learn to distinguish between a professional relationship and cultural or societal norms. Making eye contact and how you

Speak to an older person is important, as many students are reluctant to speak if not spoken to, or to make eye contact with older people because of their culture and traditions (Matthews & van Wyk 2018:8 of 11). Vnuk *et al.* (2017:653-665) described the distinction between professional and friendship relationships. Students must learn competence in cross-cultural communication, and participating in PPE, especially rotating partners, assists them in becoming confident and competent. Students who need help understanding cross-cultural communication differences might have miscommunication between them and their patients. Even nodding and silence from the patient might indicate that they are confused instead of an indication of an understanding of what was said (Lorié, Reiner, Phillips, Zhang & Riess 2017:420). Matthews and Van Wyk (2018:9 of 11) recommend that there should be a bigger emphasis on intercultural communication and ethics in communication to increase healthcare professionals' communication skills.

Student participants from the focus group interviews declared that participating in PPE assists them with communicating with strangers about intimate issues without feeling embarrassed.

It helps a lot with learning to communicate with patients and peers. You don't feel so scared when speaking to strangers about intimate issues.
[FCN4,34]

Chinnah *et al.* (2011:e27-e36) reported that students say participating in PPE makes it easier for them to interact professionally with patients. Medical students sometimes struggle with inappropriate feelings such as disgust, arousal and embarrassment when performing physical examinations because of how intimately close to the person they are (Chinnah *et al.* (2011:e27-e36). One of the student participants remarked during a focus group interview that it helps to practice with someone you already have a relationship.

They always tell us about the doctor/patient and the health professional and patient relationship, which is very unusual because it becomes very intimate very quickly. You learn a patient's name and then ask them about their sexual history within 2 seconds. It is quite abnormal and refers to history. I think it helps to practise this stuff, just to have a normal conversation and ask these questions, which I find quite hectic in many instances. With someone you know and trust and have a relationship with already, it helps to practise where there was a scenario where you

practised vs a scenario where you walk into and don't have that relationship. Also, to know how to be sensitive about things. [FBM1,63].

PPE teaches students to become professional in the way they touch people. Health professional students must learn to move from a layperson's, culture-bound way of touching persons to an objective, professional way without losing empathy for the patient (Wearn et al. 2013:887). Student participants indicated that it was easier to learn the appropriate places to touch and examine a patient, even when they are half-clothed, when participating in PPE because it is a safe environment.

... especially when you tell them they can't put their hand there, it's a bit weird. And that is quite easy for you to say when you are practising in a group with your peers, and all are laughing, and that person says, "Sorry, I didn't think", or when your friend says, "No, don't worry, I know you, it wasn't weird". But the first time it happens to you that a patient calls on you for being weird or says, "Hey! Don't put your hand there; you are feeling me up," or "actually, that really hurts..." [FBM10;51].

According to Rees (2007:805), deliberating professionalism and ethics regarding body image will make students, especially female students, more positive towards participating in PPE. Guidelines on appropriate behaviour when discussing sensitive issues such as body image will enhance professionalism in general. A semi-structured interview participant commented that sex, religion and race should be discussed to prepare students for their future as healthcare professionals.

Sex, religion, and race must be discussed. Openly and translated to the real world. Say this is not just for PPE; this also happens in the real world. So, let's practice how we can turn out. The students must make the connection that you are busy developing your professionalism, behaviour, your attitude and skill. It's cognitive. It's a skill, but it's also affective. Person-centred values and beliefs. [SML74,76].

Participation in PPE is excellent for teaching professionalism and communication skills to students. It has the added advantage of enhancing teamwork, which is also greatly beneficial in the everyday workplace (Wearn et al. 2013:884,885).

6.6.2 Empathy

One of the main objectives of health professions training is to develop compassion, empathy and respect for the dignity of a patient as a person. When participating in PPE, students can experience the feelings of anxiety and absence of dignity patients feel when they undergo some physical examinations or procedures. Participating in PPE teaches students to protect and respect the dignity of their patients (Braunack-Mayer 2001:681-686). Students get to know how it feels to be exposed and the vulnerability and embarrassment patients might experience when exposed (cf. 2.8.4.2). A lecturer participant summarises it as follows:

Now the students feel what the patient feels, so for me, it is really they got that deeper understanding. You can actually see that they are much more aware of how it feels to be exposed. You know how scared you feel when you want to roll somebody over, so it is really very successful for me. I think they get a little bit of the experience from the side of the patients, so they are much more aware and actually much more empathetic because they know what it feels like [SOL36].

A student participant also made a valuable contribution when he said a person should put themselves in the patient's shoes and see what they would prefer to avoid doing things they would not want to be done to them.

And I think what he tried to say is that one needs to fully put oneself in a patient's shoes to be able to move with them and work with them, and I think not only to do the doctor role. One kind of picks up what kind of person you prefer and that you try and imitate more, and there are certain things that people would do and then try to think how to avoid doing something in that sense [FBM5,73].

The student participants said participating in PPE was valuable because they could experience an examination or procedure from the patient perspective. This helps health professional workers understand patients' and their families' actions and fears. Williams and Stickley say empathy is a physical sensation (cf. 2.8.4.2) that a person is aware of before becoming cognitively aware of. Students learn a vital fact of empathy when they experience the uneasiness of patients. A student participant explained it when she made the following remark,

And then also to feel how it feels to have this uncomfortable feeling in your eye like to have the feeling and then you can tell that to your patient. This

is how it got to feel. You've experienced it. You know. It would help if you told them it got to be uncomfortable. Because if you have never experienced it yourself, then you don't really know how to explain it to your patient [FAO18;58].

Participating in PPE helps students relate to patients' feelings and anxiety when undergoing tests and examinations (Chen *et al.* 2011:e528-e540; Outram & Nair 2008:274; Wearn & Bhoopatkar 2006:958).

Students participating in PPE better understand their frustration when patients do not respond as required to their requests or do not understand what they should do.

6.6.2.1 Personal feelings and experiences

Students learn from personal experience (*cf.* 2.8.3.2). Students that were exposed to PPE during their studies can relate to patients' feelings of embarrassment because of a lack of privacy while being examined or a lack of respect from healthcare professionals while they are in a vulnerable position (Braunack-Mayer 2001:682; Chang & Power 2000:387; Hattingh 2017:98). PPE provides the ideal opportunity to explain to students the difference between a professional clinical relationship and a friendship or familial relationship (Delany and Frawley 2012:33-39). A participant in one of the semi-structured interviews summarised it when she said,

The personal experience of how it feels to be exposed, how it feels to be assessed, how it feels, so I think you do not only learn to assess but also learn to be assessed. You also learn that from personal experience [SML12].

PPE participation obligates students to feel and experience what a patient will feel when examined (Ward 2000:182). They will understand their frustration with patients better when the patients struggle to understand what is required of them. It helps students to realise that patients need help understanding medical terminology or that some procedures might be uncomfortable for some people, and they cannot comply with the requests of the healthcare professional. A focus group interview participant explained the importance of the patient perspective for healthcare professionals in the following quote.

It was quite cool because it was nice to know, and kind of felt the examination ... it was almost as if getting the patient's perspective. This

is what it feels like when someone does not have hot and warm hands, or what cold hands feel like on the body, or when someone pushes too hard, or someone pinches you, or when someone doesn't feel confident, you can almost feel confidence in the fingers – I know that sounds weird, but it's true [FBM1;21].

A semi-structured interview participant described how something relatively insignificant such as inflating a blood pressure cuff, could be painful for a patient. If the students did not participate in PPE, they would not understand why the patients complained.

because they experience it from the patient's perspective. The one said to me she never actually knew (how painful it could be) because they were like, should it be this painful when you say you can see if you pump it up too high, or you know how they feel, so they are much more mindful of what it feels like [SOL36].

Participating in PPE teaches students to respect patients and treat them as human beings and not only as human subjects (Wearn & Vnuk 2005:90).

6.6.3 Respect and negotiate boundaries

Respect for patients or fellow students and lecturers respecting students' decision to participate in PPE should be addressed. Lecturers and facilitators should respect a student's decision not to participate in PPE. Delany and Frawley (2012:33-39) state that lecturers should provide students with an information session on the benefits of PPE participation instead of making it compulsory (cf. 2.8.4.2). Explain the alternative options beforehand with those students who do not want to participate in PPE. Negotiation of boundaries with students should be advocated.

An important rule to follow in PPE is to respect one's partner (Evans & Patel 2012:56-58). Ensure privacy and confidentiality, ask for informed consent and do not judge peers (cf. 2.9.1).

Mimic the clinical setting as much as possible. Make sure that all the other sides of the communication, the respect for personal space, privacy and all of that, are all adhered to in a classroom setting. It's very easy for it just to become a, everyone's having fun kind of, playing and touching and moving and stuff, but they don't feel the seriousness because they know each other, you know [SVL64]

Students could regard their relationship with their peers as non-confidential and disrespectful (Wearn *et al.* 2008:1223). For this reason, PPE could be a vehicle to demonstrate and emphasise professional attributes and mutual respect.

6.7 STUDENT POPULATION

South African students are diverse in terms of race, language, culture, and background (*cf.* 2.4.1). With the current schooling system and the increasing numbers of learners qualifying for tertiary education each year, the student population is an ever-changing factor to reckon with. International and national research point to the influence of socioeconomic background on university access (Martinez-Vargas, Walker & Mkwanzani 2020:427), and in South Africa, there is a vast gap between the learners that can afford better schools and those in fee-free public schools. A learner from a fee-free school is often not well prepared with lower Admission Point Scores (APS) than the rest. Each course or faculty requires a minimum APS score, and prospective students can only get admission into the course with the required APS score. Most fee-free schools are in disadvantaged communities (Martinez-Vargaz *et al.* 2020:427-428).

Jaffer and Garraway (2016:63,64) stated that the number of black students entering higher education institutions had increased significantly since 1994, but the throughput rate remains low. This can be attributed to many things, but socio-economic factors play a significant role. In 2020 approximately 480 000 students in South Africa relied on the National Student Financial Aid Scheme (NSFAS). The results of a national survey conducted by the Department of Higher Education and Training (DHET) about students' access to and use of learning material indicated that 27% of students never buy textbooks, and 68% of this group will access prescribed books online, but generally, students spend only about R1500 on prescribed textbooks in the first semester of 2020 (SAULM Report 2020:6). This is in line with the global decline in textbook sales but also influence studying. Many students from rural areas have limited internet access and no computers and, as a result, struggle to access online work, contributing to the lower throughput rate (*cf.* 2.4.1).

6.7.1 Diverse partners and partner rotation

Healthcare professionals must be able to work with people from diverse groups. Diversity in the teaching and learning environment helps to develop tolerance and provides a

sense of security when other cultures are present. It also allows students to learn about other languages and cultures, encouraging them to be sensitive to others. Participating in PPE and examining peers of different backgrounds, gender, culture, and body shapes, prepare the students for their work environment where they cannot choose the patient they will see.

Rees *et al.* (2005:599) state that participation in PPE assists students in becoming comfortable with different body shapes and sizes (*cf.* 2.8.1.3). The research participants in the focus group interviews agreed with the literature that they should get used to the various body shapes. The best way to do that is to examine multiple people. A physiotherapy participant in the focus group interviews explained it as follows:

The moment you practise on diverse people, different shapes, and genders, you get into the field as a practised professional who doesn't have experience on just one body shape or just one type of person. You get a bit uncomfortable, but that's the whole point; that's what you need to be doing [FAP11;78].

During the semi-structured interviews with the lecturers, emphasis was put on practising on diverse partners because doing so enhances the knowledge and confidence of students when they know how the different body shapes feel and look when they perform an examination or procedure (*cf.* 2.8.1.3). A physiotherapy lecturer made the following remark in one of the semi-structured interviews regarding diverse partners because their students only practise on actual patients from their third year of study.

What I tried is that they don't practice on the same person the whole time. So that they can feel different people and different structures, when it is the next demonstration, we swop partners so that we can get a feel for different bodies so that you are not used to just one body so that you are not flustered when you get to the real world [SPL8].

Participants of the semi-structured interviews were adamant that students must be exposed to various partners to get the most from the PPE experience. This opinion is in contrast with the finding of Wearn and Bhoopatkar (2006:957-964). Practising on diverse peers is particularly necessary for the South African environment because students tend to partner with their friends who are primarily of the same ethnicity and culture.

So, they tend to pair themselves up or ask if they can be paired with one of their friends or someone they are more comfortable with. So, a few

years ago, we said we have to break that because we live in a diverse country. We cannot have people still wanting to stick to their comfort groups because, as a training institution, we have to teach them to work in diversity [SRL24].

The student participants acknowledge that practising with the same person every time will disadvantage them and prohibit them from completely mastering a skill.

We are encouraged to swap partners as much as possible, especially in every class we try, but we tend to move to your comfortable partner. I think the thing about changing people with my degree is that we actually change our technique, for example, massaging. If a patient has a bigger bulk of muscle, you have to repeat the technique, or you have to do it deeper, or your hands have to move differently physically. So, if you don't do that, you won't master the skill [FAP12;81].

The lecturers ensured that when students worked in groups (cf. 2.8), the groups were inclusive because healthcare professionals cannot choose their patients and must treat everyone with the same care and dignity. A nursing lecturer mentioned:

... we do not keep them with the same partner all the time. ... Patients come in all shapes and sizes [STL56].

However, according to one participant, students learned better and participated more when choosing their partners regardless of whether the group was inclusive. An optometry semi-structured interviewee said the following about students choosing their own partners:

Whether black students, Indian students, or Muslim students somehow, they learn better and perform better when paired up or put in a group with people they are most comfortable with. Because then the barriers are all down [SRL24].

This viewpoint is in congruence with the opinion of Vaughan and Grace (2016:6 of 11) of the Medical School of the University of Queensland. They suggested that students should choose their partners when participating in PPE. Alternative arrangements, such as SPs, must be available if the students want to avoid participating in PPE. This viewpoint is debatable, as some students work better when they are in the presence of friends (Mclachlan *et al.* 2010:e104; Wearn & Bhoopatkar 2006:962), while others prefer a stranger to examine (Barnette *et al.* 2000:368) (cf.1.2.4). Comments made by the

students in the research of Barnette refer to how uncomfortable they will be to practise on a close friend of the opposite sex (*cf.* 2.8.3.1).

6.7.2 Culture

Culture and religion are difficult to separate, and often students will decline to participate in a mixed-gender PPE group because of shyness or their religious background. They know examining both sexes is necessary, but it is difficult when they have to undress during PPE to make it possible (Outram & Nair 2008:275). Some students have questions about the acceptability of practising on somebody from another culture, gender, race or age (*cf.* 2.8.3.3). Ethnicity and culture also play an important role with students from some Middle Eastern countries in a multicultural class not so willing to participate in peer physical examination (Outram & Nair 2008:274). Students in the focus group interview propose the following when working with someone of a different culture.

it's important to ask your models specifically if there is anything cultural or religious thing that you want me to know. I also think if that person, for example, is willing to tell, let them speak about it. Don't rush through it.

[FAP12,95]

Lecturers should be sensitive towards the cultural needs of students, as pointed out in the article by Bray (*cf.* 2.8.3.3).

6.7.2.1 Religion

O'Neill *et al.* (1998:online) concluded that Muslim women are less prone to be the examinee during PPE. This was confirmed by Rees *et al.* (2004:604), who deduced that students not belonging to a specific religious conviction would participate more willingly in PPE. One of the student participants alleged her religion prohibits undressing and examining by male participants (*cf.* 4.3.1.5. Category: Religion/culture), while another participant said that in their group, Muslim peers participate in PPE like every other student (*cf.* 4.3.1.5. Category: Religion/culture). Burggraf *et al.* (2018:5 of 8) report that religiousness and strong beliefs in students seem to lead to a decline in willingness to participate in PPE.

Most lecturer participants believed that religious differences must be considered when planning a session where PPE will be used as an educational tool. People should respect one another (*cf.* 5.4.1.2. Sub-category: Voluntary/compulsory exposure during PPE)

"We have a lot of Muslim female students in our programme historically. I don't know. We had a lot of them, a fair percentage of them. And some of them are okay. You get the more conservative ones that do not want to be assessed by a male. So you cannot pair them up with a male. There are all those dynamics [SRL24].

A semi-structured interview participant claimed Muslim students could undress and participate in PPE for learning.

We do have Muslim students whose parents aren't happy for them to expose that kind of stuff. We have taken this up with the Muslim Medical Association, a group in Durban, and they said this is not seen as an affront if they suitably expose. They are within a closed environment. We put screens up and that, and we allow the Muslim females to work on each other and that kind of stuff. But then they have to be able to palpate the patient because when they're going to community service, they'll be serving a community whose citizens are of South Africa. Anybody can come. They have to be able to provide that service to anyone. [SVL24]

This corresponds with a report by Rees *et al.* (2009:925), who indicated that one student explained that Islam permits PPE for intimate regions for the purpose of learning. However, most students said their religion prohibits participation in PPE (Rees *et al.* 2009:925). According to Hendry (2012:812), individual interpretations of religious texts may influence participation in PPE and should be considered by academic staff. A focus group interview participant said the following regarding her faith.

So, from our point of view (Muslim), we are not allowed to have any contact with the opposite gender. So that is completely null. Regarding showing ourselves, everyone has their own personal way of interpreting it, but in terms of males and females, it's a no. In terms of females and females, it depends on the person, but that's not a restriction [FAM19.14].

Participation in practising clinical skills on students of any culture, religion or gender is necessary. Students learn to respect one another regardless of their beliefs, values, or principles in a safe space where they can ask questions. Student participants indicated their desire to learn more about various religious beliefs and customs to know how to approach these people.

"I feel like we don't know enough about the different cultures and what's accepted or not. I feel as if we are practising now, if we don't

get exposed to that now, that will affect us in future, and this is thrown to us, and we have no clue how to deal with this because we don't know what to expect [FAM15;19].

Facilitators and lecturers should be careful not to make assumptions regarding specific students based on their religious convictions. However, a contingency plan should be in place for students who do not want to participate in PPE.

6.7.2.2 Race

Race and culture are entwined. Magoqwana (2018:113) refers to the South African society as a racially and culturally diverse society with students from different backgrounds relating to language and race (*cf.* 2.4.1). Koehler and McMenamin (2012:e527) said the culture, language and ethnicity of a student might impact on the way they will react to undressing and exposing themselves in front of other students and educators.

The participants of the focus group interviews believed practising on people from different races would benefit them later when they encounter actual patients. The skills unit is a safe space where they can ask questions about what is acceptable for various races and cultures.

I think we have had the privilege of practising on different races for the first time in a long time. Now that is something we feel we take for granted because that is not something you always get exposed to. So I think in terms of examining different races because I found that different people expect you to go into different detail depending on their race, specifically speaking. Some require you to explain exactly what you will do, and some don't want you to get so physical. Some want you to be a bit discreet in your movements, so I think Be exposed to practising on different races from the early onset of our studies. [FAM15,46]

A student from another focus group added the following

Sometimes there are ethical differences or particular diversity, and you are not completely aware of what is acceptable regarding physical contact in terms of someone of a different culture or race or ethnic group for that matter. [FDM15,12]

A lecturer participant from one of the semi-structured interviews said every person has certain perceptions about race and culture, and educators should be sensitive for this as they do not know the past history of every student.

Also, racial dynamics, but that's coming from time to time. Even if it's a peer, there are ingrained perceptions in all of us, and then they don't want black male students maybe that's now going to come so close and work on them. So they tend to pair themselves up or ask if they can be paired with one of their friends or someone they are more comfortable with.

[SRL24]

Race and culture are sensitive topics in the South African environment and should be regarded with prudence.

6.7.3 Gender

When discussing gender diversity, it does not only mean male and female; nowadays, healthcare professionals must also consider transgender or gender-diverse persons. Riggs, Coleman and Due (2014:2 of 5) report that 50% of transgender people must educate healthcare providers about their needs and how they should address them. Healthcare professional students must be educated on communicating and interacting with gender-diverse people (Riggs *et al.* 2014:5 of 5).

In many examples, students link intimate body areas with sex and do not want opposite genders to practise on them (Rees *et al.* 2009:924). They are also concerned about sexual harassment complaints or inappropriate touching accusations, especially when examining sensitive areas such as the genitals and rectal areas, and also the female breasts (*cf.* 2.8.3.5). Students must practise on more than one person, preferably of different genders, to get acquainted with the differences in body shapes and sizes and overcome the initial embarrassment when examining somebody of varying gender (Rees 2007:8-10). A physiotherapy focus group participant said the following regarding practising on different genders.

It builds confidence. The moment you practise on diverse people, different shapes, and genders, you get into the field as a practised professional who doesn't have experience with just one body shape or just one type of person. You get a bit uncomfortable, but that's the whole point; that's what you need to be doing [FAP11;78].

Lecturer participants agreed with the findings of Rees that diverse partners are necessary to gain the most from PPE sessions.

“What I tried is that they don’t practice on the same person the whole time. So that they can feel different people and different structures; when it is the next demonstration, we swop partners so that we can get a feel for different bodies so that you are not used to just one body so that you are not flustered when you get to the real world [SPL18].

Some lecturer participants noticed that female students often avoid exposing themselves to male students. This is in accordance with a study by Barnette *et al.* (2000:369) that concluded male students are more comfortable in mixed-gender examinations and females enjoy single-gender partnerships, preferably with friends (*cf.* 2.8.3.1). Rees *et al.* (2005:604) concluded female students are less comfortable participating in PPE regardless of whether it is with a male or female. Participants from the focus group interviews commented on females participating in PPE.

We have a lot of Muslim female students in our programme historically. And some of them are okay; you get the more conservative ones that do not want to be assessed by a male [SRL24].
I think gender should be discussed. We need to discuss that and have an open conversation. The reality is that when you come to practice, you cannot negotiate anymore [SML28].

One participant thought that students should practice on both genders regardless of their religious convictions because they will encounter all genders and religions in their professional careers. Participating in PPE prepares them to manage all types of patients.

Students, including Muslim and male students, practise on a female student and vice versa. They have to practise being able to do that with confidence. So, if we do not allow them to do it in class, then where will they practice it? [SVL34].

It is advised that gender should form part of the discussion at the beginning of the year, where students are informed about PPE and what is expected from them. Male students must be exposed to the female body and *vice versa*.

6.8 STUDENTS' EXPERIENCE WITH PPE

Many institutions globally and in South Africa use PPE when teaching students physical examination skills and surface anatomy (Vaughn & Grace 2016:2 of 11; Vnuk *et al.* 2017:653). Koehler *et al.* (2014:2 of 7) explain that participating in PPE teaches students to empathise with their patients because they know exactly how it feels to be vulnerable and exposed (*cf.* 2.8.4.2). An optometry participant explained the benefit of participating in PPE.

And then also to feel how it feels to have this uncomfortable feeling in your eye like to have the feeling and then you can tell that to your patient. This is how it's got to feel. You've experienced it. You know. It would help if you told them it got to be uncomfortable. Because if you have never experienced it yourself, then you don't really know how to explain it to your patient [FAO18;58].

Participating in PPE creates a safe space where students can ask questions, make mistakes without hurting patients, and act respectfully and professionally towards patients (Wearn *et al.* 2013:884,885). They learn to become confident, competent professionals (*cf.* 2.8.4.1). Health professional students must learn to have a professional attitude and gaze when examining patients, as this focus group interview participant explained.

I think it is very important to practise on peers ... just to work out the awkwardness. It is quite awkward if you are being put in a position where you have to ask a patient, 'Please lie at this angle' or 'Take off your shirt', and just to work out the process all so that you are comfortable and not feeling awkward in front of a patient ... [FBM4;69].

6.8.1 Authenticity

Although some students and educators regard PPE as artificial and unhelpful (Wearn *et al.* 2008:1223), a study by Chinnah *et al.* (2011:e34) indicated that students might change their perception as they progress in the clinical years. Students in the focus group interviews have the following views about the authenticity of participating in PPE.

When we practice on each other, it's not the same as when you are working with an actual patient. [FDO4;2]

It is artificial, I think, but it is the closest you can get to practising on real people until we actually see patients. [FAO10,61]

Students find it difficult to maintain professionalism when participating in PPE because they know their peers are not really ill however the students reiterate that they learn a lot from their peers while practising on them.

I think to a degree, it is sort of an artificial setting because it's not a real-life setting; you're not in a clinic, you're not seeing a sick patient, but something that is reiterated with our clinical practice is you need to know what normal looks like so you can identify abnormal. [FAM9,60]

You learned where things are supposed to be, and having people count-out ribs to feel the intercostal spaces – having people count it out, it drummed it into your memory – it was actually quite a cool experience. The model learned a lot as well – as we didn't get to practice ourselves, we did learn a lot. [FBM1,21]

PPE can be regarded as artificial because students can anticipate what to do or say during an examination, but the practical experience they get helps them to become confident and competent practitioners (cf. 2.8.3.7).

6.8.2 Competence and Confidence

Most health sciences faculties at South African universities use competency-based education (Adefuye *et al.* 2021:3 Of 8). Students should master specific skills or competencies to advance to the following level. When participating in PPE, students can practise a skill until they feel competent performing it.

Students felt comfortable and confident examining and touching half-clothed patients in the clinical environment (Chinnah *et al.* 2011:e30). This could be attributed to students' PPE experiences. A participant from the focus group interviews made the following remark:

I also think the main thing is that it builds confidence. So the moment you practise on diverse people, different shapes, different genders, you get into the field as a practised, a professional that doesn't have experience on just one body shape or just one type of person, and you get a bit uncomfortable, but that's what you need to be doing. [FAP11,78]

Wearn and Vnuk (2005:90) reported that students participating in PPE are familiar with the skills they practised before encountering patients (cf. 2.8.1). Focus group interview participants had the same view.

I think practising on each other is really very valuable, and it helped me a lot. I think with practical procedures, you can know all the theory behind it, but it's only when you have to do it that you realise that you don't exactly know how to position your hand etc. Only when you do it do you realise what you don't know. With a small detail, you actually don't know what you missed out on. [FBM1,63]

McLachlan *et al.* (2010:e103) concluded that students experience participating in PPE as a positive learning experience. They remember the knowledge taught in class better to apply in the real world. This also applied to the participants of the focus group interviews.

.It was about learning how and where, and why instead of 'what's wrong. Once you got that good foundation, you know your technique is right, so if I do my technique properly on a patient, I optimise my chances of finding that thing I am looking for [FBM2;71].

6.8.3 Scaffolding and mastery of learning

The focus group interview participants said that by participating in PPE, they first examine a healthy person without any pathology. This assists them in recognising pathology in actual patients (cf. 2.8.1). A medical student participating in the focus group interviews reflects on what he learned during clinical skills training.

When we were learning on our peers, it was more based on where we should put our hands, where do I put the stethoscope, and how must the patient lie, rather than, 'Oh my gosh, his liver was so normal, because it was not about that. It was about learning 'how' and 'where' and 'why' instead of what's wrong. Once you got that good foundation, you know your technique is right, so if I do my technique properly on a patient, I optimise my chances of finding that thing I am looking for [FBM2;71].

The lecturer participant in the semi-structured interviews believed that students first needed to learn how to conduct a routine physical examination without any pathology. This prepares them to recognise abnormalities in actual patients:

PPE is effective. Students know that they are learning on an asymptomatic person, feeling fairly healthy tissue, and looking at relatively normal movement and assessing it. Obviously, they'll have to cross the bridge between assessing pathology in the classroom and the clinical setting [SVL50].

The value of PPE is getting to know the normal, as most of our students are relatively healthy. So, getting to know the normal before you see the abnormal in the hospitals and getting into that idea of getting informed consent from someone [SGL2].

The students begin by studying surface anatomy on their peers to become familiar with a healthy body's landmarks (cf. 2.8.1) and then continue to where they participate in PPE. By participating in PPE, they progress from novice to competent and confident students ready to see actual patients under supervision. PPE can help students to scaffold their learning until they master the skill.

6.8.4 Peer-assisted learning

Participating in peer-assisted learning increases students' clinical reasoning and deeper learning, improving self-confidence and motivation (Gevers & Makkink 2020:6). The students in the focus group interviews reported that participating in PPE increased their learning and confidence because a peer can provide feedback which is very important in learning and understanding concepts (Pitt *et al.* 2020:241).

Your peers can give you a response. They can actually help you by saying you did this wrong, do it again, and so on. There is a definite benefit to PPE [FCM2;70].

Students also reported that it was mutually beneficial for them to participate as they provided feedback and experienced it practically themselves.

You learned where things are supposed to be and to have people count out ribs to feel the intercostal spaces – having people count it out. It drummed it into your memory – it was actually quite a cool experience. The model also learned a lot – as we didn't get to practice ourselves, we did learn a lot [FBM1;21].

Students learn from one another. Through listening to the way peers explain concepts to each other, students may get a better understanding of how to explain the concept in future.

She was trying to instruct me to do something, I cannot remember what it was, but I just thought the way she was instructing me to do it was so much clearer than what I had done in my exams when I was assessing another peer. Hence, in that way, it helped me because I saw another way, a clearer way that it can be said to help the patient [FDO2;81].

6.8.4.1 Peer mentoring

Several participants of the semi-structured interviews elaborated on peer mentoring (cf. 2.5.3). Both students benefit from the relationship, although it might take some time to get accustomed to the idea of being a "patient" for your peer. Among undergraduate medical students, peer mentoring occurs more often than any other mentoring relationship and benefits students' self-directed learning, professional development, and career choice. It also creates comfortable interactions and friendships (Cho & Lee 2021:176). A semi-structured interview participant said the following about peer mentoring in their discipline.

We also use PPE for peer mentoring to an extent because we find that our students sometimes tend to learn certain things a little bit easier or better from a fellow student or a peer [SSL4].

Another lecturer mentioned how students find it easier to relate with their peers and ask them questions when they struggle.

I think it is a comfortable learning environment for them to make mistakes or whatever. They tend to be nervous when an academic or preceptor or qualified practitioner that supervise is in the room, and they almost have to think at every stage. When you're not in the room, and it's just them and their peer, it flows more smoothly and comfortably [SRL12].

A peer mentor, even from the same year group, helps them clarify their understanding of concepts and situations (Prunuske, Houss & Kosobuski 2019:online).

6.8.4.2 Peer feedback

Feedback is essential to students because it helps them recognise their strengths and weaknesses. According to Kogan *et al.* (2017:292), students require quality behavioural-based feedback when practising clinical skills. This is necessary to produce competent practitioners who can function independently. Feedback must be specific, explaining what students must do to improve their knowledge and skills. Students are motivated when they receive positive feedback. When giving feedback to students, it is imperative to do so as soon as the behaviour is observed (*cf.* 2.8.1.4).

Students often complain that they do not receive enough feedback when practising, but according to the student and lecturer participants, they are more prone to listen to feedback from their peers. Peer feedback may sometimes be problematic because the students may learn the wrong techniques from their peers (Hattingh 2017:98). Still, in general, peer feedback is more honest, and they can explain precisely to their fellow students where they examine. A lecturer participant commented on the honesty of some students when giving feedback.

They are brutally honest and critical. And I think that's part of learning. It's not authoritative, not the lecturer is the one that's always saying nasty things, and you should be better, but sometimes your colleague says you're now not doing the technique the way you should have done, or you should have done the exercise better. [SHL42]

Another semi-structured interview participant said the following on feedback.

I find they are just a little more open to feedback from a peer. They don't see it as much as criticism. Although feedback from an academic is not necessarily critical, it is constructive feedback to help them. They are more comfortable in that space where fellow students say, "Hey, you missed this, or you should have done it that way," or you held this target at an incorrect distance. They feel less under the spot and less under examination or judgement when a peer is giving them that feedback rather than when an academic or professional provides it [SRL12].

Student participants highlighted that the examiner and "patient" learnt during the peer feedback as the "patients" had experienced the examination practically on themselves. This follows the research of Chen *et al.* (2011:e526) and Koehler *et al.* (2014:1 of 7) (*cf.* 2.8.1.4). A student participant said the following on feedback from their peers.

Your peers can give you a response. They can actually help you by saying you did this wrong, do it again, and so on. There is a definite benefit to PPE [FCM2,70].

Peer feedback can be positive or negative. The lecturer should be available to assist and correct if needed.

6.9 SOCIAL MEDIA

The use of online social media and technology has increased significantly over the last decade. Young people embrace this technology, with approximately 97% of adolescents regularly using social networking sites (O'Reilly *et al.* 2018:602). Social media sites such as WhatsApp, Facebook, Twitter and TikTok are easy to use and inexpensive, making communication easy and within reach of students. Students take these devices everywhere, even in class and want to take photos and videos of their peers and lecturers while examining them (*cf.* 6.9.1; 6.9.1.1). This may have ethical and legal implications as the person affected can claim privacy infringement under the POPI Act (*cf.* 2.9.1). A focus group participant said students would be more willing to participate in PPE if they knew what happens in class will be treated as confidential.

Asking students not to take pictures or videos without asking first because I think if one is assured that what happens there stays there, there might be more willing to participate in PPE [FBM5,96].

Another participant remarked that their lecturer prohibited photos and videos from being taken and shared on social media. The participant felt it was not because people are malicious.

Going back to social media, I was very impressed with the facilitators at the sessions who said, "listen, this isn't a game, fun or a playground" – this is clinical education. And it was exactly the same for dissections – "you don't take photos in here without consent – you need to respect the models' integrity and privacy just as much as you respect the patient" – as much as it is your friend, you cannot share a joke with them – that's up to them. It goes as far as they want it to. So you can ask as much as you want. Rather, don't take photos and don't put in on social media because it's not for the public – it is for your education. Some students might have put it on Instagram if we weren't briefed. Not because they are trying to be

malicious, but that's what people do these days. No matter what happens, one takes a photo of it [FBM2,60].

6.9.1 Protection of privacy

A considerable amount of readily available information is found online, and it is easy to disclose personal information. Cyberbullying frequently occurs nowadays. According to O'Reilly *et al.* (2018:606), a scoping review of studies on cyberbullying indicated a prevalence of 23%, with social media as the primary culprit. Cyberbullying is defined as inflicting harm repeatedly using a computer or electronic device (Best, Manktelow & Taylor 2014:33). One embarrassing photo or video of a person might constitute cyberbullying for the victim (*cf.* 2.8.3.7). According to Van der Velden and El Emam (2013:17), young people often are very concerned about their social privacy (controlling the content, frequency, and length of the interaction), and also informational privacy (control who broadcasts what information and to whom). O'Reilly *et al.* (2018:606) reported that young people strongly believed that social media might cause depression and, in extreme cases, suicide in their peers.

Sometimes, students post photos or videos of themselves or others on social media. Students must be informed of the Protection of Personal Information Act, Act 4 of 2013 (POPIA), which came into effect on 1 July 2020 (*cf.* 2.9.1). This Act protects the privacy of the citizens of South Africa and results in any person posting a photo or any other information of an individual on social media, or any other way, is committing a crime (Swales 2021:2). People should consent for the use of their information (*cf.* 6.3.1). A participant of a semi-structured interview explained the importance of obtaining consent before disclosing any information about a partner or sharing photos or videos on social media.

They have to have consent, you know, everything must be covered, all the basic ethical things and not the face. They are not allowed to post pictures of patients, families, or anything. So, these type of videos of things we do is just internally to review and things like that, but there was an incident, but that was about two years ago, but ever since that now, we have been very strict. They must sign a declaration of honesty, and we prep them on the POPI act. So far, we haven't had any incidents to date [SOL26].

We (occupational therapists) sign something that says no photos are allowed on social media. Nothing in class is allowed to be photographed without that person's consent, so everyone's privacy is protected in terms of social media. Nothing can be posted or shared if a person did not give consent or did not know about it or give consent or whatever [FAO10;83].

Students often partly undress during PPE and do not want it posted on social media, even if they are only in somebody else's photo background. It is thus imperative to set ground rules at the beginning of the first session, where directions like these are set beforehand. It is best to include the students when deciding on ground rules for them to take responsibility for their actions.

It has happened that someone will post something on Facebook. So we just have to remind them about its ethics. So we try to ensure that our students understand the ethics of protecting a patient's identity, even if the patient is a fellow student, and not putting that in a public space without the patient's consent, so we try to train them in those things. [SRL28]

Sharing photos of your peers on social media without their consent could infringe on the POPI act. Care should be taken on the background of photos not to embarrass anyone that might be half-clothed.

6.9.1.1 Demonstration videos

It is crucial that students should know the consequences of sharing videos and photos of their peers online without consent (cf. 6.3.1). The moment information is shared on social media, anybody can repost it without the knowledge of the original sharer (Barrett-Maitland & Lynch 2019:55). Some students struggle to practise their skills and examinations as often as they want in a face-to-face setup. They take videos of the demonstrations for practising purposes, and lecturers make videos to upload on the LMS. In every situation, consent must be obtained from all parties involved (POPI Act cf. 2.9.1). Students must be aware that the videos are only for training purposes, and they are not allowed to distribute them on social media platforms.

We actually take videos so we can practise when we go home and watch it later. In the second year, this was actually not allowed. They told us that they had to get permission from the Dean of Health Sciences, and

gradually, I don't know, somehow, we just started taking the videos, and the lecturers wouldn't complain [FDP1;95].

Lecturers and facilitators must also obtain permission from the students involved before videotaping them. The power relationship should be considered when asking students to record them for learning purposes (*cf.* 6.3.2.1).

Our lecturers take videos of us doing a certain technique for learning purposes, and they don't ask us for consent. They just take a video of us doing the technique and then upload it onto our learning platform [FDO2;108].

In the South African context, because of the high cost of data, one student might download a specific video shared on the LMS for study purposes and then distribute it via WhatsApp to the rest of the class. The possibility exists that this video might be shared on Facebook or any other social media platform, but if privacy guidelines are in place and students are aware of the consequences of breaching them, this threat can be minimised, as seen in the quote by a semi-structured interview participant.

They sign a disclosure that they may not distribute any photos or anything on social media and that the university will discipline them. We will take it to the authorities if they do that. So they do sign a disclosure, and they're well aware that there will be disciplinary steps if they don't do it. So, we haven't had any incidents like that at all." [SHL62].

Students use videos and recordings to prepare for examinations. They must just constantly be reminded about what they can share.

6.10 SETTING CLEAR EXPECTATIONS

Globally faculties of Health Sciences use PPE to teach clinical skills and surface anatomy. As discussed in Chapter 2, *cf.* 2.9.1, some rules must be established before the commencement of PPE. The participants of the focus group interviews mentioned that they wanted to know what to expect from a clinical session in advance. One of the focus group participants explained their confusion as follows:

There's no clear expectation given. You get to class and know that you have to expose, but you don't know, for example, what you will have to expose, for how long or for which reason. Then you might be asked to lift

up your top, and then you did not know that you would be expected to do that and might feel uncomfortable [FAP12,16].

Students want clear expectations regarding compulsory or voluntary participation (cf. 6.3.2) and whether they will have to undress and expose themselves (cf. 6.4.3).

6.10.1 Pre-brief students

Participants were asked what they would like to see included in PPE guidelines. Pre-briefing or setting ground rules was one of the aspects that were mentioned. Before commencing with PPE, they would like lecturers to explain what will happen during PPE participation and which areas will be examined. Sensitive body areas, such as the female breasts, genitalia and rectum, should not be included in PPE (cf. 2.8.3.5). The students want to know what they should wear to participate easier.

There's no clear expectation given. You get to class and know that you have to expose, but you don't know, for example, what you will have to expose, for how long or for which reason. Then you might, for example, be asked to lift your top, and then you did not know that you would be expected to do that, and you might feel uncomfortable [FAP1216].

Delany and Frawley (2012:33-39) said students want educators to explain the reasoning behind the decision to teach a skill with PPE. This will assist them in determining whether they would participate and help them feel more in control of the situation. The following is a quote from a semi-structured interview participant who mentioned that ground rules or pre-briefing are important before discussing PPE.

please remember to set ground rules from the beginning. I think before you start a discussion [SML36,44].

Koehler and McMenamin (2014:431-432) and Wearn and Bhoopatkar (2014:826-827) proposed a policy on the use of PPE should be in place that indicates to students and staff which body areas will be included and how participation in PPE will be executed. A policy or guidelines might assist in managing uncomfortable situations and ensure uniformity in the conduct of all stakeholders (cf. 1.2.5). Student participants said the following about participating in PPE.

It might even be constructive to inform beforehand that we are doing a cardiovascular performance on a male, and tomorrow we will do this or

that on a female. Then it is like an event, and people know it will happen. People can be prepared for it. To know it is part of what's happening and do the abdomen and make it normal. [FBM2,29].

6.10.2 Enough supervisors

Students develop their physical examination skills by participating in PPE under the supervision of a lecturer or facilitator (Vnuk et al. 2017:653; Vaughn & Grace 2016:1 of 11). According to Kempen (2020:234), the facilitator: student ratio makes it difficult for a facilitator to supervise all the students at all times (cf. 2.8). Most of the time, there is one supervisor for approximately 20 to 25 students (cf. 2.8.3.7). Participants from the focus group interviews asked that more supervisors should be available during clinical skills classes.

Usually, we only have one supervisor in a practical session, and I think we were already blessed with that. I mean, most people probably don't usually for a big class tend to get to everyone. They always try, but I think maybe have revision classes with more supervisors to assist [FAP12,122].

Supervision is important to ensure the students learn how to perform a physical examination and to ensure they do not play around during PPE (cf. 2.8.3.7).

6.10.2.1 Standardisation of information

Something that bothered many students of all disciplines was that they received different information during PPE sessions. The various student groups receive different information, resulting in challenges during OSCEs or tests. A medical student participant in a focus group interview asked for consistency in the information provided in class.

And I think consistency between groups is such a big thing. In our third year, we had a big fight over examining a liver because one facilitator said to do this on inspiration, and another said it must be done with expiration. There is no 'one-way' for putting a drip, but there is 'one way to correctly assess chest expansion [FBM10,78].

6.11 PROPOSED GUIDELINES

The researcher proposed guidelines to implement when institutions use PPE as an educational tool. The proposed guidelines are aligned with overarching professional and educational policy frameworks. Lastly, scientific evidence and knowledge were utilised to enhance examination skills training.

The researcher used the fitness-for-purpose principle when developing the guidelines. According to this principle, the product, service, or tool should be suitable for the needed purpose. The following factors underpin the proposed guidelines:

1. Valid and scientific research

This is needed before compiling the guidelines. The researcher collected qualitative evidence in synthesising the proposed guidelines to understand what educators and students want when using PPE as an educational tool.

2. Relevance for the context

When conducting the focus group and semi-structured interviews, the researcher confirmed the relevance of PPE in the South African Health Sciences Education environment. The use of PPE globally is well documented.

3. Flexible approach

When PPE is used as the educational tool of choice, educators should use best practices for the specific skill set in implementing PPE. The needs of the students and lecturers should be incorporated when deciding on a particular approach. Different teaching tools, such as SPs or part-task trainers, can be used depending on the examined area.

4. Useful and transferrable

PPE participation must assist students in improving their skills. To gain the most from their experience, students should be briefed before and after practical sessions. PPE can teach skills in various scenarios, disciplines, and professions (Langlois, Tunçalp, Norris, Askewb & Ghaffara 2018:79).

The researcher considered how accessible it is for students to participate in PPE. Various aspects were taken into account when considering this, for example, the affordability of

PPE in contrast to using SPs for each clinical skills session. The researcher argued that participating in PPE enhances physical examination and communication training.

When developing guidelines, the stakeholders participating in the programme should be considered. The stakeholders involved in PPE are the students, lecturers, programme directors and faculty management. Further stakeholders are the various regulating bodies such as the SANC and HPCSA. Programme directors and faculty management have to approve the educational tools used in the various programmes.

6.11.1 Guidelines for PPE use

The researcher proposed guidelines for using PPE as an educational tool from the literature, focus group, and semi-structured interviews. The guidelines have been developed for the three levels they will influence: institutional, lecturers and students. The researcher divided the guidelines into three categories to distinguish between the responsibilities of the people involved.

The proposed guidelines will influence each level differently, as depicted in the draft guidelines.

Institutional:

- **Include PPE guidelines in the Teaching and Learning policy of the Faculty of Health Sciences.** PPE is a teaching tool used in the training of most disciplines in healthcare. Because PPE has many advantages but also challenges, it will be good to include it in the Teaching and Learning policy of the Faculty of Health Sciences (*cf.* 6.6). New personnel have access to the policy and can arrange their classes accordingly.
- **Guide institutions regarding a contingency plan, if a student gets hurt, abused, bullied, or an abnormality is found during or after participating in PPE.** Participating in PPE should be in a safe environment (*cf.* 6.4.1) where students can make mistakes without fear of laughter or mockery (*cf.* 6.5; 6.9.1). The students and personnel involved must have a pathway to follow in cases where an abnormality is found, or a student is accidentally hurt (*cf.* 6.5.2.1).
- **The use of social media for any images or videos taken during PPE participation is prohibited.** The POPI Act (*cf.* 2.9.1) is of great concern, but posting pictures on social media has ethical implications (*cf.* 6.9).

- **Ensure that institutions stay within the HPCSA and the SANC regulatory framework concerning the number of students per facilitator during practical classes** (*cf.* 5.4.1.3, Category 3.2). The HPCSA recommended one lecturer per 20 to 25 students during a practical class, and the SANC one clinical nurse preceptor for every 16 to 20 students during practical classes.

Lecturers/ Facilitators:

- **Communicate with students what to expect in practical classes before they commence their respective courses.** The students were adamant that they wanted to be informed of what to expect before deciding to participate (*cf.* 6.3.2). Every course has different PPE requirements and should be included in the briefing of students when they are accepted into a course (*cf.* 6.10.1).
- **Obtain written consent from prospective students and ensure that they understand participation in PPE is part of the curriculum when studying health sciences.** It involves undressing and letting fellow students examine and touch them and *vice versa*. Before any procedure or examination, obtaining consent is important because of privacy matters (*cf.* 6.3.1). Students want to know what they are consenting to (*cf.* 6.3.1.2).
- **Obtain written informed consent from students every semester before they participate in PPE.** The time the students receive the necessary information is important because they need it to make an informed decision (*cf.* 6.3.1.1) on whether they will participate in PPE.
- **Facilitate discussions about ethical, cultural, racial, and professional issues associated with PPE** (e.g., therapeutic touch vs sexual touch, body image, age, gender, religion, and culture, which may influence participation in PPE). Educators should facilitate discussions about the mentioned issues when students question them. There should also be dedicated time for discussing complex topics such as racial, cultural, ethical or any topic deemed necessary by students or lecturers. This is part of the professional development of the students (*cf.* 6.6.1; 6.7), and they will encounter patients from all levels in society when they start practising.

Students:

- **Group students to work together and change the groupings regularly to expose them to diverse body shapes and sizes.** Diverse partners assist students in getting acquainted with various bodies, cultures, languages and

genders (*cf.* 6.7.1). When working in the clinical areas, they will encounter patients of multiple genders, cultures and body sizes.

- **Follow a person-centred approach when using PPE and teach students about empathy for their patients.** Teaching students compassion, empathy and respect for their patients is easy when participating in PPE because the students feel how the patients feel (*cf.* 6.6.2). Person-centredness means centralising the patient's narrative to the examination and tests. Students should learn to listen and communicate with their patients (*cf.* 6.6; 6.6.1; 6.6.2).
- **Be flexible and allow students to choose with whom they practise.** Some students feel more comfortable practising with strangers and others with friends (*cf.* 6.4.1.1). Be flexible and let students choose their partners.
- **Offer alternatives to students who decide not to participate.** Participating in PPE has many benefits, and students should be warned about their course requirements before enrolling. Most focus group and semi-structured interview participants said participation should be compulsory (*cf.* 6.3.2), but alternative arrangements could be made if needed.

6.12 CONCLUSION

In Chapter 6, the researcher discussed the themes and categories that emerged from the focus group and semi-structured interviews and triangulated the data with the available literature. From this discussion, the researcher deducted the proposed guidelines for PPE participation. These proposed guidelines will be discussed in Chapter 7, VALIDATION AND DEVELOPMENT OF GUIDELINES.

CHAPTER 7

VALIDATION AND DEVELOPMENT OF GUIDELINES

7.1 INTRODUCTION

The best practice guidelines for implementing PPE when it is the educational tool of choice for clinical skills training in the multicultural context in the Faculties of Health Sciences at South African universities were proposed. These guidelines, introduced in Chapter 6 (*cf.* 6.11.1), were compiled after triangulation of literature on the international trends of PPE use and data analysis from semi-structured interviews conducted nationally with lecturers and focus group interviews with students from various South African universities. Reviewers bring an understanding of and new perspectives on the topic under discussion. They interpret the research using their background and inform the researcher about essential issues from their viewpoint (Gough, Oliver & Thomas 2012:33). An expert review is not about what the reviewer like; it is an informed decision supported by research (Sauro 2016: online).

As discussed in Chapter 2 (*cf.* 2.4.1), South African higher education students and lecturers are from diverse backgrounds and cultures, influencing their views of practices such as participating in PPE. Higher education institutions in South Africa have budgetary constraints because of fewer students capable of paying for their tuition and the Department of Higher Education's budget limitations. This limits how skills can be taught to students because, in many instances, there is little to no provision for standardised patients in the budget and minimal funding for part-task trainers or high-fidelity manikins for simulation training.

This chapter is devoted to a discussion of the validation process of the proposed guidelines, followed by a discussion of the results. The validation process forms part of phase 4 of the research process (*cf.* Table 3.2).

7.2 VALIDATION OF PROPOSED GUIDELINES

The proposed best practice guidelines were validated using an expert panel review. An expert panel review objectively analyses the proposed guidelines or programme

(Lawrenz, Thao & Johnson 2012:391). Expert panel reviews are regarded as the golden standard in ensuring research quality. Panellists should be experts in the subject they review and able to decide on the suitability of the content (Lawrenz *et al.* 2012:391). The researcher submitted the proposed guidelines via email to a purposively selected panel of South African health professions educationalists to validate the guidelines, remove or rephrase the content, and stimulate discussion on the included guidelines (Hyrkäs, Appelqvist-Schmidlechner & Oksa 2003:621).

According to Hyrkäs *et al.* (2003:621) the minimum number of experts for a review panel is five. Experts are chosen because of their specialist skills, including research knowledge, content knowledge, and practical experience in the researched subject (Gough *et al.* 2012:6). The researcher identified eight candidates for the review process in collaboration with the promoter (*cf.* 3.7.2).

The inclusion criteria for members of the expert review panel were:

- Candidates should be regarded as specialists in their professions
- Candidates should have ten years or more experience working at an academic institution in South Africa
- Candidates should previously or currently lecture clinical skills or assist in facilitating a clinical skills module in their respective professions for at least five years
- Candidates should meet all the criteria to be included in the expert review panel.

The expert panel comprised eight members. Each candidate had more than ten years of experience in their respective fields and was nationally involved in educator forums. The researcher confirmed electronically with the identified participants to participate in the expert review, but eventually, only seven completed the review. The expert panel comprised lecturers from different universities. The panel members did not participate in the semi-structured interviews. The expert panel consisted of two participants who trained in medical programmes (a medical practitioner and a professional nurse), two professional nurses, three physiotherapists and an optometrist (*cf.* 3.7.3).

The expert panel had to consider whether the proposed guidelines were sufficient, appropriate and correctly phrased for the South African multicultural context. They also considered whether they aligned with current international research on PPE participation (Gough *et al.* 2012:4). The researcher compiled a document on Google Forms (*cf.* Appendix E) and shared that together with the proposed guidelines with the panellists. The panellists had to complete the Google form and make remarks where necessary. They could also email the researcher to submit a written report. A summary of the panellists' responses is available in Appendix K.

7.2.1 Results of the review document

According to the majority of the panellists (5/7), institutions can use the proposed PPE guidelines to compile a policy on PPE participation that should be included in Higher Education Institutions' Teaching and Learning policies. One person believed PPE guidelines should be a departmental procedure (Figure 7.1). The panellists were divided on whether a contingency plan for students' accidental injury should be the responsibility of a department or the institution (Faculty of Health Sciences). Four panellists favoured it as the department's responsibility, and three selected the Health Sciences Faculty (institution) (Figure 7.2). The guidelines should state that all health professions students must physically examine their peers and be examined by a fellow student.

PPE guidelines included in Teaching and Learning policy
7 responses

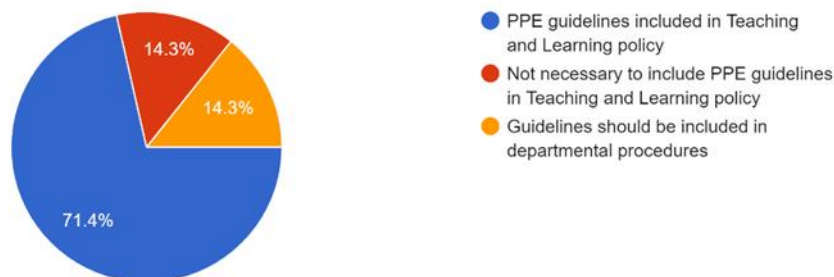


FIGURE 7.1: PANELLISTS' OPINIONS ON WHERE THE GUIDELINES SHOULD BE LOCATED

Each faculty should have a contingency plan in case a student get hurt during PPE, when an abnormality is discovered in a student.

7 responses

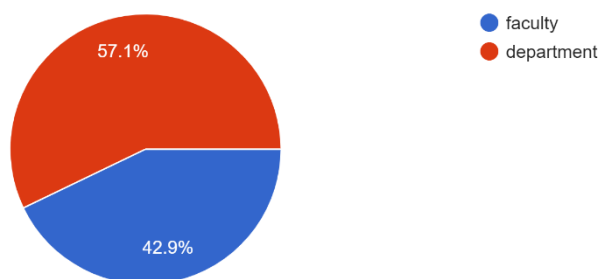


FIGURE 7.2: PANELLISTS' OPINION ON A CONTINGENCY PLAN FOR ACCIDENTAL INJURY OF STUDENTS

The panellists regarded communication about PPE participation with students as compulsory. Three panellists thought there should be communication on PPE participation and what students could expect in practical classes before commencing their studies. The same number alleged that it would be better to wait for enrolment before explaining. One person thinks students should be informed before starting the course, but it should be reiterated at registration. This is illustrated as Option 3 in Figure 7.3.

Six of the seven participants preferred written communication to explain to students that PPE participation is part of the curriculum. Only one person selected verbal communication with students.

Communicate with students what to expect in practical classes before they commence their respective courses.

7 responses

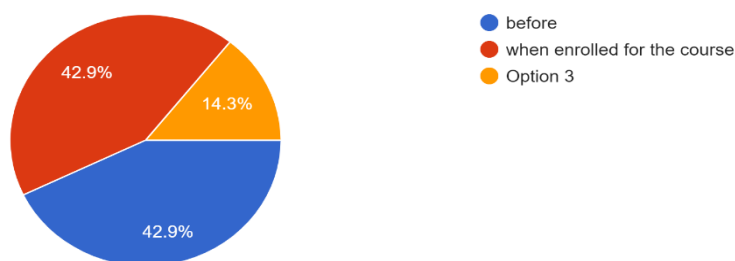


FIGURE 7.3: PANELLISTS' OPINION ON WHEN TO COMMUNICATE WITH PROSPECTIVE STUDENTS

Most review panellists favoured obtaining students' consent to participate in writing. Five said it should be written consent, one regarded verbal consent as sufficient, and one said participating in PPE should be voluntary. It seems as if the participants were unsure whether it was necessary to repeatedly obtain consent to participate as three persons each decided that it should be at the beginning of the first year and the beginning of each year, respectively. Two of the three participants that said consent should be obtained annually thought consent should be obtained in every class when PPE is used as an educational tool (Figure 7.4).

Obtain written consent from prospective students that they understand participation in PPE is part of the curriculum when studying health sciences and it involves undressing and let fellow students examine and touch them and vice versa.

7 responses

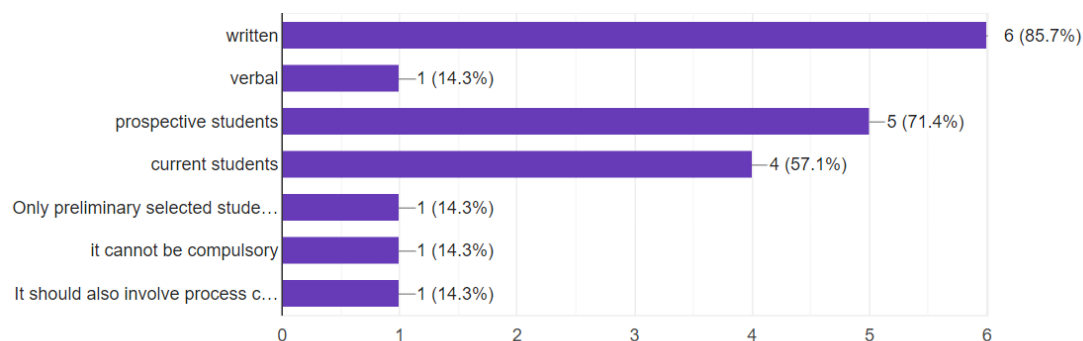


FIGURE 7.4: PANELLISTS' OPINION ON WHEN AND HOW TO OBTAIN CONSENT

The panel members were unified in their response on whether ethical, cultural, racial, and professional issues associated with PPE participation should be discussed with the students. One panel member declared: "Ethical, cultural, etc., issues may be a good aspect to address **early in the first study year**. Students need to experience being examined to 'know how the patient feels'. Students will only respect the fact that patients must undress and be touched if they have experienced their vulnerability in the situation". Another respondent believed that it is " ... *vitally important. We cannot just expect students to sign consent without information.*" An experienced person must address these aspects in a formal discussion.

Panellists believed that students should be allowed to choose their partners (5/7). One panellist pointed out that changing partners increased the risk of Covid-19 infection in the students. Ideally, students should rotate, but it will be helpful to begin practising with someone they feel comfortable with. Then, as their confidence increases, they can be encouraged to rotate their partners (Figure 7.5).

Group students to work together and change the groupings on a regular basis to expose them to diverse body shapes and sizes
7 responses

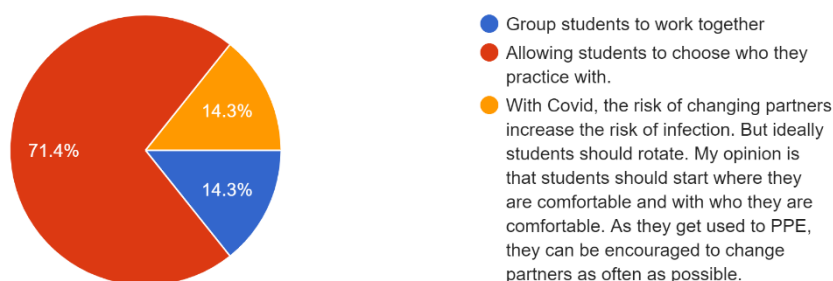


FIGURE 7.5: PANELLISTS' OPINION ON COMPULSORY/ VOLUNTARY GROUPING OF STUDENTS

Panel members unanimously agreed that a person-centred approach should be followed when teaching clinical skills. According to panel members, a person-centred approach means that students should be as considerate towards their peers as they would be towards an actual patient. The example given by one of the panellists is females from certain cultures that are not allowed to expose their hair in public. When a person-centred approach is followed, the feelings and needs of the students are taken into consideration. The facilitator will separate the male and female students,

making it easier for the female to expose her hair. The importance of explaining the concept to the students should be emphasised to make them aware of the feelings and vulnerability of patients.

The panel members agreed on students signing a confidentiality agreement when participating in PPE. One person said he never thought about this, but with the implementation of the Protection of Personal Information Act, Act 4 of 2013 (POPIA), which came into effect on 1 July 2020 (*cf.* 6.8.1) and the students' access to smartphones, it is necessary to sign a confidentiality clause. The panel members feel this should be institutional and apply to everything in which the students participate, not only PPE. This is an essential lesson in personal and professional integrity. There should also be sanctions if students do not adhere to this requirement.

The panel members believed it might be problematic if students had a choice regarding participation in PPE. Most panel members (4/7) said all students should participate because they must become confident and competent in clinical skills. Lecturers might make exceptional arrangements in separate venues for genders, but it should be compulsory for them to participate. One panel member believed students who do not want to participate in PPE should provide an alternative person for practising. Two panellists thought manikins might be a good alternative for PPE. Unfortunately, not all examinations and procedures can be practised with simulation training. Especially in physiotherapy, it is necessary that students feel how hard and deep they can press before hurting the patient (*cf.* 6.6.2.1). In Table 7.1, a summary of the responses and the changes to the proposed guidelines are summarised.

TABLE 7.1: SUMMARY OF EXPERT PANEL RESPONSES AND CHANGES MADE TO PROPOSED GUIDELINES

Proposed best practice guidelines	Expert panel responses (n = 7)	Decision on guideline	Validated best practice guidelines
Institutional:			
1. •Include PPE guidelines in the Teaching and Learning policy	5/7: Include in T&L policies 1/7: Departmental procedure	Unchanged	• Include PPE guidelines in the Teaching and Learning policy
2. Each faculty should have a guide in the institution regarding a contingency plan in case a student gets hurt during PPE	4/7: in favour of departmental responsibility 3/7: Institutional responsibility	Added departmental level	• Compile a contingency plan at either institutional, faculty, or departmental level in case a student gets hurt or is injured during PPE,
3. Actions to be taken when an abnormality is discovered in a student	7/7 agreed actions should be included in a policy	Unchanged	• Provide actions that should be taken when an abnormality is discovered in a student

TABLE 7.1 (CONT.) SUMMARY OF EXPERT PANEL RESPONSES AND CHANGES MADE TO PROPOSED GUIDELINES

Proposed best practice guidelines	Expert panel responses (n = 7)	Decision on guideline	Validated best practice guidelines
Lecturers / Facilitators:			
1. Communicate with students what to expect in practical classes when PPE is used before commencing their respective courses.	3/7 before registration 3/7 on registration 1/7 before and on registration	Merge two guidelines	Communicate with students what to expect in practical classes where PPE is the educational tool before commencing their respective courses. Reiterate at registration the expectation to participate in PPE
2. Obtain written consent from prospective students in disciplines with clinical examination skills as part of the curriculum. They should understand that participation in PPE is part of the health sciences curriculum and involves undressing and having fellow students examine and touch each other.	6/7 written consent 5/7 prospective students 4/7 current students	Change to prospective and current students	Obtain written consent from <u>prospective and current students</u> in disciplines where clinical examination skills form part of the curriculum. They should understand that participation in PPE is part of the health sciences curriculum

TABLE 7.1 (CONT.) SUMMARY OF EXPERT PANEL'S RESPONSES AND CHANGES MADE TO PROPOSED GUIDELINES

3. Obtain written informed consent from students every semester before they participate in PPE.	5/7 written consent each semester	Unchanged	Obtain written informed consent from <u>students at the beginning of each semester</u> before they participate in PPE.
4. Facilitate discussions about ethical, cultural, racial, and professional issues associated with PPE (e.g., therapeutic touch vs sexual touch, body image, age, gender, religion, and culture, which may influence participation in PPE.	7/7 a formal discussion is necessary 1/7 should be done in the first year	Unchanged	Facilitate discussions about ethical, cultural, racial, and professional issues associated with PPE.
Students:			
1. Group students to work together and change the groupings regularly to expose them to diverse body shapes and sizes	5/7 students should choose	Changed to <u>Allow students to choose</u>	<u>Initially, allow students to choose their own partners, and as</u> they become more confident, the facilitator should change the groups regularly to expose them to allow for diversity.

TABLE 7.1 (CONT.) SUMMARY OF EXPERT PANEL'S RESPONSES AND CHANGES MADE TO PROPOSED GUIDELINES

2. Allowing students to choose with whom they practise.	5/7 students could choose 1/7 lecturer group students 1/7 begin where the student is comfortable	Unchanged	Allowing students to choose with whom they practise. <i>(Combined with guideline no 1 of students).</i> •
3. Follow a person-centred approach when using PPE	7/7 agree	Unchanged	Follow a person-centred approach when using PPE
4. Students should sign a confidentiality document to protect classmates' privacy and not distribute information, photos or videos on social media.	6/7 agree 1/7 strongly agrees	Add making it compulsory	It should be compulsory for students to sign a confidentiality document to protect the privacy of everybody involved and prevent the distribution of information, photos, or videos on social or other media.
5. Offering alternatives to students who choose not to participate.	4/7 compulsory to participate 2/7 make use of manikins 1/7 students must provide alternative	Changed to make it negotiate compulsory	Negotiate compulsory participation in PPE for all students involved in disciplines with clinical skills teaching.

7.3 RECOMMENDED GUIDELINES

After considering the recommendations made by the review panel, the guidelines were adjusted as follows:

Institutional:

- Include PPE guidelines in the Teaching and Learning policy.
- Compile a contingency plan at the institutional or departmental level if a student is injured during PPE.
- Provide information on actions that should be taken when an abnormality is discovered in a student.

Lecturers/ Facilitators:

- Communicate with students what to expect in practical classes where PPE is the educational tool before commencing their respective courses. Reiterate at registration the expectation to participate in PPE
- Obtain written consent from prospective and current students in disciplines where clinical examination skills form part of the curriculum. They should understand that participation in PPE is part of the health sciences curriculum.
- Obtain written informed consent from students at the beginning of each semester before they participate in PPE.
- Facilitate discussions about ethical, cultural, racial, and professional issues associated with PPE

Students:

- Initially, allow students to choose their partners, and as they become more confident, the facilitator should change the groups regularly to expose them to diversity.
- Follow a person-centred approach when using PPE.
- It should be compulsory for students to sign a confidentiality document to protect the privacy of everybody involved and prevent the distribution of information, photos, or videos on social or other media.
- Negotiate compulsory participation in PPE for all students involved in disciplines with clinical skills teaching

After getting the results, the researcher reviewed Chapter 6 again to ensure the recommended guidelines were complete. The final proposed guidelines were again sent to the reviewers for verification and validation.

7.4 SECOND ROUND REVIEW

After compiling the guidelines according to the input from the expert panel reviews, the researcher sent the proposed guidelines back to the panel for further validation and review. This round was done via email, and panellists had to respond via email messages. Panellists received a document (*cf.* Appendix Q) with the PPE definition, the intimate body areas excluded for PPE and the proposed guidelines. They were given a time limit of one week to respond per email on the proposed guidelines. Five responded within the week, and the remaining three were reminded via email and responded within three days of sending the reminder.

7.4.1 Definition of PPE

The panellists accepted the definition of PPE. One panellist suggested including the accepted body areas for examination purposes in the definition; however, an exclusion list is provided, which makes this unnecessary. The definition is inclusive and applicable to most disciplines in health sciences. The definition of PPE included as part of the review process is:

PPE is the educational method where health professions students act as models for their peers to learn and practise physical examination skills, simple non-invasive diagnostic or therapeutic procedures and professional attributes under the supervision of a professional person or lecturer (*cf.* 1.1.1).

7.4.2 Body areas not included in PPE

The researcher included the intimate body areas, which would not be included when PPE is used in institutions as the educational tool of choice. Three reviewers commented and provided valuable input. The first said it would be better to list the areas not included, the second reviewer only commented that during percussion, students would touch their peers' breasts, but they can lift it themselves. The last one made suggestions towards the correct terminology to use for some of the areas. The part of the guideline will include the following:

Intimate body areas EXCLUDED for PPE.

The societal sensitive areas that will be excluded from examination during PPE:

Females:

- Breast
- Genitalia
- Rectum
- Anus

Males:

- Genitalia
- Inguinal region
- Rectum
- Anus

7.4.3 Finalisation of guidelines

The researcher considered the recommendations of the reviewers after the second round of validation when compiling the final guidelines.

INSTITUTIONAL

1. Include PPE guidelines in the Teaching and Learning policy

Half (4/8) of the panellists thought the PPE guidelines should be included at the faculty level rather than at the institutional level. PPE is only used in the Faculty of Health Sciences; thus, the guideline was changed to read as follows:

Include PPE guidelines in the teaching and learning policy of the Faculty of Health Sciences.

2. Compile a contingency plan at the institutional or departmental level if a student is injured during PPE.

The reviewers regarded the departmental level as better to include the contingency plan as each department has different needs that should be included in a contingency plan.

Compile a contingency plan at the departmental level if a student is injured during PPE

3. Provide information on actions that should be taken when an abnormality is discovered in a student.

One reviewer suggested the use of a procedure manual. The guideline stayed the same:

Provide information on actions that should be taken when an abnormality is discovered in a student.

4. Professionalism is taught by participating in PPE. Ensure students know that inappropriate behaviour and sharing information on social media will not be allowed.

Two reviewers (2/8) commented on this guideline. The first corrected a grammar mistake and added that confidentiality is a priority and should be added to the guideline. The second person suggested that a procedure manual be added to manage digital information created during practical sessions. The guideline stayed as it was proposed:

Ensure students know that inappropriate and unprofessional behaviour and sharing information on social media will not be allowed (Align with institutional guidelines).

5. **Students and personnel should abide by confidentiality principles in line with institutional and professional body guidelines. A binding confidentiality document should be signed by everybody involved.**

LECTURERS/FACILITATORS

1. Communicate with students what to expect in practical classes where PPE is the educational tool before commencing their respective courses. Reiterate at registration the expectation to participate in PPE.

One reviewer (1/8) commented that it would be better to change the guideline to "Communicate during the introduction to the practicum module the possibility of PPE and the expectation to partake in it." The researcher reflected on this and studied the results of the semi-structured interviews. The researcher added, "before the commencement of practical classes".

Communicate with students what to expect in practical classes where PPE is the educational tool before commencing their respective courses. Reiterate at registration and before the commencement of practical classes what is expected when participating in PPE

2. **Facilitate discussions and manage identified problems about ethical, cultural, racial, and professional issues associated with PPE. Participation in PPE should be a safe environment.**

Moved from guideline no 3 to guideline no 2.

3. Obtain written informed consent from prospective and current students at the beginning of each year in disciplines where clinical examination skills form part of the curriculum.

They should understand that participation in PPE is part of the health sciences curriculum.

There was only one recommendation that this guideline is moved down from guideline no 2 to guideline no 3, where it is currently.

Obtain written informed consent from prospective and current students at the beginning of each year in disciplines where clinical examination skills form part of the curriculum. They should understand that participation in PPE is part of the health sciences curriculum.

4. Facilitate discussions about ethical, cultural, racial, and professional issues associated with PPE. Participation in PPE should be a safe environment. (moved up to number 2). Initially, this was the third guideline under the lecturer/facilitator heading. Four reviewers commented, of whom three suggested it should be moved to number two in front of the signing of consent. One person suggested adding manage identified problems to the guideline to round it off and make it deeper than only a discussion. The final guideline is moved to no 2.

STUDENTS

1. Initially, allow students to choose their partners, and as they become more confident, the facilitator should change the groups regularly to expose them to diversity. Four reviewers (4/8) commented on the guideline. Three considered it excellent to rotate partners to expose students to diverse people. One reviewer thought students should choose their partners without partner rotation. The guideline was left unchanged.
Initially, allow students to choose their partners, and as they become more confident, the facilitator is advised to change the groups regularly to expose them to diverse people.
2. Follow a person-centred approach when using PPE. One reviewer commented to say this is important. The guideline was left unchanged.
Follow a person-centred approach when using PPE.
3. Students and personnel should treat PPE confidential. A binding confidentiality document should be signed by everybody involved to prevent the distribution of information, photos, or videos on social or other media. (Moved to institutional). Six participants (6/8) commented on confidentiality's importance for everybody involved in PPE. Three reviewers explicitly said this guideline should be moved to institutional because it applies to the students and everybody involved in PPE. The guideline was moved to institutional guideline no 5.

4. Participation in PPE should be compulsory for all students involved in disciplines with clinical skills teaching.

Four reviewers made comments on this guideline. One participant asked about traditional Muslim students if participation is compulsory. Two said any problems or challenges students might have regarding compulsory participation should be managed individually. One reviewer commented that lecturers and students should provide regular feedback to improve the guidelines. The researcher adjusted the guideline to include the words "as far as possible" because everybody will not always be able to participate.

Negotiate compulsory participation in PPE for all students involved in disciplines with clinical skills teaching.

Institutions could use the final guidelines to inform policy development that will ensure consistency in decision-making and prevent favouritism.

7.5 GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONS STUDENTS IN SOUTH AFRICA

Definition: PPE is the educational method where health professions students act as models for their peers to learn and practise physical examination skills, simple non-invasive diagnostic or therapeutic procedures and professional attributes under the supervision of a professional person or lecturer.

OVERARCHING PRINCIPLES

1. The purpose of PPE is to provide a safe environment where students can become competent health professional practitioners by practising on their peers.
2. The environment where the students practise should be safe and conducive to learning, especially concerning aspects such as racism, sexual harassment and abuse, bullying (including cyberbullying), embarrassment, respect for religious and cultural differences and any other information which might influence some students.
3. Working conditions for employees should be safe and without bullying and abuse from students and colleagues.
4. Institutions should ensure they abide by the legislation of the country and any regulations from their respective professional bodies.

Intimate body areas EXCLUDED for PPE.

Females:

- Breast
- Genitalia
- Rectum
- Anus

Males:

- Genitalia
- Inguinal region
- Rectum
- Anus

INSTITUTIONAL

1. Include PPE guidelines in the teaching and learning policy of the Faculty of Health Sciences.
2. Compile a contingency plan at the departmental level if a student is injured during PPE
3. Provide guidance on actions that should be taken when an abnormality is discovered in a student.
4. Ensure students abide by institutional and professional body guidelines regarding:
 - Inappropriate and unprofessional behaviour and
 - Sharing information on social media (Align with institutional guidelines on social media).
5. Students and personnel should abide by confidentiality principles in line with institutional and professional body guidelines when using PPE as an educational method. All educators and students involved in PPE should sign a binding confidentiality document.

LECTURERS/FACILITATORS

1. Communicate with students what to expect in practical classes where PPE is the educational method before commencing their respective courses. Reiterate at registration and before the commencement of practical classes what the expectation is when participating in PPE.
2. Create a safe environment for PPE by facilitating discussions about ethical, cultural, racial, and professional issues and provide sufficient supervision during training sessions. Departmental arrangements regarding exposure and examination of different genders and cultures are advised.

3. Obtain written informed consent from prospective and current students at the beginning of each year in disciplines where PPE forms an integral part of the curriculum.

STUDENTS

1. Allow students to choose their partners initially, and as they become more confident, the facilitator could change the group composition regularly to expose them to diverse people.
2. Encourage a person-centred approach when using PPE.
3. Compulsory participation in PPE should be negotiated as far as possible with all students involved in disciplines where PPE is used as an educational method.

7.6 CONCLUSION

Chapter 7 elucidated the expert review panel and their role in validating and developing the final recommended guidelines. The aspects dealt with were the roles and composition of the expert review group and their contribution to the final best practice guidelines.

In the next chapter, Chapter 8, the conclusions, recommendations, and limitations of the study will be discussed.

CHAPTER 8

CONCLUSION, RECOMMENDATION AND LIMITATIONS

8.1 INTRODUCTION

In Chapter 7, the contribution of the expert review panel and the finalisation of best practice guidelines for using PPE as an educational tool in a multicultural context were discussed. In this chapter, the researcher revisits the main findings of the study to provide concluding remarks. The problem statement, research questions and methodology used to address the questions will be reviewed. The chapter will conclude with the limitations of the research and recommendations based on the findings of the study, as well as the potential contribution of this research to the field of health professions education.

Numerous health sciences faculties in South Africa use PPE as an educational tool in clinical skills teaching, but the researcher could not find proof of formal documentation or a policy for when PPE is used as an educational tool. The study aimed to develop best-practice guidelines for using PPE as an educational tool in a multicultural context (*cf.* 1.1).

8.2 OVERVIEW OF THE STUDY

The introduction of best practice guidelines may assist universities in following the correct procedures in any situation and protecting lecturers, students and the organisation, as these may help to avoid or reduce problems such as discrimination and unfair treatment of students and personnel.

Three research questions were formulated to achieve the goal (*cf.* 1.4). The descriptive qualitative case study was conducted in four phases (*cf.* Table 3.2: Summary of Data Collection Methods in the Different Phases) between September 2019 and February 2022, and the empirical phase between September 2019 and November 2020. During the empirical phase, national lockdown and travel restrictions due to the COVID -19 pandemic compelled the researcher to complete the focus group and individual interviews online.

8.2.1 Phase one

During Phase one, the researcher conducted a comprehensive literature study to clarify concepts regarding PPE use globally and in South Africa. Through the literature study, the researcher noted elements and challenges of PPE use applied in best practice guidelines globally (*cf.* 2.9.1-2.10.1). The researcher conducted Phase one to answer research question one, namely.

Which elements should be included in best-practice guidelines for the integration of PPE as a training tool in health professions education?

8.2.2 Phase two

In Phase two, the researcher conducted four focus group interviews with health professions students from identified South African universities to obtain their perspectives on and recommendations regarding PPE participation. Phase two partly answered research question 2. (Phase two and Phase three of the study occurred concurrently).

What are the experiences, perspectives and recommendations of students and lecturers/administrators in health sciences faculties in South Africa regarding the use of PPE?

Purposive sampling was used to select students eligible for participation (*cf.* 4.2.2). The researcher invited students from five South African universities, but responses were received from only four institutions, and only students from these institutions were included in the research. The first focus group interview was conducted face-to-face, while the rest were conducted virtually due to the travel restrictions during the global Covid-19 pandemic.

The following eight themes were identified: Learning environment, ethics, social media, students' experience of PPE, diversity, the duty of care, setting clear expectations and cultural diversity. Each theme had specific categories and sub-categories. A summary of the themes, categories and sub-categories identified from the participants' responses is available in Chapter 4 (*cf.* Table 4.1). In general, participants were positive about the value of participating in PPE but requested better communication on what to expect during a session.

8.2.3 Phase three

The researcher conducted Phases two and three concurrently. During Phase three, semi-structured interviews were conducted with fourteen lecturers and four programme directors of the identified five universities. In contrast with the focus group interviews, lecturers of all five universities participated. Phase three, together with Phase two, provided data to answer research question 3:

What are the best practice guidelines for using PPE as an educational tool in a multicultural context for the different health professions?

A summary of the findings of the semi-structured interviews is available in Chapter 5 (*cf.* Table 5.1).

The participants of the semi-structured interviews emphasised the benefit of participating in PPE for student learning and developing professionalism and a person-centred approach. Participation in PPE teaches students professional attributes such as ethical and professional conduct and communication skills and provides an opportunity for students to practise examining techniques and procedures in a safe space without jeopardising the health and safety of actual patients. The results of phases two and three answered the last research question,

What are the best-practice guidelines for using PPE as an educational tool in a multicultural context for the different health professions?

The researcher integrated the themes and categories of the focus group and semi-structured interviews by comparing the individual themes and categories, looking for similarities between the two groups. The combined themes and categories are available in Chapter 6 (*cf.* Table 6.1). Student and lecturer participants acknowledged the importance of **consent** when participating in PPE (*cf.* 6.3.1). Participants require a **safe learning environment** where they do not feel threatened when undressed and have enough supervision (*cf.* 6.4). Students and staff must know what would happen in case somebody accidentally hurt a peer or discover an abnormality in a peer. There should be guidance for cases such as that (*cf.* 6.5). Lecturers reported how comfortable students became in their practice groups **communicating** with peers and explaining procedures to them. Students learn professional attributes such as respect for patients and colleagues participating in PPE (*cf.* 6.6).

The students are more comfortable practising with their friends, but to get used to diverse body shapes, cultures and genders, it is advisable to **practise on various individuals** (*cf.* 6.7.1). Some students regarded PPE as artificial, but all of them agreed that participation greatly enhanced their competence and confidence (*cf.* 6.8.2). Both groups considered the feedback that students gave their peers as most valuable (*cf.* 6.8.4.2).

When students take videos while a lecturer demonstrates or explains a concept or examination, they should be aware of **confidentiality** and the requirements of the POPI Act, which was promulgated in 2020 (*cf.* 6.9.1). The generation of students currently at higher education institutions is used to social media and enjoys sharing everything online (*cf.* 6.9). Participation in PPE could teach students about confidentiality and respect for their patients.

When asked what they would like to change about participation in PPE, the students mentioned **thorough briefing** before they commenced with PPE (*cf.* 6.10.1). They want to know which body areas will be included and what they should wear to class to make undressing easier.

The researcher considered each theme when compiling the best practice guidelines.

8.2.4 Phase four

During Phase Four, the researcher used the results of phases one to three to propose best practice guidelines to be used when PPE is implemented as an educational tool in the multicultural South African context. The proposed guidelines (*cf.* 6.11.1) were validated by an expert review panel comprising seven members that reviewed and commented on the guidelines. The researcher accommodated the remarks and comments of the review panel and sent the revised guidelines to the expert review panel for a second round to get input from them. The proposed best practice guidelines were sent via e-mail to the panel members for comments. The validated best practice guidelines are available in Chapter 7 (*cf.* 7.5).

8.3 CONTRIBUTION AND SIGNIFICANCE

Guidelines for using PPE as an educational tool should be included in the faculties of health sciences teaching and learning policies to guide students and educators while participating in or facilitating PPE sessions. The students and lecturers require a safe environment when

participating in PPE. Communication regarding PPE participation is vital, and prospective and current health professions students should be informed that they are expected to participate in PPE if accepted into the course. Study participants believed participation in PPE should be compulsory because it teaches students empathy and respect for their patients.

8.4 IMPLICATIONS FOR FUTURE RESEARCH

The need for ongoing research related to PPE and its effect on undergraduate health professions students remains essential. Students are constantly changing, and practices must be evaluated to ensure it is still relevant.

8.5 LIMITATIONS OF THE STUDY

Data collection was conducted during the global Covid-19 pandemic when the country was in lockdown. This limited the researcher to virtual data collection and not visiting the participating universities. At the time of data collection, universities mostly used a blended teaching approach with students studying from home. This impacted the number of students per university who participated in the research as it was difficult to get hold of them. The researcher had to work through a liaison at the various departments and universities, and some students did not respond. Students' data availability might also negatively impacted their decision to participate.

Recruiting lecturers and programme directors was challenging because they worked from home. The researcher struggled to get hold of people because they did not respond to emails, and there was not a departmental telephone number available to phone. This limited the researcher to a small sample of clinical skills lecturers and programme directors who agreed to participate in the study. The participants represented all the disciplines and universities anticipated.

The study focused on health professions, but fields like psychological sciences, social sciences and religious sciences could provide additional information and enhance the data.

8.6 RECOMMENDATIONS

Based on the results obtained during the first three phases of the research and the assistance of the review panel, guidelines focusing on the institution, lecturers/facilitators and students were proposed, which can be implemented when PPE is used as an educational tool in the multicultural South African context. Institutions can use the guidelines as a basis when compiling a policy or guidelines on PPE participation. The guidelines might assist with consistency when making decisions on PPE as an educational method. The guidelines can be applied by all health sciences faculties in South Africa, Africa and globally. Individual disciplines or departments should adapt the guidelines to their specific needs and requirements when implementing the guidelines. These guidelines could also be adapted for use by other fields outside health sciences, using PPE as an educational tool.

The researcher will present the findings at national and international conferences. It also will be published in accredited journals to be used as a guideline on the use of PPE and hopefully will elicit further research into PPE in the South African and African environment.

8.7 CONCLUSION

The researcher developed best practice guidelines that could be implemented when PPE is used as an educational tool for clinical skills training of healthcare students in the multicultural context of South Africa. Participation of students and lecturers in practical modules in health professions education will be enhanced if role players are better informed on what to expect when participating in PPE. Implementing the guidelines could benefit and guide PPE participation in the South African higher education environment.

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Swanepoel, Y. 2019. Lecturer: Department of Occupational Therapy, Faculty of Health Sciences, University of the Free State. Discussion on 5 November 2019.

Swinfen, D. 2019. Lecturer: Clinical Simulation and Skills Unit, Faculty of Health Sciences, University of the Free State, Discussion on 8 December 2019.

Van der Merwe, A. 2019. Lecturer: Department of Physiotherapy, Faculty of Health Sciences, University of the Free State. Discussion on 5 December 2019.

APPENDICES

APPENDIX A

ETHICS AND INSTITUTIONAL APPROVAL

APPENDIX A1

UFS Ethics approval letter



Health Sciences Research Ethics Committee

28-Aug-2019

Dear **Mrs Maryna Hattingh**

Ethics Clearance: **GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA**

Principal Investigator: **Mrs Maryna Hattingh**

Department: **School of Biomedical Sciences Department (Bloemfontein Campus)**

APPLICATION APPROVED

Please ensure that you read the whole document

With reference to your application for ethical clearance with the Faculty of Health Sciences, I am pleased to inform you on behalf of the Health Sciences Research Ethics Committee that you have been granted ethical clearance for your project.

Your ethical clearance number, to be used in all correspondence is: **UFS-HSD2019/0627/0110**

The ethical clearance number is valid for research conducted for one year from issuance. Should you require more time to complete this research, please apply for an extension.

We request that any changes that may take place during the course of your research project be submitted to the HSREC for approval to ensure we are kept up to date with your progress and any ethical implications that may arise. This includes any serious adverse events and/or termination of the study.

A progress report should be submitted within one year of approval, and annually for long term studies. A final report should be submitted at the completion of the study.

The HSREC functions in compliance with, but not limited to, the following documents and guidelines: The SA National Health Act. No. 61 of 2003; Ethics in Health Research: Principles, Structures and Processes (2015); SA GCP(2006); Declaration of Helsinki; The Belmont Report; The US Office of Human Research Protections 45 CFR 461 (for non-exempt research with human participants conducted or supported by the US Department of Health and Human Services- (HHS), 21 CFR 50, 21 CFR 56; CIOMS; ICH-GCP-E6 Sections 1-4; The International Conference on Harmonization and Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH Tripartite), Guidelines of the SA Medicines Control Council as well as Laws and Regulations with regard to the Control of Medicines, Constitution of the HSREC of the Faculty of Health Sciences.

For any questions or concerns, please feel free to contact HSREC Administration: 051-4017794/5 or email EthicsFHS@ufs.ac.za.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours Sincerely

Dr. SM Le Grange
Chair : Health Sciences Research Ethics Committee

Health Sciences Research Ethics Committee

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APPENDIX A2

UFS Amendment to ethics approval



Health Sciences Research Ethics Committee

05-Aug-2020

Dear **Mrs Maryna Hattingh**

Ethics Number: UFS-HSD2019/0627/0110

Ethics Clearance: **GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA**

Principal Investigator: **Mrs Maryna Hattingh**

Department: **School of Biomedical Sciences Department (Bloemfontein Campus)**

SUBSEQUENT SUBMISSION APPROVED

With reference to your recent submission for ethical clearance from the Health Sciences Research Ethics Committee. I am pleased to inform you on behalf of the HSREC that you have been granted ethical clearance for your request as stipulated below:

- Minor amendment:
 - *Focus group and semi-structured interviews conducted via SKYPE and ZOOM meetings
 - *Travel restrictions because of lockdown as a result of global pandemic
 - *Changes made to protocol

The HSREC functions in compliance with, but not limited to, the following documents and guidelines: The SA National Health Act. No. 61 of 2003; Ethics in Health Research: Principles, Structures and Processes (2015); SA GCP(2006); Declaration of Helsinki; The Belmont Report; The US Office of Human Research Protections 45 CFR 461 (for non-exempt research with human participants conducted or supported by the US Department of Health and Human Services- (HHS), 21 CFR 50, 21 CFR 56; CIOMS; ICH-GCP-E6 Sections 1-4; The International Conference on Harmonization and Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH Tripartite), Guidelines of the SA Medicines Control Council as well as Laws and Regulations with regard to the Control of Medicines, Constitution of the HSREC of the Faculty of Health Sciences.

For any questions or concerns, please feel free to contact HSREC Administration: 051-4017794/5 or email EthicsFHS@ufs.ac.za.

Thank you for submitting this request for ethical clearance and we wish you continued success with your research.

Yours Sincerely

Dr. SM Le Grange

Chair : Health Sciences Research Ethics Committee

Health Sciences Research Ethics Committee

Office of the Dean: Health Sciences

T: +27 (0)51 401 7795/7794 | E: ethicsfhs@ufs.ac.za

IRB 00011992; REC 230408-011; IORG 0010096; FWA 00027947

Block D, Dean's Division, Room D104 | P.O. Box/Posbus 339 (Internal Post Box G40) | Bloemfontein 9300 | South Africa

www.ufs.ac.za



APPENDIX A3

UKZN Ethics approval letter

20 March 2020

Mrs Maryna Hattingh
University of the Free State
UKZN
Email: hattinghmgm@ufs.ac.za

Dear Mrs Hattingh

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN) towards your postgraduate studies, provided Ethical clearance has been obtained. We note the title of your research project is:

"Guidelines for peer physical examination as a teaching tool for health professional students in South Africa."

It is noted that you will be constituting your sample by conducting interviews and/or focus group discussions staff and students from the College of Health Sciences at UKZN.

Please ensure that the following appears on your notice/questionnaire:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using 'Microsoft Outlook' address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the Protection of Public Information Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

Yours sincerely



DR KE CLELAND
REGISTRAR (ACTING)

Office of the Registrar

Postal Address: Private Bag X54001, Durban, South Africa

Telephone: +27 (0) 31 260 8005/2206 Facsimile: +27 (0) 31 260 7824/2204 Email: registrar@ukzn.ac.za

Website: www.ukzn.ac.za



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APPENDIX A4

UP Ethics approval letter

16 March 2020

**Approval Certificate
New Application**

Ethics Reference No.: 688/2019

Title: GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA

Dear Mrs MGM Hattingh

The **New Application** as supported by documents received between 2020-01-16 and 2020-03-11 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on its quorate meeting of 2020-03-11.

Please note the following about your ethics approval:

- Ethics Approval is valid for 1 year and needs to be renewed annually by 2021-03-16.
- Please remember to use your protocol number (688/2019) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

permission from the Dean.

We wish you the best with your research.

Yours sincerely



Dr R Sommers

MBChB MMed (Int) MPharmMed PhD

Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

APPENDIX A5

US Institutional permission letter



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvennoot • your knowledge partner

INSTITUTIONAL PERMISSION:

AGREEMENT ON USE OF PERSONAL INFORMATION IN RESEARCH

Name of Researcher: Maryna Gertruida Maria Hattingh

Name of Research Project: GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA

Service Desk ID: IRPSD-1563

Date of Issue: 15 November 2019

The researcher has received institutional permission to proceed with this project as stipulated in the institutional permission application and within the conditions set out in this agreement.

1 WHAT THIS AGREEMENT IS ABOUT	
What is POPI?	1.1 POPI is the Protection of Personal Information Act 4 of 2013. 1.2 POPI regulates the entire information life cycle from collection, through use and storage and even the destruction of personal information.
Why is this important to us?	1.3 Even though POPI is important, it is not the primary motivation for this agreement. The privacy of our students and employees are important to us. We want to ensure that no research project poses any risks to their privacy. 1.4 However, you are required to familiarise yourself with, and comply with POPI in its entirety.
What is considered to be personal information?	1.5 'Personal information' means information relating to an identifiable, living, individual or company, including, but not limited to: 1.5.1 information relating to the race, gender, sex, pregnancy, marital status, national, ethnic or social origin, colour, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person; 1.5.2 information relating to the education or the medical, financial, criminal or

	employment history of the person; 1.5.3 any identifying number, symbol, e-mail address, physical address, telephone number, location information, online identifier or other particular assignment to the person; 1.5.4 the biometric information of the person; 1.5.5 the personal opinions, views or preferences of the person; 1.5.6 correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence; 1.5.7 the views or opinions of another individual about the person; and 1.5.8 the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.
Some personal information is more sensitive.	1.6 Some personal information is considered to be sensitive either because: 1.6.1 POPI has classified it as sensitive; 1.6.2 if the information is disclosed it can be used to defraud someone; or 1.6.3 the disclosure of the information will be embarrassing for the research subject. 1.7 The following personal information is considered particularly sensitive: 1.7.1 Religious or philosophical beliefs; 1.7.2 race or ethnic origin; 1.7.3 trade union membership; 1.7.4 political persuasion; 1.7.5 health and health related documentation such as medical scheme documentation; 1.7.6 sex life; 1.7.7 biometric information; 1.7.8 criminal behaviour; 1.7.9 personal information of children under the age of 18; 1.7.10 financial information such as banking details, details relating to financial

	products such as insurance, pension funds or other investments. 1.8 You may make use of this type of information, but must take extra care to ensure that you comply with the rest of the rules in this document.
2 COMMITMENT TO ETHICAL AND LEGAL RESEARCH PRACTICES	
You must commit to the use of ethical and legal research practices.	2.1 You must obtain ethical clearance before commencing with this study. 2.2 You commit to only employing ethical and legal research practices.
You must protect the privacy of your research subjects.	2.3 You undertake to protect the privacy of the research subjects throughout the project.
3 RESEARCH SUBJECT PARTICIPATION	
Personal information of identifiable research subjects must not be used without their consent.	3.1 Unless you have obtained a specific exemption for your research project, consent must be obtained in writing from the research subject, before their personal information is gathered.
Research subjects must be able to withdraw from the research project.	3.2 Research subjects must always be able to withdraw from the research project (without any negative consequences) and to insist that you destroy their personal information.
Consent must be specific and informed.	3.3 Unless you have obtained a specific exemption for your research project, the consent must be specific and informed. Before giving consent, the research subject must be informed in writing of: 3.3.1 The purpose of the research, 3.3.2 what personal information about them will be collected (particularly sensitive personal information), 3.3.3 how the personal information will be collected (if not directly from them), 3.3.4 the specific purposes for which the personal information will be used, 3.3.5 what participation will entail (i.e. what the research subject will have to do), 3.3.6 whether the supply of the personal information is voluntary or mandatory for purposes of the research project,

	3.3.7 who the personal information will be shared with, 3.3.8 how the personal information will be published, 3.3.9 the risks to participation (if any), 3.3.10 their rights to access, correct or object to the use of their personal information, 3.3.11 their right to withdraw from the research project, and 3.3.12 how these rights can be exercised.
Consent must be voluntary.	3.4 Participation in the research project must always be voluntary. You must never pressure or coerce research subjects into participating and persons who choose not to participate must not be penalised.
Using the personal information of children?	3.5 A child is anybody under the age of 18. 3.6 Unless you have obtained a specific exemption in writing for your research project, you must obtain 3.6.1 the consent of the child's parent or guardian, and 3.6.2 if the child is over the age of 7, the assent of the child, before collecting the child's information.
Research subjects have a right to access.	3.7 Research subjects have the right to access their personal information, obtain confirmation of what information is in your possession and who had access to the information. It is strongly recommended that you keep detailed records of access to the information.
Research subjects have a right to object.	3.8 Research subjects have the right to object to the use of their personal information. 3.9 Once they have objected, you are not permitted to use the personal information until the dispute has been resolved.
4 COLLECTING PERSONAL INFORMATION	
Only collect what is necessary.	4.1 You must not collect unnecessary or irrelevant personal information from research subjects.
Only collect accurate personal information.	4.2 You have an obligation to ensure that the personal information you collect is accurate. Particularly when you are collecting it from a source other than the

	research subject. 4.3 If you have any reason to doubt the quality of the personal information you must verify or validate the personal information before you use it.

5

USING PERSONAL INFORMATION

Only use the personal information for the purpose for which you collected it.	5.1 Only use the personal information for the purpose for which you collected it. 5.2 If your research project requires you to use the personal information for a materially different purpose than the one communicated to the research subject, you must inform the research subjects and Stellenbosch University of this and give participants the option to withdraw from the research project.
Be careful when you share personal information.	5.3 Never share personal information with third parties without making sure that they will also follow these rules. 5.4 Always conclude a non-disclosure agreement with the third parties. 5.5 Ensure that you transfer the personal information securely.
Personal information must be anonymous whenever possible.	5.6 If the research subject’s identity is not relevant for the aims of the research project, the personal information must not be identifiable. In other words, the personal information must be anonymous (de-identified).
Pseudonyms must be used whenever possible.	5.7 If the research subject’s identity is relevant for the aims of the research project or is required to co-ordinate, for example, interviews, names and other identifiers such as ID or student numbers must be collected and stored separately from the rest of the research data and research publications. In other words, only you must be able to identify the research subject.
Publication of research	5.8 The identity of your research subjects should not be revealed in any publication. 5.9 In the event that your research project requires that the identity of your research subjects must be revealed, you must apply for an exemption from this rule.

6

SECURING PERSONAL INFORMATION

You are responsible for the confidentiality and security of the personal information	6.1 Information must always be handled in the strictest confidence. 6.2 You must ensure the integrity and security of the information in your possession or under your control by taking appropriate and reasonable technical and organisational measures to prevent:

	6.2.1 Loss of, damage to or unauthorised destruction of information; and 6.2.2 unlawful access to or processing of information. 6.3 This means that you must take reasonable measures to: 6.3.1 Identify all reasonably foreseeable internal and external risks to personal information in your possession or under your control; 6.3.2 establish and maintain appropriate safeguards against the risks identified; 6.3.3 regularly verify that the safeguards are effectively implemented; and 6.3.4 ensure that the safeguards are continually updated in response to new risks or deficiencies in previously implemented safeguards.
Sensitive personal information requires extra care.	6.4 You will be expected to implement additional controls in order to secure sensitive personal information.
Are you sending any personal information overseas?	6.5 If you are sending personal information overseas, you have to make sure that: 6.5.1 The information will be protected by the laws of that country; 6.5.2 the company or institution to who you are sending have agreed to keep the information confidential, secure and to not use it for any other purpose; or 6.5.3 get the specific and informed consent of the research subject to send the information to a country which does not have data protection laws.
Be careful when you use cloud storage.	6.6 Be careful when storing personal information in a cloud. Many clouds are hosted on servers outside of South Africa in countries that do not protect personal information to the same extent as South Africa. The primary example of this is the United States. 6.7 It is strongly recommended that you use hosting companies who house their servers in South Africa. 6.8 If this is not possible, you must ensure that the hosting company agrees to protect the personal information to the same extent as South Africa.
7 RETENTION AND DESTRUCTION OF PERSONAL INFORMATION	
You are not entitled to retain personal information when you no longer need it for the purposes	7.1 Personal information must not be retained beyond the purpose of the research project, unless you have a legal or other justification for retaining the information.

of the research project.	
If personal information is retained, you must make sure it remains confidential.	7.2 If you do need to retain the personal information, you must assess whether: 7.2.1 The records can be de-identified; and/or whether 7.2.2 you have to keep all the personal information. 7.3 You must ensure that the personal information which you retain remains confidential, secure and is only used for the purposes for which it was collected.
8 INFORMATION BREACH PROCEDURE	
In the event of an information breach you must notify us immediately.	8.1 If there are reasonable grounds to believe that the personal information in your possession or under your control has been accessed by any unauthorised person or has been disclosed, you must notify us immediately. 8.2 We will notify the research subjects in order to enable them to take measures to contain the impact of the breach.
This is the procedure you must follow.	8.3 You must follow the following procedure: 8.3.1 Contact the Division for Institutional Research and Planning at 021 808 9385 and permission@sun.ac.za; 8.3.2 you will then be required to complete the information breach report form which is attached as Annexure A. 8.4 You are required to inform us of a information breach within 24 hours. Ensure that you have access to the required information.
9 MONITORING	
You may be audited.	9.1 We reserve the right to audit your research practices to assess whether you are complying with this agreement. 9.2 You are required to give your full co-operation during the auditing process. 9.3 We may also request to review: 9.3.1 Forms (or other information gathering methods) and notifications to research subjects, as referred to in clause 3; 9.3.2 non-disclosure agreements with third parties with whom the personal information is being shared, as referred to in clause 5.4;

	9.3.3 agreements with foreign companies or institutes with whom the personal information is being shared, as referred to in clause 6.5.

10 CHANGES TO RESEARCH

You need to notify us if any aspect of your collection or use of personal information changes.

- | |
|---|
| <p>10.1 You must notify us in writing if any aspect of your collection or use of personal information changes (e.g. such as your research methodology, recruitment strategy or the purpose for which you use the research).</p> <p>10.2 We may review and require amendments to the proposed changes to ensure compliance with this agreement.</p> <p>10.3 The notification must be sent to permission@sun.ac.za.</p> |
|---|

11 CONSEQUENCES OF BREACH

What are the consequences of breaching this agreement?

- | |
|---|
| <p>11.1 If you do not comply with this agreement, we may take disciplinary action or report such a breach to your home institute.</p> <p>11.2 You may be found guilty of research misconduct and may be censured in accordance with Stellenbosch University or your home institute's disciplinary code.</p> |
|---|

You may have to compensate us in the event of any legal action.

- | |
|--|
| <p>11.3 Non-compliance with this agreement could also lead to claims against Stellenbosch University in terms of POPI and/or other laws.</p> <p>11.4 Unless you are employed by or studying at Stellenbosch University, you indemnify Stellenbosch University against any claims (including all legal fees) from research subjects or any regulatory authority which are the result of your research project. You may also be held liable for the harm to our reputation should there be an information breach as a result of your non-compliance with this agreement.</p> |
|--|

12 CONTACT US

Please contact us if you have any questions.

Should you have any questions relating to this agreement you should contact permission@sun.ac.za.

Annexure 'A'

Instruction:

Please send this Notice to permission@sun.ac.za. If you have any difficulty completing the Notice, please contact the Division for Institutional Research and Planning at 021 808 9385. You must confirm that the Notice was received.

NOTIFICATION OF INFORMATION BREACH

Name of Researcher: _____

Name of Research Project: _____

Service Desk ID: _____

A security breach happens when you know (or you **reasonably believe**) that there has been:

- (a) loss of Personal Information ("PI")
- (b) damage to PI
- (c) unauthorised destruction of PI
- (d) unauthorised access to PI
- (e) unauthorised processing of PI

Date and time of security breach:	
Brief description of the security breach (what was lost and how). Please identify the equipment, software and/or physical premises and whether it is by hacking, lost device, public disclosure (email), theft or other means:	
Name of the person/s responsible for the security breach (if known):	
Is the security breach ongoing?	
Describe the steps taken to contain the security breach:	
What steps are being taken to investigate the cause of breach?	

APPENDIX A6

SMUREC Ethics approval letter



Office of the Deputy-Registrar

Mrs M Hattingh
Doctoral Candidate
University of the Free State
Division Health Sciences Education

03 October 2019

To whom it may concern,

This letter confirms that the study entitled: **'Guidelines for peer physical examination as a teaching tool for health professional students in South Africa'** has received approval to be conducted on the university premises, and staff and/ or students will be invited to participate.

In conducting the research, the researcher agrees to adhere to all university regulations for the responsible conduct of research and will always consider the rights of a participant to voluntary take part in the study or to withdraw without any negative consequence.

Research that involves specific cohorts, year groups or courses from Schools, require further approvals from specified Heads of Department or academics so that appropriate arrangements for access to potential participants may be made.

This letter, together with the Ethics Clearance Certificate and/or site approval letter from the Sefako Makgatho University Research Ethics Committee (SMUREC) must be available for all research conducted with staff and students at the university. A copy of the dissertation or thesis must kindly be submitted to the Sefako Makgatho Health Sciences University on completion of the study.

Sincerely

Ms Kanyisa Magwentshu
Deputy-Registrar



SEFAKO MAKGATHO
HEALTH SCIENCES UNIVERSITY

2019 -11- 29

DEPUTY REGISTRAR
ACADEMIC ADMIN
PO BOX 197, MEDUNSA, 0204



Office of the Deputy-Registrar

Mrs M Hattingh
Doctoral Candidate
University of the Free State
Division Health Sciences Education

03 October 2019

To whom it may concern,

This letter confirms that the study entitled: **'Guidelines for peer physical examination as a teaching tool for health professional students in South Africa'** has received approval to be conducted on the university premises, and staff and/ or students will be invited to participate.

In conducting the research, the researcher agrees to adhere to all university regulations for the responsible conduct of research and will always consider the rights of a participant to voluntary take part in the study or to withdraw without any negative consequence.

Research that involves specific cohorts, year groups or courses from Schools, require further approvals from specified Heads of Department or academics so that appropriate arrangements for access to potential participants may be made.

This letter, together with the Ethics Clearance Certificate and/or site approval letter from the Sefako Makgatho University Research Ethics Committee (SMUREC) must be available for all research conducted with staff and students at the university. A copy of the dissertation or thesis must kindly be submitted to the Sefako Makgatho Health Sciences University on completion of the study.

Sincerely

Ms Kanyisa Magwentshu
Deputy-Registrar



SEFAKO MAKGATHO
HEALTH SCIENCES UNIVERSITY

2019 -11- 29

DEPUTY REGISTRAR
ACADEMIC ADMIN
PO BOX 197, MEDUNSA, 0204



**Postgraduate Studies, Research Development, Integrity & Ethics
Sefako Makgatho University Research Ethics Committee (SMUREC)**

Mrs M Hattingh
University of the Free State
Division Health Sciences Education

Dear Mrs M Hattingh

RE: MRS M HATTINGH – REQUEST TO CONDUCT RESEARCH AT SEFAKO MAKGATHO HEALTH SCIENCES UNIVERSITY

SMUREC **NOTED** an email dated 13 September 2019 from you requesting permission to collect data at SMU.

SMUREC **NOTED** that the researcher has already received approval for her proposal from University of the Free State Health Sciences Research Ethics Committee. SMUREC reciprocates the approval.

Study Title: Guidelines for peer physical examination as a teaching tool for health professional students in South Africa

Researcher: Mrs M Hattingh

Supervisor: Prof MJ Labuschagne
Dr AO Adefuye

University: University of the Free State, Division Health Sciences Education,
Faculty of Health Sciences

Degree: PhD HPE (Philosophiae Doctor in Health Professions Education)

Reference No.: UFS-HSD2019/0627/0110

Approval letter date: 28 August 2019

SMUREC **APPROVED** the request and provided permission to collect data at SMU. A letter of approval from the Deputy Registrar was also provided since staff or students from the SMU will be invited to participate.

Yours Sincerely,


**PROF C BAKER
ACTING CHAIRPERSON SMUREC**


**SEFAKO MAKGATHO
HEALTH SCIENCES UNIVERSITY
SMU Research Ethics Committee
Chairperson**
Date: 03 October 2019

03 October 2019

APPENDIX B

Focus group Interview Guide

FOCUS GROUP INTERVIEW GUIDE

GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA.

Draft interview guide by Maryna G.M. Hattingh (187429956) as part of a PhD. degree in HPE.

Facilitator: _____

Independent observer: _____

Welcome and Introduction (3-5 minutes)

Thank everyone presents for their participation in the study.

Introduce all participants and reconfirm confidentiality and anonymity.

Remind them of the time frame of the focus group (not longer than one and a half hour)

Remind them of the purpose of the study and of the fact that the discussion will be recorded.

The purpose of the study is to develop best practice guidelines when peer physical examination is used as an educational tool to teach clinical skills to health professional students in a multicultural environment

Establishing ground rules (5-10 minutes)

- Confidentiality
 - The facilitator will explain the confidential nature of the discussions
 - Participants will be requested not to reveal discussion content outside the focus group interview area
 - Participants will be informed to use the number in front of them when commenting. This number will correspond with a seating chart indicating participants and their corresponding numbers
 - Participants will be informed that the discussion will be recorded for recollection purposes
 - Participants will be informed that recordings will be transcribed word for word by the researcher and that all data will be stored safely. No names will be attached to individual statements.

- Respect for privacy
 - Participants will be requested not to reveal the identity of other participants outside the focus group discussion area

- Respect the contribution of each participant. Do not criticise a participant, but discussions and opinions are welcome
- Participants that do not have a specific opinion or comment on a research question does not need to answer the question
- Switch off cell phones

Focus area one: (15-20 minutes)

Question 1

What are your experiences and perceptions regarding peer physical examination (PPE)?

Additional probing question(s) if deemed necessary

- Did you experience any problems regarding gender differences?
- Was there any culture or religious concerns?
- Did you experience an improvement in your communication skills with your peers and in general with others?
- Did participate in PPE let you feel exposed or humiliated?
- Do you perceive participating in PPE as artificial?
- Were you ever afraid you might accidentally harm a fellow student?
- Indemnity? Can you be held responsible for harming a fellow student?
- Who must take responsibility for duty of care when something wrong is discovered in a student during PPE?
- Do you think it will be better for you to practice on different partners each time or choose a partner and stay with the same one throughout the course?
- Ethical concerns such as consent, voluntary or compulsory, social media.

Focus area two: (15-20 minutes)

Question 2

What should be included in best practice guidelines when peer physical examination is used as an educational tool?

Additional probing question(s) if deemed necessary

- *Ethical concerns (consent, compulsory/ voluntary, social media)*

- *Gender, culture, religion*
- *Indemnity*
- *Supervision*

Conclusion (3-5 minutes)

Are there any challenges relating to PPE which was not yet addressed

Thank all the participants for their cooperation and time.

APPENDIX C

Focus group informed consent

**FOCUS GROUP PARTICIPANT'S INFORMATION AND INFORMED CONSENT
DOCUMENT**

**Study title: GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR
HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA.**

Principal Investigator: MGM Hattingh

Supervisor: Prof MJ Labuschagne

Co-supervisor: Dr AO Adefyue

Institution: University of the Free State, Division Health Sciences Education

DAYTIME AND AFTER HOURS TELEPHONE NUMBER(S):

Daytime number/s: 0837494178

After hours number: 0837494178

Date and time of informed consent discussion:

date	month	year

Time

Dear Prospective Participant

1) INTRODUCTION

You are invited to volunteer for a research study. I am in the process of writing a thesis to obtain a PhD degree in Health Professions Education in the Faculty of Health Sciences at the University of the Free State (1987429956). This document gives you information to help you decide if you would like to participate. Before you agree to take part in this study, you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the investigator. You should not agree to take part unless you are pleased about what we will be discussing during the focus group discussion.

2) THE NATURE AND PURPOSE OF THIS STUDY

Peer physical examination (PPE) is widely used globally and in South Africa. Peer physical examination is the physical examination of a student by a fellow student to enhance his/her clinical skills. This is done under the supervision of a professional person or lecturer.

The **problem** that will be addressed in this study is the lack of best practise guidelines for students and lecturers when PPE is used as an educational tool. Clear guidelines regarding peer physical examination could be of value with the multicultural students in South Africa. As far as could be ascertained the only study on peer physical examination in the South African context was conducted by the researcher.

The **goal** of the study is to determine what health profession lecturers and students of various South African universities regard as essential aspects to be included in best practice guidelines when PPE is used as an educational tool. The intention is that these guidelines can be used by healthcare training institutions to guide them when introducing a PPE policy for their institution. The **study aims** to develop best practice guidelines for the use of PPE in a multicultural context.

Part of the study will be a focus group discussion. A focus group is where a few people – usually about 8 or 10 – get together with the researcher to discuss a specific topic. The discussion will be arranged at a time that is convenient for you and will take place in the _____.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

If you agree to participate, you will be asked to participate in a focus group discussion that will take about 90 minutes. You and the other participants will be asked some questions about your opinion and experiences regarding participating in peer physical examination and what you think should be included in best practice guidelines when peer physical examination is used as an educational tool. With your permission, the discussions will be recorded on a recording device to ensure that no information is missed.

4) RISKS AND DISCOMFORTS INVOLVED

We do not think that taking part in the study will cause any physical or emotional discomfort or risk. You do not have to share any knowledge you are not comfortable with.

If questions or remarks feel too personal or make you uncomfortable, you do not have to answer them.

5) POSSIBLE BENEFITS OF THIS STUDY

You will not benefit directly by being part of this study. However, your participation is important for us to understand better the influence and problems experienced by students and lecturers in the South African context by the use of peer physical examination in the clinical skills unit. The information you give may help the researcher to compile best practice guidelines for the use of peer physical examination as an educational tool in the multicultural context of South Africa.

6) COMPENSATION

You will not be paid to take part in the study. There are no costs involved for you to be part of the study.

7) VOLUNTARY PARTICIPATION

The decision to take part in the study is yours and yours alone. You do not have to take part if you do not want to. You can also stop at any time during the interview without giving a reason. If you refuse to take part in the study, this will not affect you in any way.

8) ETHICAL APPROVAL

This study was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of the Free State, Block D, Dean's Division, Room D104, PO Box 339 (internal Post Box G40), Bloemfontein, 9300, Tel no: +27(0)514017795/7794, ehicsfhs@ufs.ac.za who gave ethical approval for the study, ethical clearance number **UFS-HSD2019/0627/0110**. The study will follow the Declaration of Helsinki (last update: October 2013), which guides healthcare professionals on how to do research on people. The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION ON WHOM TO CONTACT

If you have any questions concerning this study, you should contact Mrs Maryna Hattingh at 051-051-4019307 or Prof MJ Labuschagne at 051-4013848.

10) CONFIDENTIALITY

We will not record your name anywhere and no one will be able to connect you to the answers you give. All records from this study will be regarded as confidential. Results will be published in medical journals or presented at conferences in such a way that it will not possible for people to know that you were part of the study.

The records from your participation may be reviewed by people responsible for making sure that research is done properly, including members of the Research Ethics Committee. All of these people are required to keep your identity confidential.

All hard copy information will be kept in a locked facility at the Simulation and Skills Unit of the University of the Free State for a minimum of five years and only the research team will have access to this information.

Although all focus group discussion participants will be requested to keep the discussion confidential, the researcher cannot guarantee that they will do so. I, therefore, request that you do not disclose any information of a very personal or sensitive nature.

10) CONSENT TO PARTICIPATE IN THIS STUDY

- I confirm that the person requesting my consent to take part in this study has told me about the process, any risks or discomforts, and the benefits of the study.
- I have also received, read and understood the above-written information about the study.
- I have had adequate time to ask questions and I have no objections to participating in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed and presented in the reporting of results.
- I understand that I will not be penalised in any way should I wish to discontinue the study
- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

Participant's name (Please print)

Date

Participant's signature

Date

Researcher's name (Please print)

Date

Researcher's signature

Date

I understand that the focus group discussion will be audiotaped and video recorded. I give consent that it may be recorded. Please tick the correct box.

YES	NO

Participant's name (Please print))

Date

Participant's signature

Date

Name of the person who witnessed
the informed consent (Please print)

Date

Signature of the witness

Date

APPENDIX D

Semi-structured interview guide

SEMI-STRUCTURED INTERVIEW GUIDE

GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA.

Interview guide by Maryna G.M. Hattingh (187429956) as part of a Ph.D. degree in HPE.

The purpose of the study is to develop best practice guidelines when peer physical examination is used as an educational tool to teach clinical skills to health professional students in a multicultural environment

Semi-structured interview guide

- 1. What is your understanding of peer physical examination (PPE) as an educational tool?**
2. How do you feel about using peer physical examination (PPE) as an educational tool in the classroom?
- 3. To what extent do students need to undress while participating in PPE as an educational tool in clinical skills teaching in the programme?**
4. What would you describe as some of the successes in using PPE as an educational tool in your institution?
5. What were the challenges encountered when using PPE as an educational tool in the institution?
 - 5.1. Do you let students of different genders practice on each other?**
 - 5.2. Do you have problems regarding religious differences?**
 - 5.3. Any problems regarding cultural differences?
 - 5.4. Do you have problems with students who refuse to participate?
 - 5.5. Ethical considerations such as posting images on Facebook?**
 - 5.6. Did a student ever accidentally hurt a fellow student?**
 - 5.7. Any other problems encountered.
- 6. How did you meet the challenges encountered when using PPE?**
7. What do you think are the successes of using PPE as an educational tool in your programme?
8. What do you think are some of the failures of using PPE as an educational tool in your programme?
- 9. How do you think we can improve the use of PPE as an educational tool?**

APPENDIX E

Guidelines validation document

GUIDELINES VALIDATION

Guidelines as part of a thesis to obtain a PhD degree in Health Professions Education in the Faculty of Health Sciences at the University of the Free State. The title of my research is GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA.

* Required

1. PPE guidelines included in Teaching and Learning policy *

Mark only one oval.

- ☐ PPE guidelines included in Teaching and Learning policy
- ☐ Not necessary to include PPE guidelines in Teaching and Learning policy
- ☐ Other: _____

2. Each faculty should have a contingency plan in case a student get hurt during PPE, when an abnormality is discovered in a student. *

Mark only one oval.

- ☐ faculty
- ☐ department

3. Communicate with students what to expect in practical classes before they commence their respective courses. *

Mark only one oval.

- ☐ before
- ☐ when enrolled for the course

4. Obtain written consent from prospective students that they understand participation in PPE is part of the curriculum when studying health sciences and it involves undressing and let fellow students examine and touch them and vice versa. *

Check all that apply.

- ☐ written
☐ verbal
☐ prospective students
☐ current students

Other: ☐ _____

5. Obtain written informed consent from students every semester before they participate in PPE. *

Check all that apply.

- ☐ written
☐ verbal
☐ beginning of first year
☐ beginning of every year
☐ every semester
☐ every class when PPE is used

Other: ☐ _____

6. Facilitate discussions about ethical, cultural, racial, and professional issues associated with PPE (e.g., therapeutic touch vs sexual touch, body image, age, gender, religion, culture which may influence participation in PPE. *
- _____

7. Group students to work together and change the groupings on a regular basis to expose them to diverse body shapes and sizes *

Mark only one oval.

- ☐ Group students to work together
- ☐ Allowing students to choose who they practice with.
- ☐ Other: _____

8. Follow a person-centred approach when using PPE and teach students about empathy for their patients *

9. Students should sign a confidentiality document to protect the privacy of classmates and not distribute information, photos or videos on social media. *

10. Offering alternatives to students who choose not to participate *

Mark only one oval.

- ☐ Offering alternatives to students who choose not to participate
- ☐ Students must provide an alternative if they choose not to participate
- ☐ Other: _____

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Google Forms

APPENDIX F

Letter requesting the participation of students and staff

From: Maryna Hattingh

Sent: Thursday, 13 August 2020 9:40 PM

To: [REDACTED]

Subject: Recruiting of staff members and students for interviews and focus group. PhD

Good evening [REDACTED]

I am busy with data collection for my PhD :

**GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH
PROFESSIONAL STUDENTS IN SOUTH AFRICA.**

I need lecturers from nursing, physiotherapy and medicine who are involved with clinical skills training to interview. Will it be possible to provide me with information of these lecturers so that I can ask them to participate in the study. An interview takes about half an hour to complete.

I also need 12 students from the above disciplines to take part in a focus group discussion. They must all be exposed to clinical skills training. So the best students is from the second year and up. We shall also have a virtual focus group. If needed I can send them airtime for data. It takes about an hour and a half. We can do it when it suit them. Mostly that is in the evening.

Thank you for assisting me with the information.

Kind regards

Maryna



UNIVERSITY OF THE
FREE STATE
UNIVERSITEIT VAN DIE
VRYSTAAT
YUNIVESITHI YA
FREISTATA

Maryna Hattingh

Lecturer: School of Nursing
Faculty: Health Sciences
PO Box 339, Bloemfontein 9300, Republic of South Africa
☎ 051 4019307
📠 27837494178

APPENDIX G

Semi-structured interview informed consent

**SEMI-STRUCTURED INTERVIEW PARTICIPANT'S INFORMATION AND INFORMED
CONSENT DOCUMENT**

**Study title: GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR
HEALTH PROFESSIONAL STUDENTS IN SOUTH AFRICA.**

Principal Investigator: MGM Hattingh

Supervisor: Prof MJ Labuschagne

Co-supervisor: Dr AO Adefyue

Institution: University of the Free State, Division Health Sciences Education

DAYTIME AND AFTER HOURS TELEPHONE NUMBER(S):

Daytime number/s: 0837494178

After hours number: 0837494178

Date and time of informed consent discussion:

date	month	year

Time

Dear Prospective Participant

1) INTRODUCTION

You are invited to volunteer for a research study. I am in the process of writing a thesis to obtain a PhD degree in Health Professions Education in the Faculty of Health Sciences at the University of the Free State (1987429956). This document gives you information to help you decide if you would like to participate. Before you agree to participate in this study, you should fully understand what is involved. If you have any questions not fully explained in this document, do not hesitate to ask the investigator. You should not agree to participate unless you are pleased about what we will discuss during the interview.

2) THE NATURE AND PURPOSE OF THIS STUDY

Peer physical examination (PPE) is widely used globally and in South Africa. Peer physical examination is the physical examination of a student by a fellow student to enhance his/her clinical skills. This is done under the supervision of a professional person or lecturer.

The **problem** that will be addressed in this study is the lack of best practice guidelines for students and lecturers when PPE is used as an educational tool. Clear guidelines regarding peer physical examination could be of value with the multicultural students in South Africa. As far as could be ascertained, the researcher conducted the only study on peer physical examination in the South African context.

The **goal** of the study is to determine what health profession lecturers and students of various South African universities regard as essential aspects to be included in best practice guidelines when PPE is used as an educational tool. The intention is that healthcare training institutions can use these guidelines to guide them when introducing a PPE policy for their institution. The **study aims** to develop best practice guidelines for using PPE in a multicultural context.

Part of the study will be semi-structured interviews. The interview will be arranged at a time and place that is convenient for you.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

If you agree to participate, you will be asked to participate in a semi-structured interview that will take about 30 to 45 minutes. You will be asked some questions about your opinion and experiences regarding peer physical examination and what you think should be included in best practice guidelines when peer physical examination is used as an educational tool. With your permission, the interview will be recorded on a recording device to ensure that no information is missed.

4) RISKS AND DISCOMFORTS INVOLVED

We do not think that participating in the study will cause any physical or emotional discomfort or risk. You do not have to share any knowledge you are not comfortable with.

If questions or remarks feel too personal or make you uncomfortable, you do not have to answer them.

5) POSSIBLE BENEFITS OF THIS STUDY

You will not benefit directly by being part of this study. However, your participation is important for us to understand better the influence and problems experienced by students and lecturers in the South African context using peer physical examination in the clinical skills unit. The information you give may help the researcher compile best practice guidelines for using peer of physical examination as an educational tool in the multicultural context of South Africa.

6) COMPENSATION

You will not be paid to take part in the study. There are no costs involved for you to be part of the study.

7) VOLUNTARY PARTICIPATION

The decision to take part in the study is yours and yours alone. You do not have to take part if you do not want to. You can also stop at any time during the interview without giving a reason. If you refuse to participate in the study, this will not affect you in any way.

8) ETHICAL APPROVAL

This study was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of the Free State, Block D, Dean's Division, Room D104, PO Box 339 (internal Post Box G40), Bloemfontein, 9300, Tel no: +27(0)514017795/7794, ehicsfhs@ufs.ac.za who gave ethical approval for the study, ethical clearance number **UFS-HSD2019/0627/0110**. The study will follow the Declaration of Helsinki (last update: October 2013), which guides healthcare professionals on how to do research on people. The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION ON WHOM TO CONTACT

If you have any questions concerning this study, you should contact Mrs Maryna Hattingh at 051-051-4019307 or Prof MJ Labuschagne at 051-4013848.

10) CONFIDENTIALITY

We will not record your name anywhere, and no one will be able to connect you to the answers you give. All records from this study will be regarded as confidential. Results will be published in medical journals or presented at conferences so that it will not be possible for people to know that you were part of the study.

The records from your participation may be reviewed by people responsible for ensuring that research is done correctly, including members of the Research Ethics Committee. All these people are required to keep your identity confidential.

All hard copy information will be kept in a locked facility at the Simulation and Skills Unit of the University of the Free State for a minimum of five years and only the research team will have access to this information.

10) CONSENT TO PARTICIPATE IN THIS STUDY

- I confirm that the person requesting my consent to participate in this study has told me about the process, any risks or discomforts, and the benefits of the study.
- I have also received, read and understood the above-written information about the study.
- I have had adequate time to ask questions, and I have no objections to participating in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed and presented in the reporting of results.
- I understand that I will not be penalised in any way should I wish to discontinue the study
- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

Participant's name (Please print)

Date _____

Participant's signature

Date _____

Researcher's name (Please print)

Date _____

Researcher's signature

Date _____

I understand that the interview will be audiotaped. I give consent that it may be recorded. Please tick the correct box.

YES	NO

Participant's name (Please print)

Date _____

Participant's signature

Date

Name of the person who witnessed
the informed consent (Please print)

Date

Signature of the witness

Date

APPENDIX H

Focus group interview analysis

Analysis Students Focus group. (GROUP FC, STUDENT DIRECT QUOTES M1, PARAGRAPH 2)

FOCUS AREA: EXPERIENCES	
Theme: Mastery of learning	
Category: Competence	
FAM148	I would just like to add that initially, you might feel a bit awkward or uncomfortable, but as you go on, you realise a body is a body. You become almost desensitised to where it becomes easier to repeat examinations.
FAO1050	You like almost learn to almost handle your patient or your peer in such a way they don't see you aren't bothered by it because aren't staring or feeling awkward, so already they are feeling a lot less awkward because you aren't getting all sensitive because of the fact you're about to touch them or because they are a bit more exposed in front of you. They are also relaxed more when you are more relaxed.
FBM372	What we did quite often was comparing the different 'normal' where we could find the one person's apex beat in a certain place different from where another person we were practising on. So we were comparing it from one person to the next. It also made it interesting to see how 'normal' can look different on different people. if we would have practised on a mannequin, it would have felt much the same
FBM1056	I think it is very important to get that relationship across to the students that you need to understand that doing it in the class setting is not unnecessary and not just fun and games. It is to ensure that it is safe and a good practitioner when you go into the field. Practising with their peers for the clinical setting isn't non-essential - it is part of the education – part of your rules. So I think when practising on your peers, it becomes normal and seen as important it can help one cross-cultural and religious barriers and beliefs.
FBM163	I think practising on each other is really very valuable, and it helped me a lot. I think with practical procedures, you can know all the theory behind it, but it's only when you have to do it, that you realise that you don't exactly know how to position your hand etc. Only when you do it, you realise what you actually don't know. With a small detail, you actually don't know what you missed out on.
FCM114	So I don't think it makes us more professional. I think it helps us to practice a little bit, but definitely not with the professional balance.
Category: Peer learning	

FCM270	Your peers can give you a response. They can actually help you by saying you did this wrong do it again and so on. There is a definite benefit to PPE
FCM171	The patient also cannot tell you listen you did that wrong. The patient cannot tell you listen you forgot to palpate the left upper quadrant.
FBM121	You learned where things are supposed to be and having people count-out ribs to feel the intercostal spaces – having people count it out, it drummed it into your memory – it was actually quite a cool experience. The model learned a lot as well – as we didn't get to practice ourselves, we did learn a lot.
Category: Confidence	
FBM424	In a clinical setting, where one actually works with patients, it helps a lot with confidence, knowing that you practice on another human being instead of a plastic model
FAP1178	I also think the main thing it builds confidence. So the moment you practise on diverse people, different shapes, different genders you get into the field as a practised, a professional that doesn't have experience on just one body shape or just one type of person and you get a bit uncomfortable, but that's what you need to be doing
FBM550	think it definitely does – linking to professionalism – it is so closely linked to confidence and again linking to how the mock OSCEs work within our residencies, I think being mindful of the different personalities – some people are not repelled, ja, they are in a sense repelled to class room environments, but there are of us who would prefer to move around to others – just being mindful of other people's preferences, and getting to the end-goal at the end of the day, by a structured way. I think giving students that confidence on playing as a professional and being called-out in a safe-space so that one can align one's competency according to the HPCSA regulations per se. I do definitely think that PPE is very valuable.
FBM364	I think it is valuable to practise on your peers. How we were all feeling, starting out in the 1 st year practising for the first time on people in our class and how different that felt in 2 nd year – just one year later. We were a lot more confident. The awkwardness wasn't that extreme like it was in the 1 st year.
Category: Scaffolding	

FBM271	When we were learning on our peers, it was more based on where we should put our hands, where do I put the stethoscope, how must the patient lie, rather than "oh my gosh, his liver was so normal" because it was not about that. It was about learning 'how' and 'where' and 'why' instead of what's wrong. Once you got that good foundation, then you know your technique is right so if I do my technique properly on a patient, optimising my chances in finding that thing I am looking for or not.
FCM12	I think it is good to practice on your peers because then you know what normal is or what normal sounds like. If you just go to the hospital and you're practising on patients there is usually something wrong with them, so you don't get to distinguish as well between what is normal and what is not.
Category: Experiential learning	
FDO281	She was trying to instruct me to do something, I cannot remember what it was, but I just thought the way she is instructing me to do it is so much clearer as that I had done in my exams when I was assessing another peer. Hence, in that way, it helps me because I saw another way, a clearer way that it can be said to help the patient.
FBM822	That was also very nice for me – to act as a model – to feel what it is supposed to feel like that when the class mates practice on me or when I practice on them, then it's much easier to know that's what it is supposed to feel like and if it doesn't feel like that, well then it is wrong - that we need to adapt the technique. For me it was great – I definitely agree with this. One learns an incredible amount just be being the model and then you also know what it is supposed to feel like – having someone else practice their technique on you – you know that it is right or wrong
THEME: SAFE LEARNING ENVIRONMENT	
Category: Safe learning environment	
FAO1061	So have we ever done this before? 'Let's try this with you. Here at least we have an idea of what we are doing even though it is not completely what it would be like in a different setting like in a hospital.
FAP1266	I think the great thing about the whole peer education is that there is always a lecturer present and there is always someone you can ask to help.

FAM960	is you need to know what normal looks like so you can identify abnormal and so to do it sort of in a sterile environment with your peer that you know doesn't have a heart murmur is going to help you to identify something is not right here because it is totally out of what you've practised.
Category: Psychological safety	
FAP1153	I think also we've been, we have had a class for four years and longer. So getting exposed to each other every day really contributes to us being more confidently in our bodies and exposing ourselves to our peers because we know each other. We know where we stand. We know each other on a physical level, hmm laughs.
FAM955	So you become closer also on a friendship level to the people and you sort of buddy up so you know this one I can trust, this one not yet and you find a comfort zone within the friendship group as well.
Sub-category: Trust	
FAM955	You're with these people for a long time and I find in my peer group you sort of start making jokes about it as well. So you become closer also on a friendship level to the people and you sort of buddy up so you know this one I can trust, this one not yet and you find a comfort zone within the friendship group as well.
FBM1037	You are scared when you are practising on a friend, or a colleague or whoever, and you are also scared when you are doing it on a patient – especially for the 1st time. But there is also a sense of, at least you know your friend will forgive you, or they will be okay with it and they will understand – whereas when you have to practise or do it on a patient for the 1st time, I don't expect someone who is sick and in pain to really tolerate my incapability's.
FBM567	I think you also have to acknowledge the fact that between 1st and 2nd year, a class as a whole gain more trust in each other. With that trust, it means that you are more comfortable performing these kinds of techniques.
FDO213	there comes a problem where you get in a class of so many people variety people from different backgrounds and you find oh no I don't want to be touched by this one I want to be touched by this one or I am not comfortable to being touched but I want to learn so I want to touch the other person. I had that experience myself where you get students who when you touch them they feel uncomfortable but then they would like to touch you. So there should be that mutual understanding and desire to learn and for you to

	be able to touch your patient what makes, what makes you feel that they can trust you when you were practising you never even allow anyone to touch you.
Category: Personal space	
FAM920	It is preferable that males expose themselves for a chest exam or whatever, then lots of males are still reluctant to do it. That makes learning the skill, the practical part quite difficult as well because then you feel like you haven't actually seen a real examination you've seen a turndown illusion
FDO251	We do ophthalmoscopy, so that is basically we look into the eye, so we come really close to the patient, pretty much like face to face with them and obviously do breath on them. So that is invasive; some people are quite uncomfortable with having someone so close to them.
FAP126	I think in terms of classroom environment it might violate some people's privacy as there is a class of say 30 and all of them see you because you are exposed.
Sub-category: Touch appropriateness	
FBM1051	Especially for some of the male students that I've seen – especially when you tell them "you can't put your hand there, it's a bit weird". And that is quite easy for yourself to say when you are practising in a group with your peers, and all are laughing and that person say "sorry, I didn't think", or when your friend says "no, don't worry, I know you, it wasn't weird". But the 1st time it happens to you that a patient calls you out to being weird, or say "hey!, don't put your hand there, you feeling me up" or "actually, that really hurts" – it's also, when you practising amongst your peers – except for your skills improving, it's also learning cultural appropriateness.
Theme: Authenticity	
Category: Authenticity	
FDO42	When we practice on each other it's not the same as when you are working with an actual patient.
FDS38	So for me, I feel like we instead of doing the actual simulated case and pretending we are client and clinician, we mainly end up using that time to discuss oh do you understand this? Should we ask this or shouldn't we ask this? Rather than using the time to actually role-play. So to me in a way it is helpful but in the same we are not gaining first-hand experience

FDO414	'We're not really getting exposed to the real world and the real patient's what's really out there. We're just seeing our peers and most of the time our peers don't have any conditions that we can treat so in a way I feel a bit worried that we're not as competent as we could be.
FAO1858	Your peers will sit still and keep their eyes open because they know they have to practise as well. So it's nice to have someone who understands like you need to like pass and get this clinical skill under your belt so just ja it's nice to have someone to practise on.
FAM960	I think to a degree it is sort of an artificial setting because it's not a real-life setting, you're not in a clinic, you're not seeing a sick patient, but something that is reiterated with our clinical practice is you need to know what normal looks like so you can identify abnormal
FA01061	It is artificial, I think, but it is the closest you can get to practising on real people until we actually see patients.
Category: SP with pathology	
FBM535	I had a hip operation last year and was asked to be a model for a physiotherapy OSCE and being the model, myself, there was a bit of a concern with, you know, just now they pull my leg a bit too hard and it will hurt, but it turned out to be quite a positive experience both ways because I think there was that underlying concern that "this person genuinely does have something that hurts and could cause harm" and just being extra careful and making sure that the eye-contact is genuine and permanently there and they do continuously ask 'is it all-right' and I learned quite a lot from it and I try and implement that when I practise on my peers. It's just to make constant eye contact and to make sure by saying 'am I doing it hard enough' or 'please let me know.
Category: Lecturer as patient	
FAM980	and I found it quite beneficial if the lecturer or the presenter or the facilitator offers to be the patient to take that opportunity as well because that is a very stressful situation when learning a skill and I think like you said to build confidence in your ability if you can do it under a stressful situation.
Category: Lecturer as a role model	
FAP12130	You mimic what the lecturer teaches you. If the lecturer approaches the model, they present and ask oh so what are your considerations? You also will mirror what they are doing, but once again time-wise it's not always possible.

Theme: Professionalism	
Category: Communication skills	
FCN333	Help a lot with the communication skills. Since you are better prepared to know that if a patient responds in a certain way you know to probe that patient better if they are trying to resist
FAM738	I remember when we had to do an examination of the abdomen on a peer. I kind of forget to ask if it's OK if I examine. Yes, the person was already undressed, but you have to ask. Because now the person doesn't know what you're going to do so you have to explain to them. Because now the moment you start touching and invade. Now I did not tell you to do that. I did not know to which extent you're going to do it, so you have to communicate with your peer and tell him exactly what you're going to do and what they expect you not to.
FCN434	Helps a lot with learning to communicate with patients and peers. You don't feel so scared when speaking to strangers about intimate issues.
FDP177	You put yourself in a hospital environment, and you address your peer as a patient so that experience is so good because you actually use the words you would use on an actual patient. It is really helpful. It helps us, yes.
FBM469	I think it is very important to practise on peers or somebody that is going through the same thing that you are – just to work out the awkwardness because it is quite awkward if you are being put in a position where you have to ask a patient "please lie at this angle" or "take off your shirt", and to just work-out the process of all so that you are comfortable and not feeling awkward in front of a patient because they might think "does this person know what they are doing".
Category: Professional attributes	
FAM738	I remember when we had to do an examination of the abdomen on a peer. I kind of forget to ask if it's OK if I examine. Yes, the person was already undressed, but you have to ask. Because now the person doesn't know what you're going to do so you have to explain to them. Because now the moment you start touching and invade. Now I did not tell you to do that. I did not know to which extent you're going to do it, so you have to communicate with your peer and tell him exactly what you're going to do and what they expect you not to.

FBM163	They always tells us about the doctor/patient, the health professional and patient relationship, that it is a very unusual relationship because it becomes very intimate, very quickly. You learn a patient's name and then ask them about their sexual history within a space of 2 seconds. It is quite abnormal actually, and referring to the history, I think it definitely helps to practise these stuff, to just having a normal conversation and asking these questions which I find quite hectic in a lot of instances. With someone that you know and trust and have a relationship with already, it definitely helps to practise where there was a scenario where you practised vs. a scenario where you walk into and don't have that relationship. Also to know how to be sensitive about things.
FDO479	We treat the person as a patient. You have to introduce yourself. This is what I'm going to be doing to you. Do you allow me to do this to you? And then they say yes, and then you have to say do this do that. You think like the right terms. You would not necessarily use terminology like hard terminology like you use in class. You make it simpler for your clients. Stuff like that. So yes I feel like it is good.
FAM1162	And the whole thing again with switching partners and everything. I believe that it develops your professionalism because now you're used to your friend, and you get there like ja my name is blablabla. It's like you know that part let's skip that, OK let's get to the examination. But now if you try on a new person, it forces you to prepare to actually be a professional you know to introduce yourself and everything. Do everything properly.
FBP848	switch your mind-set to be completely professional and to understand that you need to know what's going on and what the "normal" feels like or what various body-types feel like – and to understand that not everybody is going to look like your best friend when you get to clinical and not everybody is going to have their body type and reactions, I think it is a big leap but it is that mind switch. I found it myself – you switch over to professionalism because you are going to be the professional one day and you are going to be skilled enough to take it from there.
Theme: Consent	
Category: Compulsory/voluntary	
FDO2110	I don't think it should be compulsory, there definitely should be some form of consent whether you are comfortable participating or not. If you are then that is fine, and if you are not, then that is also fine then you just practise on each other.

FCM118	It is definitely not compulsory Obviously, everyone has the right to refuse, and then he would maybe just demonstrate it on a doll or something like that. I don't know what he would do, but he can't force you.
FCN322	We are trying, by all means, to avoid that they are saying it is compulsory for all students to participate in either abdominal examination or any examination on them.
FBM1026	I am strongly opposed to the situation where you have 30 unknown classmates (especially in our bigger classes) and the lecturer would say that somebody would have to volunteer. I think that if you are willing to have a model to volunteer, there are people who are very comfortable with their bodies, very comfortable with taking off their shirts – very comfortable with people touching them in weird and strange places, and that's completely fine – but asking 30 people in the room and saying "surprise!, this is something that you should've known and should have been willing to do", I don't think it's fair
FAO1024	There are going to be moments when you feel uncomfortable when you have to undress for practical reasons or what also depending on your course. I think some are more physical as well than others maybe, but you knew what you were studying. You chose to study this as well. So you can't really have too much of a problem with it I'd say because you knew it was coming.
Category: Obtaining Consent	
FAM738	I remember when we had to do an examination of the abdomen on a peer. I kind of forget to ask if it's OK if I examine. Yes, the person was already undressed, but you have to ask. Because now the person doesn't know what you're going to do so you have to explain to them. Because now the moment you start touching and invade. Now I did not tell you to do that. I did not know to which extent you're going to do it, so you have to communicate with your peer and tell him exactly what you're going to do and what they expect you not to.
FBM293	Consent is not something that you just use to get it out of the way. It is just as important as to doing every technique and procedure right – it is part of the whole thing
FBM594	Just having the perspective to ask for consent, in my mind, creates an opportunity for a 2-way experience to happen. Because without asking consent, at the beginning for each individual, it may come across as being prescriptive, and the person giving consent might feel like they have a say – it is a healthy habit to form.

FDO2108	Our lecturers take videos of us doing like a certain technique for learning purposes, and they don't really ask us for consent. They just take a video of us doing the technique and then they upload it onto our learning platform
FCM264	Consent will bridge everything. Whether a person objects on the grounds of cultural or religious or any personal reason
FDP147	We did not sign anything with regards to treating our peers, but everyone seems to be OK with it.
Sub-category: Time of consent	
FDP141	we actually did sign consent in the first year
FBM289	No, consent should be per session. Because I might not be comfortable with something in my 1st year of medicine, but at the time when I come to my 6th year of medicine, I've seen enough naked bodies and enough strangers and I might be more comfortable with that
FBM590	I think it is important to get consent per session. It also creates a healthy habit of asking consent between the patient and the doctor, being in a clinical setting as well and because I can think it is less likely for a student asking consent throughout the degree on their peers, it is also mindful for asking consent to a patient and consent in general, is quite important.
FBM391	I think consent also comes down to respect because as soon as you touch a person, you are in their personal space and I think you need to respect that. So it can't be a blanket thing that applies forever, and it has to be signed every time you approach someone, you get consent.
FBP892	I use consent with every session, regardless whether it is with a patient in hospital or if it is a practical amongst my peers. It sort of also gives you the boundaries with where you can go and where not regarding the examination.
Theme: Social media	
Category: Privacy	
FDO4104	We do have those people that post videos on social media. But it's like we don't mind in class because we all get along and stuff like that. We don't mind another person posting you

FDP195	We actually do take videos so that we can practise when we go home and can watch it later. In the second year this was actually not allowed they told us that they had to get permission from the Dean of Health Sciences and gradually I don't know somehow we just started taking the videos, and the lecturers wouldn't complain.
FAO1083	We (occupational therapy) sign something that says no photos are allowed no social media. Nothing in class is allowed to take without that person's consent, so everyone's privacy is protected in terms of social media. Nothing can be put up or get shared if a person did not give consent or did not know about it or give consent or whatever.
Category: Videos for training	
FDP195	We actually do take videos so that we can practise when we go home and can watch it later. In the second year this was actually not allowed. They told us that they had to get permission from the Dean of Health Sciences and gradually I don't know somehow we just started taking the videos, and the lecturers wouldn't complain.
FDO2108	Our lecturers take videos of us doing like a certain technique for learning purposes, and they don't really ask us for consent. They just take a video of us doing the technique and then they upload it onto our learning platform
FDP1111	I also agree because there are students, who don't even attend lectures, but they still excel they are still able to do the OSPI's etc. because we take videos and you still go home and watch it so if you are not comfortable why don't they just give us the permission that ahh, why don't they give us the permission that if you are not comfortable then don't do it. Not force students not to come to class the lecturer does not know my face and the day the lecturer sees me and question why were you absent knowing perfectly well that I was not comfortable.
FDO4112	I would like to disagree because I feel you are going to know I'm not comfortable. This is what we are practising. How do you expect to learn if you're not engaging with the work?
Theme: Practical arrangements	
Category: Good communication	

FAP1216	A lot of times there's no clear expectation given. You get to class, and you know that you have to expose, but you don't know, for example, what you will have to expose or for how long or for which reason. Then you might for example being asked to lift up your top and then you did not know that you would be expected to do that and you might feel uncomfortable.
Category: Undress	
FDS318	At the same time it becomes a religious concern because I study speech therapy and we have to feel whether your mandible is functioning. There have been times where we've had Muslim clients, and they wore a hijab, it's that scarf where only your eyes are showing, and they refuse to take it out, and we respected that because it is their religion and there's nothing else that we could do but to respect that. We had to assess the oral structures that could not happen because of their scarf.
FDP135	We did have a problem with someone who don't want to undress. That was during our second year. It was really a big matter. I also know of a student who actually dropped the course and said if this is what is going to be happening, I can't manage, so she left the course.
FDP139	We discussed expectations in orientation, but undressing was not something that was put on great emphasis. I think it was something that was just looked over. There was no importance placed on it.
FAM1512	My biggest fear is the fact that my lecturer will possibly see me without my top and possible bra too and I will have to look at them the next day even if they are doctors that felt awkward.
Sub-category: Clothing	
FDO417	we get told that OK guys just wear comfortable clothes, wear like hmm, pants stuff like that because we are be like on splints and then we have to undress so that we get like exposure and stuff. And like you can actually see, it's necessary. I feel like 'it's necessary so that we have to see what's, actually happening when they say touch the scapula you need to be able to know where it is. Because if a person is wearing a jersey, it's like really hard
Sub-category: Culture	

FAP1230	I think as a degree all of us were raised different, and I think everyone in your class has a completely different view on something so I think the levels of comfort towards undressing will completely be different for every religion and not even their religion but regarding how they were broad up.
Category: Diverse partners	
FAM1377	I think that will be better because now you get to see the different types of body shapes and everything. Because in anatomy you know we have a lot of variations so if you think that you know what I practised on this person and the next person is going to be exactly the same you realise that there's actually a huge difference. Because in my experience practising on different people I learned a lot cause they have different like body shapes and sizes so that just showed me.
FAP1178	It builds confidence. So the moment you practise on diverse people, different shapes, different genders you get into the field as a practised, a professional that you don't have experience on just one body shape or on just one type of person and you get a bit uncomfortable, but that's the whole that's what you need to be doing.
FAP1281	We are actually encouraged to swap partners as much as possible and especially in every class we try, but we tend to move to your comfortable partner. I think the thing about changing people with my degree is we actually change our technique a bit, for example massaging. If a patient has a bigger bulk of muscle, you have to repeat the technique, or you have to do it deeper, or your hands have to move differently physically. So if you don't do that, you won't master the skill.
FAM1377	If you think that you know what I practised on this person and the next person is going to be exactly the same you realise that there's actually a huge difference. Because in my experience practising on different people I learned a lot cause they have different body shapes and sizes
Theme: Supervision	
Category: Ratio	
FCM153	We don't need more supervision. If there's one doctor in the room that's enough. Usually, our groups don't exceed like 15 people

FBP932	But another thing that used to bug me was the time that it took – it took so much time to practise and then the lecturer must go around to all the different groups to see what they do. I guess it's nice because you sort of get that one-on-one lesson, but it was a dead-waste of time and that bugged me a little bit.
FAP12122	usually were only have one supervisor in a practical session and that I think that already were blessed with that I mean most people probably don't usually for a big class I don't tend to get to everyone. Always they try hmm, but I think maybe have revision classes with more supervisors to assist. Just to make sure everyone gets that individual training but I know that isn't always possible with the amount of staff
FAM9128	Physically cannot be everywhere. So there are rooms where peers are examining each other and performing sort of medical things on each other, and there's no superior present.
Category: Guidance	
FDO2120	You could be using the wrong technique, so if there is supervision, you know exactly what you are supposed to do rather than when you are just doing it without anyone watching you
FAP1266	I think the great thing about the whole peer education is that there is always a lecturer present and there is always someone you can ask to help.
Theme: Diversity	
Category: Respect for culture/ religion/race	
FDS318	At the same time it becomes a religious concern because I study speech therapy and we have to feel whether your mandible is functioning. There have been times where we've had Muslim clients, and they wore a hijab, it's that scarf where only your eyes are showing, and they refuse to take it out, and we respected that because it is their religion and there's nothing else that we could do but to respect that. We had to assess the oral structures that could not happen because of their scarf.
FDS3114	If someone does not feel comfortable doing the PPE with you because of like religious reasons you are not in a position to force them or judge them. You have to be respectful of their culture, their religion

M19 FFS 14	from our point of view, we are not allowed to have any contact with the opposite gender. So that is completely null, regarding showing ourselves everyone has their own personal way of interpreting it, but in terms of male and female it's a no, in terms of female and female its depended on the person, but that's not a restriction so some. The opposite gender is completely off but the same gender there is differences. So there are a lot of people who will still say no for the same gender as well.so that's from my faith.
Category: Learning about culture/religion/race	
FDS326	When examining our peers, I think we are all at that level of understanding that it is for learning purposes and we are all used to doing this, we do have Muslim peers in our class. They do not hesitate to remove their scarf and even during religious times like Eid when your scarf has to be worn. It's not an issue for them to remove it, because we all know what we are doing. We are doing it with no malicious intent because we all doing it to learn.
M15 FFS 12	Also feel that sometimes there are ethical differences or particular diversity and you are not completely aware of what is acceptable in terms of physical contact in terms of someone of a different culture or race or ethnic group for that matter.
Theme: Gender	
Category: Male/female/other	
FBM1051	Especially for some of the male students that I've seen – especially when you tell them "you can't put your hand there, it's a bit weird". And that is quite easy for yourself to say when you are practising in a group with your peers, and all are laughing and that person say "sorry, I didn't think", or when your friend says "no, don't worry, I know you, it wasn't weird". But in the 1st time when it happens to you when a patient calls you out to being weird, or say "hey!, don't put your hand there, you feeling me up" or "actually, that really hurts" – it's also, when you practising amongst your peers – except for your skills improving, it's also learning gender and cultural appropriateness.
FCN45	We examine male and female students. But when it is something more invasive like the abdominal examination, the lecturer will explain it on a male student

FCM28	I feel like the male students may have somewhat of a back draw is like the females get to practise on the females like I'm going to take the example of the placement of ECG leads again. Hmm, a female student will know exactly where to place an ECG lead on another female, whereas us as male students we don't get to practise that on an actual person.
FCM110	Breast tissue is unmovable, or it hangs down, or it's like very very difficult. Honestly practising on your peers doesn't prepare you for that you only get prepared for that when practising on patients. Really, it's not a difference on a boy or a girl if you look at the skills lab setting.
FDP133	We actually mix because the more exposure, the better cause you don't know if you only are treating female patients or only males. So we get to mix around. People are treating different races and religion.
FDP1121	This thing of having male and female for me it is such a big problem because then it, it comes that the departments then they must educate and let people know before they actually enrol themselves in this degrees that this is what has to be done. You 'can't have a student coming into physiotherapy and say I can't do this because of ABC.
FAM926	I think that if you, I know some people may feel uncomfortable, but if you don't practice on different genders, you may not be able to treat the patient one day if you only exposed yourself to let's say females if you are one.
FAM980	I think that for examinations that don't require as much exposure for example then it's also beneficial to start practising on someone of the opposite gender so that you can slowly ease yourself into possibly awkward situations, so that you can handle it professionally
FBP897	I think it should not be compulsory to practise on both genders. I think it depends on how you source your models. So I think if you got outside people to model, and not volunteers from the class, who said that they are 100% comfortable with this person doing it, then it should be compulsory for you to practise on both You cannot say that now you practised on a male. I know how to do the procedure on a female
FBM623	The majority of my learning was done on the male specimen, and the only time I would try out techniques, were when I went home and practised on my sister, and that was quite rare – when you go into a hospital, it's a bit of a shock to try and adjust the techniques to a female, if that makes sense?

FBM428	With relation to females being voluntary models – I often have some of my colleagues in a year below me come in and ask advice on situations like that – cause it is uncomfortable – and something that I found that they responded positively – is that I don't mind them when I sit and they examine my abdomen, but when they are more specifically to examine my breasts, one quite positively respond and explain the process, and you walk them through it, explaining to them from your perspective – if for the 1st time – how you would have appreciated it.
FBM229	I was thinking about volunteers – just preparing them before-hand would be quite ideal, even if you opened it to the class, asking them on "who would be keen to model" – male or female – and they could go maybe into orientation on what they can expect, this is what's going to go down, asking questions like 'are you still okay with it', and then the groups can then be organised around people that are comfortable to model – if that makes sense.
FBM299	It might even be constructive to inform before-hand that we doing a cardiovascular performance on a male and tomorrow we going to do this or that on a female. Then it is like an event and people know that it is going to happen. People can be prepared for it. To know it is part of what's happening and do the abdomen and make it normal.
Sub-category: Religion	
FAM1914	So from our point of view (Muslim), we are not allowed to have any contact with the opposite gender. So that is completely null, regarding showing ourselves everyone has their own personal way of interpreting it, but in terms of male and female it's a no, in terms of female and female its depended on the person, but that's not a restriction, so some people are a bit more conscious like it affects how you will do an examination to expose the chest. Some people will not be happy about it and some will. The opposite gender is completely off, but the same gender there is differences
Category: Undress	
FAM920	I found that some people are more comfortable exposing certain things and some clearly not, but in an instance where it is preferable that males expose themselves for a chest exam or whatever, then lots of males are still reluctant to do it. That makes learning the skill, the practical part quite difficult as well because then you feel like you haven't actually seen a real examination you've seen

FAP118	I think also some of the classes have males and females, so some people feel more uncomfortable dressing or undressing or actually examining your peer in front of the opposite gender, so I think that is also a bit of a barrier.
FAM1512	My biggest fear is the fact that my lecturer will possibly see me without my top and possible bra too and I will have to look at them the next day even if they are doctors that felt awkward.
Theme: Patient centeredness	
Category: Empathy	
P12, FFS66	And that you take into consideration like asking your patient or your model are you comfortable, am I hurting you, tell me when I hurt you. So you don't just blindly go into it to hurt someone. I think you need to know what hurts to know what to do what doesn't hurt if that makes sense. You need to know I press too hard, or I shouldn't do this cause this hurt cause this model's normal is not the same as the normal of the other model I practised on.
FAP1256	Feeling of maybe humiliation fades like a lot of people had said, but I also feel in the stages when we still learning it exposes you or to learning empathy for your patient one day. Because I mean if you, for example, think oh I would have put a towel there now. You know if you think in the future if I treat a patient, I will take that into consideration. I think there is a lot of space to learn how to protect someone's privacy and how to make them feel comfortable.
FAO1858	And then also to feel how it feels to have this uncomfortable feeling in your eye like to have the feeling and then you can tell that to your patient. This is how it got to feel. You've experienced it. You know. You need to tell them it got to be uncomfortable. Because if you never experienced it yourself then you don't really know how to explain it to your patient.
FAP1266	And that you take into consideration like asking your patient or your model are you comfortable, am I hurting you, tell me when I hurt you. So you don't just blindly go into it to hurt someone hmm, ja and I once again I think you need to know what hurts to know what to do what doesn't hurt if that makes sense. You need to know oh I press too hard, or I shouldn't do this cause this hurt cause this model's normal is not the same as the normal of the other model I practised on.

FBM573	And I think what he tried to say, is that one needs to fully put one self in a patient's shoes to be able to move with them and work with them and I think not only to do the doctor role. one kind of picks up what kind of person you prefer and that you try and imitate more and there are certain things that people would do and then try to think how to avoid doing something in that sense.
FBM121	it was quite cool because it was nice to know kind of felt the examination it was almost as getting the patient's perspective, so this is what it feels like when someone does not have hot and warm hands, or what cold hands feel like on the body, or when someone pushes too hard or someone pinches you or when someone doesn't feel confident you can almost feel confidence in the fingers – I know that sounds weird, but it's true
Category: Respect	
FAM1989	I think we should have like a lecture on how to treat the patient. Because when you go to the hospital and like everyone is not used to the environment, so they are not used to how to treat the patient. And the patient is right there, and the patient is looking at you, and I feel that there's your priority and I feel that before you get to the hospital you need to get a lecture where you need to be told how to respect a patient especially when there are two patients, hmm two students or more than one student all around the patient. The patient is still there, and when we do ward rounds, the doctors are talking, but no-one care that the patient is right there, and the patient is listening to everything that you are saying. So, I feel that the patient comes first and I feel that students don't know that especially religious stuff
Category: Health dialogue	
FAP1295	it's important to ask your models specifically is there anything cultural or any like religious thing that you want me to know, and I also think if that person, for example, is willing to tell let them speak about it. Don't rush through it
FAP1297	you may find an Islamic patient who does not comply with the guidelines you've been given, so that's why I think it is important to ask your patient specifically because they might have other things that you have to take into consideration
FAO1099	we get taught to explain everything were going to be doing to the patient beforehand and then ask them are you OK with everything about it is there anything you object or don't want to be done. So I think that is a way of finding out if you're allowed it's almost like

	getting consent from the patient and knowing that their cultural and religious beliefs don't allow it is by explaining everything to them like we were taught and then hearing is this allowed or not
FBM535	myself, had a hip operation last year and was asked to be a model for a physiotherapy OSCE and being the model, myself, there was a bit of a concern with, you know, just now they pull my leg a bit too hard and it will hurt, but it turned out to be quite a positive experience both ways because I think there was that underlying concern that "this person genuinely does have something that hurts and could cause harm" and just being extra careful and making sure that the eye-contact is genuine and permanently there and they do continuously ask 'is it all-right' and I learned quite a lot from it and I try and implement that when I practise on my peers. It's just too make constantly eye-contact and to make sure by saying 'am I doing it hard enough' or 'please let me know
FBM555	I think that is very valuable – to ask the patient upright what they are comfortable with or asking the patient how they would like to be incorporated in the procedure. From a personal experience – in my 2nd year – I studied MBChB – I went into hospital with my clinical partner. There was this Xhosa-speaking person and right at the beginning of the consultation – my clinical partner was a male – the patient said that he does not talk to woman doctors. I had to respect that. I mean, as a doctor, one shouldn't enforce a worldview on the patient, and I love what was happening and I just took notes – and in the middle of the consultation, another gentleman (a male nurse), they exchanged a few sentences, and it was quite inappropriate. I can speak Xhosa myself as I was raised amongst that culture as well, so I realised what they were saying and they were commenting quite inappropriately on my figure and I thought to myself, "is it wrong to feel bad for the way they are speaking" or "should I bring it up" and "how does one deal with this" and I didn't say anything until right at the end and as I walked out of the room, I just dropped 2-3 sentences in Xhosa, commenting on something which they said earlier, and their mouths just dropped. I don't think that they thought in the slightest that I would come back at them and it wasn't negative – I think in a subtle way, they realised, "wow, we should be careful".
FBM594	Just having the perspective to ask for consent, in my mind, creates an opportunity for a 2-way experience to happen. Because without asking consent, at the beginning for each individual, it may come across as being prescriptive, and the person giving consent might feel like they have a say – it is a healthy habit to form.
Theme: Duty of care	

Category: Duty of care	
M13, FFS143	Exactly. And she felt a little uncomfortable, and then the lecturer as well came and then she said OK how would you feel if we presented this to the class and everything? And the peer was definitely like no there's no way I'm doing this because they can already see how everyone reacted and they don't want everyone else to react the same way.
FAN4134	A guide to what if you find something wrong during an abdominal examination on a peer and the lecturer isn't present at that stage.
Category: Indemnity	
M1, FFS118	I'm not so sure if the indemnity form will make much of a difference because from the get-go I had the feeling it is expected for you to be willing to do this.
FCM241	We do things like taking the blood pressure on your peer like there's not, there aren't any severe risks associated with that. I don't think we need indemnity.
FDS3125	I definitely do feel that there should be indemnity forms because they were the one who injured you, they should be liable for any costs incurred or any sort of that due to that
FDP1128	I agree, and we actually do have, we have been signing indemnity forms from our first year, and it is so important. So indemnity forms are important, and they should be actually emphasised. I know that from the first year we been getting these forms but no one has actually sat to read them out to us. We just sign it because it is a requirement.
Category: Liability	
FAM168	To make the experience as real as possible I know my partner and I always ask first are you OK with this? Do you consent to it? So yes, I don't think a person should be held liable because I mean the one partner they're going to swap sides. So I don't know I think anyone can make a mistake.
FAN273	I think the person facilitating that class or that presentation should be liable because that person takes upon himself let's say to teach you a certain skill and then when he gives you the instruction OK please practise this on your peers while we have this 15 minutes of facilitation there then he's responsible because he gave you the order to do so.

FAO1075	I think that the person that most experienced in the room in that field. So it is most of the time the presenter of the class or the lecturer so the person who really knows what they're doing
Category: Unintentional harm	
FAM770	It depends on to which extent you actually hurt your peer. Because first and foremost you as a healthcare professional you first do no harm, second and foremost, there is always a lecturer present that shows you how to do it, yes showed you how to do it, and then (big sigh) I guess you won't be that hurt your peer, but if it was accidentally, we understand, so I'd say no.
FAO1071	I don't think the students should be held liable for hurting their peers because I don't think anyone in the health sciences faculty is here to hurt someone else, so if they do it really is an accident. Hmm, and you learn through those accidents. So I don't think anyone here intentionally goes too far because of its funny or something like that
FDO257	When we're putting a contact lens into a patient's eye, we have to keep their upper eyelid tight wide open, and sometimes that can be hurtful to the patient because they want to blink their eyes and that could hurt if we keep it open and they want to blink their eyes. So, in that case, we just tell the patient please tell me at any point are you experiencing pain and then we just stop and then we start again. But I have not hurt anyone doing peer physical examination. Not that I can think of.
FOCUS AREA: FUTURE GUIDELINES	
Theme: Briefing of students	
Category: Pre-brief students	
FCM147	Maybe hmm, they can before the session. They can tell us OK, a volunteer will be required, a male volunteer.
FAP1216	There's no clear expectation given. You get to class, and you know that you have to expose, but you don't know, for example, what you will have to expose or for how long or for which reason. Then you might for example being asked to lift up your top and then you did not know that you would be expected to do that and you might feel uncomfortable.
FBM281	Explain in the orientation before-hand; that it's not a game, what the intention of PPE is – explaining to students why they are doing certain things.
Sub-category: Information/reasons	

FAM1132	Some extra guidelines should be given on how to get the most of your experience. For example only now that I consider that I could get the most of my experience by switching partners with every examination or every session. I think that could make a huge difference.
Category: Small groups	
FBM1078	small groups are more effective- to actually just get a 1:10 ratio practising on each other Tell the group what you going to expect them to do
FAM1108	there should be space where you can say OK whoever wants to practice on the other gender and they are comfortable with that there will be another room with a lecturer also there.
Category: Shared decision making and ground rules	
FAP12153	Maybe even structure like today this your partner because I think out of free will you really don't always choose someone else. And just for the bigger picture of educating the students kind of forcing them to have ... not forcing them but like here's your partner for today but giving them space for that
FBM596	Asking students not to take pictures or videos without asking first because I think if one is assured that what happens there stays there, there might be more willingness to participate in PPE.
FBM260	Going back to social media, I was very impressed with the facilitators at the sessions who said "listen, this isn't a game, fun or a playground" – this is clinical education. And it was exactly the same for dissections – "you don't take photos in here without consent – you need to respect the models' integrity and privacy just as much as you respect the patient" – as much as it is your friend, you cannot share a joke with them – that's up to them. It goes as far as they want it too. So you can ask as much as you want, rather don't take photos and don't put in on social media because it's not for the public – it is for your education. If we weren't briefed, some students might have put it on Instagram. Not because they are trying to be malicious, but that's is just what people do these days. No matter what happens, one take a photo of it.
Theme: Consistency	
Category: More supervisors	

FAP12122	Usually we only have one supervisor in a practical session and that I think that already were blessed with that I mean most people probably don't usually for a big class I don't tend to get to everyone. Always they try but I think maybe have revision classes with more supervisors to assist.
Category: Consistency in information	
FBM1078	And I think consistency between groups is such a big thing. In our 3rd year we had such a big fight over examining a liver, because the one facilitator said to do this on inspiration and another one said that it must be done with expiration. There is no 'one-way' for putting a drip, but there is 'one-way' to correctly assess chest expansion
Category: Address diversity	
FAM1546	I think for the first time in a long time have we had the privilege of practising on different races. Now that is something that feels we take for granted because that is not something that you always get exposed to. So I think in terms of examining different races, because I, I found that different people expect you to go to different detail dependent on their race specifically speaking. Where some require you to explain exactly what you are going to do, some don't want you to get so physical. Some want you to be a bit discreet in your movements, and so on so I think Be exposed to practising on different races from the early onset of our studies.
Sub-category: Cultural and religious issues	
FAM1591	I feel like we don't know enough about the different cultures and what's accepted or not. I feel as we are practising now if we don't get exposed to that now that's going to affect us in the future we come to a patient, and this is thrown to us, and we have no clue on how to deal with this because we don't know what is expected. I think with results to guidelines we should have a clearer indication with regards to different groups what is acceptable and what is not
FDM1512	sometimes there are ethical differences or particular diversity and you are not completely aware of what is acceptable in terms of physical contact in terms of someone of a different culture or race or ethnic group for that matter

FAM1546	I think for the first time in a long time have we had the privilege of practising on different races. Be exposed to practising on different races from the early onset of our studies.	Practising on different races (Multi culturalism)	Multi-culturalism
	Disadvantages		
FBM331	so it was only ever the same person that had to model the entire time in the whole module that we did, and I know for him specifically, he started getting frustrated, because he did not have any opportunity to practise – he could only model – and it was because he was the only one who was comfortable to do that.	When one person must be the patient all the time he cannot get time to practice his own skills.	Fairness
	Ethical		
	SUPERVISION		
FBM287	there should be supervision, and everybody should be forced to do it in the group, but for as far as it goes for supervision in informal practising, it's not practical	Everybody in a group must do it.	
FBM1037	So, even invasive procedures, I would say, the risk of someone performing it anyway, even when being told not too, is big enough to consider actually to just let them do the basic procedures under supervision where it is safer than having them stab people in the nerves while trying to find blood.	Students perform invasive procedures e.g. venepuncture unsupervised at home. Maybe better supervised in a safe environment?	Unsupervised
	TRUST RELATIONSHIP BETWEEN PEERS		
	LIABILITY		

FAM19114	You need to learn responsibility from now when you start because now you go to the hospitals and you do something—knowing that that consultant or that doctor is responsible. So we also need to watch what we do.	Students must take responsibility for their actions.	Responsibility
M19, FFS110	But when you need to look at it realistically when you are working with a patient as a doctor one day you are going to be the responsible for everything, so you need to learn responsibility from now. So I feel we obviously not going to be blamed, but you also need to know your responsibility		Responsibility

APPENDIX I

Semi-structured interview analysis

Analysis Semi-structured interviews. (SEMI-STRUCTURED INTERVIEW SS, LECTURER L, PARAGRAPH 22)	
THEME: PEER-ASSISTED LEARNING	
Category: Peer learning	
SHL170	I think you build a relationship of trust with the patient. The patient has to trust you that you know what you're doing so you can't come with a book and say ok, let me see, I have to put my thumb 2cm to the left. If I was a patient, I would run, but you can do it with a peer. Saying hold the book. Ok, do you think I am 2.5cm left now? Do you feel that my fingers are on the fibula head? So, you can have that conversation because you're both in the learning process.
SKL222	But usually, in the third year, they've lost that sense of anxiety or shame or whatever it is that makes them feel they will be pointed at or looked at and often they are excited to show their differences by the time they get to third or fourth year. We had one student who was very upset, emotionally upset by the idea during her first year. By the time she was fourth-year, she was really comfortable and happy to be someone that was tested on because she had unique eyes and she was able to teach other people.
SSL14	Because of the COVID pandemic, we are unable to bring outside patients into our institution's eye clinic. So we've paired up our third year and our final year students where they serve as patients and examiners, and we also find that there is a lot of mentoring that occurs in this pairing as well, where the third-year students are able to actually learn from this experience because of the performance of the final year students. It also helps them with their professional development
SRL112	Once they are familiar with each other, I think it is a comfortable learning environment for them to make mistakes or whatever. They tend to be nervous when an academic or preceptor or qualified practitioner that supervise is in the room, and they almost have to think at every stage. When you're not in the room, and it's just them and their peer, I find that it flows more smoothly and more comfortably.
SUL14	Because according to the health professional council, they are not yet ready to work directly with patients. So they model for one another.
SGL134	I think they learn from each other as well.
SHL142	What do you think what the quality of the assessment on yourself is? Did she hurt you? How did you experience the massage? Because remember we are standing there, and although you are doing the technique perfectly, we are not the one experiencing it. How deep they are pushing or if I take your elbow, am I hurting you with my fingers, and the peers are quite brutal sometimes with their feedback. Say you pinched me, it's really sore.
SKL16	Let both of them learn because sometimes you get a strong student with a very weak student and then sometimes that strong student can feel I'm not learning anything from the other student because actually, they must learn from each other. And you might get it that this stronger student would rather want to learn from a lecturer or a superior and a person with knowledge than important thing if you. it is very important to make sure that the two people that is learning from each other is on the same academic level
Sub-Category: Peer mentoring	

SHL122	We've got a very big tutoring system in our department where the tutors e-mail us every week and ask us what did you do this week in the class and they would go through the techniques that afternoon. It's compulsory for the first year and second years. The tutors are third and fourth years that are appointed by the department
SSL14	We use PPE also for peer mentoring to an extend because we find that our students sometimes tend to learn certain things a little bit easier or better from a fellow student or a peer.
SSL14	Because of the COVID pandemic, we are unable to bring outside patients into our institution's eye clinic. So we've paired up our third year and our final year students where they serve as patients and examiners, and we also find that there is a lot of mentoring that occurs in this pairing as well, where the third-year students are able to actually learn from this experience because of the performance of the final year students. It also help them with their professional development
Sub-category: Diverse partners	
SPL124	We advocate for the round-robin so that you don't get attached to one person and so that you get a feel for different bodies because if you are only practising on one, it is quite problematic because when you are faced with other cause for example, when we are palpating the spine one might be very easy they've got wonderful spinous processes but other, it is a mission to find
SPL18	What I tried is that they don't practice on the same person the whole time. So that they are able to feel different people and different structures. When it is the next demonstration, we swop partners so that we are able to get a feel for different bodies so that you are not used to just one body so that you are not flustered when you get to the real world.
SHL178	If I see it's the third class and you're still with the same person then that's not right. You need to swap because you need to feel the difference in muscle tone whether the person is stressed out or not.
SJL161-63	I don't tell them if they just practise on one specific student you need to practise on another one so that you can get used to different body shapes.
SLL128	We let them rotate partners. We will start off and let them do a few procedures and then rotate them so that they don't get used to the same ones.
STL156	Some of the techniques are very uncomfortable, and some students are more sensitive than others. And what we also do is we don't keep them with the same partner all the time. You know some people with sensitive skin, others not. Some are heavier than others and more difficult to undress or cover discreetly, but they need to get used to that. Patients come in all shapes and sizes.
Category: Relaxed	
SXL116	It's a really good tool to use, because I mean, with the classmates they tend to relax a bit more than with a lecturer. Most of the students actually really love it because they feel that they learn more.

SLL142	I must say when we started off with this, the student was not always they were reluctant to do this. It was like ja now we must expose ourselves, they were a little bit reluctant, but I think as it went on and they speak to one another, you know actually we also started off and it was something new to them, new to us a stiff environment. But as we got more used to doing it we were more relaxed, and the students were also more at ease, and we were making some fun activities in between, And then they speak to one another and then ja. I must say now they are a bit more relaxed and as the year passes on and they get used to more of this type of thing you know, peer physical examination. They also get more at ease in doing it. They also understand the value of it, it also gets better. In the beginning, it was a little bit difficult but JA, it's getting better.
Category: Group work	
SXL1122	With the bigger classes this peer examination works a lot better because they are now working together, its either them in a group because it's a big class and it's challenging now to have them two by two, so you will start probably with a group of 5 students for instance, and amongst them, they choose their own model. One of them is going to be a therapist, and others, of course, are observers so that when they start discussing or sharing information. No, we shouldn't hold like that, hold like this, support like that, and move it like that. So which is also part of their peer evaluation way of doing stuff.
Category: outcomes	
SXL1148	The students share information. If it was just one student and an SP, there's no one to share with, but if it's a group of students with an SP, they can share, but if it's a peer, they learn more. I suppose it depends on what you want to achieve at the time."
Category: Peer assessments	
SOL16	I think for them to actually learn on each other and teach each other, I think that is a very good way of it's actually, how I see it's got two it's got dual purpose, so they actually learn to do the physical examination but also they actually learn how to assess each other as well.
SOL138	I don't think there is a failure in PPE. I really think it is only because they also feel more you know sort of secured when they go to the practise and have to interview a real patient or have to talk to the family, or they have to do a physical procedure they are more confident, and it also helps them to understand, what I've also seen they actually, you know sometimes we got our booklets or a file where they get all the assessment tools but now if they evaluate each other they also actually physically go through the tool. They can see which the errors are or which are like you know the failures the critical pointers.
SWL14	You can instil in a student the basic principles of assessing a patient and or treating a patient. And students can learn from each other give feedback to each other while they are doing the technique, and they can learn both ways the student doing the technique but also the student on whom the technique is being performed
Category: Scaffolding of learning	
SVL18	Students need to learn what's normal before they can apply that to any pathology. And, the way we do that is in class where they learn to fully expose each other for whichever area is being assessed and then they can roll out in clinical practice at the hospitals.
SVL150	PPE is effective. Students know that they are learning on an asymptomatic person, feeling fairly healthy tissue, and looking at fairly normal movement and assessing that. Obviously, the bridge between assessing pathology then is something they'll have

	to do between the classroom and the clinical setting." So, we do have supervisors who are on-site at the hospitals to help them with that
SGL12	Value of PPE is getting to know the normal as I think most of our students are relatively healthy. So getting to know the normal before you see the abnormal in the hospitals and getting into that idea of getting informed consent from someone.
SNL116	The students did blood glucose on each other and some felt now they are hurting each other. But, the lecturer had a session with them discussing it with them and say that OK, but what is the alternative? That you go to a patient where it is really needed, but you have no exposure on how to do it. So then they agreed, and it was fine. So it was not a major issue, but just a bit of initial resistance to actually participate.
SKL234	At the end of their first year, the beginning of the ethics module we say what it is what you need to be a student in this department. You need to act ethically, and the goal is to reach your core competencies which require teamwork and communication. And all of that is embedded in those core competencies. So they sign an ethical agreement that they will be part of this department and comply with the rules of the department and that has got to do with punctuality and dress code and treating others with respect and dignity and confidentiality and all of that principles are embedded in that document.
THEME: SAFE ENVIRONMENT	
Category: Safe environment	
SRL112	Once they are familiar with each other, I think it is a comfortable learning environment for them to make mistakes or whatever. They tend to be nervous when an academic or preceptor or qualified practitioner that supervise is in the room, and they almost have to think at every stage. When you're not in the room, and it's just them and their peer, I find that it flows more smoothly and more comfortably. I mean the downside is that you often find that the student as the patient helps them, giving them the answers or telling them what to do. That becomes a bit of a challenge, but I think it is a healthy and constructive learning space for them because it gives the patients the chance to critically reflect and the student clinician is more open to feedback critique from their peer.
SPL160	It is easier when they are in smaller groups. So a group of 64 sometimes is difficult to manage. So in a smaller group, you can then concentrate and spend more time with someone on the technique because you find if they are as big as they are, you want to assist them but also not spend too much time with one group so that you are able to get through the whole class. The aim is to walk around to everybody to see their technique and their handling and see how you can help and adjust it for them. Sometimes, when the group is that big, you may miss one or two or a few when you spend more time trying to get the concept through to someone else.
SIL172	The main success I think it's a safe place where they can learn well. And I think because they have respect for each other it works well and If their attitude was not as good as it is
SGL134	I think they reflect and think while they are busy, while the student is busy with them as well. And it's a maybe it's a little bit safer in that sense in that it's still your peer and you feel a little bit less exposed than with the standardised patient.

SLL142	I must say when we started off with this, the student was not always they were reluctant to do this. It was like ja now we must expose ourselves, they were a little bit reluctant, but I think as it went on and they speak to one another, you know actually we also started off and it was something new to them, new to us a stiff environment. But as we got more used to doing it we were more relaxed, and the students were also more at ease, and we were making some fun activities in between, And then they speak to one another and then ja. I must say now they are a bit more relaxed and as the year passes on and they get used to more of this type of thing you know, peer physical examination. They also get more at ease in doing it. They also understand the value, or if they can see the value in it, it also gets better. In the beginning, it was a little bit difficult but JA, it's getting better.
SRL16	I think it's good because I think there is a place for the peer learning that takes place and the part of the students who are sitting as the patients because then they get to observe they get to see perhaps what the other students are missing out or doing incorrectly, so it also acts as a sort of a learning experience. I find that sometimes some students almost feel a bit intimidated by it because now they have a student sitting as a patient. The student knows what to expect, unlike the patient that doesn't necessarily know the different tests etc. They may feel that they under the spotlight and a little bit apprehensive, this is the students that are now the clinician but I think once they know each other, it's easier. When they still unfamiliar with each other there's a bit of reservation, but once, here to the second half of the year they know each other in the class they are more comfortable. They kind of realise they all learning together. So that's not an issue. Let's say you have a junior student second or third year having a fourth year as a student sitting then the anxiety of the clinician is raised because then they feel now you know more than I do pick up all my mistakes.
SSL12	So generally, when we start with our lower-level modules, it's mostly for clinical training in terms of learning techniques. That is the modules that are focused on the kind, you know, of just getting them familiar with the techniques they will be using. So we find that we don't want to expose the public in a sense to early learners, I think that's part of your PPE. And also, on the other hand, we don't want to expose our students to any uncomfortable situations for themselves as well, where they're not feeling confident, they haven't had too much experience in a clinical setting
STL154	My concern with that would be that where would they have perfected their technique? Such vulnerable patients. A patient goes to the hospital because they need help. Assistance the actual fact that they are in need of medical care makes them vulnerable, so I wouldn't want my students who had not practised or perfected the technique to do that on them in the first place on a patient. So, no. I would say no it is safer on peers
SGL12	We have a very diverse hmm student population, religions and cultures and things like that. As an it's a safe environment to kind of get the hang of getting comfortable with touching them and examining them and explaining to them in an easy to understand way how and what is going to happen which is ...
STL14	I feel that it is absolutely essential; it got to happen, their peers are training ground in many respects, and they need to perfect what they will have to execute on sick or needy patients on people just like themselves before they take it out on more vulnerable people.
Category: Mutual trust	

SIL152,54	But I think in the first instance they need a safe environment where they can just learn the skills. So if they make a stupid mistake, they don't feel stupid. They don't feel any question is too stupid to ask or they don't feel that they got to perform from the start. It's almost creating a safe zone where they can practice with each other. It does give them a feeling of camaraderie, of being together in a team. It really helps them with teamwork. And I think they do. The principle is that they must respect each other and they do. And I think that's what makes it work so well.
SJL120	Some students feel more comfortable doing it on each other than doing it on somebody they don't know. So it's all about. I mean they have a relationship with each other, but it differs. I don't know you get students that, depending on the type of students, because like I said because I think some students don't trust other students.
SKL222	at the third year, they've lost that sense of anxiety or shame or whatever it is that makes them feel they will be pointed at or looked at and often they are excited to show their differences by the time they get to third or fourth year. We had one student who was very upset, emotionally upset by the idea during her first year. By the time she was a fourth-year, she was really comfortable and happy to be someone that was tested on because she had unique eyes and she was able to teach other people.
SHL196	I seriously think that's the only way we can actually teach people before you put them on real patients because the trust relationship is different. We are both students. We're helping each other to learn. Where a patient feel that you are the expert and the trust should be there that you know what you're doing, so, if you don't, you can immediately see the distrust.
Category: Diverse partners	
SRL124	So they tend to pair themselves up or asked if they can be paired with one of their friends or someone they are more comfortable with. So what we did a few years ago, we said we have to break that because we live in a diverse country. We can't have people still wanting to stick to their comfort groups because we have to teach them to work in diversity as a training institution. So we force them to mix. We mix groups, and we said you are not allowed to change but what we found was that inadvertently, we found they don't perform best under those circumstances. Whether it is black students or Indian students or Muslim students somehow, they tend to learn better and perform better when they are paired up or put in a group with people they are most comfortable with. Because then the barriers are all down. Now you are forcing this Muslim girl to be in a group with a black male student. There are all these unspoken dynamics between them. There are reservations it's not a comfortable open learning environment. So they will kind of do the minimum that they have to do, they won't share beyond that they don't have common grounds. Then we just said, 'Let's forget about trying to force them to mix, let them choose the group that they are comfortable to work in because then their learning and growing are more productive and we have found that that work. It's a bit of a conflict for us as a training institution but what do you ultimately want to get out of it create a conducive healthy learning environment or do you want to say we are training our students for a diverse society which in our experience kind of takes away
SPL18	What I tried is that they don't practice on the same person the whole time. So that they are able to feel different people and different structures. When it is the next demonstration, we swap partners so that we can get a feel for different bodies so that you are not used to just one body and are not flustered when you get to the real world.
SPL124	We advocate for the round-robin so that you don't get attached to one person and so that you get a feel for different bodies because if you are only practising on one, it is quite problematic because when you are faced with other cause for example,

	when we are palpating the spine one might be very easy they've got wonderful spinous processes but other, it is a mission to find
Category: Safe learning environment	
SVL110	There are, what you call it, simulated versions, but that doesn't give the student a real feel of what's happening. So the students have to learn kinaesthetically as well, so they've got to take the knowledge from anatomy and physiology and apply it with the visualisation in their mind while they're palpating or whatever it is they're doing. So that kinaesthetic learning takes, it's quite difficult, and without practising on their peers, they won't be able to do so.
SPL152	But I like the hands-on and to have the feel of the patient and to understand that patients are different because it is difficult to try and teach people to tell them that physio is not a formula
SUL126	So you explain, demonstrate, give them the opportunity to practice than when you walk around you are bound to come across students who are not doing the right thing. So it is at that moment that you are able to then to correct and even literally hold the student's hand. If they are not moving accordingly, you are there to say to the student, not this way I want you to move in that direction
Sub-category: Trust relation	
SKL287	They sometimes, in the third and fourth year, when they know that they are in a safe space. They are sitting as a patient for someone that they know, then they sometimes will say, I am on x medication. So I think in their second year they do make up a lot, pretend, pretend cases so that they get used to asking the questions, but further along they are the better they know their colleagues and peers, and then they feel they can share that they are in fact on Epilim or on antidepressants, or sleeping medication or whatever
THEME: CONSENT	
Category: Type of consent	
SPL130	I think maybe we should add a consent form just to have ourselves covered.
SPL130	I don't think we make them sign consent actually. It is in their study guide that says when you are participating in the study, I mean not study, in the classes, you are giving the consent to be touched and so on but what I know is, I think from the third year they sign the consent form specifically because they have to do the VBI-test and the ligament test where things could be particularly dangerous.
SQL126	It is like a non-written consent. Can I do it on you because some students would say no sorry and I remember I had a very mature student he qualified when he was 50 a few years ago, and he was constantly saying no you can't do it on me, you can't do it on me which at the end was not great because he never felt what the technique felt like.
SKL131	They do get a module guide, and in the module guide, it is stipulated that like with her module, in her module guide it will say they do contact lenses and it will say you are going to be dilated and what is the side effects and then if they sign the module guide it means that they sign consent.

SKL234	At the end of their first year, the beginning of the ethics module, we say what you need to be a student in this department. You need to act ethically, and the goal is to reach your core competencies which require teamwork and communication. And all of that is embedded in those core competencies. So they sign an ethical agreement that they will be part of this department and comply with the rules of the department and that has got to do with punctuality and dress code and treating others with respect and dignity and confidentiality and all of that principles are embedded in that document. They keep that as part of their portfolio. So they know that they are going to be used as patients. From before they even get used as patients.
SSL138	We actually don't have any type of formal consent, and that is, you know, because of your invite to participate in this. I just read a little bit as well, and yes it seems that that is actually a wise thing to possibly consider particularly if you are going to be using techniques where there is some kind of risk to the student sitting as a patient in a sense.
SIL125	No, they don't sign a consent form hmm before it. I think it's probably the question of when you start making it an issue, then it becomes that they might complete that they might think, oh I can walk out of this altogether or this and then don't do it anymore. So. We do say to them, so they verbally give consent and we do say to them this is what we do let us know if you feel uncomfortable, but we don't let them sign a specific form.
SGL116	I'm not entirely sure, but I think it's a blanket consent at the beginning of their first year because from here right through, it's going to be the same
Category: Timing of consent	
SOL132	We usually let them sign every year of the practical clinical year because our practice is a year subject. Every year, they sign that if they are needed to do peer examinations or PPE they had signed and are aware.
SHL118	In their first year, they actually sign consent actually every year because we had a set of guidelines or things that you may not play on the physio equipment that you know about plagiarism and all those things. And it's in a booklet with all the requirements
STL110	see I was quite naïve as a young person myself, that wasn't so uncomfortable for me, however in our course there was lots of preparation that we had because we use to take students in only after they went for an interview process. So once they were selected for the course, we would interview them and during that interview questions like would you be comfortable with somebody examining you etc. pop up. And students who did not agree to that know that was the criteria for entering the course. So we came in with this anticipation that this is what we are going to have to do. So while we were definitely uncomfortable, we knew that was something that was required.
SVL162	We interviewed everyone, and we got consent there. Now it's part of the application process, so they do give consent, but it's not, this is part of the documentation. There is consent, but it's not something that's focused on, whereas previously we were able to have interviews with all the students and say, are you aware that this is a practical course you have to expose. So it was far more overt, but they don't allow us to do interviews anymore. So there is consent, but it's not as overt as it used to be.
STL152	Our practical courses only start in the second year. So in the second year, they will sign because we do all the sciences in the first year and in the second year we start practical's. Some lecturers may go ahead and let them sign it in their actual module, but generally, it will be, you know from the first. You just put the year.

SNL138	I still think it is necessary to inform them at the beginning of their training that there will be occasions like that, but then, I don't think that they should sign blanket approval for it because I might be comfortable if somebody is taking my blood pressure and even maybe my blood glucose, but maybe I'm not so comfortable if they are going to do an abdominal assessment on me. So I would say that it is individual or link to the specific occasion to get consent.
SKL234	At the end of their first year, the beginning of the ethics module we say what it is what you need to be a student in this department. You need to act ethically, and the goal is to reach your core competencies which require teamwork and communication. And all of that is embedded in those core competencies. So they sign an ethical agreement that they will be part of this department and comply with the rules of the department and that has got to do with punctuality and dress code and treating others with respect and dignity and confidentiality and all of that principles are embedded in that document. They keep that as part of their portfolio. So they know that they are going to be used as patients. From before they even get used as patients.
Category: Content of consent	
SKL234	At the end of their first year, the beginning of the ethics module we say what it is what you need to be a student in this department. You need to act ethically, and the goal is to reach your core competencies which require teamwork and communication. And all of that is embedded in those core competencies. So they sign an ethical agreement that they will be part of this department and comply with the rules of the department and that has got to do with punctuality and dress code and treating others with respect and dignity and confidentiality and all of that principles are embedded in that document. They keep that as part of their portfolio. So they know that they are going to be used as patients. From before they even get used as patients.
SGL116	I'm not entirely sure, but I think it's a blanket consent at the beginning of their first year because from here right through, it's going to be the same
THEME: SOCIAL MEDIA	
Category: privacy of peers	
SLL134	They have to get permission before they post anything on social media. But they usually only post things like for example, you know what like when we did CPR training the other day. They will post them practising on the manikins, never really on one another. They see that more as a more serious as I can say procedure.
SGL162	They do sign a document, not that I think at the end of the day the document is as legally binding as we would want it to be, but they get informed at the beginning of each year with regards to posting lecture videos on social media, photos of peers, photos of patients. Even having it on your WhatsApp profile and things like that.
Category: Social media: consent	
SLL134	They have to get permission before they post anything on social media. But they usually only post things like for example, you know what like when we did CPR training the other day. They will post them practising on the manikins, never really on one another. They see that more as a more serious as I can say procedure.

SOL126	They have to have consent you know, everything must be covered, all the basic ethical things and also not the face. They are not allowed to put in any pictures up of patients, family or anything. So these type of videos of things we do is just internally to review and things like that, but there was an incident, but that was about two years ago but ever since that now we are very strict. They have to also sign like a declaration of honesty and we prep them on the POPI act and all of that and so far we haven't had any incidents to date.
SPL126	The students always asked each other for consent to be able to take the videos or the pictures, but I have asked that they are not posted because it is then for educational purposes. Just so that we are able to respect each other's privacy. So I've said to them if they want to take videos, they need to have consent from each other so that they are able to use it, though, but for educational purposes, not to be posted anywhere. On social media, on what's app, whatever it is. It is only then for learning purposes.
SHL162	They sign a disclosure that they may not distribute any photos or anything on social media and that they will be disciplined by the university. We will take it to the authorities if they do that. They do ask some of our techniques are not in books that we teach. It's coming from history. The way we were taught. So there would be a technique that they would like to videotape with their phone to go and practise again at home. But then the rule is that they must go and ask for informed consent, and the student that they are taking the video of must sign that it is for educational purposes only and may not be posted on Facebook or WhatsApp or whatever. So they do sign a disclosure, and they're well aware of it that there will be disciplinary steps if they don't do it. So we haven't had any incidents like that at all.
SJL146	Well, I mean if the peer is giving the one that is being examined, giving the student or the friend a phone saying, hey listen here quickly take this. Then it is probably fine, but I mean the person gave consent that you are doing it on.
SRL128	It has happened that someone will post something on Facebook. So we just have to remind them about its ethics. So we try to ensure that our students understand the ethics of protecting patient's identity even if the patient is a fellow student and not putting that in a public space without the patient's consent, so we try to train them in those things. Not to reveal patients identity etc., so it doesn't happen much. If it does happen, they consented to that, but we haven't really had a case where there has been uproar about anything that's been posted. Rather just caution that if you do this, you can't do it without consent.
SIL142	It's probably a good idea to put something in the module guide to say that they're not allowed to put pictures on social media. But they do have special lectures already in their first year, the first semester about ethics, social media and what can you share.
SIL138	They like to and I don't have a problem, it is allowed to take photos when they take blood from a plastic arm. So they get their friends to take a photo of them, and they share it with their family
Category: Demonstration videos	
SQL130	You are allowed to make a video of me when I am demonstrating the technique, but it is not allowed to go onto any social platform. So they are not allowed to share it on their WhatsApp groups they must send it individually to each other or as an email, but they are not allowed to post it on the physio Facebook page. They are not allowed to paste in on YouTube. They

	know that. They're not allowed to do that. And I have never found a video of myself circulating somewhere where I was not aware of it.	
SOL126	They have to have consent you know, everything must be covered, all the basic ethical things and also not the face. They are not allowed to put in any pictures up of patients, family or anything. So these type of videos of things we do is just internally to review and things like that, but there was an incident, but that was about two years ago but ever since that now we are very strict. They have to also sign like a declaration of honesty and we prep them on the POPI act and all of that and so far we haven't had any incidents to date.	
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SJL146	Well I mean if the peer is giving the one that is being examined giving the student or the friend a phone saying hey listen here quickly take this. Then it is probably fine, but I mean the person gave consent that you are doing it on.	
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THEME: SUPERVISION		
Category: Senior supervision		

SVL150	PPE is effective. Students know that they are learning on an asymptomatic person, feeling fairly healthy tissue, and looking at fairly normal movement and assessing that. Obviously, the bridge between assessing pathology then is something they'll have to do between the classroom and the clinical setting. So, we do have supervisors who are on-site at the hospitals to help them with that
Sub-category: HPCSA guidelines	
SGL152	According to the HPCSA, there's supposed to be one lecturer per 20 to 25 students. So up until two years ago, we were one to 40 in a class. We're usually between 30 and 40 in a class, so there will be one educator going around checking, helping, and checking if students ask questions. For now, we've changed it somewhat for the majority of the time. There's about two that's in the practical class where they do the physical examinations..
SHL120	So the HPCSA requires that if it is less than 20. I can look up the specific requirements for you now if you would like that. Then it should be one. If more than 20 students are in a class, then it should be 2 or 3 facilitators. And unfortunately, due to our staffing numbers, we can't do that."
Category: Ratio	
SXL146	It's usually you as a facilitator with approximately 75 students, but we sometimes, in preparation for practical tests, invite another lecturer to assist you, because we have some part-time lecturers, but most of the time you are alone, and it's a struggle. I'm not going to lie. It's a struggle
SIL131	We have approximately 24 students in a group. The facilitators vary from session to session. Sometimes we will have three facilitators, and sometimes we will have one male and one female facilitator for the thorax. There was once a situation where I was the only facilitator so that wasn't ideal.
SIL158-62	PPE will only help if the facilitator-to-student ratio is high enough; otherwise, it's just ignorance. Then they just learn the wrong things and in future they first need to unlearn what they have learned incorrectly which isn't easy.
Category: Feedback	
SRL112	We try to get them to give each other feedback. Or at least get the student who is then the patient gives the clinician feedback. I find that they are just a little bit more open to feedback that comes from a peer. They don't see it as much as criticism, although feedback from an academic is not necessarily critically, it is constructive feedback to help them. They are more comfortable in that space where fellow students say hey you missed this or you should have done it that way or you held this target at an incorrect distance. They feel less under the spot, less under examination or judgment when a peer gives them that feedback rather than when an academic or professional gives them the feedback
SHL142	So that is nice because they are brutally honest and critical. And I think that's part of learning. It's not authoritative, the lecturer is not the one that's always saying nasty things, and you should be better. Sometimes your colleague says you're not doing the technique the way you should have done, or you should have done the exercise better I did not feel it stretch where you said it would stretch. I think it also has a good component of reflective learning. Someone the same age in your class may say that you didn't listen to what the lecturer said. You are not doing the technique the way it was showed or something like that. I find that quite valuable."

THEME: STANDARDISED PATIENTS VS PPE	
Category: SP	
SVLI14	Simulated patients work well for the interview process but not for physical examinations. So then it's better to have symptom-free people because then there's less risk of injury or anything like that
SGL132	Standardised patients would be even better, especially if you are trying skills, such as communication. The focus is on getting proper informed consent or explanations and things like that. I think standardised patients are the golden boy in this area, but you have to think resource-wise. It is expensive, and someone needs to train them.
SXL1136,138	I think it's so much better for the students to practice on the SP's than their peers. I know there are advantages to practising on each other, and it would be expensive to have the whole group practising on SP's. Still, given an opportunity, I think that will be the best way because now they're going to be able to consider ethics. After all, you have to ask for permission to do this thing. Someone will just come and touch the peers, so they don't get to be reminded that they were supposed to get permission first. It is like, by the way, you were supposed to use layman's terms or, by the way, you were supposed to tell my patient to lie on the tummy because that is what they do amongst each other.
SIL152	We do need to use standardised patients more in the formative part because they are very comfortable with each other, and then when they come to an OSCE. It's somebody they've never seen. It takes them by surprise so we do have now formative OSCE's where they can get used to also that
Category: PPE	
SRL132	I would take PPE over SP's because of what we've said earlier that there's a mutual learning benefit out of it. Yes. An individual student can learn from a standardised patient, but you create a more dynamic learning opportunity. So my preference is for PPE. And they sit in the chair with a critical eye which is their learning opportunity.
Category: Cost	
SGL132	Standardised patients would be even better especially if you are trying skills, such as communication. The focus is on getting proper informed consent or explanations and things like that. Standardised patients I think is the golden boy in this area, but you have to think resource-wise. It is expensive, and someone needs to train them.
SHL148	I think SP's is often good for communication because if you don't expect anything, it's a challenge. There is value in both, depending on your outcome. What you want to achieve. PPE is cheaper
SSL14	One of the reasons we have to use PPE is budgetary constraints where we're not able to get access to simulated patients.
SXL1142	If probably the SP's were not expensive, then that would be a good thing to have as many as possible so that students practice on the SP's.
Category: Professional attributes	
SVLI22	So one of the things that we've had to instil is, so on SSP (South African Society of Physics) we do a lot of ethics reviews and things we get asked to look at the clinical practice of a certain person if there's a complaint. And it's often the complaint is

	related to communication and not actually what is required. So, if the patient has to expose their back so that the physio can see and do what they have to do, then it's not that, the issue isn't that the patient didn't want to expose their back, it's how the student asks the patient to expose their back. So, this is something that we try to teach the students from the very beginning, that they learn to be able to get consent and be comfortable with asking a patient to undress a specific area so that they can do it. So they have to learn to expose their patients suitably. So that's the one side. And if they struggle to do that with each other, they'll struggle even further with real patients. So that's on the one side. On the other side, so that's the need, the importance to make sure that they learn properly, on the other side is the whole religious side, which I think is probably on the cultural side
Sub-category: Professionalism	
SXL1136,138	I think actually that it's so much better for the students to practice on the SP's than their peers, because, yes I know there are advantages for practising on each other, but if there was a way. As you say it would be expensive to have the whole group of SP's, but given an opportunity I think that will be the best way, because now they're going to be able to consider the ethics because you have to ask for permission to do this thing, someone will just come and touch the others so they don't get to be reminded that they were supposed to get permission first, by the way you were supposed to use the layman's terms, by the way you were supposed to tell my patient to lie on the tummy because they are doing it amongst each other.
SVLI22	So one of the things that we've had to instil is, so on SSP (South African Society of Physics) we do a lot of ethics reviews and things we get asked to look at the clinical practice of a certain person if there's a complaint. And it's often the complaint is related to communication and not actually what is required. So, if the patient has to expose their back so that the physio can see and do what they have to do, then it's not that, the issue isn't that the patient didn't want to expose their back, it's the manner in which the student asks the patient to expose their back. So, this is something that we try to teach the students from the very beginning, that they learn to be able to get consent and be comfortable with asking a patient to undress a specific area so that they can do it. So they have to learn to suitably expose their patients. So that's the one side. And if they struggle to do that with each other, then they'll struggle even further with real patients. So that's on the one side. On the other side, so that's the need, the importance to make sure that they learn properly, on the other side is the whole religious side, which I think is probably on the cultural side
SGL16	Even though they might be in inverted commas from the same culture they still feel uncomfortable undressing in front of a peer. Especially the male students that have to do something on a female student. So even though it's not diverse in the sense of how we understand diversity, it's still difficult, so it's still teachers them the skill of explaining them and comforting the patient, informing them what's going to happen and make them comfortable with the process.
SXL1106	The main way of doing their practice is for them to practice on each other. They pair themselves, but sometimes we pair them with an SP, especially for communication skills. Because I mean, they take shortcuts if it's with their peers because somebody knows what flexion is, someone just says flex your knee. And with an SP now, the way of communication has to be different. Now I can't say flex your knee, I must say bend your knee.
SGL120	We try and install that, in them to get into that idea of explaining and asking and hmm making the person comfortable. Especially giving them the idea of exactly what is expected, what is going to happen
SGL116	we expect our students to get consent from their models beforehand before they start with whatever they are doing and explain to them

SIL129	Even if it is a fellow student, they always have to say I'm going to touch your shoulder, make you move your shoulder. Is that OK with you? So they can't just impose what they want to do even if it's their own classmate. So I think that's very important. Before we do any peer physical examination, there's the question of explaining to someone what you're going to do, asking permission first before coming into their personal zone.
Sub-category: COMMUNICATION SKILLS	
SXL1106	The main way of doing their practice is for them to practice on each other. They pair themselves, but sometimes we pair them with an SP, especially for communication skills. Because I mean, they take shortcuts if it's with their peers because somebody knows what flexion is, someone just says flex your knee. And with an SP, the way of communication has to be different. Now I can't say flex your knee, I must say bend your knee.
SGL132	Standardised patients would be even better, especially if you are trying skills, such as communication. The focus is on getting proper informed consent or explanations and things like that. Standardised patients, I think, is the golden boy in this area, but you have to think resource-wise. It is expensive, and someone needs to train them.
SHL148	I think SP's is often good for communication because if you don't expect anything, it's a challenge. There is value in both, depending on your outcome. What you want to achieve. PPE is cheaper
SVLI22	This is something that we try to teach the students from the very beginning, that they learn to be able to get consent and be comfortable with asking a patient to undress a specific area so that they can do it. So they have to learn to suitably expose their patients.
THEME: UNDRESSING DURING PPE	
Category: Dress code	
SOL18	So what we usually do is we let them actually wear, they keep their underwear and then they also use like a theatre gown. Just so that they, but I think that is important then they also actually feel how the patient feel that must actually be physically exposed in totality. So actually what we sometimes did on some groups previously, they came with their swimming costumes, it is sort of exposed but it is also something they feel a bit I think sometimes more comfortable than underwear. So, ja but then still to put a gown so that they can learn how to expose the patient when they actually do the physical examination.
SPL116	It's mandatory for them; it's also in their study guide; they come in their full gym clothes. So the girls will have the ski pant and the sports bra that is provided for them, and the boys will come in those shorts, and they know that they should be topless. So, for example, if we are doing the, it depends on the body structure. We always try to advocate for exposing the areas around the area we are treating so that you can observe for trick movement so. For example, if I am doing the shoulder, they have to take the top off so that I can see what is happening in the trunk.
SHL112	They keep their underwear on. Or we have gym clothes that we, it's a prerequisite cause it's a set pack that the first years are getting before they come here and they have to buy a uniform.

SQL118	The girls have special gym bras that they will wear for us because they need to be able to undo it when they lie on their tummies if you assess the thoracic spine or palpate all the vertebra. So if you just have a normal gym bra on and a sports top, then its normally solid at the back, then you can't palpate. You need to have a proper area for palpation, but they are if they do posture assessment or movement assessment, they are in this bra so they are never topless, and then the girls and the guys have got a gym short which are like ski pants but short ski pants they are about 10cm below the bum line
SLL112	We don't let the students undress fully. So basically it was just a case of doing it over the clothes and not exposing too much. Maybe a leg or an arm you can expose, you know. Having some short sleeve, maybe a gown to get that reality of a patient if you put it like that. But there was never fully undressing. Males, sometimes they are more likely to do it. But we will just lift up and push the stethoscope underneath.
SXL130	Undressing depends on the skills that they will be performing and the part of the body they are working on. For instance, if they have to work with the chest, they've got a special uniform you know, that is comfortable enough. They use sports bras and a short that looks decent enough if it is a girl.
Sub-category: Special clothes	
SOL18	So what we usually do is we let them actually wear, they keep their underwear and then they also use like a theatre gown. Just so that they, but I think that is important then they also actually feel how the patient feel that must actually be physically exposed in totality. So actually what we sometimes did on some groups previously, they came with their swimming costumes, it is sort of exposed but it is also something they feel a bit I sometimes think more comfortable than underwear. So, ja but then still to put a gown so that they can learn how to expose the patient when they actually do the physical examination.
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SGL110	Their practical gear is a short and a tank top, so we won't expect them to stand in their underwear, but at least the tank top might be rolled up into a crop top if you need to feel for chest expansion or auscultate lung segments and things like that. And it's male on female, female on male and in the practical exams that they do, a practical test the model is the model. If it's a male it's a male or a female, it's a female you need to handle that situation.
Category: Exposure	

SPL116	It's mandatory for them; it's also in their study guide; they come in their full gym clothes. So the girls will have the ski pant and the sports bra that is provided for them, and the boys will come in those shorts, and they know that they should be topless. So, for example, if we are doing the, it depends on the body structure. We always try to advocate for exposing the areas around the area we are treating so that you can observe for trick movement so. For example, if I am doing the shoulder, they have to take the top off so that I can see what is happening in the trunk.
SPL118	In the first year, maybe the first three lectures, they are a little bit shy. After that, they get over it. By the time it is the second semester, you come to class, and they have already undressed. Really like you have to beg them, and they come with towels they can cover areas they are a little bit shy but the second years have absolutely no problem because I think they've been through the first year, so the first day of class they are all in their gym clothes they're ready they know what to expect.
SJL126	If it is something like you have to take off your clothes then they will usually be the same gender, and we assign with the skill like with this chest examination it is males with males, and then it was a male facilitator. Female with female and a female facilitator.
SQL118	The girls have special gym bras that they will wear for us because they need to be able to undo it when they lie on their tummies if you assess the thoracic spine or palpate all the vertebra. So if you just have a normal gym bra on and a sports top, then its normally solid at the back, then you can't palpate. You need to have a proper area for palpation, but they are if they do posture assessment or movement assessment, they are in this bra so they are never topless, and then the girls and the guys have got a gym short which are like ski pants but short ski pants they are about 10cm below the bum line
STL126	We have blanket cover rules regarding exposure during a clinical examination. They are discreetly exposed, no ah none of the private parts are exposed, so examining the shoulder, for example, put a towel around, or we tell them to come in with a boob tube so that those parts are covered. And you can actually access the shoulder anteriorly, laterally, posteriorly you know
SJL138	We'll do a demonstration on either a male that will be willing or we will yes there is one model (SP). The abdominal examination when they do that, then it is female on female, or it can be female on male whatever. But I mean then they have to take off their bra, the female because I mean you can't percuss over the ribs over the bra whereas with you can still get away with the chest examination, but not with the percussion of the liver.
SPL120	We've had Muslim females where we have to consider that we would ask them what they are comfortable so in their instances, they don't mind being in the gym clothes, but they only want the area to be exposed. So they cover with a towel just to help make them feel comfortable. What we have noticed is as the year continuous, they sort of getting over it I can call it that in a way. They are no longer covering everything because they can see it is for education. And what I also realised they sort of feel that it is not fair for their gym partner who when she is practising on them they are exposed to everything, they can see trick movements, but when they are the models, it is only a little bit that is exposed, so I think they realised that there is no malice to the exposure. After a while, they adjust to the environment that is around them, but they practise only on girls.
SLL112	We don't let the students undress fully. So basically it was just a case of doing it over the clothes and not exposing too much. Maybe a leg or an arm you can expose, you know. Having some short sleeve, maybe a gown to get that reality of a patient if

	you put it like that. But there was never fully undressing. Males, sometimes they are more likely to do it. But we will just lift up and push the stethoscope underneath.
SXL130	Undressing depends on the skills they will perform and the part of the body they are working on. For instance, if they have to work with the chest, they've got a special uniform you know, that is comfortable enough. They use sports bras and a short that looks decent enough if it is a girl.
SOL18	So what we usually do is we let them actually wear, they keep their underwear, and then they also use like a theatre gown. Just so that they, but I think that is important then they also actually feel how the patient feel that must actually be physically exposed in totality. So actually what we sometimes did on some groups previously, they came with their swimming costumes, it is sort of exposed, but it is also something they feel a bit I sometimes think more comfortable than underwear. So, ja but then still to put a gown so that they can learn how to expose the patient when they actually do the physical examination.
SHL112	They keep their underwear on. Or we have gym clothes that we, it's a prerequisite cause it's a set pack that the first years are getting before they come here and they have to buy a uniform.
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Sub- category: Intimate touching	
SIL115,17	The females keep their bras on, so what they need to do is when they want to feel the apex beat the person who is being examined will lift their breasts themselves. So, they don't touch each other's breasts. The males don't get to be exposed to the female anatomy, so that is a bit sad for them, but I don't feel that it is fair to the girls that they should feel that they are exposing some of their private parts in order to make the males being exposed to the female anatomy.
SJL138	We'll do a demonstration on either a male that will be willing or we will yes there is one model (SP). The abdominal examination when they do that, then it is female on female, or it can be female on male whatever. But I mean then they have to take off their bra, the female because I mean you can't percuss over the ribs over the bra whereas with you can still get away with the chest examination, but not with the percussion of the liver.
Category: Voluntary/Compulsory to undress	
STL126	We have blanket cover rules regarding exposure during a clinical examination. They are discreetly exposed. None of the private parts is exposed so examining the shoulder for example but put a towel around or we tell them to come in with a boob tube so that that parts are covered. And you can actually access the shoulder anteriorly, laterally, posteriorly you know.
SQL122	They also know that when they have to come when they study physio that they have to undress. We have a Muslim girl in the class, and she even undresses. I have just never seen her work with the male students, but I have never seen her make a fuss about it. So I don't know when she's in class and dressed she has a headscarf on like head-covering on but when she then practises she takes the head-covering off hmm and she normally sticks with the girls, but I've not seen her made a fuss about a boy seeing what she looks like during a practical assessment

SGL112	First-year that is from a different religion that might have problems with undressing and even they get notified before they even started. When they actually applied, it's a part of the document they had to go through explaining the selection process.	
SPL116	It's mandatory for them; it's also in their study guide; they come in their full gym clothes. So the girls will have the ski pant and the sports bra that is provided for them, and the boys will come in those shorts, and they know that they should be topless. So, for example, if we are doing the, it depends on the body structure. We always try to advocate for exposing the areas around the area we are treating so that you can observe for trick movement so. For example, if I am doing the shoulder, they have to take the top off so that I can see what is happening in the trunk.	
Sub-Category: Religion		
SPL120	We've had Muslim females where we have to consider that we would ask them what they are comfortable with so in their instances, they don't mind being in the gym clothes, but they only want the area to be exposed. So they cover with a towel just to help make them feel comfortable. What we have noticed is as the year continuous, they sort of getting over it I can call it that in a way. They are no longer covering everything because they can see it is for education. And what I also realised they sort of feel that it is not fair for their gym partner who when she is practising on them they are exposed to everything, they can see trick movements, but when they are the models, it is only a little bit that is exposed, so I think they realised that there is no malice to the exposure. After a while, they adjust to the environment that is around them, but they practise only on girls.	
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SIL115	Some of the Muslim girls were quite shy to undress in front of the other girls, but they didn't, you know they didn't feel, not to the extent that they did not want to take part in the PPE.	
Sub-Category: Gender		
SJL138	We shall do a demonstration on either a male that will be willing or we will arrange that there is one model (SP). The abdominal examination when they do that, then it is female on female, or it can be female on male whatever. But I mean then they have to take off their bra, the female because I mean you can't percuss over the ribs over the bra whereas with you can still get away with the chest examination, but not with the percussion of the liver.	
SGL16	Even though they might be in inverted commas from the same culture they still feel uncomfortable undressing in front of a peer. Especially the male students that have to do something on a female student. So even though it's not diverse in the sense of how we understand diversity, it's still difficult, so it's still teachers should teach them the skill of explaining them and comforting the patient, informing them what's going to happen and make them comfortable with the process.	

SGL110	Their practical gear is a short and a tank top, so we won't expect them to stand in their underwear, but at least the tank top might be rolled up into a crop top if you need to feel for chest expansion or auscultate lung segments and things like that. And it's male on female, female on male and in the practical exams that they do, a practical test the model is the model. If it's a male it's a male or a female, it's a female you need to handle that situation.
SIL115,17	The females keep their bras on, so what they need to do is when they want to feel the apex beat the person who is being examined will lift their breasts themselves. So, they don't touch each other's breasts. The males don't get to be exposed to the female anatomy, so that is a bit sad for them, but I don't feel that it is fair to the girls that they should feel that they are exposing some of their private parts in order to make the males being exposed to the female anatomy.
SJL126	If it is something like you have to take off your clothes then they will usually be the same gender, and we assign with the skill like with this chest examination it is males with males, and then it was a male facilitator. Female with female and a female facilitator.
STL114	I did feel a bit of discomfort when it did happen. I did. But because I had the formal understanding that it was required of me, we went through it. And you know our lecturers spoke to us to put on the mind of professionalism and this is what you are going to do for the rest of your life. You got to go with it. But yes there were definitely moments of discomfort.
SIL16	We attempting to do is if they have to do the thorax examination or abdominal examination I divide them into gender-specific groups because I find that they are less, that's less uncomfortable for them, but when they do things like the musculoskeletal examination when they have to examine the knee-joint or the shoulder joint they have mixed groups. So, it depends on the nature of the examination
STL116	The Muslim females would come quite regularly with those type of complaints and say we are not allowed to expose our bodies. And at that point, there was still accepting students based on interviews. Now it has changed. So at that point, when they complained, we were able to say, but you agreed to this in your interview. At times an issue might have been escalated up to the parents. We'd have to discuss and counselled the parents as to why this needs to happen.
SQL120	They practise on male and female. We've got both in the class, and they practise on them both yes.
SILI9	When we have them in gender-specific groups, we have a male facilitator that goes to the males because I find that compared to when I was a student the males are much more body, much more conscious self-conscious now in terms of their body image When they just have their shirts removed they feel very self-conscious when there's a female present so I don't go up to the males when they are partially dressed, but I go to the fem
Sub-Category: Culture	
SGL16	Even though they might be in inverted commas from the same culture they still feel uncomfortable undressing in front of a peer. Especially the male students that have to do something on a female student. So even though it's not diverse in the sense of how we understand diversity, it's still difficult, so it's still teachers should teach them the skill of explaining them and comforting the patient, informing them what's going to happen and make them comfortable with the process

Category: Communication regarding undressing	
SXL162	At first-year level they come to the department and we orientate them about physiotherapy and what's expected of them. They've got a week, orientation week, before they start their classes. So I suppose a student who wouldn't be willing to expose any part of their body would drop out.
SGL112	First -years from a different religion that might have problems with undressing and even they get notified before they even started. When they actually applied, it's a part of the document they had to go through explaining the selection process.
SGL16	Even though they might be in inverted commas from the same culture they still feel uncomfortable undressing in front of a peer. Especially the male students that have to do something on a female student. So even though it's not diverse in the sense of how we understand diversity, it's still difficult, so it's still teachers should teach them the skill of explaining to them and comforting the patient, informing them what's going to happen and make them comfortable with the process.
SUL12	No, we are very flexible, accommodative. We are human beings. We are not dealing with robots so we talk to the students. Get their understanding because they are the ones approaching us saying I have a problem with this area and I thought to let you know. And then we will negotiate with the students and see what they are comfortable with and we take it from there.
THEME: DIVERSITY	
Category: Religion	
SVLI24	We do have Muslim students and their parents aren't happy for them to expose and that kind of stuff. We have taken this up with the Muslim Medical Association, which is a group in Durban. I didn't do it, it was a colleague of mine who spoke to them and they said that this is not seen as an affront if they suitably expose. They are within a closed environment. We put screens up and that and we allow the Muslim females to work on each other and that kind of stuff. But the, they have to be able to palpate the patient because when they're going to community service, they'll be serving a community whose citizens are of South Africa, anybody can come. They have to be able to provide that service to anyone. So, they have to, as part of the learning process, they have to be exposed for others and they also have to be able to assess and palpate different genders and cultures as well.
SVLI34	Students, including Muslim students, male student practice on a female student and vice versa. They have to practice to be able to do that with confidence. So, if we don't allow them to do it in the class, then where will they practice it?
SKL123, 24	Before we've had students as well the Muslim students that fast, you know Ramadhan or whatever, they said they couldn't use the drops because it's going into their system. They are taking it in. So then you respect it and say OK, it's fine. This month you cannot dilate so you must then instead of going two -two that student then goes with another pair of students because they don't sit as a patient, but they can still do the procedure on other patients, but they can't have this one. It can't be one on one then.
SRL124	Actually, we do have cultural problems. Although it's not invasive, we have a lot of Muslim female students in our programme historically. I don't know we had a lot of them a fair percentage of them. And some of them is ok you get the more conservative ones, which don't want to be assessed by a male. So you can't pair them up with a male there's all those dynamics. If they are paired up with a male student, again the contact, if it's just something they do at a distance, it's fine, but if you come closer and

	they have to work on each other, it may be an issue—those dynamics with the Muslim female students. Then with ophthalmoscopy, it's a similar thing where you have to really come up close to the patient. And some people have a problem with that. Also racial dynamic, but that's coming from time to time. Even it's a peer there are ingrained perceptions in all of us, and then they don't want black male students maybe that's now gonna come so close and work on them. So they tend to pair themselves up or asked if they can be paired with one of their friends or someone they are more comfortable with. So what we did a few years ago we, we said we have to break that because we live in a diverse country. We can't have people still wanting to stick to their comfort groups because as a training institution, we have to teach them to work in diversity. So we force them to mix. We mix groups, and we said you are not allowed to change but what we found was that inadvertently, we found they don't perform best under those circumstances. Either way, whether it is black students or Indian students or Muslim students somehow, they tend to learn better and perform better when they are paired up or put in a group with people they are most comfortable with. Because then the barriers are all down. Now you are forcing this Muslim girl to be in a group with a black male student. There are all these unspoken dynamics between them. There are reservations it's not a comfortable open learning environment. So they will kind of do the minimum that they have to do, they won't share beyond that they don't have common grounds. Then we just said 'Let's just forget about trying to force them to mix, let them choose the group that they are comfortable to work in because then their learning and growing are more productive and we have found that that work. It's a bit of a conflict for us as a training institution but what do you ultimately want to get out of it create a conducive healthy learning environment or do you want to say we are training our students for a diverse society which in our experience kind of takes away from this constructive learning environment. Ja, but we rather that they learn in a safe, comfortable space, and hopefully, when they are adult professionals, they figure out the dynamics of how to work with people from different groupings.
SML128	I think gender should be discussed, race, and religion. I think those three things is important. We need to discuss that and have an open conversation. The reality is when you come to practice, you can't negotiate anymore
SML174,76	And about sex, religion, race that must be discussed. Openly and translated to the real world. Say this is not just for PPE, this also happens in the real world. So let's practice how we can turn out. The students must make the connection that you are busy developing your professionalism, behaviour, your attitude and skill. It's cognitive. It's a skill, but it's also affective. Person centred-values and beliefs
Category: Gender	
SSL132	We do have instances because of cultural groups and preferences; for example, certain cultural groups cannot expose their face. If that is ever going to be required, then we do take that into considerations, and we make sure that they are paired with the same gender.
SRL124	Actually, we do have cultural problems. Although it's not invasive, we have a lot of Muslim female students in our programme historically. I don't know we had a lot of them a fair percentage of them. And some of them is ok you get the more conservative ones, which don't want to be assessed by a male. So you can't pair them up with a male there's all those dynamics. If they are paired up with a male student, again the contact, if it's just something they do at a distance, it's fine, but if you come closer and they have to work on each other, it may be an issue—those dynamics with the Muslim female students
SOL118	There were many older female students, so they were not comfortable with sharing or interacting with the young male students. But we saw that the younger female students, whose age was the same as the males, did not have cultural issues. When the

	females were older, and the male students were much younger than them, we saw a bit of a challenge. There was a bit of a hierarchal thing in their culture. But if they are the same age as the young ones from the same age group, they did not have that challenge.
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SLL126	I must say usually the different cultures will pick one another to practice on. But we do, we are quite strict on it that we do practice different cultures in all our procedures to mix them up. You expose them in everything that they do so that they gradually get used to that and by the time that they get into the practice part where they need to practice they still very much want to go to their same culture, but then we just need to remind them OK let us split up.
SRL124	Actually, we do have cultural problems. Although it's not invasive, we have a lot of Muslim female students in our programme historically. I don't know we had a lot of them a fair percentage of them. And some of them is ok you get the more conservative ones, which don't want to be assessed by a male. So you can't pair them up with a male there's all those dynamics. If they are paired up with a male student, again the contact, if it's just something they do at a distance, it's fine, but if you come closer and they have to work on each other, it may be an issue—those dynamics with the Muslim female students. Then with ophthalmoscopy, it's a similar thing where you have to really come up close to the patient. And some people have a problem with that. Also racial dynamic, but that's coming from time to time. Even it's a peer there are ingrained perceptions in all of us, and then they don't want black male students maybe that's now gonna come so close and work on them. So they tend to pair themselves up or asked if they can be paired with one of their friends or someone they are more comfortable with. So what we did a few years ago we, we said we have to break that because we live in a diverse country. We can't have people still wanting

	to stick to their comfort groups because as a training institution, we have to teach them to work in diversity. So we force them to mix. We mix groups, and we said you are not allowed to change but what we found was that inadvertently, we found they don't perform best under those circumstances. Either way, whether it is black students or Indian students or Muslim students somehow, they tend to learn better and perform better when they are paired up or put in a group with people they are most comfortable with. Because then the barriers are all down. Now you are forcing this Muslim girl to be in a group with a black male student. There are all these unspoken dynamics between them. There are reservations it's not a comfortable open learning environment. So they will kind of do the minimum that they have to do, they won't share beyond that they don't have common grounds. Then we just said ' Let's just forget about trying to force them to mix, let them choose the group that they are comfortable to work in because then their learning and growing are more productive and we have found that that work. It's a bit of a conflict for us as a training institution but what do you ultimately want to get out of it create a conducive healthy learning environment or do you want to say we are training our students for a diverse society which in our experience kind of takes away from this constructive learning environment. Ja, but we rather that they learn in a safe, comfortable space, and hopefully, when they are adult professionals, they figure out the dynamics of how to work with people from different groupings.
Category: Forced diversity	
SRL124	So they tend to pair themselves up or asked if they can be paired with one of their friends or someone they are more comfortable with. So what we did a few years ago, we said we have to break that because we live in a diverse country. We can't have people still wanting to stick to their comfort groups because we have to teach them to work in diversity as a training institution. So we force them to mix. We mix groups, and we said you are not allowed to change but what we found was that inadvertently, we found they don't perform best under those circumstances. Whether it is black students or Indian students or Muslim students somehow, they tend to learn better and perform better when they are paired up or put in a group with people they are most comfortable with. Because then the barriers are all down. Now you are forcing this Muslim girl to be in a group with a black male student. There are all these unspoken dynamics between them. There are reservations it's not a comfortable open learning environment. So they will kind of do the minimum that they have to do, they won't share beyond that they don't have common grounds. Then we just said, ' Let's just forget about trying to force them to mix, let them choose the group that they are comfortable to work in because then their learning and growing are more productive and we have found that that work. It's a bit of a conflict for us as a training institution but what do you ultimately want to get out of it create a conducive healthy learning environment or do you want to say we are training our students for a diverse society which in our experience kind of takes away
SLL126	I must say usually the different cultures will pick one another to practice on. We are quite strict that we practice different cultures in all our procedures to mix them up. You expose them in everything that they do so that they gradually get used to that, and by the time that they get into the practical part where they need to practice, they still very much want to go to their same culture, but then we need to remind them okay let us split up
Category: Race	
SRL124	Also racial dynamic, but that's coming from time to time. Even it's a peer there are ingrained perceptions in all of us, and then they don't want black male students maybe that's now gonna come so close and work on them. So they tend to pair themselves up or asked if they can be paired with one of their friends or someone they are more comfortable with. So what we did a few

	years ago we, we said we have to break that because we live in a diverse country. We can't have people still wanting to stick to their comfort groups because as a training institution, we have to teach them to work in diversity.
SML128	I think gender should be discussed, race, and religion. I think those three things is important. We need to discuss that and have an open conversation.
Category: Age	
SOL118	There were many older female students, so they were not comfortable with sharing or interacting with the young male students. But we saw that the younger female students, whose age was the same as the males, did not have cultural issues. When the females were older, and the male students were much younger than them, we saw a bit of a challenge. There was a bit of a hierarchal thing in their culture. But if they are the same age as the young ones from the same age group, they did not have that challenge.
Theme: Person-centeredness	
Category: Empathy	
SOL136	they had to take each other's blood pressure and you know for the first, and then I think they really feel actually how painful it can be you know if you put the. So they can actually get a very good tool to use because they experience it from the patient's perspective. Because the one said to me she never actually knew that it because they were like should it be this painful then you say you can see if you pump it up too high or you know now they actually feel so they are much more cognisant of what it actually feels like, or you know as the one said to me now I always, I know now why we always say you have to cover the patient and expose one limb at a time even when you do the bed bath because now they really feel how it feel. Now the students feel what the patient feels so for me it is really they got that deeper understanding. You can actually see that they are much more aware of how it feels to be exposed. You know how scared you feel when you want to roll somebody over, so it is really very successful for me. I think they get a little bit of the experience from the side of the patients, so they are much more aware and actually much more empathetic because they know what it feels like.
SOL18	We usually do is we let them actually wear, they keep their underwear and then they also use like a theatre gown. Just so that they, but I think that is important then they also actually feel how the patient feel that must actually be physically exposed in totality.
SQL126	He never felt what the technique felt like. So his skills were not that great where I think if you are the model you also have a feeling what it feels like so if you're doing the technique and it's like a traction technique on the neck. If you pull too hard, it can be uncomfortable, or if you put your hands in a certain way over the chin and the head, it can be uncomfortable so it is only when you had experienced it that when you're doing it on somebody else you know I must concentrate on this because when I had it as the model, I remember that that was quite uncomfortable so I can change my own hands, and I'm aware of that.
SGL120	We try and install that to get into that idea of explaining and asking and, hmm, making the person comfortable. Especially giving them the idea of exactly what is expected, what is going to happen? Hmm, because we want them to do that perfectly when they get to the hospital. Because that's, even more, exposing a very vulnerable population

SOL112	Afterwards when we spoke to the students they say now they actually know how the patients feel you know. Or they actually, you know how it now feels when you have to turn around or you are exposed or they actually said it was very nice for them to first experience it themselves because they will now actually be more aware of covering the patient. You know the way In which they exposed. So I really think that was a very helpful way of doing it for them to actually have that sort of understanding from a patient's perspective.
SKL261	They are keen to get a pair of spectacles because then they can have that experience. They are able to communicate that experience to somebody who has never worn glasses before
SJL16	it is actually good because they feel how it feels if somebody does for instance when they have to draw blood, and they use each other, I mean how it feels to you know to insert the needle and have a bit of compassion as a for the patients.
SSL184	I think empathy is very important when using this tool because it gives a student a real direct experience of what it feels like being a patient when they sit as a patient. And, therefore, when they are actually serving the other role as an examiner, they are so much more aware of how do they handle their patients' eyes for example, or speak to their patient. You know, it fosters that empathy, it gives them to experience exactly what it is that a patient would probably experience when having those things done on you. So yes, I think you know, empathy is a big factor or a role in this type of tool, as well. It helps to foster. It's almost like an outside outcome, a critical field outcome, you know.
Sub-category: Suitable exposure of patients	
SOL136	They had to take each other's blood pressure and you know for the first, and then I think they really feel actually how painful it can be, you know if you put the. So they can actually get a very good tool to use because they experience it from the patient's perspective. Because the one said to me she never actually knew that it because they were like should it be this painful then you say you can see if you pump it up too high or you know now they actually feel so they are much more cognizant of what it actually feels like, or you know as the one said to me now I always, I know now why we always say you have to cover the patient and expose one limb at a time even when you do the bed bath because now they really feel how it feel. Now the students feel what the patient feels so for me it is really they got that deeper understanding. You can actually see that they are much more aware of how it feels to be exposed. You know how scared you feel when you want to roll somebody over, so it is really very successful for me. I think they get a little bit of the experience from the side of the patients, so they are much more aware and actually much more empathetic because they know what it feels like.
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Category: Personal experience	

SML12	The personal experience how it feels to be exposed, how it feels to be assessed how it feels so I think you don't only learn to assess but you also learn to be assessed. You also learn from that personal experience.
SOL136	they had to take each other's blood pressure and you know for the first, and then I think they really feel actually how painful it can be you know if you put the. So they can actually get a very good tool to use because they experience it from the patient's perspective. Because the one said to me she never actually knew that it because they were like should it be this painful then you say you can see if you pump it up too high or you know now they actually feel so they are much more cognisant of what it actually feels like, or you know as the one said to me now I always, I know now why we always say you have to cover the patient and expose one limb at a time even when you do the bed bath because now they really feel how it feel. Now the students feel what the patient feels so for me it is really they got that deeper understanding. You can actually see that they are much more aware of how it feels to be exposed. You know how scared you feel when you want to roll somebody over, so it is really very successful for me. I think they get a little bit of the experience from the side of the patients, so they are much more aware and actually much more empathetic because they know what it feels like.
SRL118	When we discussed hurting fellow students informally in the tearoom, we say hopefully they have experienced it personally, so they know not to do it to somebody else. This comes in when we fit contact lenses, the biggest problem. It tends to scratch the eye, so they're fiddling in the person's eye. Or when they are performing contact tonometry, so they have to anaesthetise the eye, and then they put a probe onto the cornea, and you can't apply too much pressure or you will abrade the epithelium of the cornea, so oftentimes, when they finish, practise the technique, and you put the fluorescein dye to see what happened, ja they damaged the epithelium. And the poor student patient is then so photosensitive. We hope that they also learn from that. When they see this is what happens next time you can't go to close, you can't press on the eye, careful this is how much pressure you must apply, and then, of course, the person that is injured will know not to do that on their patient. So again, it's a learning experience.
Category: Values, beliefs, principles of PPE	
SHL184	A lot of our things are based on TLC, tender, loving care. If you put your hand on someone immediately, they feel the care. And it's that placebo effect. You know you're immediately better if someone touches you, than sitting formally and just say ok where is your pain? You actually care and touch them.
SML174,76	In this discussion you have before the time it must be clear what you can do and what you can't do. And how far you can do it Say this is not just for PPE, this also happens in the real world. So let's practice how we can turn out. The students must connect that you are busy developing your professionalism, behaviour, attitude, and skill. It's cognitive. It's a skill, but it's also affective. Person centred-values and beliefs
Sub-category: Respect	
SVL164	To improve it, I think the best thing is done, and that I strive for, is to mimic the clinical setting as much as possible. Ensure that all the other sides of the communication side, the respect for personal space, respect for privacy and all of that are all adhered to in a classroom setting. It's very easy for it just to become a, everyone's having fun kind of, playing and touching and moving and stuff, but they don't feel the seriousness because they know each other, you know.
SVL167	When you're palpating someone, it's actually quite an intimate thing, you're in their personal space, and clinically you need to be very respectful of that, and we need to make sure that they pick that up and they learn that, ja. I think if it mimics the clinical setting as closely as possible, then you're maximising it.

SIL172	The main successes I think it's a safe place where they can learn well. And I think because they have respect for each other it works well and If their attitude was not as good as it is	
Category: ground rules		
SML128	I think gender should be discussed, race, and religion. I think those three things is important. We need to discuss that and have an open conversation. The reality is when you come to practice, you can't negotiate anymore. This whole assessment falls within a person-centred practice. And person-centred values, beliefs, principles and I think if you do that and you understand and you have open conversations about this in the beginning and say listen is there any specific person who would who do not mind to be assessed by a male	
SML136, 44	I would let students give informed consent It should be even if it is a verbal informed consent before you start. They must know you must ask the patient is it ok with you. This is what I'm going to also do, how you speak, get informed consent that should be part. It might not be written, but I think to cover yourself, you should do this before PPE. Because the other things, I mean like say for instance, you are teaching them to take arterial blood gases, and you let them practice on each other. What if the artery goes into a spasm and you lose your hand. For me, informed consent should be about this: we are going to learn about physical assessment, this is what we're going to do, and we're going to practice on each other. What do you think? Why are we doing it this way? And then sort of saying we're doing it this, you have said this is what you're going to learn. That is correct. Is there anybody, and please remember to set ground rules from the beginning. I think before you start a discussion. This is what we always do. We say, ok, we're going to have a discussion today about PPE that we will use to promote learning. Let's look at some ground rules. I'm not going to have my cell phone there, I'm going to work within the person-centred approach, but now the ground rules is about the discussion we're having about this. Not judgemental.	
Sub-category: Orientation		
SGL170	Hmmm instead of just saying OK, you are the model sit, and they are going to auscultate or measure or do whatever. I think you need to approach it like with an SP, GIVE THE MODEL INFORMATION, how you want them to sit, what you want them to do. Prep them well so that you can get a more a little bit more of an authentic examination.	
Sub-category: Boundaries		
SVLI64	To improve it, I think the best thing is done, and that I strive for, is to mimic the clinical setting as much as possible. Make sure that all the other sides of the communication side, the respect for personal space, respect for privacy and all of that are all adhered to in a classroom setting. It's very easy for it just to become a, everyone's having fun kind of, playing and touching and moving and stuff, but they don't feel the seriousness because they know each other, you know.	
SNL134	I think it is very important to have very clear boundaries on what skills can be used for using peers and where do you draw the line. Hmm and I think that it is very important that the lecturers and the students also agree on that. I think the department should have clear guidelines, but then I also think that there should be negotiation between the lecturer and the student before engaging in PPE.	
Theme: Participation		

Category: voluntary/compulsory participation	
SGL122	If you are the model in the OSPI or the practical you really don't have a choice. If you are the model, you kind of can't say no.
SHL16	They are divided into a timetable. At the beginning of their first year, they are instructed in a class, the guardian class, that is part of the requirements that we have that they must be able to undress, either for teaching skills on them or they must practise it on each other. It will be expected of them to act as a model during tests and examinations for their peer students
SRL116	But in terms of participating in PPE, they don't really have a choice. We team them up, and you will sit as a patient and generally there is compliance from them.
SSL124	So, strategically we do not mention that they have a choice. So we say that you are going to be sitting in as patients for each other. So, at the outset, they do understand that there is a mutual benefit, because, you know, they also are going to require a student
STL110	see I was quite naïve as a young person myself, that wasn't so uncomfortable for me, however in our course there was lots of preparation that we had because we use to take students in only after they went for an interview process. So once they were selected for the course, we would interview them and during that interview questions like would you be comfortable with somebody examining you etc. pop up. And students who did not agree to that know that was the criteria for entering the course. So we came in with this anticipation that this is what we are going to have to do. So while we were definitely uncomfortable, we knew that was something that was required.
SGL126	I ask for a volunteer or they are actually allocated according to the roster
SXL1112	I ask who wants to volunteer for a demonstration unless there's no volunteer, but I ask for a volunteer, and most of the times, you get a volunteer.
SJL112	If a student does not want another student to examine him. You can't force them. Then you have to make another plan
SJL1107	Arrange PPE beforehand with the student if you use a student. First of all, are you comfortable with it? You don't have to do it
Category: self-determination	
SJL1105	One must be careful if one use PPE it may create conflict among students. Things like I don't want to be examined by you because I don't like you. So one thing is I think they should choose. It should be their choice self-determination there. You can't assign, say you will do it on you. That is out.
SJL1105	So one thing is I think they should choose. It should be their choice self-determination there. You can't assign; say you will do it on you. That is out. I don't think that will work and hmm, because I think then there will be a political thing and, god forbid, a racial thing.
SML110	One should be open with the students from the beginning to say, listen this is what we are planning; how do you feel? You should negotiate with them as a teaching strategy Be open and maybe brainstorm with them so that they can have buy-in.

	Brainstorm with them what do they think is the advantages although you know. Brainstorm with them why are we doing this, what do they think is the advantages, the disadvantages and how can we as a team overcome the disadvantages. So that they can feel that their voice is valued and that they agree on it. I think this discussion before you do it is vital. So that the whole group agrees that it can work.
Category: Power coercion	
SJL1107	One must watch out for that if you implement it as an educator, so I'm asking you if you're senior now, you sort of feel obligated, so you don't actually want to do it. It's not actually free will it is power coercion
Category:Feedback	
SNL134	Then I think that also to get feedback from students and see how they experience it. To see if it really contributes or if it is problematic.
THEME: DUTY OF CARE	
Category: Duty of care	
SIL144	If you find something abnormal, the policy is to, oh well, not the policy, but the kind of unwritten policy is to advise them to see their GP. We don't try and pretend that we are their doctors. We can't give them medical advice, so we just advise them to go and see a doctor.
SWL112	We don't have a policy in place, but we have a physio clinic on our campus, so I'll generally refer the student to the physio clinic.
SKL254	We had a couple of students who when they do the dilation, we look at the optic nerves we identify them as risks, at-risk patients for glaucoma. We had 2 or 3. And they do go to an ophthalmologist for an assessment, but a lot of time, it is not just something that they are not unaware of it. They know their mother and grandmother had glaucoma, so they are aware.
SSL144	We've had a few instances where students were not aware of certain eye conditions that they had. And we've had instances where it was picked up that all our clinical work is done under close supervision, so there's always a supervisor or preceptor, as we refer to them, that is linked to that student, and they would go in and check that out, and then we would, you know, manage it accordingly whether it needs to be with a referral or management that we can actually do.
SRL118	We haven't talked about how we deal with that, but when we discussed it informally in the tearoom, we say hopefully they have experienced it personally, so they know not to do it to somebody else. This comes in when we fit contact lenses, the biggest problem. It tends to scratch the eye, so they're fiddling in the person's eye. Or when they are performing contact tonometry, so they have to anaesthetise the eye, and then they put a probe onto the cornea, and you can't apply too much pressure or you will abrade the epithelium of the cornea, so oftentimes, when they finish, practise the technique, and you put the fluorescein dye to see what happened, ja they damaged the epithelium. And the poor student patient is then so photosensitive. We hope that they also learn from that. When they see this is what happens next time you can't go to close, you can't press on the eye,

	careful this is how much pressure you must apply, and then, of course, the person that is injured will know not to do that on their patient. So again, it's a learning experience. But particularly for the invasive procedures, they do harm the eyes. Not permanently.
Sub-category Disclose abnormalities	
SIL144	I wanted to mention that one student, for instance, when they have abnormalities, it is a dilemma. He had quite a severe kyphos-scoliosis, and then the other students that were examining him said I just want you to look at his back and then I noticed that he got a kyphosis and scoliosis. And then I just said to him did it give you any pain and he said no, but then I realised that even if it did he might see it as some kind of indication that he won't be allowed to go on with his medical training.so he might not tell me if it's a problem
Category: Hurting a peer	
SUL132	You need to identify a trigger point, and there is a fair amount of pressure that you need to be using if you palpate and different types of palpation methods. So at times when students are still learning, they would press a little harder on the trigger point. You will hear one student screaming, but it is simply because the assessment technique was not correctly executed
SJL153	I was very nervous this afternoon, with this limited clinical practice exposure to this injection.
SNL116	The students did blood glucose on each other and some felt now they are hurting each other. But, she had a session with them discussing it with them and say that OK, but what is the alternative? That you go to a patient where it is really needed, but you have no exposure on how to do it. So then they agreed, and it was fine. So it was not a major issue, but just a bit of initial resistance to actually participate.
SKL238	A sclera lens was suctioned on the cornea and like there was no way that we could get this lens off. So, we didn't have suitable pliers, so we took him downstairs to the second floor (Ophthalmology), and they put the pliers under the lens and pop it off. So that is the only instance in the last seven years that we had
SKL265	We had one student who put the wrong drops in his girlfriend's eyes. And then she wasn't dilating fast enough, so he instilled it in the other eye, so she ended up having bilateral cyclodeviation, and she couldn't study for her test because he had put the wrong drops in her eyes.
SHL131	We've had one or two incidents where we do mobilisations on the vertebrae in the back, and before the class we indicate to them that you may have treatment soreness, meaning that you mobilise you might the next day feel some discomfort, some stiffness, muscle stiffness or whatever. So, we do warn them, and we had incidents where students will come back and say its day 3 now, and we still have those symptoms. So if we are concerned we would then refer them you know for physio treatment with the fourth years at the sports clinic which is for free then or sometimes we pick up that there are conditions that the student didn't realise that they have and we would evaluate them and pick up maybe there's a disc lesion or

	something with nerve route that the student didn't pick up then we would call them in and actually refer them to a private practitioner and say you should go and have it checked out because we are concerned because we know from research that, you know, it's hard on your back or your hands or whatever and if you deal with it now it will make sure that you will have a long-lasting profession. We don't engage in class because then you have everybody saying I've got a headache or what. So, our principle is if we pick something up that we would refer.
Category: Indemnity	
SHL134	We had one student jumping on the physio ball, which is why we implemented the disclaimer, and he fell off, but it wasn't in the class. It was during a break, and he was injured. He actually fractured a neck vertebra, and the students came and called us, and we get him stable and phoned the ambulance. So, it was his own negligence. He was not supposed to be standing on the round ball thinking I don't know what. But in any case, so that's why there's a disclaimer now in the little booklet of them that they sign that you may not use the physio balls unless it's in a class and it is for therapeutic purposes. So, with things that students do, we develop new documentation and guidelines and update them to cover all the holes that they (laughter) invent. So documentation evolves, saying we know it's not our responsibility. The university will not be held liable for the medical cost if you don't follow the rules set out in the class by the lecturer under controlled circumstances
Theme: Benefit of PPE	
Category: Confidence	
SQL140	Students become comfortable and confident to do a technique, so when they do it on a patient when they work clinically, they have the confidence to do it. It's not the first time that they do it.
SLL16	I think PPE is really beneficial for students because it gives them that opportunity to become confident performing the skill first of all. Second of all, they get the opportunity to do it on a real patient. So it is much more real than doing it on a manikin, for example. It also allows them to see what one another does, how they go about doing the procedure, and so they learn during the procedure from one another. Not only from someone demonstrating it.
Category: Economic Benefit	
SRL136	I think it is something increasingly that institutions not just in SA but globally be looking at because I don't know other institutions we don't really pay our patients. I think patients may get a stipend, especially standardised patients in the economic climate where we are going to save money. We can say we are using this approach because it saves money in terms of using standardised patients.
SSL14	One of the reasons we have to use PPE is budgetary constraints where we're not able to get access to simulated patients.
Category: Teaching and learning	
SRL136	So it is the economic benefits, it is a teaching and learning benefit in terms of the strategy. It takes some of the pressure off academic or clinical supervision staff to spotlight the learning. The students themselves will reflect on the learning, then you come in as the supervisor and say, this is awesome. You consolidate the learning. So your role shifts a little bit, and you are letting them be more in control of what they learn and what they experience. Our role should be to probe to facilitate learning to

	almost just ask the right questions and let it come from the student rather than tell them what they did wrong and what they could do better. Let them try and illicit that. If they don't, then you can't ask well, did you think of this.	
Category: Mastery of learning		
STL14	I feel that it is essential; it got to happen, their peers are training ground in many respects. They need to perfect what they will have to execute on sick or needy patients on people just like themselves before taking it out on more vulnerable people.	
SQL128	Experiencing it and feeling how it feels then they can say to each move your hands here and try and do it like this and you know because they now both experiencing what this technique feels like it's then much easier to guide the other person to what is better when you are the therapist.	
Category: Safe learning environment		
SVLI10	There are, what you call it, simulated versions, but that doesn't give the student a real feel of what's happening. So the students have to learn kinaesthetically as well, so they've got to take the knowledge from anatomy and physiology and apply it with the visualisation in their mind while they're palpating or whatever it is they're doing. So that kinaesthetic learning takes, it's quite difficult, and without practising on their peers, they won't be able to do so.	

APPENDIX J

Consent and indemnity forms

Consent to medical examination physiotherapy and medical students



**UNIVERSITY OF FREE STATE
FACULTY OF HEALTH SCIENCES
PHYSIOTHERAPY DEPARTMENT**

IMPORTANT NOTICE no.3

I understand and agree that as part of the Physiotherapy Programme I will be expected to **expose relevant joints and/or body parts during practical classes** for educational purposes. This will be done respecting my privacy at all times.

I am aware that I will also **be expected to perform and practice practical skills and techniques on my fellow students**, and them on me.

It remains my responsibility to inform the student co-ordinator, lecturer(s) and my fellow students of any **relevant** pre-existing medical conditions, injuries or precautions ahead of any practical classes.

I, ..., hereby acknowledge that I cannot hold the Department of Physiotherapy liable for any injuries sustained during practical training classes or other practice sessions amongst fellow-students. I also undertake to execute all techniques as instructed and demonstrated by the lecturer in order to limit the risk of causing injury to my fellow students.

Name

Date

Signature



UNIVERSITY OF FREE STATE

FACULTY OF HEALTH SCIENCES

PHYSIOTHERAPY DEPARTMENT

<i>IMPORTANT NOTICE no.20</i>

I, ..., hereby acknowledge that I have been informed of, and understand and acknowledge that I partake in the following activities within the Physiotherapy Programme at my own risk:

- Travelling to and from all clinical areas
- Travelling to and from community service learning areas

I hereby agree to adhere to the following requirements as stipulated by the Department of Physiotherapy:

- Participate in orientation, training and ongoing supervision.
- Be punctual and responsible in completing my commitment regarding time and task.
- Follow the appropriate dress code.
- Always identify myself when engaging with community members or the public.
- Inform a staff member or the service provider if I am going to be late or not able to make it at all.
- I will keep information about clients/ patients confidential.
- Show respect for all supervisors, lecturers, staff and clients/ patients.
- Be aware that I am an ambassador of goodwill and that I am representing the UFS.
- I will talk to my lecturer if I experience any problem.

- I will restrain from smoking while partaking in activities related to service learning, the Comrades Marathon as well as while working in the clinical areas.
- I will keep in mind that the UFS is not liable for any injuries and/or damages I may suffer from my own doing.

In case of any emergency (accident, illness or injury) I give permission that a lecturer or fellow student can contact my emergency contact and if authorised take me to the nearest hospital.

I hereby agree to provide my personal details for use in the case of a medical or other emergency. All the information provided will be treated as confidential, stored securely and only will be accessible to the student co-ordinator Mrs. Somayne van Heerden and the head of the Physiotherapy Department unless otherwise specified.

Name

Date

Signature



ONLY MBChB. AND PHYSIOTHERAPY STUDENTS

CONSENT TO MEDICAL EXAMINATION

I, the undersigned, ...

with I.D No:, hereby declare as follows:

1. I am currently a registered student at the Faculty of Health Sciences, University of the Free State.
2. I am a mature, adult and as such entitled to consent to all matters regarding my persona without the authority or support of either my parent(s) or legal guardian.
3. I am aware of the fact that from time to time during the course and scope of my studies it will be necessary for me to partially disrobe or expose a limb, and I hereby consent thereto subjected to the following terms and conditions:
 - a. Partial removal of some of my clothing will occur solely for the purpose of clinical training and treatment.
 - b. Such exposure and/or removal of some of my clothing will only occur with a view to facilitating my training and more specifically teaching me the techniques used during clinical examinations and treatment.
 - c. Such exposure will always occur in the presence of a lecturer employed by The UNIVERSITY OF THE FREE STATE.
 - d. Such exposure and/or removal of my clothing will always occur indoors and will not cause me any discomfort or embarrassment.

I hereby further declare that I voluntarily consent to the above exposure and that my consent is not given under duress.

SIGNED AT ON THE DAY OF 2021.

.....
SIGNATURE: STUDENT

PRINT NAME &
SURNAME:

STUDENT NUMBER:

WITNESSES:

1.
2.



ONLY M.B.,ChB. AND PHYSIOTHERAPY STUDENTS

CONSENT TO MEDICAL EXAMINATION

I, the undersigned, ...

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I hereby further declare that I voluntarily consent to the above exposure and that my consent is not given under duress.

SIGNED AT ON THE DAY OF 2021.

.....
SIGNATURE: STUDENT

PRINT NAME &
SURNAME:

STUDENT NUMBER:

WITNESSES:

1. 2.

APPENDIX K

Summary of results

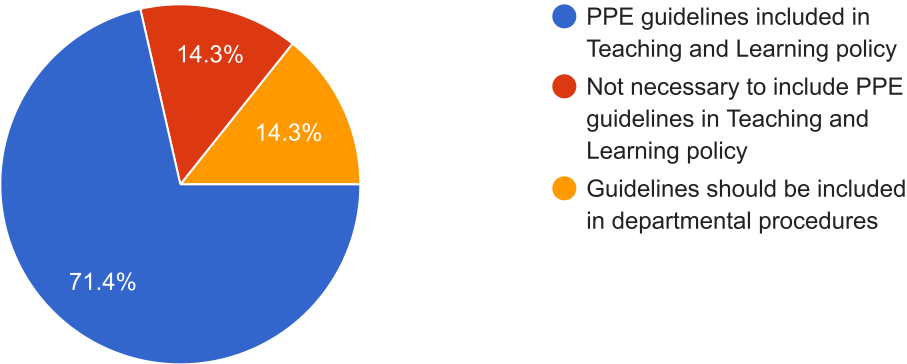
GUIDELINES VALIDATION

7 responses

[Publish analytics](#)

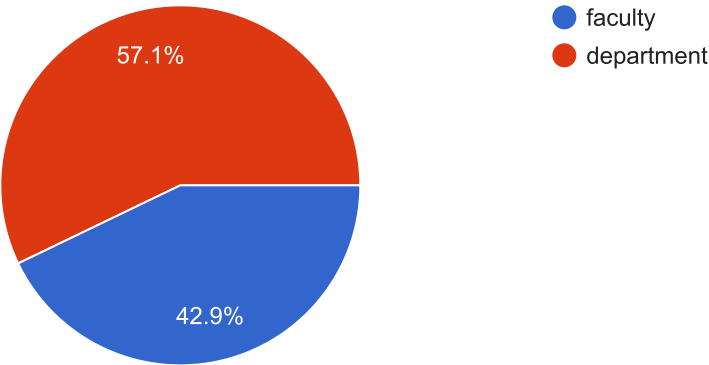
PPE guidelines included in Teaching and Learning policy

7 responses



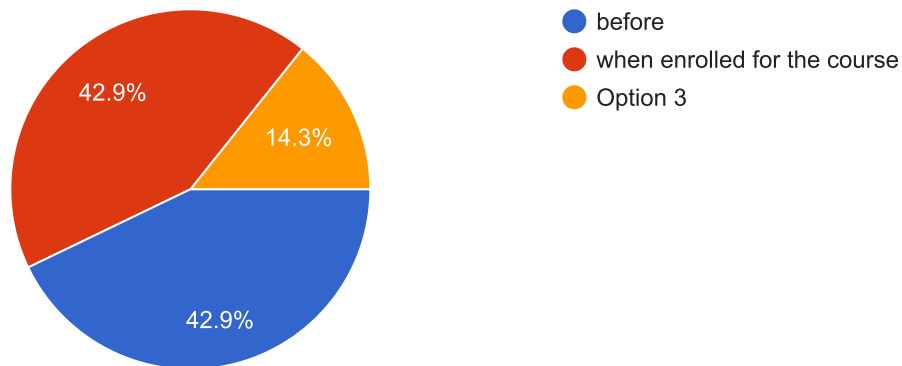
Each faculty should have a contingency plan in case a student get hurt during PPE, when an abnormality is discovered in a student.

7 responses



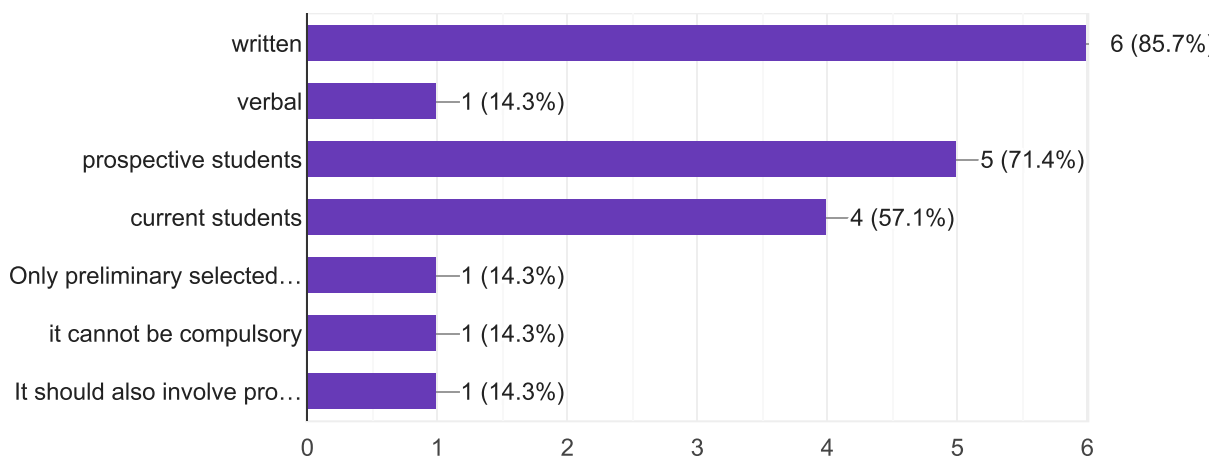
Communicate with students what to expect in practical classes before they commence their respective courses.

7 responses



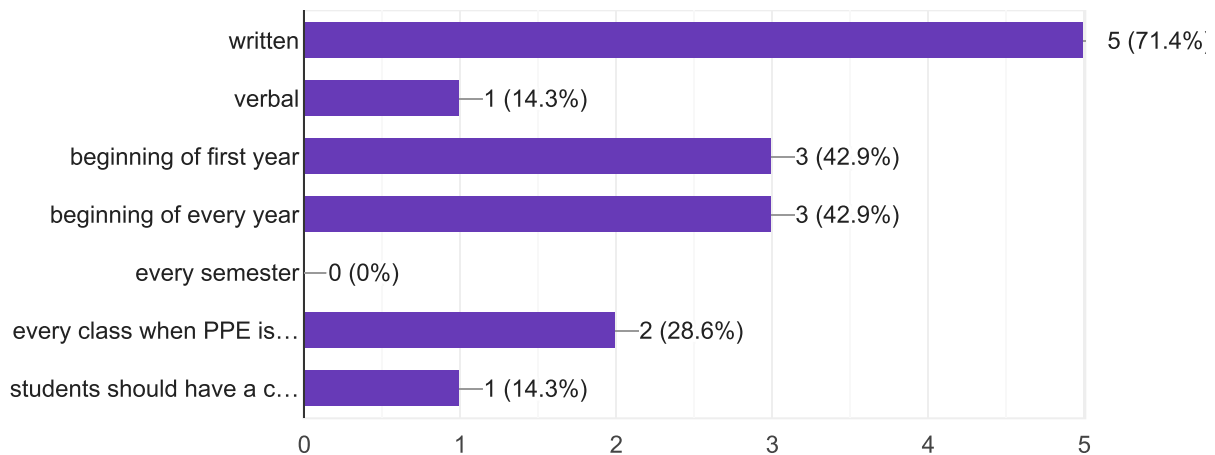
Obtain written consent from prospective students that they understand participation in PPE is part of the curriculum when studying health sciences and it involves undressing and let fellow students examine and touch them and vice versa.

7 responses



Obtain written informed consent from students every semester before they participate in PPE.

7 responses



Facilitate discussions about ethical, cultural, racial, and professional issues associated with PPE (e.g., therapeutic touch vs sexual touch, body image, age, gender, religion, culture which may influence participation in PPE.

7 responses

Should definitely be done in a formal discussion or webinar

Necessary

this should be done in the first year as part of professionalism

May be a good aspect to address early in the first year of study, to assist in the preparation of PPE. In addition, the importance of "knowing how the patient feels" is an important aspect for students to experience themselves. Patients do not have the choice, to "undress" and "touch" patients, will only be respected by students if they know how vulnerable you feel in that situation.

The person facilitating the discussion should be experienced

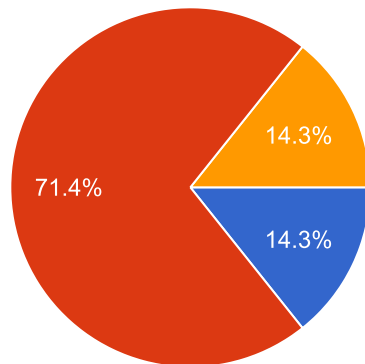
I agree, this is vitally important. We can't just expect students to sign consent, without information

Yes. Simulated patient to provide feedback on touch and communication.



Group students to work together and change the groupings on a regular basis to expose them to diverse body shapes and sizes

7 responses



- Group students to work together
- Allowing students to choose who they practice with.
- With Covid, the risk of changing partners increase the risk of infection. But ideally students should rotate. My opinion is that students should start where they are comfortable and with who they are comfortable. As they get used to PPE, they ca...

Follow a person-centred approach when using PPE and teach students about empathy for their patients

7 responses

Very important - if the student is able to grasp the concept and apply to peers then they would do the same with patients

Yes

yes

Definitely - however, a person-centred approach should not mean that the partner do not have to experience "undress" or "touch", but rather that there are additional considerations taken into account, as would be for a patient with the same concerns (e.g. some cultures girls are not allowed to "expose their hair", in this class the boys and girls can be separated with screens, but the girls can still then open their heads as needed).

Agree

Yes, this must be mandatory



Students should sign a confidentiality document to protect the privacy of classmates and not distribute information, photos or videos on social media.

7 responses

Most definitely - this should include that they must seek permission first (informed consent).

Necessary,

this should be at faculty or departmental level and not only for PPE

Definitely - personal integrity should also be included in the professionalism discussions.

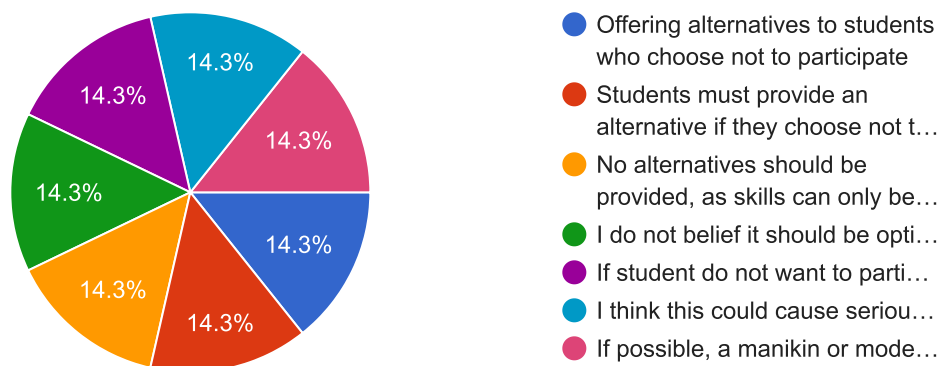
Strongly agree

I have not thought of this before, but with the increased use of smart phones, etc this is probably a good idea

Agree. Actions to be taken if agreement is not kept to, should be specified.

Offering alternatives to students who choose not to participate

7 responses



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Google Forms



APPENDIX L

Example of interview transcript

Focus group discussion 9 October 2019				
person	Paragraph	Transcription	Non-verbal	Themes
FACILITATOR	UFS1	Please give everybody a chance to actually give their own opinion. Ok. If you don't have any comments you don't have to give input so it's not necessary to feel for this specific question you don't have any input, you don't have to give it. OK? Everything said inside the venue please stay inside the venue. Don't discuss this with any outside colleagues and friends. So, question number one: what are your experiences and perceptions regarding peer physical examination? So the floor is yours. Yes?		
N 2	UFS2	Number 2 it is when you get to practice certain skills on your fellow classmates. That is peer physical examination		
Facilitator	UFS3	Any challenges that you come across? Let's start with ethical challenges You've all been exposed to this on one level or another. So any ethical issues that might arise while doing it.		
O 18	UFS4	If there's skills or not that could damage your eyes.	LAUGHING FROM FELLOW STUDENTS	
FACILITATOR	UFS5	Anything else, yes		
P12	UFS6	ok, number 12. I think in terms of classroom environment it might violate some people's privacy as there are a class of say 30 and all of them see you because you are exposed.		privacy
Facilitator	UFS7	ok, yes?		
P11	UFS8	11. I think also some of the classes have males and females so some people feel more uncomfortable dressing or undressing or actually examining your		gender discomfort undressing

		peer in front of the opposite gender so I think that is also a bit of a barrier.		
Facilitator	UFS9	Ok. What else? Yes?		
M1	UFS10	My biggest issue is number 1, my biggest, eh actually fear in coming to this is the fact that my, eh. Hmm lecturer will possibly see me without my top and possible bra too and I will have to look at them the next day even if they are doctors that felt awkward.		humiliation to look lecturer in the eye again after undressing in front of him/her
Facilitator	UFS11	ok, yes		
P15	UFS12	Number 15, I also feel that sometimes there are ethical differences or particular diversity and you are not completely aware of what is acceptable in terms of physical contact in terms of someone of a different culture or race or ethnic group for that matter.		
Facilitator	UFS13	Good. What else? Yes?		
M18	UFS14	Number 19, hmm, so sr Rynsie said I must always give the Islamic view. So from our point of view, we are not allowed to have any contact with the opposite gender. So that is completely null, regarding showing ourselves everyone has their own personal way of interpreting it, but in terms of male and female it's a no, in terms of female and female its depended on the person, but that's not a restriction so some people are a bit more conscious like it affects how you will do an examination to expose the chest. Some people will not be happy about it and some will. But eh ja. The opposite gender is completely off but the same gender there is differences. So there are a lot of people who will still say no for the same gender as well.so that's from my faith.		
Facilitator	UFS15	Good. Yes?		

P12	UFS16	Number 12. I used to think that a lot of times there's no clear expectation given. You get to class, and you know that you have to gonna expose but you don't know for example what you will have to expose or for how long or for which reason. Then you might for example being asked to lift up your top and then you did not know that you would be expected to do that and you might feel uncomfortable.		
Facilitator	UFS17	So just to mentally prepare yourself beforehand. Sort of.		
P12	UFS18	Yes.		
Facilitator	UFS19	Yes?		
M9	UFS20	Number 9. I found that some people are more comfortable exposing certain things and some clearly not, but in an instance where it is preferable that males expose themselves for a chest exam or whatever, then lots of males are still reluctant to do it. That makes learning the skill, the practical part quite difficult as well because then you feel like you haven't actually seen a real examination you've seen a turndown illusional.	Nodding in agreement Nr 2 nods in agreement with this statement (male)	
Facilitator.	UFS21	There have to be some more. Ok, let me ... yes?		
M7	UFS22	Number 7. I thought it was quite beneficial to actually see how the doctor do it on someone on a physical person. Other than just being thrown into a hospital or a clinical situation do it now but you don't know how to.		
Facilitator	UFS23	Yes?		
P10	UFS24	Number 10, obviously there are going to be moments when you feel uncomfortable when you have to undress for practical reasons or what also depending		

		on your course. I think some are more physical as well than others maybe, but you knew what you were studying. You chose to study this as well. So you can't really have too much of a problem with it I'd say because you knew it was coming. Sorry.		
Facilitator	UFS25	Let me put up the eyes. Ok, so gender differences we've discussed a little bit. Anything else on gender.		
P12	UFS26	Number 12. I have a positive on that as well. I think that's if you , I know some people may feel uncomfortable, but if you don't practice on different genders you may not be able to treat the patient one day if you only exposed yourself to let's say females if you are one.		
Facilitator	UFS27	Yes?		
M9	UFS28	I think, I am number 9 on the genders as well, I think examining your peers that are of different gender and getting over that awkward moment helps so that you see the examination as an anatomical or clinical thing and not oh my word this is so and so, or this is a friend. You start focusing more on the work and less on the person you're examining.	People nod their heads in agreement.	
Facilitator	UFS29	I see a lot of head nodding. Ok, culture, religious. I know that you gave wonderful input. Anything else on religion or cultural differences or anything else that you would like to add?		
P12	UFS30	Number 12. I think as a degree all of us were raised different, and I think everyone in your class has a completely different view on something so I think the levels of comfort towards undressing will completely be different for every religion and not even their religion but regarding how they were broad up.		

Facilitator	UFS31	Personality as well.		
P12	UFS32	Ja.		
Facilitator	UFS33	Communication skills. Have you found any issues with communication skills while doing peer physical examination?		
P 10	UFS34	I think that is actually a big one because especially in clinical practice language barrier is really a problem. I think some of us does not have the option to study Sesotho especially in Bloemfontein so when you get to your patient it is difficult to talk to them and you can't really see what's wrong or they can't understand and you have to work through a translator, and the issue is so much bigger than it actually have to be. So the treatment takes longer		
Facilitator	UFS35	Yes?		
N2	UFS36	Number 2 and sometimes even when you get a translator, you can get lost in translation because now you are talking to a healthcare worker that speaks a little bit of English. Now she has to translate it to Sesotho to that patient so that can also be lost in translation.		
Facilitator	UFS37	But you have not found that type of issue in this particular area of education if I can call it that? So you foresee issues in practice? Yes?		
M7	UFS38	For me it was more of a number 7, laughs, I remember when we had to do an examination of abdominal on a peer. I kind of forget to ask if it's ok if I examine. Yes, the person was already undressed but you have to ask. Because now the person don't know what you're going to do so you have to explain to them. Because now the moment you start touching		

		and invade. Now I did not tell you to do that. I did not know to which extent you're going to do it so you have to communicate with your peer and tell him exactly what you're going to do and what they expect you not to.		
P10	UFS39	Number 10. Just a thought. I don't think a language barrier really play such a big role in peer assessment around because everyone studies in English so, ja. I don't think... In patients definitely but amongst each other and amongst your classmates I don't think that will play such a big role.		
Facilitator	UFS40	Ja		
P11	UFS41	I think actually counteracting that because our class is majority girls and majority Afrikaans speaking and we have one girl that is Sesotho speaking so we tend to go to Afrikaans and then we can see she really gets frustrated with us and I do understand but it's our home language so I think there's communication really gets a barrier for her, but she, she learned how to cope with it and we are more consciously aware of speaking in English, but I think that's also a barrier ...		
Facilitator	UFS42	Can I throw a different view on this? Do you think that doing PPE has helped your communication skills?		
all participants	UFS43	yes from all	nodding heads	
Facilitator	UFS44	on what level? How? Yes?		
all	UFS45	interviews		
P15	UFS46	Number 15. I think for the first time in a long time have we had the privilege of practising on different races. Now that is something that feels we take for granted because that is not something that you always get exposed to. So I think in terms of		

		examining on different, because I, I found that different people expect you to go to different detail dependent on their race specifically speaking. Where some require you to explain exactly what you are going to do, some don't want you to get so physical. Some want you to be a bit discreet in your movements and so on so I think, JA, that has definitely played a role. Be exposed to practising on different races from the early onset of our studies.		
Facilitator	UFS47	Ok. Feeling exposed or humiliated? We've covered a little bit of that, anything else that you would like to add?		
M1	UFS48	Number 1. I would just like to add that initially, you might feel a bit awkward or uncomfortable, but as you go on, you realise a body is a body. You become almost desensitised to where it becomes easier to repeat examinations.		
Facilitator	UFS49	Yes?		
P10	UFS50	I'm number 10. I think the important thing adding to what number one said. You like almost learn to almost handle your patient or your peer in such a way they don't see you aren't bothered by it because aren't staring or feeling awkward, so already they are feeling a lot less awkward because you aren't getting all sensitive because of the fact you're about to touch them or because they are a bit more exposed in front of you. They are also relaxed more when you are more relaxed.		
Facilitator	UFS51	So were getting to practice makes perfect?		
P10	UFS52	Yes. JA		

P11	UFS53	I'm number 11. I think also we've been, were gonna have class for four years and longer. So getting exposed to each other every day really contributes to us being more confidently in our bodies and exposing ourselves to our peers because we know each other. We know where we stand and we ja. We know each other on a physical level hmm laughs...		
Facilitator	UFS54	Yes?		
M9	UFS55	I'm number 9. I felt that the doctor or presenter of the lecture that's facilitating the session, how comfortable they are demonstrating also shows you how you can sort of compose yourself. And then similarly when you are excluded and separated and you are allowed to say lift your shirt or whatever sort of the efficient way to do things make you feel less exposed so if you're sitting there with your chest exposed and the lecturer can't find an ECG sticker and you just sit there. I mean it's almost sort of basic practice in the stakes that you're the victim of now because you offer to take off your shirt for example, and then sorry, with peers like you said you're with these people for a long time and I find in my peer group you sort of start making jokes about it as well. So you become closer also on a friendship level to the people and you sort of buddy up so you know this one I can trust, this one not yet and you find a comfort zone within the friendship group as well.	gesturing to number 11	
P12	UFS56	I think the initial feeling of, sorry number 12, feeling of maybe humiliation or that kind of thing, it fades like a lot of people had said, but I also feel like in the stages when we still learning it exposes you or to		

		learning empathy for your patient one day. Because I mean if you, for example, think oh I would have put a towel there now. You know if you think in the future if I treat a patient I will take that into consideration. I think there is a lot of space to learn how to protect someone's privacy and how to make them feel comfortable. Hmm and I mean we are taught those things. We are taught put a towel here, ask this, do that so those things are taken into consideration. Hmm, ja.		
Facilitator	UFS57	Yes?		
O17	UFS58	Number 18. For us it's nice to in optometry it's nice to practice on your peers because hmm, your patient might not what do you call it? Your peers will sit still and keep their eyes open because they know they have to practise as well. So it's nice to have someone who understands like you need to like pass and get this clinical skill under your belt so just ja it's nice to have someone to practise on. And then also to feel how it feels to have this uncomfortable feeling in your eye like to have the feeling and then you can tell that to your patient. This is how it got to feel. You've experienced it. You know. You need to tell them it got to be uncomfortable. Because if you only never experienced it yourself then you don't really know how to explain it to your patient.		
Facilitator	UFS59	Anything else? Hmm, do you perceive participating in PPE as artificial? So if you have to examine you or you. Do you feel that it's an artificial thing, or do you feel that it assists in what's going to happen in practice? Let's go with number 9.		

M9	UFS60	Number 9. I think to a degree it is sort of an artificial setting because it's not a real-life setting, you're not in a clinic, you're not seeing a sick patient, but something that is reiterated with our clinical practice is you need to know what normal looks like so you can identify abnormal and so to do it sort of in a sterile environment with your peer that you know doesn't have a heart murmur is going to help you to identify something is not right here because it is totally out of what you've practised.		
P10	UFS61	Number 10. It is artificial, I think, but it is the closest you can get to practising on real people until we actually see patients. So hmm we can't just go into the hospitals whenever we do our clinicals. So have we ever done this before, let's try this with you. Here at least we have an idea of what we are doing even though it is not completely what it would be like in a different setting like in a hospital.		
M1	UFS62	Number 1. I agree with what number 10 said and but I feel that in the process of trying to make it less artificial you will cross more ethical boundaries; for example, if you pre-allocate partners every time that person... Because of race differences and things like that might feel uncomfortable the very first time to partner up with someone and you can use your friends with whom you're more comfortable. so in that way, it is artificial, but to make it less artificial, I think it will make it more uncomfortable		
Facilitator	UFS63	Ok. So are you ever afraid that you might accidentally hurt your peer?		
everyone	UFS64	all the time	laughing and nods	

Facilitator	UFS65	How did you handle that?		
P12	UFS66	I think the great thing about the whole peer education is that there is always a lecturer present and there is always someone you can ask to help. And that you take into consideration like asking your patient or your model are you comfortable, am I hurting you, tell me when I hurt you. So you don't just blindly go into it to hurt someone hmm, ja and I once again I think you need to know what hurts to know what to do what doesn't hurt if that makes sense. You need to know oh I press too hard or I shouldn't do this cause this hurt cause this model's normal is not the same as the normal of the other model I practised on. So, ja, I think it is necessary also to go through this process of not getting hurt, but like sometimes even unintentionally you might hurt someone.		
Facilitator	UFS67	Ja, anything else? Ok. Do you think eh? Are you signing indemnity forms before you do this? So my next question. If you then accidentally hurt someone do you think you should be held liable for that? I have a no. I have lots of head shakes	shaking their heads to say no	
M1	UFS68	Number 1. In the spirit of trying to make it, the experience as real as possible I know my partner and I always ask first are you ok with this? Do you consent to it? So yes, I don't think a person should be held liable for because I mean the one partner they're going to swap sides. So I don't know I think anyone can make a mistake.	laughter	
Facilitator	UFS69	Yes?		

M7	UFS70	Number 7. Hmm, for me I'd say it depends, it depends on to which extent you actually hurt your peer. Because first and foremost you as a healthcare professional you first do no harm, second and foremost, there is always a lecturer present that shows you how to do it, yes showed you how to do it, and then (big sigh) I guess you won't be that extra that hurt your peer, but if it was accidentally, we understand, so I'd say no.		
P10	UFS71	Number 10. I don't think the students should be held liable for hurting their peers because I don't think anyone in the health sciences faculty is here to hurt someone else, so if they do it really is an accident. Hmm, and you learn through those accidents. So I don't think anyone here intentionally go too far because of its funny or something like that		
Facilitator	UFS72	Anything else? Let's see what we have. Who must take responsibility for duty of care when something goes wrong? So were busy with, ok, so now you accidentally hurt someone. Who should be the responsible person?		
N2	UFS73	I think number 2. I think the person facilitating that class or that presentation should be because that person takes upon himself let's say to teach you a certain skill and then when he gives you the instruction ok please practise this on your peers while we have this 15 minutes of facilitation there then he's responsible because he gave you the order to do so.		
Facilitator	UFS74	Yes?		
P10	UFS75	Number 10. I think that the person that most experienced in the room in that field. So it is most of		

		the time the presenter of the class or the lecturer so the person who really knows what they're doing. For example a senior lecturer over a junior lecturer obviously. You'd rather have someone with twenty years' experience helping out in a situation instead of someone who is also getting into it now.		
Facilitator	UFS76	Interesting. Do you think it will be better for you to practise on different partners each time? I know that we talked about you partner up with someone that you're sort of comfortable with; you build friendships. But do you think it will be advisable or a better learning experience to swap many times?		
M13	UFS77	Yes, I think so because: number 13. I think that will be better because now you get to see the different types of body shapes and everything. Because in anatomy you know we have a lot of variations so if you think that you know what I practised on this person and the next person is going to be exactly the same you realise that there's actually a huge difference. Because in my experience practising on different people I learned a lot cause they have different like body shapes and sizes so that just showed me.		
P11	UFS78	11, Sorry 11. I think also the main thing it builds confidence. So the moment you practise on different diverse people, different shapes, different genders you get into the field as a practised, a professional that you don't have not experience on just one body shape or on just one type of person and you get a bit uncomfortable but that's the whole that's what you need to be doing so I think ja.		
Facilitator	UFS79	yes?		

M9	UFS80	9. I also think that for examinations that don't require exposure as much exposure for example then it's also beneficial to start practising on someone of the opposite gender hmm so that you can slowly ease yourself into possibly awkward situations that you can handle it professionally and then also something that I had to do and I found it quite beneficial was to if the lecturer or the presenter or the facilitator offers to be the patient to take that opportunity as well because that is a very stressful situation when learning a skill and I think like you said build confidence in your ability if you can do it under a stressful situation.		
P12	UFS81	number 12. We are actually encouraged to swap partners as much as possible and especially in hmm every class we try, but we tend to move to your comfortable partner. We tend to still go to that friend hmm, JA, but I think the thing about changing people with my degree is we actually change our technique a bit like for example massaging. If a patient has a bigger bulk of muscle you have to repeat the technique or you have to do it deeper or your hands have to move differently physically. So if you don't do that you won't master the skill.		
Facilitator	UFS82	anything else? Ok lastly. I know I started with the ethical considerations. Anything you would like to add to ethical considerations. Doesn't seemed to be a lot of ethical issues for you. Maybe it is because you know what you're getting into like you said. I don't know. So nothing else there? So can we move to question number 2? This is a nice test eh? It goes		

		quickly. And there is no right or wrong, it's nice. So question number 2 What should be included in best practise guidelines when PPE is used as an educational tool? So I don't know is it easier for if I give you these sort of guidelines? So let's see. Hmm. Ethical concerns: consent, compulsory, voluntary, social media, what issues, what do you think should be included? So we looking at developing a tool, sorry I will be with you in 2 seconds, we developing a tool and we would like to see what is your input. How would it work better? So what should be included in ethical considerations? Yes?	nodding of heads	
P10	UFS83	number 10. At the beginning of the year, Number 12 correct me if I'm wrong we did this, we sign something that say no photos are allowed no social media. Nothing in class is allowed to take without that person's consent so in terms of social media everyone their privacy is protected. Nothing can be put up or get shared if a person did not give consent or did not know about it or ja give consent or whatever.		
Facilitator	UFS84	Ok, so you're looking for strict guidelines regarding that?		
P10	UFS85	Ja, well we've got strict guidelines.		
Facilitator	UFS86	I suppose all of you have?		
P10	UFS87	Even WhatsApp groups, for example, like we always need permission before we can put something up.		
Facilitator	UFS88	Is there anything other than what you currently have what you would actually want to see in the ethical category added?		

M18	UFS89	Number 19. I would say working with the patients, I would say that we should be, well in the MCLI module what we get I think we should have like a lecture on how to treat the patient. Because when you go to the hospital and like everyone is not used to the environment, so they are not used to how to treat the patient. And the patient is right there and the patient is looking at you and I feel that there's your priority and I feel that before you get to hospital you need to get a lecture where you need to be told how to respect a patient especially when there are two patients, hmm two students or more than one student all around the patient. The patient is still there and when we do ward rounds the doctors are talking but no-one care that the patient is right there, and the patient is listening to everything that you are saying. So, I feel that the patient comes first and I feel that students don't know that especially religious stuff		
Facilitator	UFS90	so that is something that is lacking currently? If I look at the head nods around the table. Ok, orraait so next were looking at anything currently relating to gender, culture, religion that's not currently added that you think should be added.		
P15	UFS91	number 15. I relate to the other comment. I feel like we don't know enough about the different cultures and what's accepted or not. If we can get more of a guideline session or extra classes, no longer hours hopefully, (lots of laughing) but where we are told that for example the Islamic this is the do's and don'ts. so this is more or less what is expected		

		because I feel as we are practising now if we don't get exposed to that now that's going to affect us in the future we come to a patient and this is thrown to us and we have no clue on how to deal with this because we don't know what is expected I just take myself as an example I will be thrown way out if I'm exposed to that patient and not knowing this is what I can do, this is what I should do. I think with results to guidelines we should have a more clearer indication with regards to different groups what is acceptable and what is not		
Facilitator	UFS92	OK, so that will go for culture and religion?		
P15	UFS93	Ja.		
Facilitator	UFS94	Ok, yes?		
P12	UFS95	Number 12. I also think on that same note it's important to ask your models specifically is there anything cultural or any like religious thing that you want me to know and I also think if that person, for example, is willing to tell let them speak about it. Let them... Don't rush through it because		
Facilitator	UFS96	So there should be a guideline if you don't have that type of lecture you want a guideline as to, OK so how should I approach the patient and what should I ask before doing anything.		
P12	UFS97	Ja and every group is different I mean you may find an Islamic patient who does not comply with the guidelines you've been given, so that's why I think it is important to ask your patient specifically because they might have other things that you have to take into consideration		
Facilitator	UFS98	Yes?		

P10	UFS99	I'm number 10. I also want to in addition to what number 12 said is we get taught to explain everything were going to be doing to the patient beforehand and then ask them are you ok with everything about it is there anything you object or don't want done. so I think that is a way of finding out if you're allowed its almost like getting consent from the patient and knowing that their cultural and religious beliefs don't allow it is by explaining everything to them like we were taught and then hearing is this allowed or not.		
Facilitator	UFS100	OK so currently that is in your PPE type guidelines?		
P10	UFS101	JA		
M18	UFS102	Number 19. But if you're doing practise you only have 5 minutes per patient for an abdominal examination so if they are saying ja they don't allow an abdominal examination so I don't think		
P10 and 12	UFS103	JA		
P12	UFS104	last thing sorry I'm number 12. I just also think the different year groups of all classes are exposed to different people of different races and different religions so we will not all have the same exposure for example in my class I don't know that we have someone of the Islamic religion or someone who is maybe a Jew or anything. So, I mean for me my exposure will be different from someone in a class who have many different religions and cultures.		
Facilitator	UFS105	It depends on the composition of the class as well.		
P12.	UFS106	JA		
Facilitator	UFS107	Yes?		
M1	UFS108	Number 1. Mine is, my comment is more on gender. I think it is good that they say ok boys this room, girls		

		that room. But I feel there should be space where you can say ok whoever wants to practice on the other gender and they are comfortable with that there will be another room with a lecturer also there.	A lot of participants agree with this.	
Facilitator	UFS109	Ok, so we discussed a little bit on your challenges with indemnity. Do you think there should be a guideline on indemnity? Do you think you should sign indemnity forms that before you start doing this? Do you think it is a necessity? I know you feel that you feel that you know whoever supervising the session is actually the liable person if anything goes wrong to protect yourself indemnity should be included?		
M18	UFS110	Number 19. I think that hmm yes the supervisor is responsible but when you need to look at it realistically when you working with a patient as a doctor one day you are going to be the responsible for everything so you need to learn responsibility from now. So I feel we obviously not going to be blamed but you also need to know your responsibility		
Facilitator	UFS111	So you feel that including an indemnity would sort of relax you a bit so that ag it would not really matter if I hurt this person?		
M18	UFS112	No, no. the opposite of what I'm saying what I'm saying is that when you get to the hospital when you become a doctor or healthcare professional		
Facilitator	UFS113	Yes you don't have any indemnity		
M18	UFS114	No, you don't but hmm I'm speaking of you are responsible for the patient if you do something the patient can sue you. So you need to learn responsibility from now when you start because now you go to the hospitals and you do something that		

		knowing that that consultant or that doctor is responsible. So we also need to watch what we do. You understand?		
Facilitator	UFS115	JA, Ja I understand		
M18	UFS116	As a student you still have to we have like a bit of insurance when we starting in the hospital because we can also get blamed for doing something wrong it's also another person that's in front of you so you also have to learn. You can't say oh no its the supervisor's problem that's not fair		
Facilitator	UFS117	Anything else? Yes?		
M1	UFS118	Number 1. I'm not so sure if the indemnity form will make much of a difference because from the get-go I had the feeling it is expected for you to be willing to do this. You can say "no" in Asterix I had that kind of thing. So I feel that signing an indemnity form will not make much of a difference for me.		
Facilitator	UFS119	So you see it as so much part of the training you HAVE to do it in any case		
M1	UFS120	Yes.		
Facilitator	UFS121	Orraait supervision? Anything that you would like to include in guidelines on this examination on the supervision that you get?		
P12	UFS122	Sorry, number 12. I think hmm usually were only have one supervisor in a practical session and that I think that already were blessed with that I mean most people probably don't usually for a big class I don't tend to get to everyone. Always they try hmm, but I think maybe have revision classes with more supervisors to assist. Just to make sure everyone gets		

		that individual training but I know that isn't always possible with the amount of staff		
Facilitator?	UFS123	You wanted to add?		
M13	UFS124	So Ja I'm with her that's not really always possible but it leaves a lot of loopholes anything can happen because now if I am with someone for a certain examination and there's no lecturer there anything can happen.		
Facilitator	UFS125	Yes?		
M9	UFS126	Number 9 also in my recollection from the practice examinations I've done I haven't once had a lecturer observe me examine my peer so I could be practising thinking my skills are really good and then on an educational front I'm actually falling short. Ethically as well a lot of the times there say one lecturer for all the girls in the class and one lecturer for all the boys in the class but we get split into about four rooms. So there's always		
Facilitator	UFS127	So the supervisor can't be everywhere		
M9	UFS128	Physically cannot be everywhere. So there are rooms where peers are examining each other and performing sort of medical things on each other and there's no superior present.		
Facilitator.	UFS129	Ok, let's see what else we've got. Oh, you know what and this is not really a question. Last and this is not really a question either. Last question. Anything that you would like to add that was not discussed up to now.		
P12	UFS130	I think number 12. Hmm just going back to the whole ethical thing. I think in terms, I think that the lecturer should also take the responsibility to inform the class		

		that there are ethical differences. Not just give them a piece of paper with different things or just tell them to ask but to actually have like a. I think we get thrown into this first year you just start you don't really acknowledge the fact that people have different ethical views and or like cultural views and racial views. So I think on behalf of the lecture like I don't know who said it but ja you mimic what the lecturer teaches you. If the lecturer approaches the model, they present to you and ask them oh so what are your considerations you also will mirror what they are doing, but once again time wise it's not always possible.		
Facilitator	UFS131	It's not always possible. Yes?		
M1	UFS132	Number 1. Hmm, some guidelines were given but I think some extra guidelines should be given on how to get the most of your experience. But stupid things like for example only now that I consider that I could get the most of my experience by switching partners with every examination or every session. Ok. I think that could make a huge difference.		
Facilitator	UFS133	Anything else? Yes?		
N4	UFS134	Number4. I would also like more of a guide to what if you find something wrong during an abdominal examination on a peer and the lecturer isn't present at that stage.		
Facilitator	UFS135	I was actually wondering about that. You know we talked about PPE the whole time and not once did that come up. You are actually doing an official examination on one of your peers. What if you identify? And it can be a lot of different things. What	COLLECTIVE NO FROM ALL.	

		then? Did you get any guidelines on this? So there's a big gap there. Because you cannot just go Ahhh look what I found really. It's a nice thing to find an abnormality so my students would go yay!!! But I don't think it would be yay for the patient. Yes?	laughing	
P11	UFS136	Are we talking do you mean find something on a patient or on a peer?		
Facilitator	UFS137	One of your peers.		
P11	UFS138	Wouldn't you? know in our case when we examine and we find something that's freaky we just call the lecturer or supervisor and they come and have a look instead of making such a big deal out of it like oh you're broken. We just call and before that person actually know what's going on and most of the time that person is actually fine.	Laughing	
N4		YES		
Facilitator	UFS139	but you are you looking for little bit better guidelines on how to handle this. Not storm out of the room.		
P11	UFS140	I think it is also easier if you are a small class. in big classes, you probably can't get hold of the lecturer.		
M13	UFS141	Number 13, cause this actually happened in the past two months. we found something and everyone was like ah, hi, what's this??		
Facilitator	UFS142	You see and you laughed at me?		
M13	UFS143	Exactly. And she felt a little uncomfortable and then the lecturer as well came and then she said ok how would you feel if we presented this to the class and everything. And the peer was definitely like no there's no way I'm doing this because they can already see how everyone reacted and they don't want everyone else to react the same way.		

Facilitator	UFS144	So, so you need sort of a guideline before entering this, not only on how to handle this but before you actually find something and not after you found it? Yes?		
M8	UFS145	Number 8. I also like guidelines on how to handle children because a big part of it has to do with small children and of course not practise on small children but maybe the parents would like the lecturer to do a visual examination to demonstrate on how to do a certain examination or test on kids.		
Facilitator	UFS146	Yes, because currently with this you are exposed to people in your own age group. Yes?		
M18	UFS147	Number 19. When I did my MCLI module we did discuss what would happen if we find pathology or something wrong, so ja not necessarily by the examiner or peer and obviously that was normal, but we did study it and personally I feel that that will come with experience when you do your rounds and things. So I don't think you will need to put in this module because you will probably only get exposed to in the hospital and then you can properly examine, explain and see how to go about. I don't think artificially you can do it if let's assume this patient is healthy and you have to see it.		
Facilitator	UFS148	I think the other thing that we must all agree upon is that each one of you is an individual and each one of you learn in different ways. So what work for one person might not have the same educational value for the next person?		
M18	UFS149	Ja no this is just from my view		

Facilitator	UFS150	No, no, no. I'm saying that it is good because now we see we have different views. That's what we're looking for. I had a hand there somewhere. Now the hand is gone. Ok, anything else? Yes?		
P12	UFS151	Number 12. Just like I mentioned earlier I think we tend to go to our partner whom we use to so I think maybe like just having Ja ...		
Facilitator	UFS152	And encourage to do it on somebody else		
P12	UFS153	Maybe even structure like today this your partner because I think out of free will you really don't always choose someone else. And just for the bigger picture of educating the students kind of forcing them to have ... not forcing them but like here's your partner for today but giving them space for that		
Facilitator	UFS154	Anything else?		
P12	UFS155	Sorry I might just want also want to add on that because in a sense you might not be comfortable going to ask for example I'm female going to ask a guy in my class		
Facilitator	UFS156	So a schedule might assist with it.		
P12	UFS157	Ja. In a sense of gender differences as well.		
Facilitator	UFS158	Yes?		
M9	UFS159	I have something. So in our year we are allowed to book sessions outside of our formal classes to practice different skills and also examinations. So that does allow opportunity to ask your friend in another class or a guy you are more comfortable with for example to the examination with for example, but there again there aren't facilitators supervising and I'm aware of staff shortages but there usually is someone in the vicinity like if they are more present if		

		that makes sense because there is someone there to sign you in and sign you out just for sort of legal indemnity sort of situation that you're more covered. But that being said I think a lot of us practise on others outside the facility in any case super relaxed		
P12	UFS160	JA definitely		
Facilitator	UFS161	Yes?		
M13	UFS162	And the whole thing again with switching partners and everything. I believe that it develops your professionalism because now you're used to your friend and you get there like ja my name is blabla It's like you know that part let's skip that, ok let's get to the examination. But now if you try on a new person, it forces you to prepare to actually be a professional you know to introduce yourself and everything. Do everything properly. Oh, number 13.		professionalism
Facilitator	UFS163	Anything else? Ok so just to take note everything that was said will be transcribed word for word without using names. So ok were not going to look at it and see maybe they meant this or maybe they meant this. It is used exactly as you said it. So if there is nothing else I would like to thank you.		

APPENDIX M

Declaration from the language editor

DECLARATION

25 May 2022

TO WHOM IT MAY CONCERN

I herewith declare that I did the language editing of the research report on **GUIDELINES FOR PEER PHYSICAL EXAMINATION AS A TEACHING TOOL FOR HEALTH PROFESSIONS STUDENTS IN SOUTH AFRICA**, student number:1987429956. The table of content and appendices were not included for editing.

The track changes function was used for corrections, comments and recommendations, and the student was responsible for accepting/ rejecting the changes and recommendations, and for finalising the document.

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APPENDIX N

Turnitin report

Match Overview

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GUIDELINES FOR PEER PHYSICAL EX
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MARYNA GI

Thesis submitted
requirements in re

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APPENDIX O

Invoice of the independent person checking transcriptions



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PhD HPE candidate, UFS

HattinghMGM@ufs.ac.za

Invoice Number: 22

Invoice Date: November 13, 2020

Payment Due: November 13, 2020

Amount Due (ZAR): R1,500.00

Items	Quantity	Price	Amount
Check Transcriptions Focus group interviews	1	R1,500.00	R1,500.00

Total: R1,500.00

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APPENDIX P

COREQ Checklist

Table 1 Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description
Domain 1: Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group?
2.	Credentials	What were the researcher's credentials? <i>E.g. PhD, MD</i>
3.	Occupation	What was their occupation at the time of the study?
4.	Gender	Was the researcher male or female?
5.	Experience and training	What experience or training did the researcher have?
Relationship with participants		
6.	Relationship established	Was a relationship established prior to study commencement?
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>e.g. personal goals, reasons for doing the research</i>
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? <i>e.g. Bias, assumptions, reasons and interests in the research topic</i>
Domain 2: study design		
Theoretical framework		
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? <i>e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis</i>
Participant selection		
10.	Sampling	How were participants selected? <i>e.g. purposive, convenience, consecutive, snowball</i>
11.	Method of approach	How were participants approached? <i>e.g. face-to-face, telephone, mail, email</i>
12.	Sample size	How many participants were in the study?
13.	Non-participation	How many people refused to participate or dropped out? Reasons?
Setting		
14.	Setting of data collection	Where was the data collected? <i>e.g. home, clinic, workplace</i>
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?
16.	Description of sample	What are the important characteristics of the sample? <i>e.g. demographic data, date</i>
Data collection		
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many?
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?
20.	Field notes	Were field notes made during and/or after the interview or focus group?
21.	Duration	What was the duration of the interviews or focus group?
22.	Data saturation	Was data saturation discussed?
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction?
Domain 3: analysis and findings		
Data analysis		
24.	Number of data coders	How many data coders coded the data?
25.	Description of the coding tree	Did authors provide a description of the coding tree?
26.	Derivation of themes	Were themes identified in advance or derived from the data?
27.	Software	What software, if applicable, was used to manage the data?
28.	Participant checking	Did participants provide feedback on the findings?
Reporting		
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? <i>e.g. participant number</i>
30.	Data and findings consistent	Was there consistency between the data presented and the findings?
31.	Clarity of major themes	Were major themes clearly presented in the findings?
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?

(ii) Participant selection: Researchers should report how participants were selected. Usually purposive sampling is used which involves selecting participants who share particular characteristics and have the potential to provide rich, relevant and diverse data pertinent to the research question

[13, 17]. Convenience sampling is less optimal because it may fail to capture important perspectives from difficult-to-reach people [16]. Rigorous attempts to recruit participants and reasons for non-participation should be stated to reduce the likelihood of making unsupported statements [18].

APPENDIX Q

Guidelines second review document

Guidelines for using peer physical examination (PPE) as an educational tool.

Definition of PPE

PPE is the educational method where health professions students act as models for their peers to learn and practise physical examination skills, simple non-invasive diagnostic or therapeutic procedures and professional attributes under the supervision of a professional person or lecturer

Intimate body areas NOT included in PPE.

The societal sensitive areas, such as the female breast, pelvic organs, external genitalia, rectum, anal canal and anus, the male external genitalia, inguinal region, rectum, prostate, anal canal and anus areas, will not be included in PPE areas students will have to examine.

Female students must remove or lift their bras to examine the chest and abdomen, but male and female students will practice separately as far as possible.

Proposed guidelines

The proposed guidelines are divided into three levels: Institutional, Lecturers/facilitators and students.

Institutional:

- Include PPE guidelines in the Teaching and Learning policy.
- Compile a contingency plan at the institutional or departmental level if a student is injured during PPE.
- Provide information on actions that should be taken when an abnormality is discovered in a student.
- Professionalism is taught by participating in PPE. Ensure students know that inappropriate behaviour and sharing information on social media will not be tolerated.

Lecturers/ Facilitators:

- Communicate with students what to expect in practical classes where PPE is the educational tool before commencing their respective courses. Reiterate at registration the expectation to participate in PPE
- Obtain written informed consent from prospective and current students at the beginning of each year in disciplines where clinical examination skills form part

of the curriculum. They should understand that participation in PPE is part of the health sciences curriculum.

- Facilitate discussions about ethical, cultural, racial, and professional issues associated with PPE

Students:

- Initially, allow students to choose their partners, and as they become more confident, the facilitator should change the groups regularly to expose them to diversity.
- Follow a person-centred approach when using PPE.
- Students and personnel should treat PPE confidential. A binding confidentiality document should be signed by everybody involved to prevent the distribution of information, photos, or videos on social or other media.
- Participation in PPE should be compulsory for all students involved in disciplines with clinical skills teaching

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