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ADDRESSING THE BLIND SPOT: THE DEVELOPMENT OF AN ASSESSMENT TOOL TO EVALUATE A PHYSIOTHERAPY CLINICAL EDUCATION PROGRAMME

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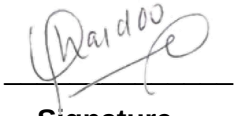
A thesis submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg in fulfilment of the requirements for the degree of Doctor of Philosophy in Physiotherapy.

Johannesburg, 2021

DECLARATION

I, Vaneshveri Naidoo, declare that the contents of this thesis are my own work, except what is indicated in the acknowledgement sections. This thesis is being submitted for a degree of Doctor of Philosophy, at the University of the Witwatersrand, Johannesburg, South Africa. This work has not been submitted for any other degree or examination in this or any other university.



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ABSTRACT

Background: Clinical education is a core component of a physiotherapy undergraduate curriculum. It provides a unique opportunity for students to learn technical (assessment and treatment skills) and non-technical skills (reflection; critical analysis, attitudes, and professional behaviour) in the real milieu, where theoretical knowledge and skills are applied and mastered. The evaluation of the quality and effectiveness of physiotherapy clinical education has been unsuccessful due to its complexity, and the lack of a standardised evaluation tool. This gap has led to the development of this study.

Purpose: The aim of this study was to develop, validate and test the reliability an assessment tool that evaluates the effectiveness of a physiotherapy undergraduate clinical education programme.

Method: A mixed-method study of four phases. The first phase determined the items and domains that needed to be included in the tool. Focus group discussions (FGD) were held nationally in South Africa with physiotherapy academics; clinical supervisors/educators; clinical managers and newly qualified physiotherapists. Phases two-four determined the face, content and construct validity of the tool, via the Delphi method and a survey, respectively. Additionally, exploratory factor analysis was used for item reduction and reordering the final tool.

Results: Three themes emerged from the FGD: Governance; Structure and Experience, with domains and items relating to: Governance; Academic Processes; Learning Exposure; Clinical Orientation; Clinical Supervision and Quality Assurance & Monitoring and Evaluation. The *Vaneshveri Naidoo Clinical Programme Evaluation Tool* (VN-CPET) of 58 items, and six categories was developed. VN-CPET was found to be valid and reliable (α=0.75).

Conclusion: VN-CPET, a validated and reliable standardised monitoring and evaluation tool – the first of its kind, can be used to evaluate the quality and effectiveness of a physiotherapy undergraduate clinical education programme.

Keywords: clinical education; programme evaluation; quality assurance; mixed- methodology

DEDICATION

This thesis is dedicated to my children, Saihesan and Thiya,
for enduring this PhD journey with me.
May this feat confirm that there are no limits!

“It is hard to beat a person who never gives up!” –unknown.

"The greatest glory in living lies not in never falling,
but in rising every time we fall."
- Nelson Mandela

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- My greater Wits colleagues, thank you for the continuous support and encouragement!

- My family and friends, your encouragement is sincerely appreciated and cherished!

CONFERENCE PROCEEDINGS

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LIST OF DEFINITIONS

CanMEDS	:	Canadian Medical Education Directives for specialists is a framework that identifies and describes the abilities physicians require to effectively meet the health care needs of the people they serve.
Community Service Physiotherapists (CSP)	:	Newly qualified physiotherapists in possession of an undergraduate physiotherapy degree and who have worked for at least three months in a clinical setting, in their first year of employment.
Data Saturation	:	Defined as " 'information redundancy' or the point at which no new themes or codes 'emerge' from data" (Braun and Clarke, 2019).
Effectiveness	:	Defined as "t*he degree to which something is successful in producing a desired result; success*" (Oxford Dictionary of English, 2019).
Factor Analysis (FA):	:	Is a statistical test used to simplify data and reduce many individual items into a smaller number of dimensions/factors, which cannot be done with the naked eye. A mathematical model is used to do this.
Four Experts from Wits University	:	PhD graduates with expertise in qualitative research from the Physiotherapy and Occupational Therapy Departments at the University of the Witwatersrand in South Africa.
MAXQDA	:	Is a software package for qualitative and mixed methods research.
Monitoring	:	Is the gathering and scrutiny of information about a project/programme/ organisation undertaken during the programme to track progress, whilst evaluation is the intermittent assessment of a project/programme/organisation done in real-time or retrospectively, to examine specific objectives (Monitoring and Evaluation for Sustainable Communities, 2014; International Federation of Red Cross and Red Crescent Societies, Geneva, 2011). Monitoring and evaluation thus leads to the implementation of quality assurance processes.

Physiotherapy Academics (PA)	:	Academic staff from all higher education departments in South Africa offering a physiotherapy degree, working for at least four years in academia.
Physiotherapy Clinical Educators (CE)	:	Physiotherapy clinicians involved in the clinical supervision of physiotherapy undergraduate students and involved in clinical supervision for at least a year.
Physiotherapy Clinical Managers (PCM)	:	Head of a clinical Physiotherapy Department
Physiotherapy Clinical Education Programme	:	This refers to an entire the entire clinical education programme (context, input, process, and product), and not a specific component of it only, like student assessment.
Programme Evaluation	:	Is defined as "the systematic collection and analysis of information related to the design, implementation and outcomes of a programme, for the purpose of monitoring and improving the quality and effectiveness of the programme" (Frye AW and Hemmer PA, 2012).
Quality Assurance (QA)	:	In higher education is referred to as the "monitoring, evaluation or review of higher education in order to establish stakeholder confidence or meet minimum requirements" (Persky et al 2012; Skolnik ML, 2010).
REDcap	:	REDCap is a secure web application for building and managing online surveys and databases
WhatsApp	:	WhatsApp is a free and cross-platform messenger and Voice over IP (VoIP) application. Users can send text messages and voice recordings, make phone calls and can share documents and media securely to other WhatsApp users in individual or group chats.

LIST OF ABBREVIATIONS

CC	– Clinical Coordinator
CE	– Clinical Educator
CHBAH	– Chris Hani Baragwaneth Academic Hospital
CIPP	– Context, Input, Process, Product
DoH	– Department of Heath
FGD	– Focus group discussions
HJH	– Helen Joseph Academic Hospital
HOD	– Head of Department
HPCSA	– Health Professions Council of South Africa
ICF	– International Classification of Function, Disability and Health
MOA	– Memorandum of Agreement
SA	– South Africa
SBAH	– Steve Biko Academic Hospital
SMU	– Sefako Makgatho Health Sciences University
St	– student/s
UCT	– University of Cape Town
UFS	– University of the Free State
UG	– Undergraduate Coordinator
UKZN	– University of Kwazulu-Natal
UP	– University of Pretoria
US	– University of Stellenbosch
UWC	– University of the Western Cape
WCPT/WP	– World Confederation for Physical Therapy/World Physiotherapy
Wits	– University of the Witwatersrand
WHO	– World Health Organization

CHAPTER 1

1. INTRODUCTION

1.1 BACKGROUND AND NEED

Physiotherapy is a regulated and accredited health care profession (WP, 2020; HPCSA, 2020). Physiotherapy involves the rehabilitation of people throughout the lifespan aiming to maximise movement and function based on the International Classification of Functioning, Disability and Health (ICF) framework (Appendix 1) (WHO, 2020). Moreover, physiotherapy improves quality of life by addressing the physical, psychological, emotional, and social components of wellbeing (WP, 2020).

Physiotherapists' scope of practice includes health promotion, prevention, intervention/ treatment, habilitation and rehabilitation (WP, 2020). Physiotherapists are practitioners who operate autonomously, as part of the healthcare team in diverse clinical settings. They are skilled in assessment; diagnosis; prognosis and intervention/treatment and interact with the patient/client, caregiver, family and other health care providers (WP, 2020).

World Physiotherapy advocates that the physiotherapy undergraduate or entry level education include training at a university-level higher education institute for a minimum of four years which must be independently validated and accredited, ensuring full legislative and professional recognition (WP, G-2011-Entry-level-education, 2020). Physiotherapy education is underpinned by a strong clinical education component where hands-on learning takes place, under supervision, in an actual clinical milieu (Strohschein, Hagler and May, 2002; C. A. McCallum *et al.*, 2013; Jette *et al.*, 2014; Meyer, Louw and Ernstzen, 2017). "Physiotherapy education should reflect the health and social priorities of the nation" (Frantz, 2007, p.1). The physiotherapy undergraduate programme in South Africa is a four-year degree programme and successful completion of the degree results in a bachelor's degree. There are eight universities in South Africa offering a physiotherapy degree programme (HPCSA, 2020).

The four-year physiotherapy degree programme at the University of the Witwatersrand (Wits) which is a BSc degree, and other South African universities, comprises of a foundation phase: the first two years, and a clinical phase: the last two years. The focus of the foundation phase is to equip students with physiotherapy technical skills, that is, assessment and treatment techniques related to the various areas in physiotherapy, namely neuromusculoskeletal, orthopaedics, neurology, cardiopulmonary, paediatrics, sport, community physiotherapy and public health. Additionally, salient skills (non-technical skills)

such as professionalism, communication, reflective practice, critical-thinking, clinical reasoning, self-directed learning, collaboration, advocacy, documentation (record-keeping), the ability to respond to the changing health-care needs of the community and cultural sensitivity are also integrated (Higgs, 1993; DeClute and Ladyshewsky, 1993; Baldry Currens and Bithell, 2000; Strohschein, Hagler and May, 2002; Lekkas *et al.*, 2007; Ernstzen, Bitzer and Grimmer-Somers, 2009; Ernstzen, 2013; Misra *et al.*, 2019). Students are also equipped with auxiliary subjects such as anatomy, physiology, psychology, physics and biology, to name a few.

During the early years, namely the first- and second-year clinical learning takes place through observation and simulation. The clinical phase, with a prescribed minimum of a 1000 hours of clinical practice (Appendix 2), involves contextual learning – students develop, apply, enhance and integrate both technical and non-technical skills learnt on real patients/clients in various settings: hospitals (provincial, district, tertiary, quaternary, private and specialised units), primary health-care clinics, patient's homes and schools (including special needs schools). Clinical education is therefore the unique, pragmatic learning of the undergraduate student within a community of practice (Wenger, 2010), and is the crux of the curriculum; the value of clinical education is undisputed by all scholars (Higgs, 1993; Baldry Currens and Bithell, 2000; Delany and Bragge, 2009a; C. A. McCallum *et al.*, 2013; Chetty *et al.*, 2018).

Health care educational programmes in South Africa are accredited by the Health Professions Council of South Africa (HPCSA) to train students and are regularly evaluated by them to ensure that standards are met, and the quality of the programme is maintained. Quality assurance is further ensured through a regular curriculum review process and external peer-review during the final examination period. Curriculum review, however, largely focuses on the theoretical component. The clinical component is overshadowed by the theory and is not separately and reliably evaluated. Furthermore, it is very difficult to find clear guidelines from the HPCSA pertaining to an undergraduate physiotherapy clinical education programme's structure against which physiotherapy academic departments can independently evaluate themselves. In fact, sound judgement of a clinical education programme's structure remains relatively unknown at all higher education institutes offering an undergraduate physiotherapy degree. Hence, improvements in clinical education are made empirically, and from feedback received from the peer-review process.

Peer review evaluation, a quality assurance snippet, remains an important, subjective, but incomplete quality assurance process. The structure and processes of clinical education are not fully reviewed in this current system, and this consequently led to my problem statement. Adding to this gap, is the inability to define quality in clinical education (Stachura, Garven and

Reed, 2000; Strohschein, Hagler and May, 2002; Jette *et al.*, 2014). A systematic review by McCallum et al (2013) shows that the evidence to define quality and best practice in physiotherapy clinical education remains inconclusive. High-quality clinical education requires comprehensive monitoring and evaluation, using a reliable and validated tool (Eseryel, 2002).

1.2 PROBLEM STATEMENT

Clinical education is a core component of a physiotherapy undergraduate curriculum enabling the development of a competent professional physiotherapist. To date, there is no tool that evaluates the clinical education component of a physiotherapy undergraduate curriculum-. Currently the clinical education component of a physiotherapy undergraduate curriculum cannot be reliably and independently evaluated.

1.3 AIM

The aim of this study was to develop, validate and test the reliability an assessment tool that evaluates the effectiveness of a physiotherapy undergraduate clinical education programme.

NB. *It is important to note that a programme evaluation tool was developed, and **not** a student competency tool*.

1.3.1 Objectives

- To determine the items and domains that need to be included in the tool **(Phase 1)**
- To establish the face and content validity of a preliminary tool **(Phase 2)**
- To establish the construct validity of a preliminary tool by assessing the feasibility and utility of the consequently evolved provisional tool **(Phase 3)**

1.4 SIGNIFICANCE OF STUDY

The development of a validated, standardised tool to evaluate a physiotherapy clinical education programme will enable academic departments to consistently evaluate their clinical education programme for gaps and limitations in their structure and processes, and not only their outcomes. Furthermore, this evaluation will enable academic departments to insert quality assurance mechanisms into their clinical education programme in order to provide high quality clinical training and practice, and an appropriate clinical education experience for their students. Also, such a tool may allude to the local responsiveness and international competitiveness of the clinical education programme.

CHAPTER 2

2. LITERATURE REVIEW

2.1 INTRODUCTION

A narrative review in this chapter provides an overview of physiotherapy education, monitoring and evaluation tool development and the theoretical framework that underpins this study. Various databases were used to search for literature including EBSCO, PubMed, Google Scholar, Clinical Key, PEDro and Medline. The key words that were used included physiotherapy education; clinical education; programme evaluation; monitoring and evaluation, quality assurance; tool development; clinical supervision. The search period included literature published from 2000-2020. However, when required earlier publications were included, due to the paucity of literature.

The information will be discussed under the following headings:

2.2 Context of this study – The structural blind spot

2.3 The history and complex nature of physiotherapy clinical education

2.4 Programme Evaluation

2.5 Evaluation Models

2.6 The Pinnacle and Culmination of Physiotherapy Education

2.7 Tool Development

2.8 Conclusion

2.2 CONTEXT OF THIS STUDY – THE STRUCTURAL BLIND SPOT

The South African physiotherapy curriculum review process has a structural blind-spot. The curriculum review process focuses on the theoretical component, while the clinical education programme with regard to its' structure and processes, is comparatively unaddressed. This is a critical error, because the clinical education programme is a fundamental component of a physiotherapy programme (Higgs, 1993; Baldry Currens and Bithell, 2000; Delany and Bragge, 2009a; McCallum *et al.*, 2013; Moghadam, Kashfe and Abdi, 2017; Chetty *et al.*, 2018). Clinical education allows the application of the underlying theory. Students engage in service learning towards mastery of both implicit and explicit skills (technical and non-technical skills).

This study began with the inquiry of existing evaluation models, namely the Kirkpatrick Model of Evaluation (Bates, 2004; Smidt *et al.*, 2009; Gandomkar, 2018) and Stufflebeam's Context, Input, Process, Product (CIPP) Model of Evaluation (Stufflebeam, 1973; Owston, 2008), to evaluate the clinical education programme at the University of the Witwatersrand.

The focus of the Kirkpatrick Model was learner outcome and therefore was not comprehensive for programme evaluation, while the comprehensive CIPP model was difficult to execute because a standardised tool was not available. Even though Stufflebeam provides an overview/checklist (Stufflebeam, 2002) of the different CIPP components that must be evaluated – the specifics/detail of each component for physiotherapy clinical education still needed exploring and validation. This is confirmed by several authors who have affirmed that more research is required to fully understand the complex nature of physiotherapy clinical education (Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; McCallum *et al.*, 2013; Jette *et al.*, 2014).

Higgs (1993) in a scholarly paper, advocated for the use of CIPP and systems theory to evaluate physiotherapy clinical education, but due to the complex nature of physiotherapy clinical education, a non-existing valid and reliable tool, and not knowing the 'what' to measure nor the 'how' to, meant a tool needed to be developed. Eseryel (2002) emphasized that evaluation tools are required to determine a programme's effectiveness. Scholars have acknowledged that even though several evaluation models exist, choosing the correct model for complex educational programmes is challenging (Eseryel, 2002; Frye and Hemmer, 2012). Furthermore, it is supported that programme evaluation is complex and requires deep understanding of evaluation models in order to effectively apply them (Stachura, Garven and Reed, 2000; Frye and Hemmer, 2012).

2.3 THE HISTORY AND COMPLEXITY OF PHYSIOTHERAPY CLINICAL EDUCATION

Publications in this area comprise mainly of position papers, different perspectives, and scholarly papers. Scholars have attempted to define and measure quality in physiotherapy clinical education with great difficulty due to the complex, multidimensional nature of clinical education, and the paucity of research in this area (Higgs, 1993; Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; McCallum *et al.*, 2013; Jette *et al.*, 2014). Suggestions have been made as to what may allude to quality in clinical education, however no consensus has been reached. The quality of clinical education appears to be affected by the *processes* involved in clinical education, namely the model of teaching and learning adopted which facilitates the development of a competent graduate, the enhancement of technical and non-technical skills, the attitudes and behaviour of students, and the roles and relationships between students and clinical educators (Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; Dunfee, 2008; McCallum *et al.*, 2013; Jette *et al.*, 2014; Moghadam, Kashfe and Abdi, 2017).

Higgs (1993) almost 30 years ago, identified the following *clinical education goals* (fig 2.1) for student development and, c*linical education components* (table 2.1) that contribute to the

effectiveness of clinical education, which have stood the test of time, and illustrates the complexity of physiotherapy clinical education

Clinical Education Goals

1. Understanding health, illness and the health-care system
2. Awareness of own attitudes, values and responses to health and illness
3. Coping with the professional role
4. Understanding the role of the interprofessional team
5. Clinical competencies of the profession, including non-technical skills like clinical reasoning, psychomotor, interpersonal and communication skills
6. Ability to justify actions or interventions
7. Ability to deliver health education to various stakeholders (patients, staff, community)
8. Self-management skills, e.g. time and workload management
9. Ability to process, record and use data effectively
10. Critical evaluation of the self (reflection) & self-development
11. Ability to evaluate the quality of clinical practice
12. Professional accountability and commitment to all stakeholders
13. Commitment in continuous professional development
14. Life-long learning
15. Ability to respond to changing health care needs

Higgs (1993)

Figure 2.1: Clinical Education Goals

These goals (fig.2.1) can be categorised as follows (table 2.1) which delineates some of the *process* requirements of clinical education:

Table 2.1: Process Requirements of Clinical Education

Health Care/System	**Technical Skills**	**Non-technical skills**
Understanding the health care system	Clinical competencies of the profession	Awareness of own attitudes, values and responses to health and illness (self-awareness)
Understanding health, illness (International classification of Functioning, Disability and Health [ICF])	Ability to justify actions or interventions =Clinical reasoning (Evidence-based practice)	Coping with the professional role (professionalism)
Understanding the role of the interprofessional team	Ability to deliver health education to various stakeholders (patients, staff, community)	Interpersonal and communication skills
	Ability to process, record and use data effectively	Self-management skills, e.g., time and workload management

Health Care/System	Technical Skills	Non-technical skills
	Psychomotor skills	Critical evaluation of the self (reflection) & self-development
		Ability to evaluate the quality of clinical practice (Professional reflection)
		Professional accountability and commitment to all stakeholders
		Commitment in continuous professional development
		Life-long learning
		Ability to respond to changing health care needs

Higgs (1993)

Additionally, these clinical education components (table 2.2) (the *processes* of clinical education) contribute to the effectiveness of clinical education (Higgs, 1993):

Table 2.2: Clinical Education Components that Contribute to the Effectiveness of Clinical Education

Factors/components	Description of Factor
1. Students	Their abilities, needs and interests
2. Links between clinical and academic programmes	Development of clinical educators
3. The clinical education programme	Organisation; design; goals; amount of time spent in clinical training, and evaluation of use of training time
4. Resource people, and resources in the clinical education setting	Lecturers, clinical educators, and other people who participate in clinical education; the site where clinical learning occurs; material resources and facilities at the clinical site
5. Learning activities, supervision and learning climate	Learning activities by clinical educators to enable learning; a conducive learning environment; student supervision
6. Assessment and feedback	Summative assessment of student performance Constructive feedback based on evaluation of student Encourage students to reflect on performance
7. Evaluation of the clinical education programme	Determining the programme's effectiveness (teaching and learning)

Higgs (1993)

Stachura et al (2000), also tried to measure quality in clinical education and realised that the 'what' and 'how' to measure was contentious because defining quality or concepts of quality was challenging. However, their literature findings underpinned *product* and *process* to measure quality. The *product* model looked at the needs of the stakeholders (students, clinical educators and clinical managers), while the *process* model looked at how students learn. Their quality assurance mechanisms measured administrative aspects of clinical education (administration of the placements), and the perception of students clinical learning experience. Thus, their quality assurance focussed on the product model – the students

specifically, a very important aspect of clinical education, but not the holistic evaluation of a clinical education programme.

Strohschein et al (2002), like Higgs (1993), proposed seven key requirements of clinical education (fig. 2.2) which also reflect the complex and multidimensional nature of physiotherapy clinical education. Strohschein and colleagues (2002) investigated 10 models of clinical education, for example, the collaborative model, the reflective model, the coaching model, to determine which model incorporates all the proposed requirements. They assessed all the models' strengths and weaknesses to determine their ability to achieve the listed requirements. They discovered that there was no single model that addressed all the needs of clinical education, thus confirming the breadth and depth of physiotherapy clinical education:

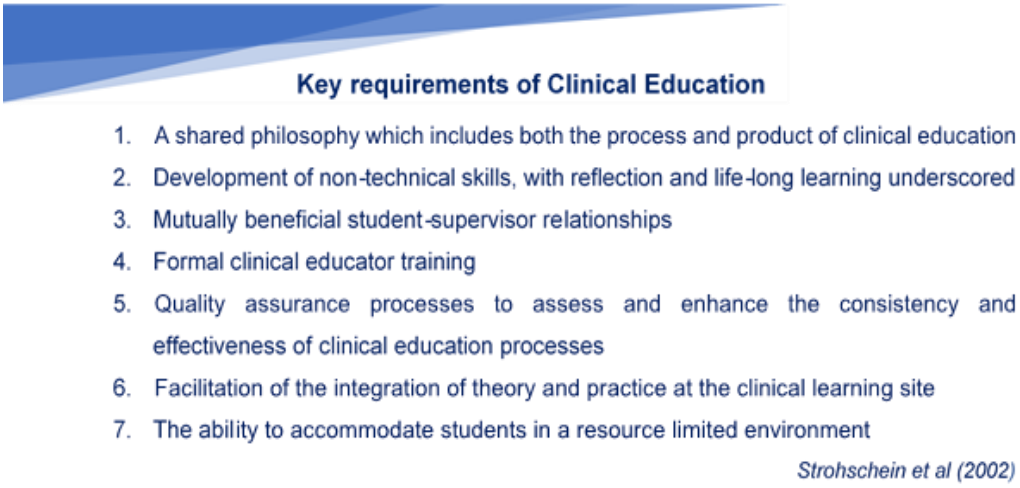

Figure 2.2: Key Requirements of Clinical Education

Due to the challenge experienced in measuring quality in clinical education, Strohschein et al (2002) advocated for clear clinical education goals and objectives, mentioned by Higgs (1993) and Stachura et al (2000) as well, as this would facilitate appropriate processes and models of clinical education. They supported the use of Stufflebeam's CIPP (Stufflebeam, 1973) to evaluate clinical education, first recommended by Higgs in 1993. They stated that the CIPP framework can be used to analyse clinical education needs, which could then inform the selection of an appropriate model/s. They found CIPP to be a very focused approach in the evaluation of clinical education. However, they did not describe or demonstrate how exactly the CIPP evaluation method must be used to evaluate physiotherapy clinical education. They recommended that more research be conducted to identify prominent features of current clinical education processes by using a combination of qualitative and quantitative research methods, and also recommended that a tool/s must be developed which can measure the important aspects of physiotherapy clinical education.

Higgs (1993) advocated for the use of CIPP for both programme evaluation – that is evaluation in order to improve a programme, and to assist with programme design – designing a physiotherapy clinical education programme. She asserted that the CIPP model enables a programme to be viewed holistically. Again, the application of CIPP to evaluate clinical education goals and factors, was vague (Higgs, 1993) (refer to section 2.5.1, page 20, for further explanation regarding the vague application of CIPP)

Likewise, a systematic review of 54 articles, which included both quantitative and qualitative studies by McCallum et al (2013), found inconclusive evidence regarding the definition of quality in clinical education, or how quality can be measured. This was attributed to the poor methodological rigour of most studies identified. Using qualitative content analysis, they discovered five themes which could possibly allude to the quality of clinical education when evaluated collectively. These were:

1. Clinical education framework
2. Clinical education sites: interprofessional practice and productivity
3. Structure of clinical education: international, models, sequencing, standards and trends
4. Assessment in clinical education: clinical instruction, site and student
5. Clinical education faculty (staff members): demographics and characteristics of clinical instructor; education needs

Jette et al (2014) also explored the nature of physiotherapy clinical education and discovered wide variations in clinical education programmes across the United States. They concurred that determining or evaluating the quality of the various clinical education programmes was difficult. These authors therefore suggested that consensus of best practice related to *structure*, *processes,* and *outcomes,* using Donabedian's (1966) classical conceptual framework, was essential to improve outcomes and reduce costs. The items suggested under each of these categories are listed in table 2.3:

Table 2.3: Quality in Clinical Education

Structure	Processes	Outcomes
▪ Number and duration of experiences	Oversight	▪ Student/graduate competency
▪ Timing and sequence of experience	Matching sites and students	▪ Stakeholder satisfaction
▪ Clinical education faculty	Legal protection	▪ Costs
▪ Settings for experience	Supervisory methods	
▪ Supervisory models	Student performance evaluation	
▪ Finance Models		

These five proposals mentioned above regarding the components of clinical education that should be considered to evaluate quality and effectiveness of clinical education have been juxtaposed and are tabulated in table 2.4. Also, since most of these authors have suggested using the CIPP framework to evaluate physiotherapy clinical education – the CIPP framework has been superimposed on their suggestions in table 2.5.

A brief description of CIPP will be provided here to understand how categorisation of the various factors listed by the scholars was done under the CIPP framework; CIPP will be discussed in detail in section 2.4. In CIPP, “context” assesses needs and establishes objectives/goals of the educational programme; “input” assesses the strategies used to establish the goals; “process” refers to the way the designed programme is implemented, thus the evaluation of the implementation process of the educational programme, and “product evaluation” identifies and assesses the outcomes (intended and unintended outcomes, in the short and long term) of the educational intervention to interpret its worth (summative) and merits (formative).

Table 2.4: A Juxtaposed Quality Assurance Clinical Education Guide

CIPP	Higgs (1993)	Stachura et al (2000)	Strohschein et al (2002)	McCallum et al (2013)	Jette et al (2014)
CONTEXT =needs =goals =objectives **(structure)**	Students: - Their abilities, needs and interests Resource people, and resources in the clinical education setting: - lecturers - clinical educators and other people who participate in clinical education - the site where clinical learning occurs - material resources and facilities at the clinical site - learning climate: a conducive learning environment The clinical education programme: - goals - organisation - design - amount of time spent in clinical training	Needs of the stakeholders: - students - clinical educators clinical managers	- A shared philosophy which includes both the process and product of clinical education The ability to accommodate students in a resource limited environment	Clinical education framework Assessment in clinical education: - clinical instruction site Clinical education sites: - interprofessional practice - productivity Clinical education faculty (staff members): - demographics - characteristics of clinical instructor - education needs	- Number and duration of experiences - Timing and sequence of experience - Clinical education faculty - Settings for experience - Supervisory models - Finance Models

CIPP	Higgs (1993)	Stachura et al (2000)	Strohschein et al (2002)	McCallum et al (2013)	Jette et al (2014)
INPUT = evaluation of educational strategies	Learning activities, supervision - Learning activities by clinical educators to enable learning - student supervision Links between clinical and academic programmes: - Development of clinical educators Assessment and feedback: - Constructive feedback based on evaluation of student - Encourage students to reflect on performance		Learning activities: - Facilitation of the integration of theory and practice at the clinical learning site. - Development of non-technical skills, with reflection and life-long learning underscored. - Formal clinical educator training	Structure of clinical education: - international - models - sequencing - standards trends	- Supervisory methods
PROCESS = programme implementation overview		Clinical education administration	- Quality assurance processes to assess and enhance the consistency and effective of clinical education processes		- Oversight - Matching sites and students - Legal protection
PRODUCT = assesses outcomes & impact	Summative assessment of student performance Evaluation of use of training time Evaluation of the clinical education programme Determining the programme's effectiveness (teaching and learning)	- How students learn - Perception of students clinical learning experience	Mutually beneficial student-supervisor relationships -	Assessment in clinical education: - student	- Student performance - Student/graduate competency - Stakeholder satisfaction - Costs

A concise version of the above clinical education guide or framework is outlined in table 2.5.

Table 2.5: Condensed Clinical Education Quality Assurance and Evaluative Framework

Context (needs and objectives = structure)	**Input** (educational strategies to achieve desired result)	**Process** (implementation and quality monitoring)	**Product** (outcome/evaluation)

Needs of stakeholders:
- students
- clinical educators
  – demographics
  – characteristics
  – education needs
- clinical managers
	Teaching/Learning activities – technical skills:
	- Facilitation of the integration of theory and practice at the clinical learning site
	- Learning activities by clinical educators to enable learning
		Quality assurance processes:
		- to assess and enhance the consistency and effectiveness of clinical education processes
			Evaluation of the clinical education programme:
			- Determining the programme's effectiveness (teaching and learning)

Resources: - people (clinical educators/lecturers/ - Interprofessional team) - clinical sites/setting for experiences - resource limited environment (rural setting) - material resources and facilities	Development of non-technical skills: - reflection/self-awareness - life-long learning - professionalism - self-management (time management)	Stakeholder satisfaction: - students (perception of learning experience) - clinical educators - clinical manager	Student/graduate competency: - Summative assessment of student performance
Learning environment/climate/site: - conducive to learning - interprofessional practice - productivity	Supervision / supervisory methods: - student supervision/supervisory model	How students learn	Costs
The clinical education programme/ framework: - A shared philosophy of clinical education - Goals - Organisation - Design - No. and duration of experiences - Timing - amount of time spent in clinical training - Sequence of experience - Supervisory models - Finance models - Legal protection	Assessment and feedback: - Student performance evaluation - Constructive feedback based on evaluation of student - Encourage students to reflect on performance	Evaluation of use of training time	
	Links between clinical and academic programmes: Development of clinical educators /formal clinical educator training	Clinical education administration: - Oversight - Matching sites and students	
		Evaluation of clinical instruction site	
		Student-supervisor relationship	

Upon review of tables 2.4 and 2.5, the following is noticed: the structure of the clinical education programme complements the *Context* (the needs and objectives/goals). Activities aimed at attaining the goals accompanies: *Input*; *Process* involves the implementation, and quality review of the specific clinical education activities, and administrative requirements, while *Product* evaluates the outcomes of the specific activities, and impact/effectiveness of the whole programme (figure 2.3).

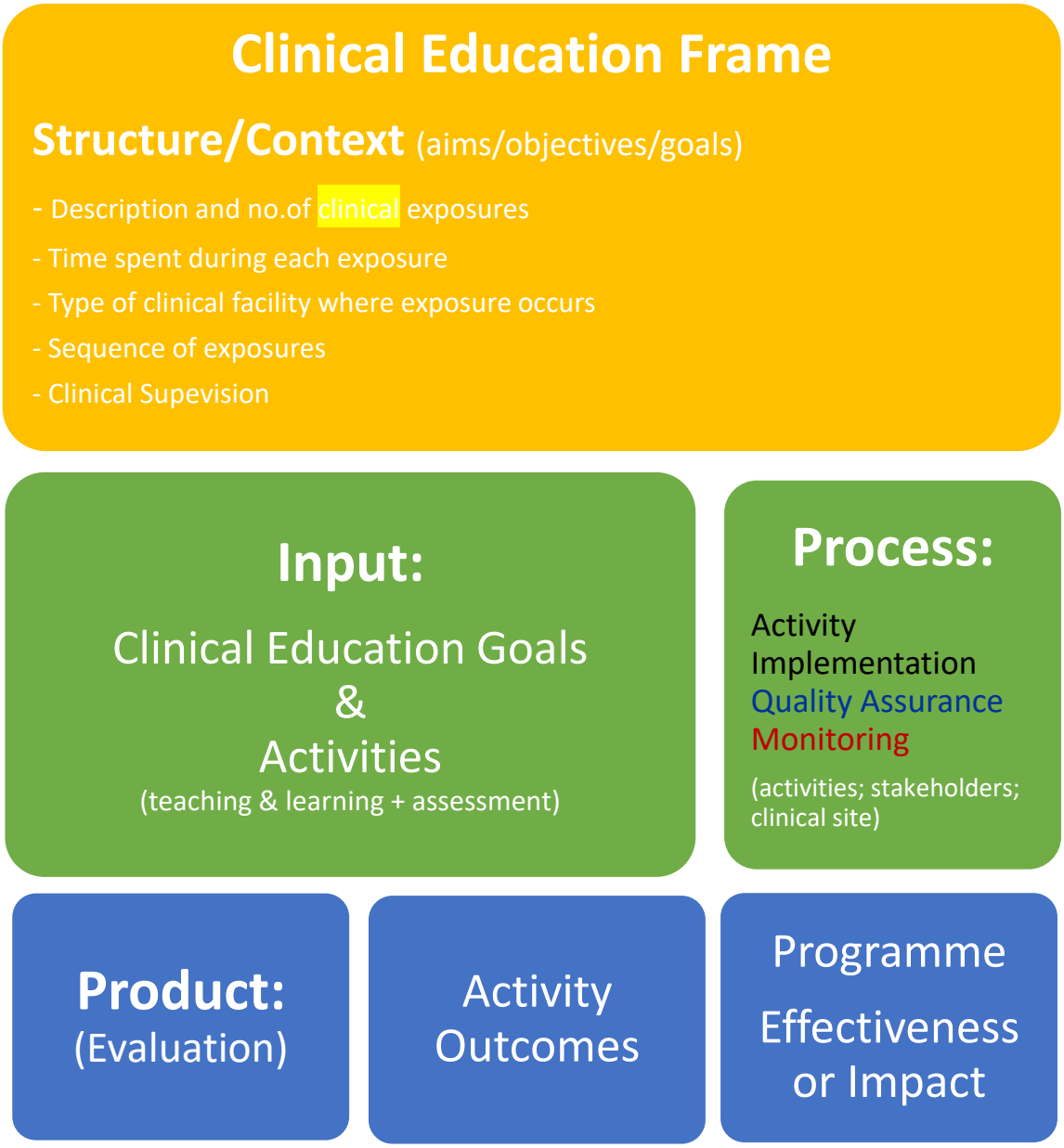

Figure 2.3: Clinical Education Frame

The quality of clinical education can only be defined and measured if standardisation in structure, processes and outcomes exists in physiotherapy programmes; for example, regarding structure – standardise the number and duration of clinical education experiences;

in process, standardised forms for communication of important information with clinical sites or standardise supervisory models that allow for student autonomy over time. With regard to outcomes, use a standardised national student evaluation form and standardised tools to assess stakeholder satisfaction with clinical education (Jette *et al*., 2014). All scholars mentioned in this section (section 2.3) share the same view with similar recommendations.

In conclusion, scholars have asserted that a lack of standardisation in the structure and processes of clinical education, more so than outcomes, impact the ability to define quality and evaluate physiotherapy clinical education. Furthermore, the lack of consensus regarding what to measure, and how to measure components of structure; process and outcome, as well as the lack of a reliable measuring tool/s, amplifies this problem. Holistic evaluation of clinical education must examine the structure, process and outcome of clinical education using a valid and reliable tool (standardised measure). Next, programme evaluation will be discussed.

2.4 PROGRAMME EVALUATION

2.4.1 Definition and Purpose

Programme evaluation is a systematic method for collecting, analysing, and using information to answer questions about projects, policies and programme's effectiveness and efficiency (Stachura, Garven and Reed, 2000; Persky, Joyner and Cox, 2012). It is more than just the outcome of a programme; it is the context within which the measurement of the outcome occurs (Metcalfe, Aitken and Gaff, 2008). Frye and Hemmer (2012) define programme evaluation as the *"*systematic collection and analysis of information related to the design, implementation, and outcomes of a program, for the purpose of monitoring and improving the quality and effectiveness of the program'' (Frye and Hemmer, 2012, p289). Thus, programme evaluation aims to determine factors that impact a programme contributing to its' intended or unintended outcomes (Owston, 2008; Frye and Hemmer, 2012). Programme evaluation is required for accreditation purposes, accountability and funding sources to whom educators are answerable (external sources). Internally, programme evaluation is done to improve programmes (Frye and Hemmer, 2012). Effective programme evaluation recognises the intricacy of the non-linear educational process and provides the opportunity for steps to be taken to address the results of the evaluation (Owston, 2008; Frye and Hemmer, 2012). Furthermore, programme evaluation ensures that the programme remains locally and globally relevant (Veasuvalingam, 2012)

The field of evaluation is vast and complex and includes numerous evaluation theories and models based on the purpose of evaluation (Mathison, 2005). Frye and Hemmer (2012) and

Owston (2008) have narrowed the field for programme evaluation and provide an overview of educational programme evaluation.

2.4.2 The History of Evaluation

Owston (2008) provided a detailed account of programme evaluation: Prior to the 1970's programme evaluation started by measuring programme objectives to determine if objectives were met. As evaluation needs grew during the 1960's and 1970's this progressed to evaluation models that provided accountability data, measuring programme goals. Advancement in evaluation progressed steadily and Scriven (1972) indicated that only looking at programme goals was short-sighted, and other programme outcomes were equally important. This subsequently led to more in-depth programme evaluation and included considering both intended and unintended programme outcomes (Frye and Hemmer, 2012; Owston, 2008). The 1970's was also the period where Scriven (1972) described the terms *formative* (assessing the merits of a developing programme) and *summative* (assessing the outcomes of a completed programme) evaluation (Owston, 2008), which are still used today (Frye and Hemmer, 2012). However, Suchman (1967) argued that the processes leading to the programme's outcomes are equally important as the attainment of goals (outcome). This process model was demonstrated by Weiss (1972) who showed how processes led to goal attainment and the desired outcome – commonly known as Program Theory Evaluation (PTE) or the logic model. This logic model of evaluation required evaluators to determine the reasons for the observed changes. In 1973, the decision-making evaluation approaches emerged: CIPP (context, input, process and product) model developed by Daniel Stufflebeam (1973), and the Utilization-Focused Evaluation model developed by Patton (1978). The CIPP model of evaluation utilised the formative and summative evaluation system in its evaluation method and covered a wide range of evaluative foci assessing programme needs, implementation strategies, processes and impact. The Utilization-Focused Evaluation model was an approach to evaluation rather than a model, and specifically included decision-makers in the evaluation process, unlike other models, because the decision-makers largely ignored the outcome/s of the evaluation, and "evaluation report audiences". Also, this model stipulated that evaluators work closely with the decision makers in the evaluation design (Owston, 2008) – the objectivity of this approach appears to be questionable.

The decision-making process of evaluation by Cronbach (1980) was the focus in the 80's, emphasising the political context (policies) of decision making – "a policy-shaping community". This process of evaluation considered the evaluator as a teacher providing continuous feedback to the client on the evaluation process and lastly, the outcome of the evaluation, but without judging the merit of the programme or providing recommendations.

Evaluation models that focused on data collection methods, analysis and interpretation also gained momentum during the 80's where the evaluators had the freedom to choose the data collection method – quantitative or qualitative - referred to as "naturalistic or qualitative" – an example being ethnographic evaluation, which used a qualitative data collection process, and reported to programme stakeholders, or the connoisseurship model – a critical judgment based evaluation of the educational programmes' quality (Owston, 2008). In the late 90's and early 2000 the Kirkpatrick's four-level evaluation model gained popularity (Frye and Hemmer, 2012 and Owston, 2008). This model does not incorporate decision makers, or the naturalistic approach; it largely focuses on learner outcomes in educational programmes – an important component of programme evaluation as students are major stakeholders in educational programmes (Veasuvalingam, 2012), however, not the only component of a programme. This model reflects a linear-reductionist approach (discussed in 2.4.3), which assumes that the outcome observed is directly linked to the educational programme, but it does not take into account any factor that can affect learning (Frye and Hemmer, 2012) – a significant gap that is likely to produce erroneous conclusions about the impact of an educational programme and secondly, only one aspect of the programme is reviewed. Therefore, conclusions about the entire programme cannot be supported using this model.

2.4.3 Theories that Inform Educational Programme Evaluation

Healthcare education programmes are complex and diverse. They are affected by many internal and external factors like students, accreditors, staff, employers; professional practice associations; the evolving nature of information and the environment in which educational programmes operate, and therefore require an evaluation model that is responsive to complexity and diversity. The theories that informed the framework of educational programme evaluation models were theories that informed the thinking about science and knowledge rather than educational theories. These theories included the Reductionism theory, the Systems Theory and the Complexity Theory (Frye and Hemmer, 2012).

In Reductionism there is a scientific approach to evaluation – the cause-effect approach: the outcome can be predicted by evaluating and understanding its components – a linear, proportional relationship that can predict changes in a programme. This linear approach suggests that once the factors that impact programme outcomes are known – the programme's success or lack thereof can be explained (Frye and Hemmer, 2012).

The Systems Theory on the other hand embraces the complexity of educational programmes by demonstrating the "whole is greater than the sum of its parts", that is the outcome of an educational programme is more than the summation of its various parts. The foundation of this theory is the relationship between and among the various parts of a programme, the

organisation of the various parts and the environment (context) – a dynamic and continuously changing relationship, representative of an open system. In an open system change is the norm and outcomes can be reached in various ways and from various directions – the open systems theory embraces that change is inevitable compared to a closed system where no change occurs. Therefore, the evaluation of an educational programme should be consistent with the open system theory, as educational programmes are continuously changing dynamic systems (Frye and Hemmer, 2012).

The Complexity Theory appears to embrace the open systems theory by providing a platform for anticipating change, ambiguity and complex interactions of multiple components that is consistent with healthcare education programmes. Educational programmes and their outcomes cannot be explained by examining the individual components of the programme separately, that is via a reductionist/linear method. The inter-relations of all components of the programme need to be examined. Examining each component of the programme separately will not be able to explain the outcome because in educational "the program's whole is greater than the sum of its parts" and the complexity theory allows for this intricate examination. The complexity theory forces evaluators to acknowledge the complexity of educational programmes - therefore evaluators must choose an appropriate programme evaluation method that accommodates the intricacy of the programme, and the complexity theory ensures this (Frye and Hemmer, 2012).

In conclusion, programme evaluation models that do not embrace the complexity theory should not be used to evaluate educational programmes because of their intricate and diverse nature which is impacted the by inter-relations of all their components. Frye and Hemmer (2012) assert that programme evaluation should be designed to determine change, because educational programmes are not static. Change can be intended or unintended and evaluation should investigate both. Also, educational programmes are complex and non-linear, hence small changes in any part of the programme can impact outcomes and processes. Again, evaluation models must be chosen such that change, and the complexity of the educational process can be evaluated.

2.5 EVALUATION MODELS

There appear to be six approaches to educational evaluation: Goal-based evaluation; Goal-free evaluation; Responsive evaluation; Systems evaluation; Professional review and Quasi-legal. Goal-based and system-based approaches seem to be mainly used (Frye and Hemmer, 2012; Eseryel, 2002). Apart from the systems evaluation, all the other evaluation approaches are based on a linear approach: cause-effect relationship (reductionism) and are

not appropriate for the evaluation of educational programmes because of their diverse and complex nature.

Frye and Hemmer (2012) have shown that the most common evaluation models used in educational evaluation follow the same trend of reductionism – these include the experimental/quasi-experimental models; Kirkpatrick's four-level evaluation mode and the Logic model. The CIPP (context/input/process/product) model on the other hand, is based on the systems theory and the complexity theory to some extent and has been advocated to evaluate health science/health care educational programmes because of its ability to detect change and address the complex nature of educational programmes (Frye and Hemmer, 2012). Eseryel (2002) however, disagrees by stating that "system-based models may not represent the dynamic interactions between the design and evaluation of training," a view not shared by several scholars (Jette *et al*., 2014; Frye and Hemmer, 2012 Strochschein *et al*., 2002; Higgs, 1993).

Daniel Stufflebeam initially developed CIPP to enable programme improvement (Stufflebeam, 2003; Frye and Hemmer, 2012), but it has evolved to provide both summative and formative evaluations, and can be used in a wide variety of educational and non-educational contexts (Zhang *et al.*, 2011; Frye and Hemmer, 2012). CIPP by incorporating four evaluative processes: context, input, process and product, can accommodate the complex and dynamic nature of educational programmes. Thus, CIPP can commence at the planning stage (context), and at the overview stage of a programme, providing formative and summative information. The first three components of CIPP lead to formative evaluation (improvement of a programme), while the last component – product, provides information on the value of the programme (summative) (Stufflebeam, 2003; Zhang *et al.*, 2011). Formative information assists with decision making and quality assurance, while summative information provides information on the programme's value, integrity and significance (Stufflebeam, 2003).

In CIPP, **context** assesses needs and establishes objectives/goals of the educational programme; **input** assesses the strategies used to establish the goals; **process** refers to the way the designed programme is implemented, thus the evaluation of the implementation process of the educational programme, and **product** evaluation identifies and assesses the outcomes (intended and unintended outcomes, in the short and long term) of the educational intervention to interpret its worth (summative) and merits (formative) (Stufflebeam, 2003).

2.5.1 An Evaluation Model for Physiotherapy Clinical Education

Higgs, nearly three decades ago stated that physiotherapy clinical education programmes operate like systems and therefore CIPP (Context; Input; Process; Product) is an appropriate evaluation model (Higgs, 1993), and this has been echoed by various authors (Frye and Hemmer, 2012; Strochschein *et al*., 2002), because CIPP is capable of attuning to the complex and dynamic nature of clinical education. Even though CIPP seems to be the most suitable option, the **'how to**' of this evaluation model was not made explicit by all scholars who advocated for its use – only the generic '**what**' (context; input; process and product) that was outlined by Stufflebeam (Frye and Hemmer, 2012; Strochschein *et al*., 2002; Higgs, 1993). Stufflebeam provided the theoretical frame of the different components that should be evaluated, but the evaluation methods or tools for each category of this model is largely missing (Stufflebeam, 1973) . Eseryel (2002) explicitly stated that none of the evaluation models provided evaluation tools, nor was a comprehensive description of the processes involved in each step, provided.

As mentioned in section 2.3, all researchers who have advocated for CIPP in evaluating physiotherapy clinical education have not outlined the 'how to' and the 'what specifically' for each CIPP category in physiotherapy clinical education (Frye and Hemmer, 2012; Strochschein *et al*., 2002; Higgs, 1993). Frye and Hemmer (2012) are the only authors who explained the various CIPP steps more clearly and suggest possible data collection methods for each CIPP evaluation step, making it more understandable and less daunting, but they did not describe the specific components of physiotherapy clinical education under each evaluative foci that required scrutiny. Even though CIPP can accommodate the fluctuating nature of educational programmes, and the usefulness of CIPP in educational programme evaluation has been well documented (Frye and Hemmer, 2012), it has yet to mirror the complexities of clinical education. The complexity of clinical education or "service-learning" has been emphasised by Zhang et al (Zhang *et al.*, 2011).

The literature exposes the complexity of programme evaluation, as well as the intricacy surrounding physiotherapy clinical education evaluation. Programme evaluation requires deep understanding of evaluation models in order to effectively apply them to a programme (Eseryel, 2002; Owston, 2008; Frye and Hemmer, 2012). Even though most stakeholders want to know if the desired/intended outcomes are achieved – product-based evaluation, evaluators, are more concerned about the processes involved in achieving the intended outcomes (process evaluation), and this is suggested to be more appropriate in physiotherapy and occupational therapy "fieldwork" (Stachura, Garven and Reed, 2000). The literature confirms that not only should the intended outcomes be evaluated but also the unintended outcomes, as influences in programme processes may adversely affect

programme outcomes (Owston, 2008; Frye and Hemmer, 2012). Equally significant and needed are valid and reliable evaluation tools, to facilitate the complex evaluation process (Metcalf *et al*., 2008).

2.6 THE PINNACLE AND CULMINATION OF PHYSIOTHERAPY EDUCATION

Developing and producing a graduate/health care worker with the "highest standards of academic and clinical excellence, who are responsible, innovative, critically thinking professionals committed to meeting the health needs of all communities appropriately and cost-effectively" (Wits Physiotherapy, 2011) is the pinnacle of the undergraduate physiotherapy degree programme, and links to WHO's (2007) health workforce building block: "a well-performing health workforce is one that works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given available resources and circumstances"

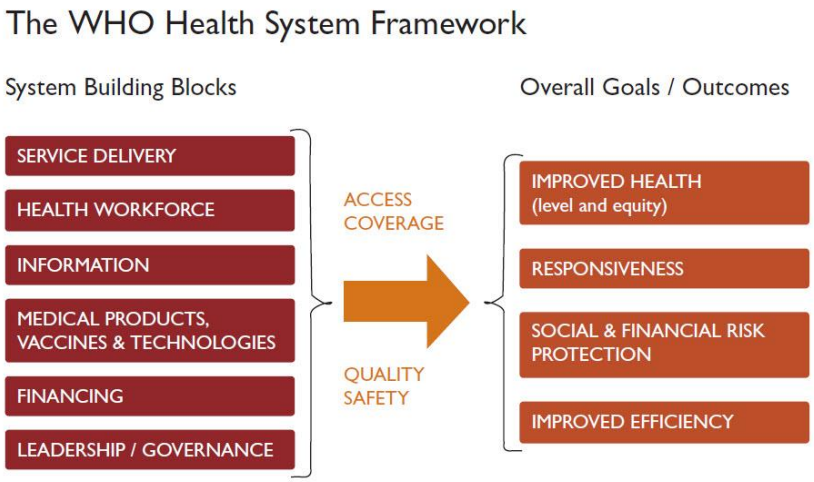

Figure 2.4: The WHO Health System Framework

(*WHO, 2007*)

Programme evaluation will determine, among many goals, if the competent graduate is produced with the ability to meet the demands of changing healthcare needs, providing responsive, efficient and equitable healthcare. The patient (end-user of the health system) consequently encounters a competent healthcare worker who aims to achieve the best outcome for the patient. Programme evaluation therefore strengthens the *health workforce* building block, in WHO's (2007), Health System Framework.

Stufflebeam's CIPP (2003) can thus be taken one step further – to investigate IMPACT – the impact on the health care user: The **Patient.**

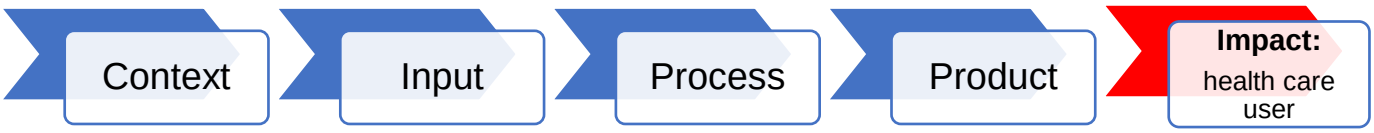

Figure 2.5: Extending CIPP to Include Impact

Impact evaluation will aid in determining the effectiveness of a physiotherapy clinical education training programme by determine if the graduate/health worker delivers responsive, efficient and equitable healthcare.

2.7 TOOL DEVELOPMENT

The use of standardised outcomes measures in health care is well known and widely used. There are valid and reliable measurement tools that are used to assess current health status or needs, provide baseline data, track change, provide information on quality and impact of interventions, and are used to make improvements to outcomes (Herbert *et al.*, 2005; Copeland, 2009; Ashworth, Guerra and Kordowicz, 2019). However, in programme evaluation there are no standardised tools available to evaluate a programme, albeit there being frameworks that can be followed, for example, CIPP.

The aim of this study was to develop a valid and reliable tool that can be used to evaluate the effectiveness of a physiotherapy undergraduate clinical education programme. Even though many evaluation tools are available overall, however valid and reliable standardised tools are not always available in specific contexts and hence are required to be developed (Kumar, 2015). In chapter 3, tool development will be discussed in detail.

2.8 CONCLUSION

Several scholars have affirmed the complexity of physiotherapy clinical education, and the difficulty in determining the quality of a physiotherapy clinical education programme. Several evaluation models exist, however most have a linear/reductionist approach to evaluation, looking for a cause-effect outcome, which cannot be applied in complex health care educational programmes, due to the simplicity of the linear/reductionist approach. CIPP has

been advocated by several authors to evaluate physiotherapy clinical education because it is embedded in the systems and complexity theory and therefore, can evaluate complex and dynamic health care education programmes. - however, no consensus has been reached in physiotherapy clinical education regarding the specifics that must be evaluated under each CIPP category: context, input, process and product. Therefore, a valid and reliable tool is needed for this evaluation process.

Programme evaluation will establish the effectiveness of a programme, as well as the intended and unintended outcomes which impacts the programme positively and negatively. Monitoring and evaluation of physiotherapy clinical education is more than just about the development of competent graduates, it's about producing a competent workforce that can provide a health care service that is "responsive, fair and efficient to achieve the best health outcomes possible, given available resources and circumstances" (WHO, 2007, pIV) – a health workforce that is locally relevant and internationally competitive.

CHAPTER 3

3. JUSTIFICATION OF METHODOLOGY

3.1 INTRODUCTION

Researcher predisposition, the theoretical framework and the justification of the methods used in this study will be discussed in this section.

3.2 DECLARATION OF BIAS

Since 2010, upon joining academia, I have been involved in clinical education as the undergraduate clinical education coordinator. One of the first questions that I deliberated as a new academic was 'how good is this clinical education programme?' and 'how can this programme be improved?' This led me to visiting some of the physiotherapy academic programmes in South Africa to investigate their undergraduate clinical education programmes in order to benchmark the Wits clinical education programme. The disparity in the structure and processes were glaring and hence comparison was impossible – I could not compare "apples with apples". I researched programme evaluation extensively, nationally and internationally, and discovered that there were no standardised tools that can be used to evaluate a physiotherapy clinical education programme. Academics both locally and internationally were contacted to enquire if they had a tool that they use to evaluate a clinical education programme, and none had such a tool. It was at this point that I decided to develop a tool that can evaluate a physiotherapy undergraduate clinical education programme in order to determine its worth. As the new clinical programme coordinator, I needed unwavering evidence about the clinical education programme at Wits Physiotherapy department - was it a good programme or not; were the programme goals and objectives met; if and where the gaps were, and most importantly how to improve the clinical learning experience for our students. This thus led to the development of this study using a critical lens and my community of practice.

Being immersed in the physiotherapy clinical education programme at Wits gives me insight into structure, process, and outcome of a clinical education programme which I think needs monitoring, as well as where quality assurance may be needed. However, I am unable to evaluate the processes involved in a clinical education programme. I believe that all stakeholders (physiotherapy students/new graduates; clinical educators/clinical supervisors; physiotherapy clinical managers and lecturers) immersed in a physiotherapy undergraduate clinical education programme can provide valuable insight into quality assurance and monitoring and evaluation of an undergraduate physiotherapy clinical education programme. The views of these stakeholders will either confirm, negate, or bring new knowledge in,

compared to my thoughts and views regarding quality assurance and monitoring and evaluation of an undergraduate physiotherapy clinical education programme.

My biases as a clinical coordinator are also curbed by conducting focus group discussions which begins a broad statement and by engaging in inductive data analysis. Focus group discussions allows the conversation to flow freely with occasional steering if a participant moves on tangent. Inductive data analysis eliminates any presumptions or inferences that I could possibly make from the information obtained. Also, having more than one coder to analyse the data further curbs my biases. Hence the development of a new tool is grounded in the views of the participants and not mine (also refer to section 4.2.4, p39-40, on reflexivity).

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3.3 THEORETICAL FRAMEWORK: PRAXIS AND COMMUNITY OF PRACTICE

A community of practice (Wenger, 2010), and praxis "reflection and action upon the world in order to transform it" (Freire, 2017, p. 51), described by Freire forms the theoretical framework of my study. Praxis is the critical thinking that combines reflection and action – a process of acting in practice, whilst acting within a theoretical framework of thought, better known today as critical pedagogy (Akbari, 2008; Guilherme, 2017).

A community of practice is described as a group of people who identify and interact with one another over time, based on a common goal or idea or activity. People in a community of practice share a common way of doing or approaching things - practice/praxis (Wenger, 2010).

Similarly, engaging in a community of practice (focus groups), I used this critical reflection process (dialogue and critical thinking) to develop a tool in the absence of a valid and reliable one which could evaluate a physiotherapy undergraduate clinical education programme, specifically. By using this critical reflective lens, focus group discussions of diverse voices within a community of practice (Wenger, 2010), as are independent reviewers: co-researchers and a qualitative methodological expert (refer to chapter 4 [section 4.2.3.3.1], page 37) , my inherent biases as a physiotherapy clinical coordinator, was continuously questioned throughout the development of this tool. This ensured that my daily practice as a physiotherapy clinical coordinator did not influence or compromise the objectivity of the data obtained to develop the final tool.

I wanted to answer the following questions "how good is this clinical education programme?" or "are the goals and objectives of the clinical education programme achieved?" or "how can the clinical education programme be improved?" My tenet was that monitoring and evaluating

the structure and processes of a physiotherapy clinical education programme were specifically required, by way of a standardised tool – a tool that all physiotherapy academic departments, nationally and internationally, can use. This would enable us to insert quality assurance measures in our clinical education programme where required; to ensure high quality clinical education experiences for our students, and to benchmark. And this could be achieved using this critical lens of praxis within a community of practice.

Furthermore, those nagging questions mentioned above spoke to the *structure*, *processes* and *outcomes* of clinical education. But what exactly constituted the items of all these categories – I needed to determine these, and did so in a South African context (a community of practice) and compare them to international trends, even though disparity was found internationally (Jette *et al*., 2014; McCallum *et al*., 2013). The outcome of clinical education – the development of a competent professional, based on the CanMEDS Physician Competency Framework (2015): expert, communicator, collaborator, leader, health advocate, scholar and professional (Frank, Snell and Sherbino, 2015), was the easiest component that could be evaluated off the cuff – however the structure and processes that lead to this outcome, required scrutiny. Thus, to determine the items of each category: structure, processes and outcomes, a mixed methods approach was adopted, outlined by Creswell (2018), and described next (3.4).

3.4 MIXED METHODS APPROACH

An overview of the research method is provided here. In chapter 4, 5, and 6 the details and justification of each methodology chosen has been described.

A mixed method approach consists of qualitative and quantitative data which complement each other. Using mixed methods takes advantage of the strengths of each method and enables robust data analysis (Ivankova, Creswell and Stick, 2006). Creswell (2018) described three basic mixed method designs: the convergent design, the explanatory sequential design and the exploratory sequential design. In this study the *exploratory sequential* design was used because it allows for the development of an innovative instrument/tool.

The exploratory sequential design is a three-phase design: qualitative-development (quantitative)-quantitative. It begins with exploring the problem using qualitative data collection and analysis - focus group discussions and thematic content analysis that were used in my study for example. In this way the tool is grounded in the views of the participants and makes it context specific – important to note in qualitative research. Moreover, in

qualitative research the participants choose what is relevant for the conversation and what it means to them regarding the topic under investigation; the researcher can only steer the direction of the discussion, whereas, with quantitative methods/surveys, the researcher chooses the questions and thus predetermines what is important for the topic under investigation (Wenger, 1999). The qualitative results are then used to develop an instrument which is refined using quantitative methodology (clear-cut), for example the Delphi Technique and factor analysis - used in my study. Additionally, testing of the new measure (validity and reliability) is done quantitatively. The final step is to report on the value of the new component (feasibility and utility).

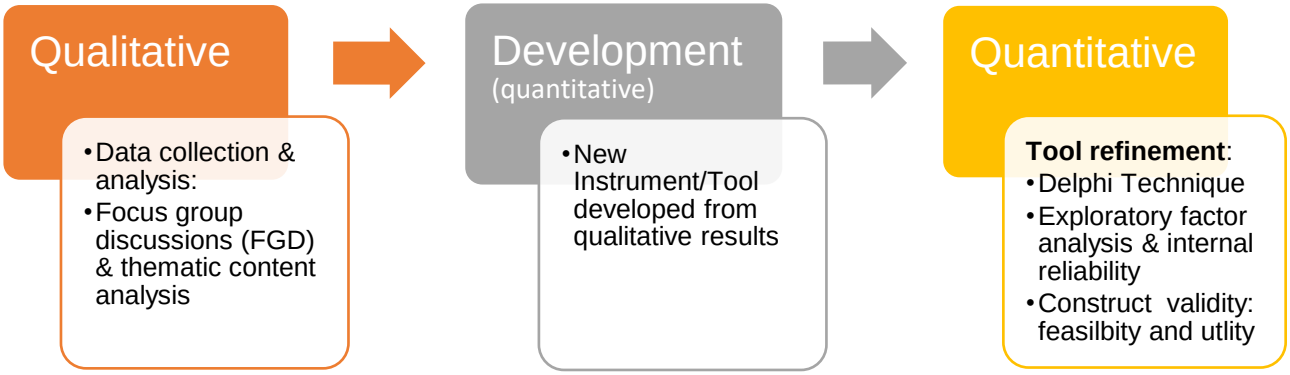

Figure 3.1: The Exploratory Sequential Design

The exploratory sequential design is uncomplicated in its design. The quantitative component adds value to quantitative-biased audiences, and most importantly a new instrument can be produced using this research process. A few challenges of this design include that it can be time consuming; two different samples may be needed, deciding which qualitative results to use, as well as the skill of the researcher in mixed methods research and instrument development – however this cannot be a deterring factor (Creswell, 2018).

Creswell (2018) recommends the following steps when developing an instrument or scale:

1. Review literature or obtain expert panel advice
2. Identify possible items
3. Pre-test items with a small sample using exploratory factor analysis
4. Conduct reliability analysis of scales
5. Administer the survey to a large sample
6. Conduct confirmatory factor analysis of results
7. Use structural equation modelling to identify latent variables
8. Look for evidence of construct validity

This comprehensive design is useful in developing countries like South Africa to determine contextual needs. It also appeals to qualitative researchers because it begins with the qualitative component.

Several standardised tools that were developed followed a similar procedure as outlined above and include: Development of the Daily Living questionnaire (DLQ); review of steps for Development of Quantitative Research Tool; The development of the QUADAS, and the Development and evaluation of a Disease-Specific Quality of Life Measurement Tool for Shoulder Instability (The Western Ontario Shoulder Instability Index - WOSI) (Kirkley, 1998; Whiting *et al.*, 2003; Kumar, 2015; Rosenblum and Josman, 2017).

Figure 3.2 outlines the methodological design and steps used in this study to develop and validate the tool, which will be discussed in chapters, 4, 5 and 6 respectively. Phase 1 of the study, chapter 4 (p29), will be discussed next.

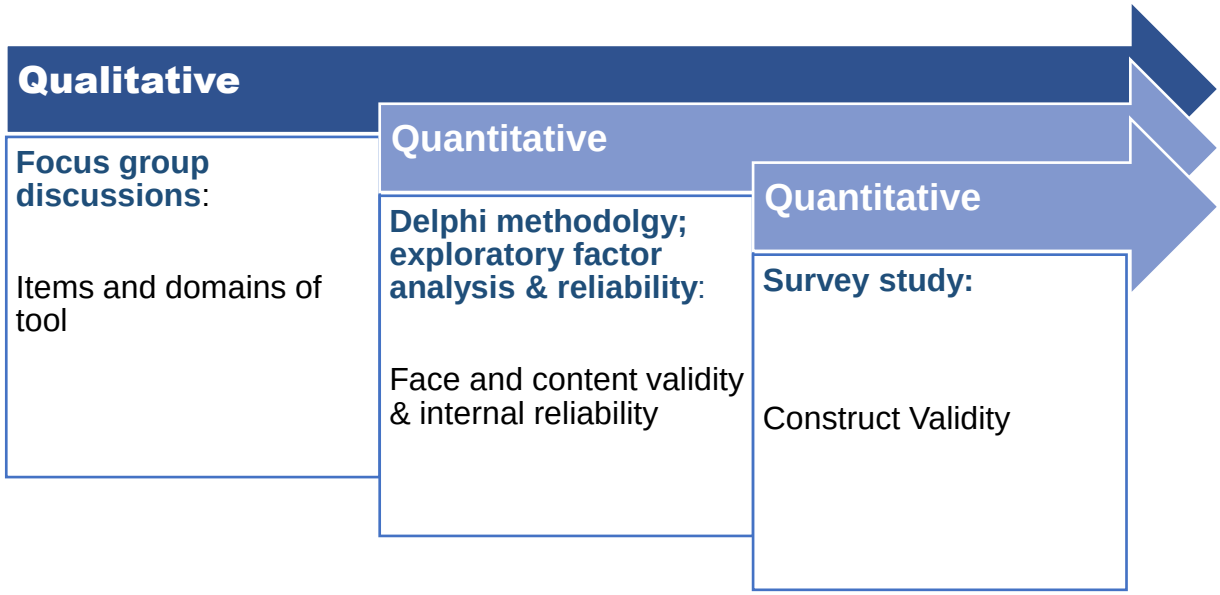

Figure 3.2: The Exploratory Sequential Design in this Study

CHAPTER 4

4. PHASE 1: FOCUS GROUP DISCUSSIONS

4.1 INTRODUCTION

In this chapter, phase one of the study will be described and discussed. The aim of this phase of the study was to develop the items and domains of the tool. These steps led to the development of the items and domains of the tool: (1) developing focus group prompts; (2) conducting a pilot study and thereafter, (3) conducting the main study.

Phase one advanced as depicted in figure 4.1:

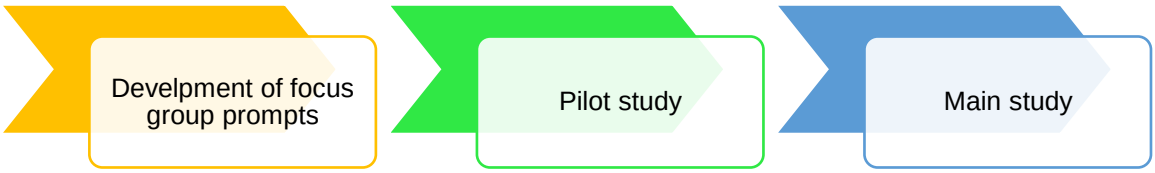

Figure 4.1: Study Procedure of Phase 1

4.2 METHODOLOGY

Ethical clearance to conduct this study was obtained from the Human Research Ethics Committee at the University of the Witwatersrand (Wits) – ethical clearance no. M140706 (Appendix 3). Additionally, a letter requesting permission to collect data was sent to all institutes and departments that participated in this study. Also, an ethics application was submitted to the University of Cape Town (UCT), University of Stellenbosch (US), University of the Free state (UFS) and University of Kwazulu-Natal (UKZN) to collect data at the respective institutes (Appendix 4)

4.2.1 Study Design

This was an exploratory, qualitative study, using focus group discussions (FGD).

4.2.2 Participants

4.2.2.1 Study population and selection

The participants in this study included all stakeholders involved in student training, from all universities and clinical training sites in South Africa. Purposive sampling included physiotherapy academics (PA); physiotherapy clinical managers (PCM) from both the public and private sector; physiotherapy clinical educators (PCE), and community service physiotherapists (CSPT).

4.2.2.2 **Sample size**

All eight universities in South Africa with a physiotherapy programme and their clinical educators were invited to participate in the focus group discussion.

4.2.3 **Procedure**

The procedure of phase one is subdivided into three parts, and is described separately, (see figure 4.1):

4.2.3.1 Part 1: FG prompts

4.2.3.2 Part 2: Pilot study

4.2.3.3 Part 3: Main study

4.2.3.1 **PART 1: Development of the discussion guide/prompt for FGD**

The focus group prompts were developed in part 1 of this phase of the study, as depicted in figure 4.2.

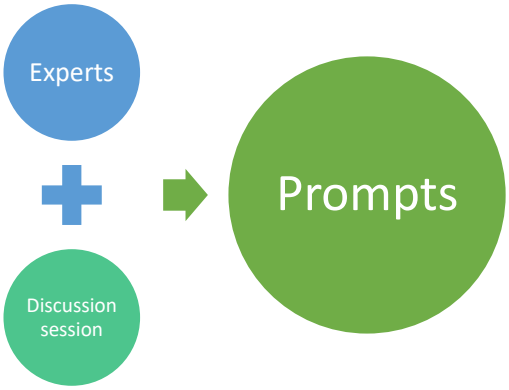

Figure 4.2: Development of the Focus Group Guide/Prompts

Four qualitative experts (three physiotherapists and one occupational therapist – table 4.1 outlines the demographic details), from Wits were consulted through a focus group to develop questions/prompts that were used in the pilot and main FGD. The aim and objectives of the study were presented to the participants. The results of the discussion are presented next (4.2.3.1.1).

Table 4.1 Demographic details of focus group prompt participants (n=4)

Mean Age (SD)	Gender	Qualification	Mean no. of year qualified (SD)	Mean no. of years involved in academia (SD)
53 (±11)	Female	PhD	30.5 (±12)	16 (±7)

4.2.3.1.1 Results: FGD prompts (see appendix 5)

This two-hour session with four senior academics, all of whom had PhDs and who were well versed in qualitative research methodology, generated the following advice on questions and prompts to be used in the FGD:

- **Always start with a 'warm-up' question**:
- **Probe where appropriate**
- **Other questions that could be asked**:
  - What is your experience with clinical education?
  - What are the features of clinical training?
  - How should a clinical education programme be structured?
  - Does the programme allow for diversity in culture?
  - What attributes should a clinical programme encompass?
  - What are the attributes (qualities) of a physiotherapy graduate; what are the more important ones; can you rate them?
  - What should be evaluated in clinical training?
  - What are your thoughts on role modelling?
  - What are your thoughts about clinical supervision/ (what components of clinical supervision do you think are important)?
  - What are your thoughts on reflective practice in student learning?
  - What are your thoughts and experience about institutional support - comments?
  - How do we achieve the balance of nationally responsive and internationally competitive?

- **General Comments** (a few examples are provided here. See appendix 5 for more information that were provided under general comments)
  - Have cues to stop a dominant character
  - Sort attendees carefully from younger to more senior (to stop power differentials), separate the participants and do not have mixed groups, if possible – triangulate the four groups after data are obtained.
  - Have a mixed group if specific groups are not possible (e.g. academics + clinicians)
  - Always ask the who, what, where, when and why questions

- Reflect at the end of a session: should I:
  - ➢ Continue, Stop doing; or Start doing
- Watch body language of the participants

4.2.3.1.2. Conclusion of FGD Prompt session

When conducting a FGD use more open-ended questions and facilitate the discussion by using phrases like “tell me more”; “expand on that” or ‘how did that make you feel”. Use leading questions sparingly and only when specific information is required, because an inductive approach is used. Winke (2017), who investigated the quality of focus group reporting, reiterates this point as he states that a succession of open-ended questions should be used first, while specific questions that delve deeper into the topic or gain insight into unplanned discussions follows later (Winke, 2017).

4.2.3.2 **PART 2: Pilot Study**

4.2.3.2.1 Aim of pilot study

The aim of the pilot study was to practice and improve probing/facilitation skills in order to extract relevant information and improve the observational skills of the researcher.

Figure 4.3 depicts the constituents of the pilot study.

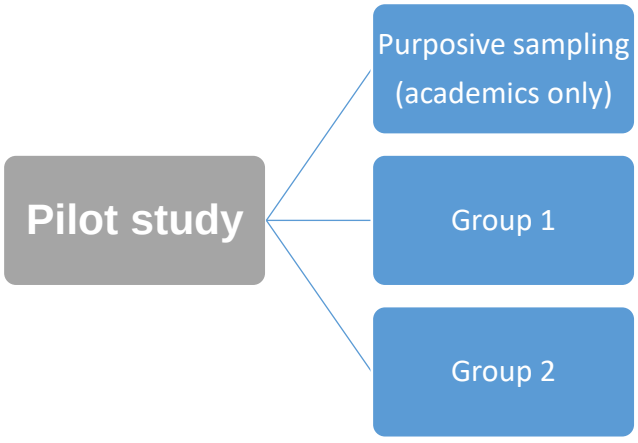

Figure 4.3: Pilot Study Strategy

4.2.3.2.2 Pilot study participants

Academics from Wits were invited to participate in the pilot study.

4.2.3.2.3 Pilot study procedure

The pilot study participants were invited to participate in the FGD at the Wits Physiotherapy Department (Appendix 6). The venue where the FGD was held was set-up to foster collaboration and unity. A relaxed and free-to-talk ambience was aimed for. The chairs were arranged in a circular fashion, with a separate area for refreshments, as well as room to stand or move around, if participants needed to (Winke, 2017). Participants were free to use the bathroom as required.

The aim and objectives of the study and FGD were explained to the participants in both the invitation letter (Appendix 6), as well as in person, prior to the FGD commencing. Written consent was obtained for participation and audio recording (Appendix 7), and demographic information was captured on a separate sheet (Appendix 8). An observer - the research supervisor, was also present during the FGD, whose role was explained to the participants. The aim of the observer was to advise the researcher during the FGD, as well as at the end of the FGD, by using different coloured cue cards only (red, yellow, and white), and the broadly structured script/prompts guide (Appendix 9). The red signified important points that were mentioned during the FGD; the white indicated prompting reminders for the current FGD and the yellow noted reminders for the researcher pertaining to probing and facilitation for subsequent discussions. It was also explained to the participants that notes would be taken by the researcher during the discussion.

Using an inductive approach, the researcher conducted the FGD aided by a broadly structured script (Appendix 9) that was developed prior to the pilot study (Part 1: 4.2.3.1). It was flexible enough to allow the researcher to probe and ask follow-up questions relevant to the discussion. The FGD lasted two hours and the researcher ensured that all key points on the script were explored. The researcher and the observer had a discussion at the end of the FGD to discuss the information captured on the cue cards. Furthermore, reflection guided by the observer was also done using the following concepts: ***continue*** *doing*; ***stop*** *doing* and ***start*** *doing.* All recommendations were noted and incorporated in the main study.

4.2.3.2.4 Pilot study results

The pilot study comprised of two FGD done two days apart. The pilot study participants comprised of five and six participants respectively, and were academics from Wits. Two pilot FGD were conducted because I wanted to practice my probing and facilitation skills more, following the initial pilot study. The two pilot groups comprised of eleven participants all together - Table 4.2 outlines their profile.

Table 4.2: Demographic profile of pilot study participants (n=11)

Mean Age (SD)	Gender		Qualification			Mean no. of year qualified (SD)	Mean no. of years involved in academia (SD)
37.8 (±5.5)	M	F	BSc	MSc	PhD	14.8 (±5.1)	7 (±6.2)
	2	9	2	4	5		

There were five participants in the first pilot group and six in the second. Using a broadly structured script (Appendix 9), the researcher opened the discussion with the following phrase:

"*Tell me about your experience, and feelings as a student regarding clinical training".*

A two-hour discussion ensued with prompts such as '*tell me more*"; "*how did that make you feel?*"; "*hold on to that thought – we will come back to it*"; "*how do others feel about that*?"; *let's talk about … now* (new topic), used.

The observer made the following comments during the feedback session:

- The venue was set up well – circular seating, a relaxed environment with no obstruction
- The refreshments (water, coffee, muffins and chocolate) were appropriate
- The discussion flowed well
- The participants were relaxed and comfortable, and spoke freely
- The researcher did not interrupt the participants unnecessarily
- The researcher must redirect participants when they veer off the topic (in a polite way say: *I hear what you are saying, let's get back to*…..")
- The researcher must summarise points after different issues on the same topic were mentioned

Table 4.3 outlines the notes taken by the observer during the pilot study using different coloured cards to alert the researcher of pertinent points to be considered for subsequent FGD.

Table 4.3: Information Captured on the Coloured Cards by the Observer during the Pilot FGD

	Red important points to note	**White** Prompting required for current FGD	**Yellow** Reminders/guidance for researcher for the next FGD
Pilot 1	Issues not thought about: • Nurse and layout of ward – time-length • Self-directed learning – motivation • Emotional vs skills in clinical supervision • Style of supervision • Supervisor personality • Supervisors – need to be encouraging; compliment	• Spend enough time on single issues	Issue or things left out or not discussed thoroughly: • private vs public placements • confidence • less supervision giving confidence • structured reflection and debriefing discussion • protect the student – screen patient appropriateness
Pilot 2	• Agreed minimum standards • Structure – level/year of study • Formalised structure for clinical supervision • Macro vs micro level structures • Clinical work books • Assessment: - professionalism - ethics - communication - clinical reasoning - ability to set goals - skills: assessment and treatment - document - social context - safe and effective use of evidence - self-directed learning • graduate attributes: - self-directed learning - organisational skills • define role modelling; qualities of role models • have a tick list of what we consider competence, vs effectiveness of the programme	• "Be careful not to be drawn into speciality expertise battles with senior staff academics"	• Elective block – follow up with other institution • Remediation – fail a block - summative - formative

The notes taken by the researcher were used for triangulation of the data. The researcher reflected following both FGD and realised that she needed to learn how to redirect the participants when they go off on a tangent.

4.2.3.2.5 Pilot study conclusion

Good listening, communication and facilitation skills are required when conducting FGD. The selected opening statement must be given due consideration as it is the key to start the conversation. An opening statement linked to an emotion yields significant discussion, and thus should be used as a key tool in FGD. A script is important to help you stay on track as it is very easy to lose control of the conversation. The ability to redirect participants to the focus of the conversation is a skill that requires practice and must be kept in the forefront of the researcher's mind. The ambience is also very important as participants need to feel relaxed and safe- that is, be ensured that confidentiality will be maintained as much as possible within the confines of the group, so that participants can speak freely without fear or judgment.

4.2.3.2.6 My reflection:

- **Continue** with open-ended questions & create a safe and welcoming environment
- **Start** redirecting the conversation as soon as you hear it going off on a tangent. Mention 'house rules' e.g. freedom to move around the room, leave the room for the bathroom; switch cell phones off, before the session officially begins
- **Stop** allowing senior academics to take over the space

4.2.3.3 **PART 3: Main study**

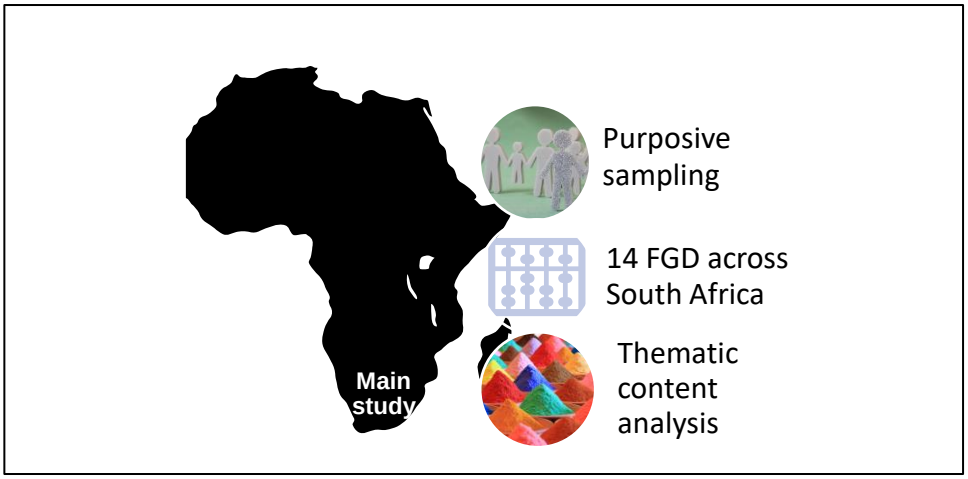

Figure 4.4: Main Study Strategy

Focus group discussions were conducted at physiotherapy academic departments across South Africa (the Western Cape, Free-state, Kwazulu-Natal and Gauteng), as

well as clinical sites in Gauteng where physiotherapy students undertook their clinical training. An appointment (date, time and venue) convenient to the participants was set-up to conduct the FGD after the participants had accepted the invitation to participate in the study. The invitation letters (Appendix 6) were emailed to all participants a year in advance, so that adequate planning for all participants involved could occur. The participants outlined in section 4.2.2.1 consisted of either a mixed group of academics and clinicians or respective groups. The researcher followed the same process of data collection outlined in the pilot study, except that there was no observer in the main study.

4.2.3.3.1 Data management

All FGD were recorded and transcribed verbatim. The demographic information was kept separately from the audio recordings in a locked filing cabinet, and only the researcher had access to the demographic information, while the research supervisors (Professors Aimee Stewart and Douglas Maleka), and transcriber had access to the transcriptions.

Data analysis

The data were analysed using Tesch's (1992) method of data analysis for qualitative research as outlined in figure 4.5 (Vuso and James, 2017). The data were transcribed verbatim by a professional transcriber. The researcher cross-checked the transcripts with the audio recording to minimise errors that could alter the meaning of the data. The transcripts were sent to the participants for verification and were subsequently confirmed as a true account of the focus group discussions. A thematic content analysis was done using MaxQda, version 2018.2 (qualitative data analysis tool): the data were coded, and similar foci were categorised and sub-categorised leading to the identification of themes (Greenwood *et al.*, 2017; Vuso and James, 2017). The research supervisors and an independent, uninvolved researcher (methodological expert) also conducted thematic content analyses on three transcripts. There was a high degree of agreement; minor differences were discussed, and agreements were reached on codes, categories and subcategories. Once all the transcripts were coded, the list of codes and categories were shared with the research supervisors. Themes were independently identified by the researcher, supervisors and another uninvolved methodological expert, and thereafter discussed reaching consensus on minor differences. Triangulation was ensured through member checks; field note comparison, observer reflection and by using independent researchers who assisted with coding and theme identification – "The major aims of triangulation are to provide confirmation and completeness of data by overcoming the biases inherent in a single-

investigator, single theory or single-method approach" (Halcomb and Andrew, 2005, p72). The triangulation method used in this study are data and investigator triangulation (Halcomb and Andrew, 2005; Leech and Onwuegbuzie, 2007).

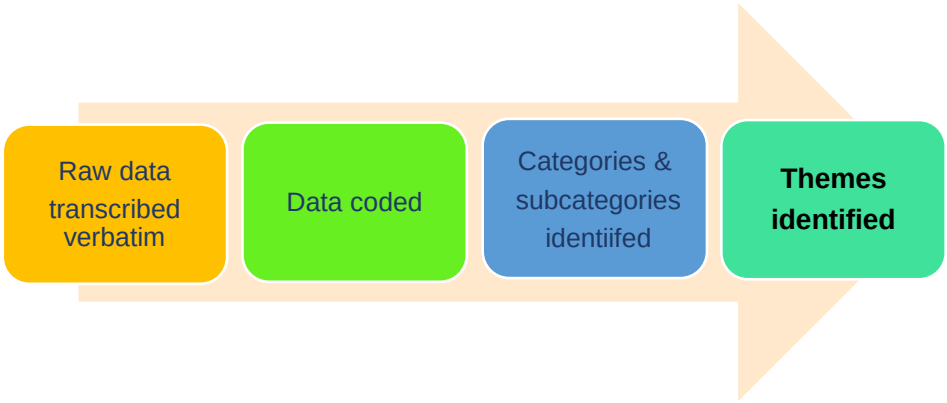

Figure 4.5: Outline of Data Analysis - Thematic Content Analysis

Ensuring trustworthiness

Trustworthiness in qualitative research refers to the validity and reliability of the information obtained (Connelly, 2016). Lincoln and Guba (1985) describe four ways in which the trustworthiness of the data can be established: *credibility, dependability, confirmability, and transferability* (Lincoln and Guba, 1985).

Credibility

Credibility refers to the accuracy and truth of the research findings (Connelly, 2016). Credibility was ensured through triangulation of data. This was done by conferring with the observer, checking the FGD transcripts and comparing them to the notes taken by the researcher during the discussion sessions, comparing codes, categories and themes with the research supervisors and through member checks. Each FGD lasted for two hours, thus prolonged engagement was involved (Krefting, 1991).

Dependability

Dependability refers to the reliability of the data. This was ensured by a panel of qualitative research experts checking the methodological process, the clear data collection process, using an interview guide/script and through the observer. Furthermore, the audio recordings, the transcripts and member checks also ensure the dependability of the data (Connelly, 2016).

Confirmability

Confirmability refers to the objectivity of the findings of the study- that is, the findings are formed by the respondents of the study, and not by the researcher's bias or

motivation (Connelly, 2016). Confirmability in this study was ensured by the inductive coding method and, by the independent coding and theme development by the research supervisors. Additionally, peer examination was also used during the coding process and during the development of the themes (colleagues not associated with this study, who are experts (PhD) in qualitative research, independently coded transcripts and identified themes respectively); peer examination involves discussing the research process and findings with unbiased colleagues experienced in qualitative research (Krefting, 1991).

Transferability

Transferability refers to the extent to which the research findings are applicable to other contexts. Transferability can be ensured through the sample of the study ("nominated sample") and through the content of the data obtained (Krefting, 1991). Focus group discussions were conducted in seven out of the eight physiotherapy academic departments in SA and, also included physiotherapists (clinicians/clinical educators) involved in student training on the clinical platform; therefore, by using purposively sampling and including most of universities in SA with physiotherapy programmes transferability was ensured. Furthermore, because data saturation had occurred by the eighth FGD (14 were conducted in total), this confirmed that the content of the data was "typical of the lives" of the participants (Krefting, 1991).

4.2.4 **Reflexivity**

"Reflexivity refers to assessment of the influence of the investigator's own background, perceptions, and interests in the qualitative research process. It also includes the effect of the researcher's personal history in qualitative research" (Krefting, 1991, p218). I am a physiotherapist who has been working in academia for the last nine years. Prior to joining academia, I was a full-time clinician. I manage the clinical training programme (clinical coordinator) at Wits. This involves interacting with the clinical educators regarding teaching and learning of students during clinical training periods; providing training to clinical educators pertaining to student supervision; sourcing additional clinical sites for student training, troubleshooting, and enhancing the clinical platform.

My position as clinical coordinator predisposes me into the daily intricacies of a physiotherapy clinical education programme and hence my ability to remain impartial regarding any aspect of a physiotherapy clinical education is slight. This was demonstrated during my first attempt at coding in phase 1 of this study when I immediately engaged in deductive coding without a second thought, looking for information which I thought needed/required scrutiny in terms of

monitoring and evaluation; I was corrected by my co-coders (research supervisors and the independent qualitative expert), when codes were being compared. This was the first time I experienced this concept of reflexivity, and truly understood it. I restarted the coding process, line for line, continuously asking the question – what information is the participant conveying with this statement? and thereafter comparing codes of random transcripts with my research supervisors.

The categories and items listed in VN-CPET could have easily been skewed by my position of clinical coordinator if I did not have co-coders who alerted me to the difference between inductive and deductive coding, by code-checking of random transcripts (also refer to section 3.2 – declaration of bias, p24-25)

4.2.5 **Results: Main Study**

4.2.5.1 **Demographic information**

In South Africa there are eight universities that offer a physiotherapy degree: Wits; UCT; UFS; UKZN; UWC; US; SMU and UP. Permission was obtained from all institutes and Physiotherapy Departments who participated in this study to conduct the FGD.

Seven out of the eight universities participated in this study (the university that did not participate in the study did not respond to the invitation to participate, despite several attempts) and three clinical physiotherapy departments – Chris Hani Baragwaneth Academic Hospital; Helen Joseph Academic Hospital (both in Johannesburg) and Steve Biko Academic Hospital (in Pretoria), participated. Thus 14 focus group discussions (FGD) were held across the country.

There were 81 participants in total (including the pilot participants), with approximately eight participants per group. Table 4.4 outlines the demographic profile of the main study participants (excluding the pilot study participants – see table 4.2 for pilot study participants demographic profile). Data saturation was obtained after the eighth FGD, however the researcher continued with data collection to reach a total of 14 FGD, as the appointments to conduct the FGD were set up six to twelve months in advance. Some FGD had a combination of academics and clinicians whereas others were either purely clinicians or academics.

All the audio recordings were transcribed by a transcriber. This was followed by the researcher checking, editing, and analysing the transcriptions. The latter is fully described in the data analysis section (section 4.4.1). The research findings were contextualised and grounded by the participants' experience and perception of clinical education.

Table 4.4: Demographic profile of main study participants (n=69*) – [excluding pilot study participants]

Age Mean (SD)	Qualification obtained				No. of years qualified	Type of Employment			Job title											
	BPT	BSc	MSc	PhD		Academia	Pvt Practice	DoH	Lecturer	Snr Lecturer	Associate Professor	Clinical Educator	Clinical Manager	Clinician			Other		
35.2 (±9.4)					12.6 (±9.4)									CS	Jnr	Snr	Dep Dean	Clin Coord.	Tutor
	3	45	14	7		41	3	28	23	4	1	5	2	11	9	3	1	3	1

*NB. Missing data for 1 participant

Key:

- BPT – Bachelor of Physiotherapy
- BSc – Bachelor of Science in Physiotherapy
- MSc – Master of Science in Physiotherapy
- PhD – Doctor of Philosophy
- Pvt Practice – Private Practice
- DoH – Department of Health
- Snr Lecturer – Senior Lecturer
- CS – community service physiotherapist
- Jnr – junior physiotherapist
- Snr – Senior physiotherapist
- Dep Dean – Deputy Dean
- Clin Coord – clinical Coordinator

4.2.5.2 **Themes**

The themes that emerged from the inductive thematic content analyses were **governance**, **structure** and **experience** (figure 4.6). These themes can be characterised as macro, meso and micro-structures.

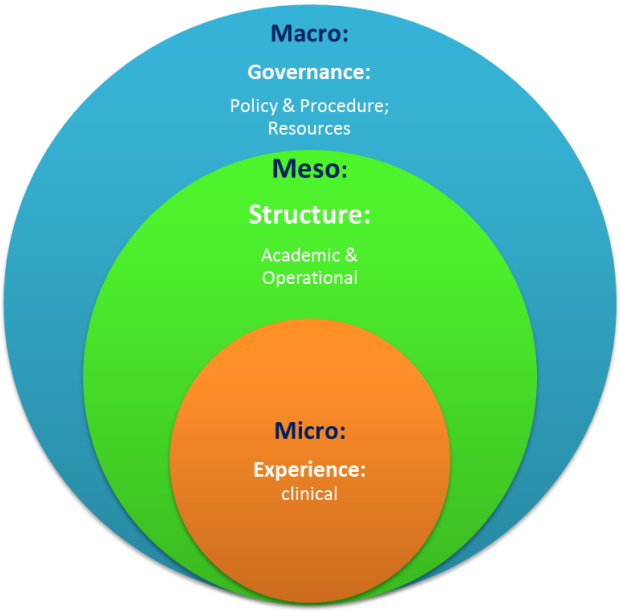

Figure 4.6: Themes that Emerged from the Focus Group Discussions

4.2.5.2.1 Theme 1: Governance

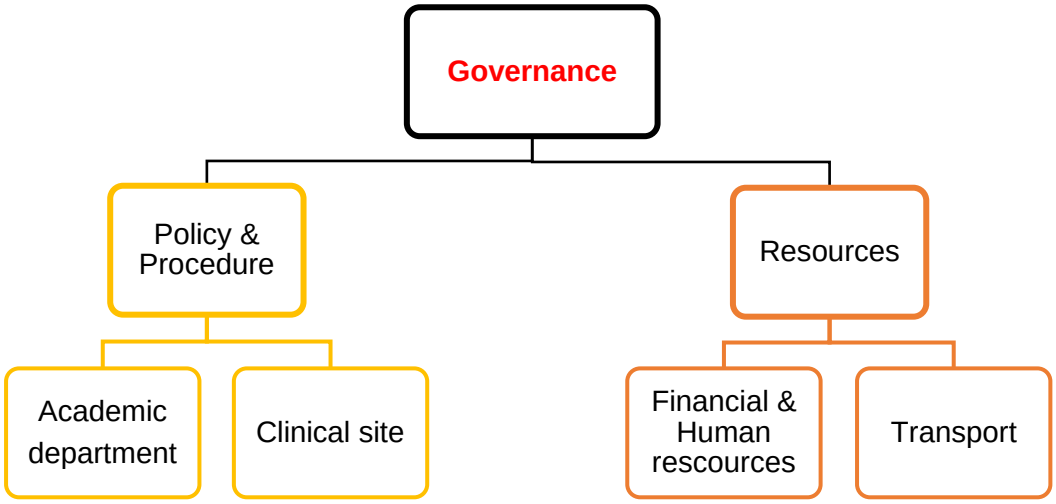

Figure 4.7: Schema of Theme Governance

Table 4.2 shows how the theme of Governance emerged.

Table 4.5: Theme 1 - Governance

Governance			
Category	**Subcategory**	**Code**	**Quote**
Policy and Procedures	**Academic + Clinical Departments**	HPCSA guiding document	*"I think it needs to be done on the basis of an agreed minimum standards for one to be called a physiotherapist. You need to say what should be covered"* Transcript 5 *"The guiding principle should be what is expected as far as a minimum standard training document"* Transcript 5 *"Core standards and our society looking at ...Why the Department of Health mandates priority areas and align with that and taught"* Transcript 7 *"We need to have minimum standards documented for our under-graduates as we don't have any kind of official documentation"* Transcript 7
		WCPT guidelines	*"I think there are a few measures that we do look at. WCPT yes"* Transcript 14 *"WCPT has got information on what should be part of a physio training, you want to include that in your training"* Transcript 5 *WCPT will pull us in the direction that everybody else, internationally, will be going, so we can make sure that we also move our standard up to that level.* Transcript 8
		DoH Policies	*"So I think policy, that's the word, has also impacted the role of clinicians."* Transcript 14 *"I just think the distribution of health services again, where it's happening, has also forced that change*." Transcript 14
		Memorandum of Agreement (MOA) between university and clinical site	"*I think a lot of it has also been tied in red tape and administrative. There is a lot of formality around what the job expectation is and you know, just job description and all that. And I think sometimes we've lost a bit of that, kind of joint responsibility for teaching that we had with clinicians because of administrative steps that has been put into place. So I think policy, that's the word, has also impacted the role of clinicians"* Transcript 14
		Accreditation by regulatory bodies - national (HPCSA) - international (WCPT)	"B*ecause if the HPCSA accredits you and the HPCSA says it does not recognize the standard, then there is a problem*" Transcript 5

Governance			
Category	**Subcategory**	**Code**	**Quote**
Policy and procedure continued	Academic + Clinical Departments continued	Institution Autonomy (even though guidance from regulatory bodies)	*"I think structure is a very dependable thing because even if you look at the training schools that we have here in South Africa, it's structured differently. Some start with clinical education in second year, some start clinical education in the third year and what gets done either in second or third years also differs depending on the universities. I think it should really depend on the strength of the department and what they agree on as a department to say this is how it should be structured and there are no hard and fast rules about what should be done first and what should be done last"* Transcript 5 *"So how we set it up really depends on the institution. You just do it in a such way that you have enough time for the students to be exposed to the necessary clinical conditions, which again are debatable to say what should they be exposed to before they are graduated.* *….but obviously, things like the burden of diseases of the country where one is trained should be taken into consideration when determining what the ideal structure should be for clinical blocks"* Transcript 5
Resources		Financial & human	*"We would not be able to do that if the resources and finances were not around. So there needs to be this kind of a buy-in. Not just at the departmental level but at as faculty and university level as well"* Transcript 12 *"Another challenge maybe that we have this side is staff because when the clinicians are not enough it becomes a challenge to supervise our students"* Transcript 8 *"it would be best if we had an integrated approach but unfortunately all of us have got human resource limitations so that might not always be viable" Transcript 8* *"We all have our own specific challenges because we cannot really compare developing countries to developed countries and the technology and resources that they have there, but I think it is something to aspire to"* Transcript 8
		Student transport	*"So transport. That's important. Ja. Ja for the student. Ja I think it needs to be provided"* Transcript 1 *"It is general anyway, there are likes, dislikes it's a different thing, they also include transport problems, whatever, time management, things like that"* Transcript 8 *"It's a great privilege for our students to have transport so that they don't have to occur their own costs"* Transcript 10

4.2.5.2.2 **Theme 2: Structure**

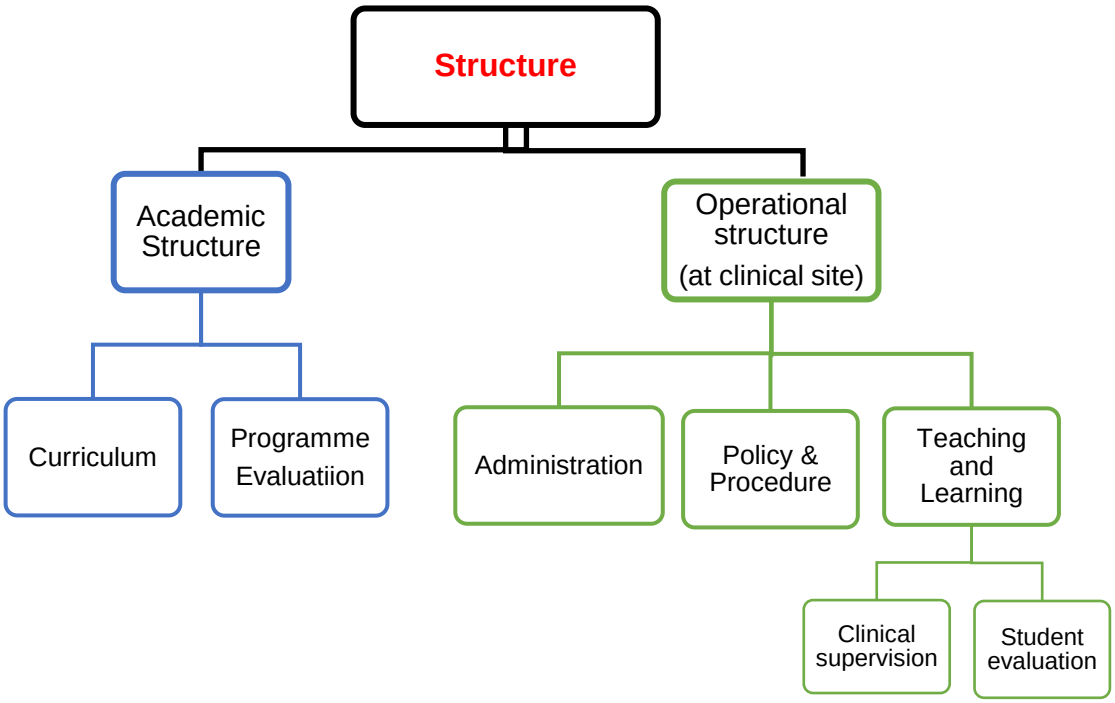

Figure 4.8: Illustration of Theme Structure

Table 4.3 outlines the development of the theme: Structure.

Table 4.6: Theme 2 – Structure

Structure			
Category	**Subcategory**	**Code**	**Quote**
Academic	**Curriculum** (Teaching and Learning)	Clinical exposure - Must mirror curriculum (nationally & globally responsive – burden of disease) - Must be structured, clear objectives & outcomes - Clinical exposure in year 1 & 2 - Theory completed prior to clinical commencement (preparation for clinical practice) - Clinical areas (blocks)/No. of block/silo vs integrated Block/longitudinal block - Length of block (4weeks vs 6 weeks) - Time spent training clinically (in each block - No. of clinical sites/varied exposure (community/primary health care; tertiary; district; private) /diversity; cultural sensitivity	*"My first thought that comes to mind is exposure to the right variety of conditions and situations and patients"* Transcript 5 *"So burden of disease forms curriculum design and pathologies and conditions that are taught and focused on throughout subjects"* Transcript 14 *"So I think structuring must be done in a way that you get to experience whatever that you need to, because at the end of the day if you don't get to see a certain condition you, you end up not knowing it. So I think, I don't know how you must be done, but everybody must get a chance to experience in an equal way"* Transcript 1 *"But I do feel in 1st and 2nd year that there could be more exposure"* Transcript 6 *"Because initially I didn't have the background"* Transcript 2 *"Because a lot of times the theory was lacking* "Transcript 12 *"But there wasn't a lot of preparation about what you are going to see and about what you are going to experience"* Transcript14 *"I think for me in the broad sense, the very broad sense it's the choice of placements. There needs to be a variety to tap into all those things so that students are exposed to all the differences. And you know the one thing that I, I don't know if it's the right time to say this, we can expose our students to everything. But I think as much as we can, it's not a bad thing but I don't think that the expectation should be that we should, that the program would expose students to all aspects of everything including cultural diversity and communication and different kinds of people. There are some things that are going to be, not lacking, but some things that they would not have the opportunity to be exposed to"* (clinical exposure) *Transcript 10* *"I think it would be nice to make the blocks more integrated"* Transcript 10 *"I think particularly as a shortage of clinical sites"* Transcript 7

Structure			
Category	**Subcategory**	**Code**	**Quote**
			"So one should have six blocks all the areas, sports must be a definite area included, an opportunity to have an elective block where you can choose what you want to, in terms of the structure of the clinical programme" Transcript 3 *"When I was a student the clinical rotations did not cover all the clinical aspects of physiotherapy, so if you were lucky you got an ICU placement and if you didn't it was too bad, you just have to make do"* Transcript 7 *"For me, you didn't see everything. One of the biggest gripes that still exists now"* Transcript 7
Academic continued	Curriculum continued	Clinical exposure continued: - Student mentoring & debriefing (student support programme) - Pairing students at clinical sites - Equal opportunity for all students in terms of exposure of conditions and clinical sites - Communication structure – students know who to contact - Language programme (learn different SA languages) - Supervisor training (general & assessment); People committed to student training - External clinical facilitator - Collaborative supervision (lecturer + clinician) - Have a dedicated clinical coordinator (communication	*"And then my worst experience as a, and I also think there wasn't any debriefing of any sort and I really just needed to get over it"* Transcript 14 *"I was mentored by my clinicians when I was a student. There was a very clear sense that they took me under their wing and they mentored me through my clinical placements with them"* Transcript 14 *"Mentorship is very important"* Transcript 12 *"We also had like a mentor...like a peer mentor, so if you are in third year you have a fourth year, if you are in second year, you had a third year and then you somer buy your books from that person and that was just your go-to person that was always a year like older than you and it worked well like like if you struggled with the exams and the lecturers couldn't help you"* Transcript 3 *"I think it was challenging to know what is expected of you of each block when it varies so much from placement to placement"* Transcript 6 *"So that is another huge mammoth issue, is that we don't have enough patients"* Transcript 7 *"Because we would fight and say "I want to be at Red Cross", "I want to be at Groote Schuur", because we had already heard from previous fourth years, of what we would be getting in those blocks, so if we get, at the beginning of the year, and see that your name was not at Red Cross, you know you would, it also depended on your personality, whether you would be placed at Red Cross or not or not in terms of you pushing the work and I would "bulldoze everybody" and you just get to where you want to be, but it creates a lot of animosity to others who do not necessarily have that personality to push things over"* Transcript 7

Structure			
Category	**Subcategory**	**Code**	**Quote**
			"We didn't do the languages, but they have now brought that in and I think it's a really helpful" Transcript 8 "*Can we get support from the university in terms of how to do supervision? How to supervise a student*" Transcript 13 "I think we should have specific guidance of how to do clinical teaching" Transcript 7 *"So I think an important part of structure in terms of supervision, especially if it is not lecturing staff, is to impart some teaching skills to our clinicians, so that they speak the same languages, and we all agree on how things should be done"* Transcript 8
Academic continued	Curriculum continued	Clinical exposure continued	*"The other thing that I think have made a difference in our department is the fact that we actually have a clinical coordinator and when I listen to, in the past when I joined the department, we had to do it over and above our workloads. So we didn't have, yes the clinical coordinator still has his own addition of modules to teach but the fact that there is a clinic person or two people assigned to clinical coordination, we can now have things like the clinical coordinator visiting the placements, auditing the placements. So to me in a program, you need to take clinical education seriously, you also need to put your finances there."* (Dedicated clinical coordinator) Transcript 12 *"I think what does strengthen a clinical program is that there's communication between your clinical educators and your academic staff. There has to be an ongoing dialog between pure academic staff and clinical staff. And some people fill a dual role in that respect, and it might be different. I think that should enhance the quality of clinical teaching that's out there"* Transcript 14 (communication)
	Programme Evaluation	Purpose: - Identify Gaps - Quality Review Method: - Feedback, formal and informal from students; supervisor; employers; external moderators - Student performance in external exams	*"So when we set out goals, after that three years we will reassess and see if those goals were met and we restructure our whole focus, adapt if need be, looking at all of those things again. So we are aligning our clinical curriculum also towards the needs of the country and WCPT guideline"* Transcript 11 *"We're getting it from the literature and its with the interaction of the clinicians and you can say, I know… spoke of that earlier, you know, what are you seeing and if we have the curriculum review we ask clinicians to attend and they can say, we're not seeing so much of this anymore, so we don't focus, this is what we are seeing and students don't know how to treat this, then we need to add this into the curriculum."* Transcript 14

Structure			
Category	**Subcategory**	**Code**	**Quote**
		- Formal evaluation by regulatory bodies - Through-put (competent graduate) - Curriculum review - Anecdotal (word of mouth)	*"There's also been feedback from our students who are now in community service. So in terms of being in rural areas in different parts of South Africa, you know, we might have students say, e see it here all the time and maybe you need to spend more attention on it, you know. So, we do have kind of the balance of the burden of disease in the Western-Cape but also preparing our students for practice across South Africa. And feedback from community service has certainly been useful for me in terms of our future"* Transcript 14 *"Feedback from students, largely informally"* Transcript 7 *"The feedback you get from the student also helps a lot. the SWOT and the SPAR notes, that helps a lot" Transcript 8* *"Do you know how I know they're great, because they're currently all running all the hospitals across the Western Cape. They are HOD's, they are running universities. So, you must be doing something right"* Transcript 12
	Programme Evaluation continued		*"Employability, they are sought after or they are getting the jobs in terms of the, yes. So even if you look at some of your top sports teams, the physio for the South African Rugby team is from UWC, so I think in terms of yes, where they are working in different areas"* Transcript 12 *"The university and the Minister of Education looks at throughput. So you know your program is effective"* Transcript 12 *"The student's performance in the external examination; … students are competent within areas; …. External examinations* *…. The informal will be the feedback, employers who employ our graduates"* Transcript 7 *"We can't also ignore the HPCSA assessments that we have and the quinquennial (QQR) review of the University. And then, I think also, benchmarking ourselves against the WCPT recommendations to say well, look we do meet the intentionally criteria for the clinical programme. So that's just on paper, it doesn't always translate to good students, but I think for one needs to look at those assessments as well"* Transcript 5 *"I think it can also evaluate your program when the students are out there. Not only feedback from the practitioners themselves - the employers, but also from the students themselves then after they've left. I often hear students coming back with positive*

Structure			
Category	**Subcategory**	**Code**	**Quote**
			messages of, if it wasn't for the university or the curriculum and the way that they were taught, I wouldn't have been able to pass Australia's exams for instance" *Transcript 11*
Operational (at clinical site)	**Administration**	- Good administration support from university - Coordination between the university & clinical site - Accredited clinical sites - Clinicians involved in supervision	*"Part of the structure is also how it is coordinated between the department and the various clinical facets. So any clinical admin support strategy to make sure the program is run smoothly and that communication is clear between the hospitals and the university"* Transcript 5 *"We need to get involvement by the clinicians"* Transcript 7 *"At the moment it is very contrasted views, the public sector is lazy does not want to develop, the private sector is just after money, and we need to try and bridge that and if we don't model that, in training, then there is no way we can expect the students to. So rather the professional society is quite important there and maybe developing an accreditation system for the private practices that would then be suitable to take students and work with universities and private practice because we need a bridge"* Transcript 7
Operational (at clinical site) continued	**Teaching and Learning**	Clinical Supervision: - Create a positive + safe learning environment - Collaborative supervision (clinician & lecture/external supervisor) - Revise basic skills - Patient assessment & management (facilitation) - Reading and recording in patient file - Advice - Case presentation - Exam preparation – mock - Discussion - Problem-solving - Integration of skills - Physiotherapy ward round - Journal club/evidence-based practice – article discussion - Reflection	*"..needs to be a friendly environment where the student can feel comfortable, but it must also be an open environment. What I mean with that is a student must feel that I can ask a question, and my supervisor is not here to just to jump down onto me. So, there must be that thing of yes the supervisor need to be strict because the patient is first but it must be an environment where the student knows my supervisor is going to help me, if I ask a question they will assist me, if I have a problem I must feel free to go to my supervisor to discuss and to see how I can overcome the problem"* Transcript 1 (safe learning environment) *"I know I'm only there an hour or two hours a week. It's really not enough. So I need my clinicians. I work, I communicate all the time and I say, okay, what do you want me to do this morning? How can I help? Because it's their patients. And we have to, you know, work together to get this thing going*" Transcript 11 (Collaborative supervision) *"And you go through basic skills as well to see if they are competent"* Transcript 2 (basic skills) *"So I think it's very important for us to have that clear line like that fine line where, because it's very easy to get carried away when you are just explaining so that, because your aim is for them to understand but then ja, but I think it's very important to facilitate that. Them asking questions or giving them the opportunity to find out a little bit more about it, you*

Structure			
Category	**Subcategory**	**Code**	**Quote**
		- Mentoring - Debriefing - Demonstration - Create challenge - Problem based learning - Question & answer sessions	*know see if they can do their own research on it instead of you giving them all that information"* Transcript 1 (facilitation) *"I normally get the file, go through it and be like what are you expecting like what are you wanting to be reading and tell me about this or what medication is this for"* Transcript 2 (reading and recording in patients' files) *"If they know from the beginning that this is the way that they are supposed to treat people and address people then it really makes a big difference"* Transcript 2 (Advice) *"For the clinical blocks, the second week the students are supposed to then do a case presentation, which includes a power-point presentation about the condition in general, but also referring to the specifics of the patient, they also have to submit an assessment form, as well as then do a treatment of the patient in front of the lecturer"* Transcript 8 (case presentation) *"They should be able to pick one patient and do a treatment, which is going to be a preparation still for what they are going to be assessed on. I am going to be assessed. A student does not have to experience either assessments only at the end of the block"* Transcript 8 (exam preparation) *"When you are on a clinical block you do sit with these, you don't always just want the supervisor to just watch you. You want to discuss this patient and that patient and what do I do for this one and what do I do for that one"* Transcript 12 (discussion) *"So when they assess they must come back to hypothesise and tell me what their hypotheses are, we go through, we discuss and help and then they go back and treat"* Transcript 7 (problem-solving)
Operational (at clinical site) continued	Teaching and learning continued	Clinical Supervision continued - Tutorial/teach specific skill - Small group session - Watch surgery - Interprofessional education - Constructive feedback	*"So you, and for that purpose, a demonstration is always good, where the supervisor will say to an interview with a patients and students can, you know, afterwards, have a discussion of how do you link the questions and how did you, what was your clinical reasoning? Why did I ask that question when they said this question. You know? So that they can make sense of a subject and interview because they kind of just run through it and at the end you know they don't, they have no idea what is wrong with this patient*" Transcript 14 (integration)

Structure			
Category	**Subcategory**	**Code**	**Quote**
			"Well its more than me, it's all the supervisors on that block but there are different areas of ICU so all supervisors from other universities join together and we discuss clinical reasoning" Transcript 11 (physiotherapy ward round) *"And I think the evidence-based practice and a reflective practitioner, we can get that right and it's not as much about the condition as that you have got the basic skills and you can reason and problem solving"* Transcript 5 (evidence-based practice; reflection; problem-solving) *"So for me, I was mentored by my clinicians when I was a student. There was a very clear sense that they took me under their wing, and they mentored me through my clinical placements with them"* Transcript 14 (mentoring) "To have umm, yeah just opportunities to discuss how they're feeling about what they've encountered" Transcript 6 (debriefing) *"I think students learn differently in clinical settings and an important thing is the modelling that comes back, that we spoke about. And I spoke about it earlier from my own training was the demonstrations that I got and that kind of stays with me*" Transcript 14 (demonstration) *"The main thing is that the first day or the first day or two they like watch me do a full assessment and a full treatment. I don't know – but for me learning I love the blocks where I could just sit for two seconds in the corner because everything is freaking the hell out of me, I just want to sit and watch what's happening and where things are and what to do"* Transcript 4 (demonstration and orientation) *"I think it's important that when you see that your student is very comfortable with a specific type of condition, challenge them – take them out of their comfort zone so that they can also learn how to be comfortable with a different environment or a different condition"* Transcript 4 (create challenge) *"Problem-based learning - everything in one case. you have a case - combined case; you draw your problem list and treatment plan from the case given and have a discussion with a facilitator. so have a PBL session. it will help with integration"* Transcript 1 (problem-based learning)

Structure			
Category	**Subcategory**	**Code**	**Quote**
Operational (at clinical site) continued	Teaching and learning continued	Clinical Supervision continued	*"I think it would also be nice if they made the arrangement, the clinical supervisor or the clinician is just, whether it's a half an hour, an hour, during the week, it's just the Q & A session, so say for example this week the student wants to know why is this like this or what happens when this, write it down so on maybe Friday we are going to have a half an hour question and answer session, bring your questions or email me the questions so when you have the session, the supervisor can then give you feedback and answer the question of that student and then also the other students can also know what is going on. So touching again on the group, on the group setting as well"* Transcript 1 (Question and answer) "And then another thing is, you, just also going through like a particular condition as well, so you have the theory of a stroke or you have the theory of pneumonia, but then in terms of you, your patient how do you extract some of what you know from your theory and apply it practically. Those, those sessions are also important, they don't necessarily have to be long tutorials and things, but I think structuring is, you have to know the one to know the other" Transcript 1 (Tutorial) "Something that could help is, especially if you have like a small group and just say you are four students and you have one patient and you get consent from your patient and then different aspect of the examination you can, it's like you do it together with your supervisor" Transcript 1 (small group session) "Given opportunities to go and see surgeries" Transcript 2 (watch surgery) "Our university has had what we call an interdisciplinary teaching and learning area and so we've had a few modules in the first and second year that was interdisciplinary and so in that, you know, one would have hoped to facilitate things like your collaborative practice. But it wasn't as specific and focused as it is now. So we do run for our third and fourth year students what we call world café's and so we have this interdisciplinary group and it is in the IPE drive and the faculty that we are looking at the CanMEDS (Canadian Medical Education Directions for Specialists) competencies. Yes, and wanting to discover those generic competencies across our students" Transcript 12 (interprofessional Education) *"It's important because our, we don't work in isolation"* Transcript 1 (Interprofessional Education) *"I think when you give feedback to a student definitely not only the negative things. You have to address the things that was wrong because that is going, they are taking that into their career, and they, to be doing the best, they need to do the technique correctly and*

Structure			
Category	**Subcategory**	**Code**	**Quote**
			you definitely have to show them what is wrong but also to compliment them on what did they do right, because that little bit of positiveness can give a little bit of comfort and so on, so I really think if you give feedback it needs to be positive as well as the negative side, not only the one" Transcript 1 (Constructive feedback)
Operational (at clinical site) continued	Teaching and learning continued	Student Evaluation: - Standardised assessment form/ weight of marks/ clear assessment criteria - Purpose of assessment – clear - External evaluator - Two examiners - Continuous assessment /summative Assessment - Validity of current assessment structure - Subminimum - Peer evaluation	*"So we basically should have standardisation when it comes to that, and if we look at the way the form is structured because sometimes it is very easy to either give a very poor mark or a very good mark depending on what the clinician did or the commitment, but sometimes the form might not always be speaking to some of the aspects that we might view as being important and we would like to see and to instill in our students. So I think not only the person marking, but then also looking at the marking sheet itself.* *…The actual rubric, okay.* *…And the weighting of the marks"* Transcript 8 *"I think in addition to having clear objectives, the assessment criteria has to be very clear, how it is going to be assessed? How is one going to be deemed competent enough in a particular clinical area?"* Transcript 5 *"Just to go back to the assessment, that it is always two examiners, one from the university, who knows the content and has been part of and well versed in the curriculum and there is one of the clinicians from the site, and then what we were discussing with the feedback, the two examiners need to discuss before the final mark is allocated, and once the final mark is allocated, the feedback is given to the student as combined feedback from both supervisors"* Transcript 7 *"And we have also had other students on the same block sitting in one of the fellow student's assessment. I think that works very well as well and obviously they will also get a feedback. They will see the assessment and also get a feedback"* Transcript 13 *"For assessment purposes, I sometimes think for clinical practices it's a lot of pressure to place a student to just do one clinical exam and everything is based on it. I think it should be more a continuous assessment because you have students that are quite competent and very knowledgeable and very good in the practical setting and then something can just happen and then they fail their exam. And I think having a more continuous assessment strategy when it comes to clinical practice will be much better for specific clinical rotations. That's what I want"* Transcript 12

Structure			
Category	**Subcategory**	**Code**	**Quote**
			"To follow up what she is talking, about continuous evaluation, I am the one who is coordinating third years, I end up entering those marks. I will be shocked to see somebody who has got 30% of this continuous evaluation thing, and then you will ask yourself does this mean that this person, she did not have professionalism until the end, there was no improvement in between, punctuality, late coming, all the way 30%, and then you get the students who get 99%, and I will say to myself, that's a lie" Transcript 8 *"They need to able to be safe and effective in the management of the patient, so identify the main precautions and contraindications and adhere to that"* Transcript 5
Operational (at clinical site) continued	Teaching and learning continued	Components of evaluation: - Safety & effectiveness - Goal setting - Consent - Ability to document - Use of International classification of Function, Disability and Health (ICF) - Execution of physiotherapy skills - Assessment of communication (various stakeholders) - Professional behavior	*"One of the very important things is that we need to set goals. Some think that's difficult obviously for students, which takes reaction from a number of students, but they need to show an ability to infer from the clinical condition what the expected outcomes should be. You do not have to be accurate like you would expect from someone who has worked for ten years or so, but then have an idea of what the expected outcome is."* Transcript 5 *"But I think also, where the students need to be assessed whether they introduce themselves to the patient, whether they ask permission to touch the patients, whether there are ethical things that they think are important and instructing them in clinical practice"* Transcript 5 *"It's also something that is important to, to go to and ICF and also outcome measures and going through those things and you know things like, skills like reassessment, you know after treatment, and note writing. Those things come, they are, I mean I always look at notes"* Transcript 1 *"And of course the clinical skills, undertaken by the physiotherapists, the way they are executed, that's extremely important"* Transcript 5 *"Just to add to that, including the communication or the communication skills of the student or the therapists. Because as part of the professionalism, I think communications plays a very important role in ensuring that one communicates exactly what they need to communicate at the time they need to communicate, including how they receive information from the patient and how they then use that information during their communication relationship*

Structure			
Category	**Subcategory**	**Code**	**Quote**
			… I think link to the communication should also be the ability to communicate with members of the disciplinary team. We don't work in a vacuum and they should understand whatever process is doing on the patient so that there is continuity of care and less implication objectives" Transcript 5 *"The professional behavior is extremely important. We are a professional qualification and there are certain attributes that one should have if you are to qualify as a physiotherapist. So, obviously professional behavior needs to be assessed*" Transcript 5

4.2.5.2.3 Theme 3: Clinical Experience

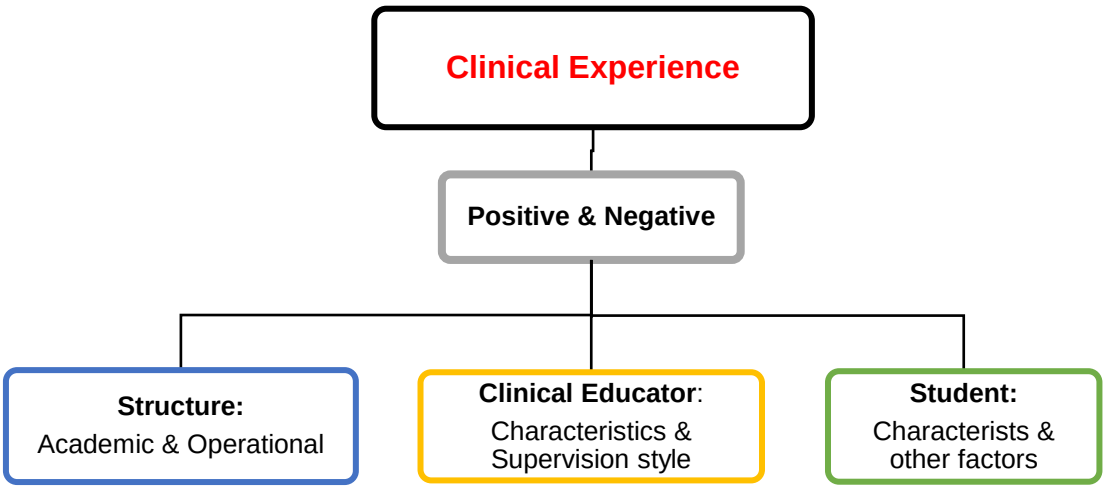

Figure 4.9: **Illustration of the Theme Clinical Experience**

Table 4.4 outlines outlines the development of the theme of Clinical Experience.

Table 4:7: Theme 3 – Clinical Experience

Structure			
Category	**Subcategory**	**Code**	**Quote**
Positive learning experience	**Structure**	Academic and Operational (real-life training)	*"As a student it opened my eyes to a world that I wasn't aware of and mostly what I remember about the experience, were the places we visited"* Transcript 8 (Academic) *"It was very, very structured and very solid agreements between the university and the clinician"* Transcript 7 (Academic) *So we knew exactly what we needed to do, who was responsible for us, and also …about tutorials, that was also very set up, we would get them each week and say it's out-patients, they (*clinicians) *would say we going to have a tut on the shoulder and the next week, a tut on the knee etc. it was very structured"* Transcript 7 (Operational) *"Obviously the people that you work with and the structure"* Transcript 3 (Academic and Operational) *"I think you will also remember her* (participant was referring to another participant in the FGD*), one of the supervisors to this day. Well, I've got two that stand out to this day but one of them was my first supervisor that I ever had in 3rd year and it was at… and we were in cardio or something so she came, fetched us, showed us this big scary place and took us everywhere and almost covered us under her wing for the day and literally went to patients with us"* Transcript 4 (Operational) *"Where I feel that we can invest more in that first week, be it then a little bit more time or a little bit less time than last week. But invest more time right in the beginning to get mutual expectations on paper and agree to them, this is what we are going to do per week, this is our plan" Transcript 11* (Operational)
	Clinical educator/ supervisor	Characteristics - personality and interpersonal skills (good role model)	*"You saw her passion and that's what attracted you - And that is what attracted me yes. Yes, so passion is so important" Transcript 1* *"There was always that openness, you could approach them if you needed help" Transcript 6* *"They were also like nice and helpful" Transcript 3* *"When I was a student, there weren't any lazy clinicians. They all really worked hard and did what they were meant to do." Transcript 10*

Structure			
Category	**Subcategory**	**Code**	**Quote**
Positive learning experience continued	Clinical educator/ supervisor continued	Characteristics continued	*"..and then in other settings you would have the clinician who would really hold your hand and nurture you and help you to build that confidence and make your experience positive" Transcript 12* *"I think being able to be approachable, for me that's also something. If I'm not sure and I'm able to confidently come to you and ask them a stupid question and they don't look at me like how did you do that type of thing I think that's also going to help you as a student go from a negative point of view to a positve point of view knowing that I can always come to you if I don't understand something" Transcript 4* *"Some will give you more of their time and invest in you as a student" Transcript 9* *"Something I can remember is a student walking into the ward and there were patients everywhere and she (clinical supervisor) was one of the most dynamic hardworking – she is the one qualified that actually sticks in my head" Transcript 13* *"Some of the supervisors really were helpful in the way they role modeled or demonstrated and that stuck in my mind" Transcript 11*
		Supervision style: - Structure of supervision session - Method of supervision (group/one-to-one/Peer-led) - Teaching style - Feedback method (when, where, how)	*"And the ones I always thought were good were the ones who took you by the hand, who were quite willing to work with you, you know, especially in the beginning and slowly let go of the reigns. That was really, and the ones that stood out are the ones that, obviously the ones that I thought I learnt the most from"* Transcript 11 *"One thing I specifically remember as a student, was that a lot depended on the clinician that you worked with. They could either make or break you"* Transcript 6 "*I owe my clinical experience to my clinical supervisors"* Transcript 7 *"They were willing to come and teach you and give you the background of everything. Those are the ones that give you the most time because they were happy to do it. They just enjoy teaching and they just passed on as much information yeah so I think it was those"* Transcript 4
	Students	- Characteristics - Personal issues - Resources - Learning style	*"Generally, the students at this university is, they are respectful, they are focused, they are, they really enthusiastic. Listen, I work with all three (universities in Cape Town) and I can tell you there's a big difference and our students want to learn. They are enthusiastic about learning. They take responsibility for their own learning"* Transcript 11

Structure			
Category	**Subcategory**	**Code**	**Quote**
			"…go and find out and stay up all night phoning everybody you knew, you know. There was no internet at home. The only place that had internet was at varsity at the library. You know, you make use of books, you find somebody who has been on the block before. You found other resources. And you make the effort" Transcript 10
Positive learning experience continued	Students continued	- Input: curriculum - policy & procedure (academic + operational	*"We had a little session in our team on different learning styles and how to link different learning styles with teaching styles because sometimes the students just won't benefit if they have a specific learning style. They are just not going to benefit from your teaching style if your teaching style is completely generic and you do the same thing with every student and I think that's almost where it's sometimes nice to have more than one supervisor in an area because you might find that a specific person will do better at teaching an individual."* Transcript 2 *""I am not sure if we covered feedback from students? Because most of the time that is not part of the structure.So, it is very important that that component remains part of clinical training"* Transcript 8
Negative learning experience	**Structure**	Academic and Operational (real-life training)	*"Even I found out that not related to personalities but the structure for supervision as a student that is thrown into like clinicals and then on your first day, yes, they orientate you and stuff, but I don't feel like we get the proper exposure of like watching our supervisors and a full assessment for maybe the first day or second day whenever orientation is over, so I think it needs to be something that maybe needs to be put in place for each block you are in" Transcript 9* *"Okay, I think there were good and bad experiences, I think that negatively, I would say that when I was a student the clinical rotations did not cover all the clinical aspects of physiotherapy, so if you were lucky you got an ICU placement and if you didn't it was too bad, you just have to make do".* Transcript 7 *"I think my biggest sort of gripe with the, the structuring is that some, some people had community and some people had orthopedics or whatever, you know, so it's something that everyone needs to be exposed to and you know what I mean"* Transcript 1 *"Everything we were putting in place for the current students* (support)*, I don't think that I had that luxury, as a student. It was literally sink or swim"* Transcript 14 *"I remember on certain blocks you were just a work horse and you were given all the patients that the clinicians didn't want to treat"* Transcript 11

Structure			
Category	**Subcategory**	**Code**	**Quote**
			"At a general hospital, and again, this is clinicians not looking at learning opportunities because they want them (students) *to help them with the workload"* Transcript 12 *"Some were terrible blocks where you didn't see your supervisor or you couldn't find them and it was also in the mornings you're screening the ward, you screen the ward yourself, you find your patients"* Transcript 6
Negative learning experience continued	Structure continued	Academic and Operational (real-life training) continued	*"I think when you become a supervisor it changes, its slightly different and then you try make time based on your experiences but also it gets very. I mean our main aim is patient care, unfortunately not student care, it's horrible, you try your best but if you have 20 patients in a day it's like you need to wait, I will try and sort you out tomorrow"* Transcript 4
	Clinical educator/ supervisor	Characteristics - personality and interpersonal skills (poor role model)	*"One thing I specifically remember as a student, was that a lot depended on the clinician that you worked with. They could either make or break you" T*ranscript 8 *"And our clinical supervisors were terrifying"* Transcript 10 *"I find that certain people are just lazy and they don't want to, so it's that personality. I think others will feel again, you know, I struggled as a student, so I want to help the student and then you get the others that don't actually care. I don't have time for this. I've got better things to do. I have to go to lunch now"* Transcript 12 *"It depends on who is supervising you because some people just like... than others and I think you have some blocks where you someone you just do not get along with at all"* Transcript 3 *"And I do remember being scared and intimidated and not wanting to work in a particular setting because of the attitude towards students"* Transcript 12 *"The supervisors had different methods and different handling skills, so what they showed us, was what they expected to see, so they did not want to see anything else that was taught by other supervisors, so if you don't do it their way, you fail, so that was automatically wrong. So in an exam if you were supervising me, i will only do what you showed me, what you want me to do, not what the other supervisors have"* Transcript 9 *"…and then you get others who, I don't know how to put this, but during your time there, they would maybe focus on one person in the group, more than the rest, or just like the way they are with you, your personalities clash as well"* Transcript 9 *"Because what I talk it will be far different from what I do"* (supervisor)Transcript 8

Structure			
Category	**Subcategory**	**Code**	**Quote**
			"I've had really bad experiences where clinicians, they take, you know, after lunch they will go and sit and play guitar in the office and they're on the computers the whole day, they don't touch a patient" Transcript 11
Negative learning experience continued	Clinical educator/ supervisor continued	Supervision style - Structure of supervision session - Method of supervision (group/one-to-one/Peer-led) - Teaching style - Feedback method (when, where, how) - Supervisor workload	*"I remember there was a clinician, a clinician supervisor who during the supervision sessions made it seem like they weren't really interested in, in anything that we were doing, so we would be doing an assessment on a patient, the clinician would be, your supervisor would be sitting on their iPad or cellphone or laptop, not even looking at us, every now and again look up, oh have you done this, okay, so that negative, like it wasn't really like we, we were speaking about the facilitation and you know the support and as a student we felt nothing from that, so, that definitely was negative when it came to the exam time, because we didn't get proper feedback in our session. We would get back the feedback like oh you didn't do this, you didn't do this, you didn't do this, but meanwhile you did, it's just that you weren't listening, they weren't focusing and as a student you can't really say, no but I did, you just weren't watching. ...[laughing]. You don't have that say, and even if you have to take it to the university, at the end of the day the university won't really choose your side, they will choose the clinician because they have been there for years. So you are just another student coming along and they are like oh okay this one is complaining because she failed. It's something like that. So that negative role model is personally for me, I always told myself last year when I started here, I always said I do not want to be a supervisor or a clinician like that. So as a role model it really, it helped me being a supervisor and clinician now"* Transcript 1 *"The one that stood out for me it's the fact that a lot of focus gets placed on negative feedback – you are always told what you are doing wrong and I found that super demotivating when I was a student because it feels like – it doesn't matter what you do – you are just doing things wrong"* Transcript 4 *"We know how it* (feedback) *should be but it's not always what is happening. …but we really feel strongly about that it must be structured. It must a session that's a sit-down session where it is one to one. Communication open. They must also take part in this communication and not just have us tell them what they did wrong"* Transcript 11 *"At a general hospital, and again, this is clinicians not looking at learning opportunities because they want them* (students) *to help them* (clinicians) *with the workload"* Transcript 12

Structure			
Category	**Subcategory**	**Code**	**Quote**

Negative learning experience continued	**Student**	- Characteristics
		- Personal issues
		- Resources
		- Learning style
		- Input:
		  - curriculum
		  - policy & procedure (academic + operational – students not involved in decision making-no voice)
			"I think that the challenge that we are having with the current students, they like to be given information – spoon-fed" Transcript 12
			
			"*I mean, as one student said, well, my father pays your salary and that is what you have to do. You are here to teach so why won't you give me the answer?"* Transcript 10
			
			"B*ecause students come into a program already at a disadvantage*" Transcript 10
			
			"There was no internet at home" Transcript 10
			
			"We have a list of students who have issues. You know, if I think of the number of students that have issues now…social issues" Transcript 10
			
			"I*t just seems that the resilience, the ability to cope*" (students are unable to cope) Transcript 10
			
			"Nobody asked you as a student, do you think you need to spend more time in this clinical placement or not. No. You know? This was your clinical placement, you went there, you had to get this done. You had to get it done and not to sound terrible, but our opinion didn't matter." Transcript 10
			
			"Because most of the time that is not part of the structure" (student input) Transcript 8

Table 4.8: Summary of FGD Results

MACRO	MESO	MICRO
Governance	**Structure**	**Clinical Learning Experience**
1. Policy and Procedure: - Academic (Higher Education Institute) · HPCSA guiding document · WP guidelines · DoH Policies · Accreditation by national · (HPCSA) & international regulatory bodies (WP) · Institution Autonomy (even though guidance from regulatory bodies) - Clinical site · Memorandum of Agreement between the university and clinical site . **2. Resources** - Human (mainly) - Transport	**1. Academic structure:** - Curriculum - Programme evaluation **2. Operational structure at clinical site:** - Clinical supervision - Student evaluation	**Positive** and **Negative learning experiences** due to: **1. Academic & Operational structure** (imposed on students) **2. Clinical Educator:** - Characteristics (role models) - Supervisory style **3. Student factors:** - Characteristics - Personal issues - Resources - Learning style - Input: · Curriculum · Policy & Procedure (academic + operational)

The micro-structure – the clinical experience**,** and specifically the relationship with the clinical educator was strongly emphasised during the focus group discussions. The characteristics of the clinical educator, the supervisory style used, students' personal issues, and students not being able to provide input into the physiotherapy programme were reminisced by the participants (table 4.4) The macro and meso components, governance and structure respectively, (table 4.2 and 4.3) were also underscored.

The preliminary tool was developed after the results of phase one of the study was obtained. Based on the resultant themes, the tool was divided into three sections (Governance; Academic Structure and Operational Structure). The questions in each section of the tool were generated from the resultant codes of each section. The preliminary tool consisted of 131 questions in total: governance contained 17 questions; academic structure – 55 questions and operational structure – 59 questions (Appendix 11). The questions were reviewed and edited for grammar by the researcher and the supervisors. The preliminary tool was then emailed to all participants for face and content validity – phase two of study.

4.6 DISCUSSION

The two-hour long focus groups in this study yielded rich diverse data with three strong themes emerging relating to clinical education: Governance, Structure, and Experience. The complex and diverse nature of physiotherapy clinical education in South Africa is seen in the data collected in this study (refer to tables 4.2; 4.3 and 4.4 above), and is in unison with the global community regarding the diversity and complexity of physiotherapy clinical education

outlined in chapter 2 (Higgs, 1993; Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; McCallum *et al.*, 2013; Jette *et al.*, 2014; Patton, Higgs and Smith, 2018).

Inductive focus group discussions were conducted to collect data. The method was effective as it allowed the researcher to collect data in a group setting where in-depth discussions occurred as opposed to one-on-one interviews; this was more economical, and enabled the researcher to collect data nationally, efficiently and cost-effectively (Jayasekara, 2012). Focus groups, a socially orientated environment, enables participants to feel safe to share information (Onwuegbuzie *et al.*, 2009). Focus groups encourage the generation of new ideas - thus this enabled the researcher to explore the perceptions and thoughts of key stakeholders in physiotherapy clinical education (Patton, Higgs and Smith, 2018). Also, the focus groups enabled the researcher to be immersed in the data and therefore enabled her to have a high level of understanding of the data and learn from the participants' experiences. Likewise, it allowed the researcher to observe the level of strength of agreement and disagreement of the participants, especially when views were being explored (Onwuegbuzie, 2009; Portney and Watkins, 2009; Jayasekara, 2012; Doody, Slevin and Taggart, 2013; Greenwood *et al.*, 2017; Winke, 2017)

Portney and Watkins (2009) state that "qualitative research seeks to describe the complex nature of humans and how individuals perceive their own experiences within a specific social context". This methodology uses participants' words and narratives to obtain data rather than numerical data. Also, the qualitative approach emphasises the understanding of human experience by exploring the nature of their experience with themselves, others and their surroundings. Furthermore, qualitative research allows researchers to gain insight about areas/topics in which little is known, or is unclear, or difficult to reliably measure. This methodology allows for the in-depth exploration of scant information and it is often said that it is a method of collecting "rich" data (Moretti *et al.*, 2011). This method was used in my study to collect "rich" data of the human experience in the specific context of physiotherapy clinical education.

The ideal size of the focus group varies between four and twelve (Doody, Slevin and Taggart, 2013; Winke, 2017). In this study the size of the focus groups ranged between six and ten (eight on average), however literature also states that the size of the focus group depends on the complexity of the topic, participants knowledge about the topic, and the skill of the researcher (Doody, Slevin and Taggart, 2013; Winke, 2017). It is suggested that the number of participants be limited between six and eight so that the researcher can control the discussion, as large groups can be challenging. Small groups, on the other hand can be unproductive if knowledge on the topic is sparse, or if one or two individuals intimidate other

participants by dominating the conversation, resulting in participants not participating or making them feel compelled to speak (Doody, Slevin and Taggart, 2013).

The focus groups also revealed the impact the clinical learning experience has on the graduate and thus should be a key consideration in the clinical curriculum. These strong statements relating to the clinical educator/supervisor "…*They could either make or break you" or* "*you saw her passion and that's what attracted you"* are good examples of the past, present and future regarding the impact of one factor that impacts clinical learning positively and negatively: the clinical educator, who was strongly emphasised by the participants in this study. The literature confirmed several factors within the clinical learning environment that affect learning for example, student-supervisor relationship; teaching skills; teaching methods; communication skills; feedback; supervisor and student character; the patient (hands-on) experience; resources; institutional culture and the atmosphere of the learning environment (Dolmans *et al.*, 2008; Ernstzen and Bitzer, 2009; Newton, Billett and Ockerby, 2009; Ernstzen, Bitzer and Grimmer-Somers, 2010; Maloney, Stagnitti and Schoo, 2013; Odole *et al.*, 2014; Meyer, Louw and Ernstzen, 2019).

Patton et al (2018) however, disputed the student-supervisor relationship as the salient factor impacting clinical learning, that has been mentioned in several studies (Dolmans *et al.*, 2008; Healey, 2008; Ernstzen and Bitzer, 2009; Newton, Billett and Ockerby, 2009; Ernstzen, Bitzer and Grimmer-Somers, 2010; Maloney, Stagnitti and Schoo, 2013; Odole *et al.*, 2014; Meyer, Louw and Ernstzen, 2019). They have shown how the symbiotic relationship of four key factors influence clinical learning by using multiple sources of data collection (observation; semi-structured interview; visual research methods and focus groups). Additionally, the multiple data collection methods demonstrate a high level of trustworthiness of the data. They advocate that these interdependent factors, **"workplace influences, engagement in professional practice, supervisors' intentions and actions**, and **student's dispositions and experiences"** are "fluid" in nature, thus their ability to influence clinical learning changes depending on the situation in-play – not one of these factors is more superior than the others. These ever-changing powerful learning influences confirm the complex clinical space that students must navigate, in order to gain the unique, situational, experiential learning that physiotherapy clinical education offers (Patton, Higgs and Smith, 2018, p593-596).

The structure (the physical and organisational aspects of clinical education settings and organisational aspects of clinical education from an academic perspective), affects the clinical learning experience and therefore requires scrutiny. The structure of clinical education includes the types of clinical settings; number of clinical experiences/blocks; the timing and duration of the experience/block (i.e., the length, breadth, and depth of exposure); the

sequencing of the experiences; supervisory models and the clinical educators' skill and experience (C. McCallum *et al.*, 2013; Jette *et al.*, 2014). Additionally, the processes (supervision, evaluation and administrative procedures), which rely on the structure and resources further impact the clinical learning experience (Strohschein, Hagler and May, 2002; Jette *et al.*, 2014).

"Governance is defined as the rules (both formal and informal) for collective action and decision making in a system with diverse players and organizations while no formal control mechanism can dictate the relationship among those players and organizations" (Pyone, Smith and Van Den Broek, 2017). Governance is a system level concept (macro level), and is characterised by policy (Pyone, Smith and Van Den Broek, 2017). In physiotherapy clinical education, governance pertains to policies and procedures that must be followed in order to ensure that clinical education programme aligns to both higher education institutional policies, as well as legislative polices (Health Professionals Council) and, international standards, the World Confederation for Physical Therapy for example, but not necessarily a prerequisite. Alignment to policies ensure that minimum requirements of quality and standards are met (Ferlie, Musselin and Andresani, 2008). Governance is complex and multidimensional with numerous stakeholders, and is dependent on three levels: the macro-level, e.g. the health system; the meso level: institutional decision making, and the micro level: the day-to-day operations (Pyone, Smith and Van Den Broek, 2017). Extrapolated to clinical education, see figure 4.6, the macro-level: health and higher education policy and procedure, and resources; the meso-level: academic structure and operational (clinical site) structure, and the meso-level: daily clinical learning experience. This sophisticated structure is the foundation of physiotherapy clinical education which has been described as complex, diverse and multidimensional (Higgs, 1993; Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; C. McCallum *et al.*, 2013; Jette *et al.*, 2014).

Bishop (2008) stated that clinical governance (process) is key to achieving high quality, safe, patient-centred care, as well as patient satisfaction (outcome) – a quality of care framework (Hope, 2003). Moreover, Bishop stated the clinical supervision is the key to clinical governance because clinical supervision offers the framework to maintain standards and evidence-based practice (Bishop, 2008). It can therefore be seen why clinical supervision and the relationship between the student and clinical supervisor/educator (the power dynamic: "…*They could either make or break you"*), had featured so strongly during the focus group discussions. This is also a strong indicator of the value of a *process* evaluation, more so than outcome (product). *Process* is dependent on context and input; therefore, holistic evaluation of clinical education must include Context; Input; Process; Product and Impact, outlined in chapter 2.

4.7 CONCLUSION

Key themes that emerged from the FGD were Governance (macro), Structure (meso) - (academic and operational structure) and Clinical Experience (micro). These themes highlight the multidimensional and diverse nature of a physiotherapy clinical education programme. It also shows the complex interaction of the macro, meso and micro factors that impact students during clinical training. The preliminary tool was developed by converting inquiry (codes) into questions, under each theme. In the next chapter, phase two of the study, the Delphi technique was undertaken to determine pertinent items required in the tool.

CHAPTER 5

5. PHASE 2 - FACE AND CONTENT VALIDITY

5.1 INTRODUCTION

This phase established the face and content validity of the preliminary tool from items that were generated by the FGD. This was done by reducing the number of items contained in the preliminary tool through consensus of items (Delphi rounds 1 and 2) and exploratory factor analysis. Delphi round 3, was used to determine a scoring system for the tool, and its' name.

This phase proceeded as depicted below:

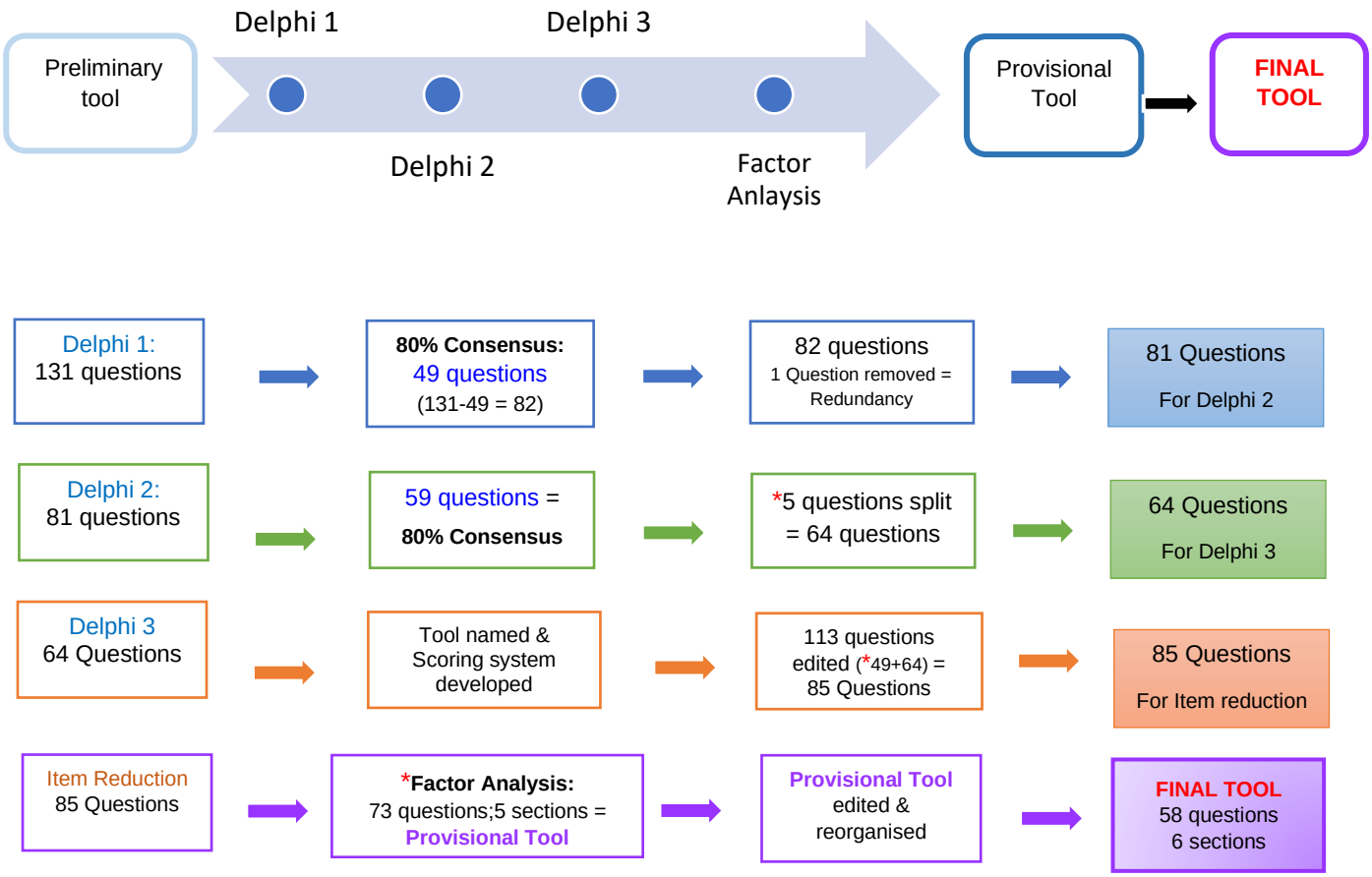

Figure 5.1: Outline and Description of Phase 2 Methodology

* Five questions were split: this means, each of the five questions were split into two separate questions, because two thoughts were being questioned – this split was suggested by the participants
* Forty-nine questions that obtained 80% consensus in Delphi round 1 were added in after Delphi round 3
* After factor analysis was done, 73 questions were left

5.2 METHODOLOGY

The three Delphi rounds and factor analysis are presented in this section. The methodology and results of each Delphi round and factor analysis are presented synchronously.

5.2.1 Study Design

This was a survey, using the Delphi technique to obtain consensus.

5.2.2 Study Population and Participants

All the FGD participants from Phase 1 of the study were included in this phase.

5.2.3 Procedure

Consensus regarding items that must be included in the tool

Consensus of items to be included in the tool was obtained using a modified Delphi method. The consensus method is generally used to obtain non-formalised knowledge of the profession from the experts (Foth *et al.*, 2016). Experts are defined as informed individuals who are knowledgeable about the topic under discussion (Powell, 2003; Shakila Thangaratinam, 2005; Trevelyan and Robinson, 2015; Foth *et al.*, 2016). There is no standard way to assess consensus (Diamond et al., 2014; Trevelyan and Robinson, 2015), hence consensus was assessed by using an 80% agreement for items to remain in the tool as was done by Maleka, Stewart and Hale, 2017. Thus, with consensus was set at 80% meant that if 80% of the experts thought that the item must be included in the tool, then that item would be in the tool. Also, three Delphi rounds are generally recommended (Powell, 2003; Shakila Thangaratinam, 2005; Trevelyan and Robinson, 2015; Foth *et al.*, 2016) - the first Delphi round comprises of unstructured, open-ended questions or a modified approach (Foth *et al.*, 2016). This is followed by more specific questions in the second/subsequent rounds, using a four or seven point Likert scale or modified approach (Powell, 2003; Shakila Thangaratinam, 2005; Trevelyan and Robinson, 2015; Foth *et al.*, 2016). Three Delphi rounds using a modified approach, ensued in my study (the details of the modified Delphi rounds are explained in sections: 5.2.3.1; 5.2.3.2 and 5.2.3.3) (Powell, 2003; Trevelyan and Robinson, 2015).

The FGD participants were invited to participate in this phase of the study. The invitation, information letter and preliminary tool were emailed and sent via WhatsApp (see definitions page) to the participants (Appendix 10). Completion of the questionnaire was considered consent to participate in the study. The participants were given three weeks to respond to the Delphi rounds. The participants also had the opportunity to comment on grammar in all the Delphi rounds.

5.2.3.1 **Delphi round 1**

In the first Delphi round, 81 participants were invited to take part in this phase of the study, as per inclusion criteria. The participants were presented with the preliminary tool developed from the FGD in Phase 1 of the study (Appendix 11). The preliminary tool contained 131 questions. Participants were requested to decide on which items should remain in the tool. They had three options to choose from firstly, which questions must be included in tool (*must include*), secondly, questions that could possibly be included (*possibly include*) and lastly, questions that must be excluded (*exclude*). Three reminder emails and WhatsApp messages were sent to all participants until the due date was reached. Following each Delphi round the researcher and supervisors reviewed the comments.

5.2.3.1.1 Results: Delphi round 1

Two email addresses were invalid and hence 79 invitations were distributed. Fifty-six participants (71%) returned the questionnaire (refer to table 5.7). In this round, 49 questions obtained 80% consensus (refer to table 5.1).

Table 5.1: Delphi Round 1: 80% Item Consensus in Each Section of the Preliminary Tool

ROUND 1 Questions that Obtained 80% Consensus (n=56)					
Section 1 Governance		**Section 2A Academic structure**		**Section 2B Operational Structure**	
Q. no.	**Freq./56**	**Q. no.**	**Freq./56**	**Q. no.**	**Freq./56**
1	48/56	1	52	1	45
3	51	2	49	6	48
7	49	5	45	9	47
8	52	6	51	10	48
12	50	7	52	11	52
13	46	9	48	12	52
16	46	10	55	15	51
17	45	13	45	17	41
		14	48	18	43
		17	47	19	42
		8	50	21	48
		19	50	22	48
		20	45	23	46
		25	50	34	45
		29	50	44	53
		30	45	45	53

	33	47	46	51
	40	47	51	45
	44	51		
	45	46		
	47	52		
	49	48		
	51	47		
8	**23**		**18**	
TOTAL no. of questions reaching 80% consensus in each section= 49				

In Table 5.1, 49 questions obtained 80% consensus and hence remained in the preliminary tool: eight questions in section 1 (Governance), 23 questions in section 2A (Academic structure) and 18 questions in section 2B (Operational structure).

5.2.3.2 **Delphi round 2**

In the second Delphi round, the 56 participants who responded in Delphi round 1, were invited to participate (Appendix 12). Eighty-one items remained in the second draft of the preliminary tool. This draft was emailed to the 56 participants from Delphi round one. They were requested to make a firm decision regarding which questions must be included or excluded from the tool, hence only two options were available to choose from: *include* or *exclude* (Appendix 13). This second draft did not include those questions that obtained 80% consensus in Phase 1. Only the questions obtaining less than 80% consensus were included in Delphi round 2. Table 5.2 outlines the items that obtained 80% consensus in the second Delphi round.

5.2.3.2.1 Results: Delphi round 2

Fifty-one participants (91%) returned the questionnaire (refer to table 5.7). Fifty-nine (59) questions obtained 80% consensus in this round (table 5.2). One of the respondents suggested RedCap (a secure web application for building and managing online surveys and database to collect data) (Harris *et al.*, 2009), instead of the email-based data collection method which I used.

Table 5.2: Delphi Round 2: 80% Item Consensus in each Section of the Preliminary Tool

ROUND 2 Questions that obtained 80% consensus (n=51)					
Section 1 Governance		**Section 2A Academic structure**		**Section 2B Operational Structure**	
Q. no.	**Freq./51**	**Q. no.**	**Freq./51**	**Q. no.**	**Freq./51**
3	47	1	48	1	47
4	45	3	46	2	46
6	43	5	44	5	47
7	44	6	49	6	45
		8	50	7	41
		9	42	8	45
		10	48	10	50
		11	44	11	41
		12	47	12	48
		13	47	13	43
		14	80	15	42
		15	50	16	41
		16	41	17	41
		17	46	18	47
		19	46	21	51
		22	45	22	49
		24	49	23	50
		26	48	24	47
		27	49	27	45
		28	48	28	49
		29	42	29	48
		30	48	30	51
		31	49	32	46
		32	43	33	44
		33	48	34	45
		34	44	35	44
		36	49	36	45
				37	43
4		**27**		**28**	
TOTAL no. of questions reaching 80% consensus in each section = 59					

5.2.3.3 Delphi round 3

The aim of this Delphi round was to determine a scoring system for each question, and the participants were also requested to suggest a name for the tool. The information letter and invitation (Appendix 14), and the tool (64 questions) (Appendix 15) were emailed to 79 participants, all the participants from Delphi round one and not only the participants of Delphi round 2. This was done to counteract participant fatigue (Hsu and Sandford, 2007; Trevelyan and Robinson, 2015), and also because the information required in this Delphi round was not dependant on the first two Delphi rounds. In Delphi round 2, a respondent suggested using REDCap (Harris *et al.*, 2009) to collect data, but I decided to continue with the email-based data collection method for the Delphi rounds to keep the data collection process standardised for this phase of the study.

The invited participants were presented with all the questions and the scoring options. They had to comment on the proposed scoring options either by *agreeing* or *disagreeing* with it. If they disagreed with the scoring, the participants were requested to suggest an alternative scoring preference (Appendix 15). In this phase, participants were not required to fill-out the tool, only their opinion on the scoring option was required. It must be noted that the three Delphi rounds were paper-based rounds sent via email. Secondly, this tool is a self-evaluative tool and column-three of the tool (see example of tool questions and scoring options in table 5.3) is the space where questions would be answered when using the tool to evaluate a physiotherapy clinical education programme. Scoring of the answer provided would be done by the evaluator (person completing the tool) after the question is answered, and therefore this is a self-evaluation tool.

Table 5.3 is an example of the suggested scoring from the different sections (Governance; Academic Structure; Operational Structure) of the tool used in Delphi round 3.

Table 5.3: Examples of Scoring Options

No.	Statement	State the Documented evidence E.g. Document 5.1 of 2015	Suggested Response	Your Suggestion: Alternate Scoring system
1.	Which DoH policies inform your physiotherapy clinical education programme		· All required policies (specify) · Some (specify) · None	
2.	Describe the clinical exposure that students experience in your institution		· Wide · Selected · Narrow	
3.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation?		· Yes · Partly · No	

5.2.3.3.1 Results: Delphi round 3

Thirty-three (42%) participants responded in this Delphi round (table 5.7). The feedback received from the participants were reviewed (Appendix 16) and summarised in the table 5.4.

Table 5.4: Summary of Comments from Delphi Round 3

Synopsis of Comments Received from the Participants of Delphi Round 3
▪ "The scoring options do not align with the question" (*most of the discrepancies arose from the open-ended questions*)
▪ Space must be allocated for open-ended questions (*space was available*)
▪ Respondents should have the ability to choose more than one scoring option for certain questions
▪ The tool is still too long – some questions may be redundant, and some questions can be combined
• Guidance must be provided regarding the amount of time that is required to complete the tool and, which documents are required to complete the tool (*this was done in the instructions to the participants*)

Numerous names were suggested for the tool (refer to table 5.5). The name suggested in no. 27 in table 5.5 was a strong contender, however I decided to use the following name: **Vaneshveri Naidoo Clinical Programme Evaluation Tool (VN-CPET),** so that programme evaluation is emphasised, and that there is no confusion between student evaluation and programme evaluation.

Table 5.5: Respondents Suggestion of Names for the Tool

1. The PCEP Questionnaire (The Physiotherapy Clinical Education Programme Questionnaire)
2. The Rutuntsha Tool (to give a person knowledge or skill)
3. The Boleng Tool (referring to standard/quality)
4. Selekanyi (to measure or judge something)
5. QACT tool: Quality Assessment Clinical Training tool
6. The Physiotherapy Curriculum Quality Assurance Tool
7. Clinical Education Assessment Tool
8. CSE (clinical supervision evaluation)
9. Physiotherapy Clinical Programme Assessment Tool - PTCPAT
10. Governance, Academic and Operational Structure of Clinical Education
11. Exploration and Understanding Undergraduate Physiotherapy Student Training (EU_PTsT)
12. Clinical Education Scoring Tool
13. Clinical Education Assessment Tool
14. The GAOS (Governance, Academic and Operational Structure) tool
15. Evaluation of Clinical Training Programme
16. Clinical Training Programme Assessment Tool
17. GOAST (Governance, Organizational and Academic Structure Tool)
18. Clinical Education Rubric
19. Clinical Education Programme Evaluation Tool (CEPET)
20. The EPIC tool – Evaluating Physiotherapy Clinical Education Tool
21. Training Assessment Tool
22. Clinical Programme Evaluation Tool (CPET)
23. Undergraduate Physiotherapy Clinical Training Tool
24. Clinical Education Evaluator
25. Clinical Education Evaluation Tool
26. Clinical Education Evaluation Tool
27. VNCEET (Vaneshveri Naidoo Clinical Education Evaluation Tool)
28. Vaneshveri Clinical Placement Assessment Tool
29. Clinical Education Evaluation Tool (CEET)

Furthermore, the scoring options were reviewed and changed so that they did not provide an answer to the question as such, but imposed a self-assessed judgement of the answer provided by the person completing the tool. Table 5.6 shows an example of the amended scoring options.

Table 5.6: Examples of the Amended Scoring Options

No.	Statement	Original Suggested Scoring Response	Amended Scoring Options
1.	Which DoH policies inform your physiotherapy clinical education programme	· All required policies (specify) · Some (specify) · None	· All · Some · None
2.	Describe the clinical exposure that students experience in your institution	· Wide · Selected · Narrow	· Wide · Fair · Narrow
3.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation?	· Yes · Partly · No	· Always · Sometimes · Never
4.	Describe your remediation programme (RP), if available?	· RP available · Working towards RP · No RP	· Comprehensive · Needs driven · Not done

Table 5.7 displays a summary of the Delphi rounds, showing a decrease in the number of items after each round in the various sections of the tool, the number of participants and the response rate.

Table 5.7: Summary of the Delphi Rounds

	Total no. of Questions in Questionnaire	No. of questions in each subsection			No. of Participants (N)	Response Rate (n)	
		Section 1 (Governance)	2A (Academic Structure)	2B (Operational Structure)		Returned	Loss
Delphi 1	131	17	55	59	79	56 (71%)	23 (29%)
Delphi 2	81	8	36	37	56	51 (91%)	5 (9%)
Delphi 3	64	5	30	29	79	33 (42%)	46 (58%)

5.2.3.4 **Item reduction**

The aim of this part of the study was to reduce the number of items contained in the tool and determine the internal consistency of the tool. Exploratory factor analysis (statistical test), through principal component analysis was used to reduce the number of variables in the data set.

Exploratory factor analysis examines the structure within numerous variables and attempts to determine their interrelationships. It also enables one to group variables with similar unique factors into smaller groups, that is, larger complex, abstract concepts are separated into smaller, more manageable groups. Thus, a factor consists of a group of variables that are highly correlated among themselves, and poorly correlated with items in other factors. Factor analysis also determines the factor loading of each variable; that is, it weighs the

correlation between individual variables and the overall factor, and this statistical process is referred to as factor loading. Factor analysis thus arranges variables into sets of statistically related variables (Portney and Watkins, 2015)

Principal component analysis was undertaken to determine which elements contributed to the overall concept. The principal component analysis was done with no rotation and the result for each of the domains are outlined in this section. The process involves determining locations along with each component (or eigenvector) which are then associated with values across all variables. This association between the components and the original variables is called the component's eigenvalue. The line of best fit is measured by the percentage variance (Abdi and Williams, 2010).

Also, the internal consistency of the items was determined using Cronbach's Alpha. Internal consistency, a form of reliability, assesses the degree to which a set of items in an instrument all measure the same trait. A reliability coefficient, α of 0.7 or higher is considered as an acceptable level of reliability (Bolarinwa, 2015), and 0.8 or greater a very good level. However, values higher than 0.95 are not necessarily good, since they might be an indication of redundancy (Hulin, Netemeyer and Cudeck, 2001).

After the third Delphi round, all the questions that obtained 80% consensus in Delphi rounds one and two were captured on REDCap as per a respondents' suggestion. The revised questionnaire (85 questions), invitation, information letter and a link to the on-line tool: **Vaneshveri Naidoo Clinical Programme Evaluation Tool (VN-CPET)** (appendix 17) were emailed to the head of departments (HOD) and/or clinical coordinators (CC) and/or undergraduate coordinator (UG) of the eight physiotherapy academic departments in South Africa and included 13 participants in total. The participants were requested to answer all the questions and were given three weeks to complete the on-line tool.

Table 5.8 illustrates the number, and the designation of the 13 participants invited in this part of the study.

Table 5.8: Participants of the Item Reduction Stage of the Study

Physiotherapy Academic Institutes in SA (number of invited participants [**N=13**])							
UKZN (1) HOD	**UCT** (2) HOD and CC	**UWC** (1) HOD	**UP** (2) HOD and UG	**US** (2) HOD and CC	**Wits** (2) HOD and UG	**UFS** (2) HOD and UG	**SMU** (1) UG

5.2.3.4.1 Results: Item Reduction

Table 5.9: Response Rate and Number of Items in Each Section

Item Reduction (N=13)	Response Rate (n)		Total no. of Questions/ Items in Tool	Section 1 (Governance)	2A (Academic Structure)	2B (Operational Structure)
	Returned	Loss				
Data collection for Factor Analysis	5 (38.5%)	8 (61.5%)	85	6	35	44

Five completed questionnaires (38.5%) were used to run exploratory factor analysis and determine the internal reliability of the questions: six respondents returned the questionnaire; however, one questionnaire was incomplete and excluded. Also, one respondent refused to participate, and two participants answered the tool together and hence their response was counted as one.

Exploratory factor analysis split the tool into five sections: *Section 0*: 30 questions of zero variance; *Section 1*: 16 questions; *Section 2*: 14 questions and *Section 3*: eight questions and *Section 4*: five questions (see table 5.10). The questions that obtained a factor loading ranging from 0.9-0.2 (43 questions), and questions that obtained zero variance (30 questions), were included in the provisional tool (73 questions in total). Some questions with a low factor loading of 0.2 were also included because they did not affect the internal reliability of the tool. Table 5.11 outlines the questions that obtained a factor loading ranging from 0.9-0.2.

Table 5.10: Illustrates the Statistically Related Variables from Various Sections of the Preliminary Tool (Question Clusters after Exploratory Factor Analysis)

SECTION 0 (n=30) (**ZERO VARIANCE QUESTIONS**)
Governance [Gov] (n=2) i. Which of the following policies inform your physiotherapy clinical education programme? · Macro level: DHET, DoH (HPCSA, act 54 of 1974) · Meso level: University policies · Micro level: Departmental policies (Question 1 [Q1]) ii. Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme? (Q6)
ACADEMIC STRUCTURE [AS] (n=12) i. If the clinical site is greater than 60 km away from the University, do you provide free accommodation for your students at the clinical site? (Q2) ii. What resources do you have that strengthen your clinical education programme? (Q3) iii. Which of the following graduate attributes do you strive for? (Q5) a) Professional b) Communicator c) Collaborator d) Leader/manager e) Health Advocate f) Scholar iv. Describe the clinical exposure that students experience in your institution (Clinical exposure refers to cardiopulmonary, ICU, orthopaedics: in-patients & out-patients/sport; neurology; paediatrics, community/public health etc.) (Q7) v. Does the clinical exposure reflect the national/provincial burden of disease? (Q10) vi. How many clinical areas are the students exposed to in their years of undertaking clinical education as an examination subject? (list each year separately, and then add to obtain the total) (Q12) vii. How do your students travel to clinical sites? (Q17) viii. Is a standardised supervision structure applied across all clinical sites during the clinical block/rotation? (Q21) ix. Describe your remediation programme (RP), if available? (Q27) x. Which positive factors influence learning outcomes? (Q28) xi. Are there clear aims and objectives (AO) specified for each clinical exposure? (Q34 xii. Do you have a dedicated clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement? (Q35)

OPERATIONAL STRUCTURE [OS] (n=16)

i. Are students introduced to the multidisciplinary team at the clinical placement during orientation of the site? (Q3)

ii. Are the factors that affect learning considered during student supervision? (student's characteristics, resources and personal issues) (Q7)

iii. What methods of supervision are they engaged in? (Q10)

iv. Is each supervision session structured or spontaneous? (Q11)

v. Is the supervision session patient-centred or student-centred? (Q12)

vi. As supervision progresses from week to week during the allocated time of the student at the clinical placement, how is autonomy fostered by the supervisor? (Q14)

vii. Describe your teaching methods undertaken during clinical supervision sessions. (refer to definitions page) (Q15)

viii. When is feedback generally given during the supervision process? (Q17)

ix. What steps are taken to create a positive and safe learning environment at the clinical site? (Q20)

x. Are student's emotions (e.g. fear, anxiety, feeling overwhelmed) taken into consideration during clinical training or during clinical supervision sessions? (Q26)

xi. How are student issues resolved at the clinical placement? (Q27)

xii. How are operational issues pertaining to student training resolved at the clinical placements? (Q29)

xiii. What methods of evaluation are used to evaluate students during clinical practice? (Q40)

xiv. How are students evaluated by the clinician the clinical site? (summative or formative) (Q41)

xv. How are students evaluated by the University supervisor (summative or formative)? (Q42)

xvi. Do you have a dedicated clinician at the clinical site/placement* that liaises with the University should any operational or student issue arise at the clinical site/placement? (Q43)

Table 5.11: Factor Loading Scores of Questions in Preliminary Tool

	QUESTIONS (and the section each question appeared in the Preliminary Tool)	FACTOR LOADING
SECTION 1 (n=16)		
i.	How diverse is your clinical exposure with regard to the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care? (Q11 AS)	0.839
ii.	How many hours per week do students spend training clinically in their years of undertaking clinical education as an examination subject? (List year separately and then add to obtain the total) (Q13 AS)	0.839
iii.	What support structures are in place for your students? For example, mentor/ peer support programme/ debriefing etc. (Q25 AS)	0.839
iv.	Does institution autonomy supersede the guiding documents from the HPCSA? (Q3 Gov)	0.839
v.	Is there a structured clinical supervision programme in place for students? (Q31 OS)	0.839
vi.	Is there alignment between the curriculum and clinical exposure? (Q33 AS)	0.839
vii.	Are the students' learning style considered during clinical supervision? (Q6 OS)	0.839
viii.	Specify the percentage of student's own transport versus public transport versus university provided transport (Q18 AS)	0.677
ix.	List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme? (Q4 AS)	0.423
x.	Who accredits your clinical training sites? (Q15 AS)	0.801
xi.	Does an externally employed clinician (part-time) supervise students at the clinical site? (Q23 AS)	0.801
xii.	How is students' patient management facilitated at the clinical site? (Q4 OS)	0.801
xiii.	Are the expectations of the supervisor realistic, based on the level (year of study) of the student? (Q8 OS)	0.801
xiv.	Are your clinical training sites/placements accredited to train students? (Q14 AS)	0.749
xv.	Are basic clinical skills revised during supervision of students? (Q21 OS)	0.749
xvi.	Does an active Memorandum of Agreement exist between the university or your department and the clinical training sites? (Q5 Gov)	0.749
SECTION 2 (n=14)		
i.	How do you evaluate your physiotherapy clinical education programme? (Q1 AS = question 1 from Academic Section of preliminary tool)	0.753
ii.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation/block? (Q1 OS)	0.753
iii.	What method of feedback is used? (Q16 OS)	0.753

iv.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement? (Q2 OS)	0.699
v.	Are structured, debriefing sessions available at the clinical site through the mentor, supervisor or HOD? (Q22 OS)	0.474
vi.	How is the information obtained during debriefing sessions at the clinical site followed through? (Q23 OS)	0.476
vii.	Do students have an opportunity to share their clinical learning experiences (positive and negative)? (Q25 OS)	0.753
viii.	Are students aware of this process? (process of resolving issues at a clinical placement) (Q28 OS)	0.753
ix.	Are students orientated to all necessary areas (layout/architecture) of clinical placement? (Q33 OS)	0.476
x.	Are students orientated to all aspects and areas in physiotherapy department (equipment; forms; bathroom; student room; lockers etc) in which they are placed? (Q34 OS)	0.753
xi.	Do students receive dedicated supervision time from the clinician? (Q37 OS)	0.324
xii.	Reading and recording in patients' files: how are students guided through this process? (Q5 OS)	0.722
xiii.	Are the theory components completed prior to the clinical exposure?" (Q6 AS)	0.959
xiv.	Is the clinical exposure integrated? (Q8 AS)	0.699
SECTION 3 (n=8)		
i.	Do students receive dedicated supervision time from the University supervisor? (Q38 OS)	0.797
ii.	Describe your clinical supervisor training programme (Q19 AS)	0.692
iii.	How is student inter-professional collaboration ensured or encouraged at the clinical site? (Q24 OS)	0.692
iv.	Are policies and procedures of a clinical placement/site overtly communicated to students on the first day at the placement? (Q32 OS)	0.685
v.	Do students write a pre-block test prior to starting clinical training? (Q36 OS)	0.685
vi.	Do your students have the opportunity to learn a different language based on the language of clients they may be exposed to? (Q26 AS)	0.343
vii.	List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme? (Q4 AS)	0.276
viii.	State the method of supervision engaged? (group; one-to-one; peer-led; teacher-led etc) (Q44 OS)	0.208
SECTION 4 (n=5)		
i.	Which negative factors influence learning outcomes? (Q29 AS)	0.355
ii.	What is the student/supervisor ratio? (e.g 1sup:8st) (Q39 OS)	0.355

iii.	Has your clinical education programme been accredited by any professional body/organisation? e.g. WP; HPCSA (Q2 Gov)	0.66
iv.	Are the clinical educators permanently employed by the university?" (Q24 AS)	0.929
v.	Is the clinical exposure longitudinal? (Q9 AS)	0.784

Table 5.12 summarises the information presented in table 5.11. It illustrates the categorised statistically related variables that resulted from running exploratory factor analysis (n=73).

Table 5.12: Summary of Categories and Questions that Emerged after Exploratory Factor Analysis

Section 1 (n=16)			Section 2 (n=14)			Section 3 (n=8)			Section 4 (n=5)			Zero variance (n=30)	
Section	**Question**	**Factor Score**	**Section**	**Question**	**Factor Score**	**Section**	**Question**	**Factor Score**	**Section**	**Question**	**Factor Score**	**Section**	**Question**
Governance (Gov)	3 5	0.84 0.75	**Gov**	No questions	-	**Gov**	No questions	-	**Gov**	2	0.66	**Gov** (n=2)	1 6
Academic Structure (AS)	4 11 13 14 15 18 23 25 33	0.42 0.84 0.84 0.75 0.80 0.67 0.80 0.84 0.84	**AS**	1 6 8	0.75 0.96 0.69	**AS**	4 19 26 32	0.28 0.69 0.34 0.68	**AS**	9 24 29	0.78 0.93 0.36	**AS** (n=12)	2, 3, 5, 7, 10, 12, 17, 21, 27, 28, 34, 35
Operational Structure (OS)	4 6 8 21 31	0.80 0.84 0.80 0.75 0.84	**OS**	1 2 5 22 23 25 28 33 34 37	0.75 0.69 0.72 0.47 0.48 0.75 0.75 0.48 0.75 0.32	**OS**	24 36 38 44	0.69 0.68 0.79 0.2	**OS**	39	0.36	**OS** (n=16)	3, 7, 10, 11, 12, 14, 15, 17, 20, 26, 27, 29, 40, 41, 42, 43

Key: Gov = Governance AS = Academic Structure OS = Operational Structure

The internal consistency of all the variables (n=73) was calculated using Cronbach's alpha coefficient and yielded a score of **0.75**. This score indicates an **acceptable** level of reliability of all the items in the tool (Hulin, Netemeyer and Cudeck, 2001; Bolarinwa, 2015).

The researcher reviewed the provisional tool again and reduced more items due to redundancy/repetition and eloquence which resulted in the final tool containing 58 questions. Additionally, the researcher reorganised the sections of the tool based on experience as a clinical coordinator (praxis), which then contained six sections (see table 5.13 – a summary of the results of this chapter):

i. Governance
ii. Academic Processes
iii. Learning Exposure
iv. Clinical Orientation
v. Clinical Supervision
vi. Quality Assurance & Monitoring and Evaluation

Table 5.13 provides an overview of all the results of all the data collection stages in this phase of the study.

Table 5.13: Summary of all the Data Collection Stages in this Phase and Development of the Final Tool

The Stages of the Study Phase:	No. of questions in each subsection			Total no. of Questions	80% Consensus
	Section 1 (Governance)	2A (Academic Structure)	2B (Operational Structure)		
Delphi 1	17	55	59	131	49 questions
Delphi 2	8	36	37	81	59 questions
Delphi 3	5	30	29	64	Not required
Item Reduction stage (after Delphi 3 and before Factor analysis)	6	35	44	85	Not required
Post Factor Analysis	Five sections emerged (see table 5.12 above)			73	Not required
Provisional Tool (73 items)	Further reduction of items after factor analysis due to redundancy, eloquence, and praxis. **NB:** The aforesaid process of item reduction took place in all data collection stages in this phase of the study; hence numbers for the total no. of questions may not tally as expected.			58	Not required

FINAL TOOL: VN-CPET **58 Questions** **6 sections:**					
Section 1 Governance (5 questions)	**Sect1on 2** Academic Processes (5 questions)	**Section 3** Learning Exposure (6 questions)	**Section 4** Clinical Orientation (7 questions)	**Section 5** Clinical Supervision (16 questions)	**Section 6** Quality Assurance & Monitoring and Evaluation (19 questions)

5.3 DISCUSSION

The Delphi methodology is well known in health and is widely used to obtain input or consensus from a group of experts where there is doubt or a dearth of evidence, lack of agreement or incomplete knowledge (Powell, 2003; Okoli and Pawlowski, 2004; Hsu and Sandford, 2007; Diamond *et al.*, 2014; Trevelyan and Robinson, 2015). It is a popular methodology because of its non-contact/non-face-to-face approach, and where statistical methods are not possible. It can also facilitate a wide group of participants from various geographical locations (Trevelyan and Robinson, 2015). The key features of the Delphi method are participant anonymity; iteration with controlled, structured feedback; expert input and statistical aggregation of group responses (Diamond *et al.*, 2014; Trevelyan and Robinson, 2015). These key recommendations were followed in this study.

The Delphi process in this study was used to obtain consensus of items to be included in the tool. It seems that confusion exists in defining consensus (Diamond *et al.*, 2014), and the most common definition found regarding consensus was percent agreement, with 75% agreement typically used (Diamond *et al.*, 2014). Trevelyan and Robinson (2015) also asserted that consensus must not be confused with agreement or stability of response. They stated that *consensus* measures the extent to which participants *agree with each other*, while a*greement* measures the extent to which participants *agree with the statement* under consideration, and *stability* measures *internal reliability* (Trevelyan and Robinson, 2015). It can therefore be rationalised that the research question will determine whether consensus or agreement is sought.

Three Delphi rounds have been recommended to prevent participant fatigue, with *a priori* criterion set (Powell, 2003; Trevelyan and Robinson, 2015). A *priori* knowledge means that knowledge comes from reasoning, while *posteriori* knowledge, is knowledge based on experience or personal observation (www.merriam-webster.com/dictionary). This study sought a *posteriori* consensus which was set at 80% (Maleka, Stewart and Hale, 2017), over three rounds. Participant fatigue was noticed in round three in this study, with a response rate of 41% (n=80), compared to 70% (n=80) and 91% (n=56) in rounds one and two respectively (table 5.7 outlines the summary of Delphi rounds). Round one

Following the Delphi process, exploratory factor analysis further reduced the data set to 73 items. Item reduction is an important step, firstly because a shorter tool leads to more respondent participation (the length of VN-CPET was noted as a weakness in this study – see figure 6.3, page 93 in chapter 6) and secondly, because a lengthy tool can infer an incorrect high degree of reliability (Tavakol and Dennick, 2011; Bolarinwa, 2015). My experience as a clinical coordinator enabled me to reduce the number of items in the tool,

which were reviewed and verified by my study supervisors. Throughout the data collection process in this phase of the study, the tool was scanned for redundancy and eloquence: redundant questions were removed, questions were rephrased, and a few questions were split into separate questions, as per participants feedback in the Delphi rounds. Furthermore, the sections of the tool were also rearranged to six sections and renamed, because of my experience and insight into a physiotherapy clinical education programme. I was able to evaluate the questions for its meaning and thus rearrange them where I thought was a best fit. The final number of items in the tool were 58.

Valid and reliable tools enhance the accuracy of a measuring tool (Tavakol and Dennick, 2011); therefore what a tool intends to measure, and the ability to measure the construct consistently is assured, if statistically found to be valid and reliable (Tavakol and Dennick, 2011; Bolarinwa, 2015; Taber, 2018). The internal consistency (a measure of reliability) is the extent to which items measure the same concept or construct, was found to be acceptable for VN-C. This means that the inter-relatedness of the items is satisfactory, and thus the tool will always measure the diverse, complex and multidimensional construct of physiotherapy clinical education consistently or dependably. A high internal consistency (>0.90) conversely does not always mean the tool or instrument is more reliable; it could indicate that there is a high degree of redundancy of the items and is measuring the same concept in a different way (McCrae *et al.*, 2011; Tavakol and Dennick, 2011; Taber, 2018). An acceptable internal consistency appears to be more suitable for a newly developed tool (Tavakol and Dennick, 2011; Bolarinwa, 2015; Taber, 2018).

When it comes to naming factors, there are no rules pertaining to naming of the factors; names are given based on what best represents the variables within the factors (Yong and Pearce, 2013). Thus, the following names were given to the factors/categories based on the questions in each category.

1. Governance
2. Academic Processes
3. Learning Exposure
4. Clinical orientation
5. Clinical supervision
6. Quality Assurance & Monitoring and Evaluation

(refer to chapter 7, page 111-114)

The name of the tool, Vaneshveri Naidoo Clinical Programme Tool (VN-CPET) was eventually based on the researchers' preference as explained in section 5.2.3.3.1, p75. The purpose of this tool is fully explained in chapter 7 (section 7.2, p108-110).

5.4 CONCLUSION

One hundred and thirty-one items were reduced to 58 items following consensus of items using the Delphi methodology, exploratory factor analysis and praxis. The tool was named as well, the Vaneshveri Naidoo Clinical Programme Evaluation Tool (VN-CPET), through the Delphi process and, VN-CPET was found to have acceptable reliability (0,75). VN-CPET comprises of six sections with 58 items in total, which measures the construct of physiotherapy clinical education. The construct validity of VN-CPET was also determined and will be discussed in the next chapter – chapter 6.

CHAPTER 6

6. PHASE 3: CONSTRUCT VALIDITY

6.1 INTRODUCTION

The aim of this phase of the study was to determine the construct validity of the preliminary tool by assessing the feasibility and utility of the newly developed tool. Construct validity, the ability of an instrument to measure an abstract concept or theoretical construct (Portney and Watkins, 2009; Bolarinwa, 2015), is a measure of how meaningful the instrument is when used practically (Bolarinwa, 2015).

Establishing the validity and reliability of a newly developed tool is essential to determine the consistency with which an instrument measures a variable (reliability), and the degree with which an instrument measures what it intends to measure (validity) (Portney and Watkins, 2009).

6.2 METHODOLOGY

6.2.1 Type of study

This was a quantitative study. This method was employed as there was no other tool available against which the convergent or divergent validity of this tool could be compared.

6.2.2 Study Population and Participants

A sample of convenience was used. Participants from around the globe were invited to participate. Table 6.1 outlines all the invited participants.

6.3 PROCEDURE

A survey was used to collect the data in this phase of the study. The resultant 58 questions following factor analysis were loaded onto REDCap and purposively forwarded to both national and international physiotherapy academic departments to test the feasibility and utility of the tool. The invitation, information letter and a link to the on-line tool: **Vaneshveri Naidoo Clinical Programme Evaluation Tool (VN-CPET)** (Appendix 17) were emailed to the universities in the countries listed in table 6.1. VN-CPET was emailed to the Heads of Departments and/or clinical coordinators of each university (that is the tool was emailed to the HOD only where departments did not have a clinical coordinator, and to both the HOD and clinical coordinator in departments that had a clinical coordinator, and therefore it was emailed to 35 participants in total.

Table 6.1: Phase 3 Participants

Country	University
Africa: ▪ Ghana ▪ Malawi ▪ Rwanda ▪ Uganda ▪ Zambia ▪ Zimbabwe ▪ South Africa	- University of Ghana - University of Malawi - University of Rwanda - Mbarara University of Science and Technology - University of Zambia - University of Zimbabwe - Sefako Makgatho Health Sciences University (SMU) - University of Cape Town (UCT) - University of Kwazulu-Natal (UKZN) - University of Pretoria (UP) - University of Stellenbosch (US) - University of the Free-State (UFS) - University of the Western Cape (UWC) - University of the Witwatersrand (Wits)
Australia	- University of Newcastle (UoN) - University of Sydney
Canada	- University of Alberta
England	- Keele University - University of Brighton (UoB) - University of Southampton
Europe	- University of Jyväskylä
Middle East	- University of Saint-Joseph-Lebanon
New Zealand	- University of Otago
Singapore	- National University of Singapore
USA	- University of Stockton New Jersey - University of Florida
South America	- University of São Paulo

The participants were asked to complete the tool and answer the following questions relating to the feasibility and utility of the questionnaire:

1. Does this tool evaluate what you consider to be important regarding clinical education?
2. What are the strengths of this tool?
3. Indicate the weaknesses of this tool?
4. Is this tool useful/potentially useful for your institution?

6.4 DATA ANALYSIS

The qualitative data were tabulated verbatim, and descriptive statistics, frequencies and percentages, were used to analyse it by means of bar graphs.

6.5 RESULTS

The results of the study are presented in the tables 6.2 and 6.3. Table 6.2 shows the response rate and table 6.3 displays the verbatim responses of the enquiry (see four questions above, section 6.2).

Table 6.2: Response Rate

Participants (n=35)	
Response rate	25 (**71%**)
Completed questionnaires	17 (68%)
Incomplete questionnaires	8 (32%)

A response rate of 71% was obtained, with 68% of the participants fully completing the questionnaire. Participants who did not complete the questionnaire (32%) mostly omitted the feasibility and utility questions relating to the questionnaire.

Table 6.3 specifies the seven international universities, and six South African universities that participated in the survey.

Table 6.3: Universities that participated in the survey

Participating Universities	
International	**South African**
• University of Alberta (Canada) • University of Malawi (Africa) • University of Saint-Joseph-Lebanon (Middle East) • University of Brighton (UK) • University of Otago (NZ) • Keele University (UK) • University of Newcastle (Australia)	• Sefako Makgatho Health Sciences University • University of Kwazulu-Natal • University of Stellenbosch • University of the Free-State • University of the Witwatersrand • University of the Western Cape

Table 6.4 displays the verbatim responses obtained from the participants regarding the feasibility and utility of VN-CPET.

Table 6.4: Participant Responses regarding the Feasibility and Utility of VN-CPET

NO	PARTICIPANT NO.	SURVEY QUESTIONS				
		Does this tool evaluate what you consider to be important regarding clinical education?	What are the strengths of this tool?	Indicate the weaknesses of this tool?	Is this tool useful for your institution?	Other comments
1.	2 International)	Yes, with some additional items not really applicable to our context or to the quality of the clinical education program	It is comprehensive,	The ratings for each item do not always make sense or align with the item and perhaps needs revision. Or the item is something that asks whether it happens - all students get an orientation - if I don't provide the orientation, I cannot state that it takes place all the time. I hope it does, we encourage the supervisors and student to talk about learning style and expectations, but this does not happen every time. And the university wouldn't know whether it will not happen. There were a couple instances where I was not sure what the item was referring to.	Yes and no. Some of the items are good to think about if starting out. And they are comprehensive. We are an accredited program. Our accreditation standards outline what needs to be in place to support students on clinical placement. Some items are not applicable outside of South Africa	
2.	11 (International)	Yes	It covers almost all areas that are critical in clinical education	Some questions seemed to be specific to South African physiotherapy programmes.	Yes. However, some items that are specific to SA could be modified	None
3.	26 (Local)	Yes	Comprehensive	too long; at the end of the day still only a descriptor of 'facts' and I am not sure how the answers to these statements/questions provides answers related to the effective of the UG PT program.	Yes, as it does serve as a benchmarking opportunity regarding expectations	Good luck with finishing this – it's an enormous amount of work!!!
4.	6 (International)	It seems very subjective. There is a big difference between 'always' and 'sometimes'!	Interesting to breakdown components of what makes up a clinical education programme.	The fidelity of the assessment. I can say we 'always' do this but who checks this?	Perhaps? The discussion between staff members within the same faculty to discuss interpretations of questions and how and why they answered differently could be valuable?	
5.	5 (International)	yes	it is the first of it kind it is a good tool need it in education it highlight the field required for a good clinical education	it should take in consideration the situation of each country	Yes it is, refer to the strengths of this tools	
6.	20 (Local)	Yes.	The tool is very comprehensive and although lengthy, easy to complete. The total scores at the end of completion makes it easy	Question 45 - the 'always; sometimes; never' response options are not appropriate for the question. It may be beneficial to categorise the questions into the sections (as they are	Definitely - it provides departments with a tool to monitor the immediate / current programme; gives a very clear indication of the areas that should be	If the tool is not going to be for online implementation (i.e. going to be distributed for

NO	PARTICIPANT NO.	SURVEY QUESTIONS				
		Does this tool evaluate what you consider to be important regarding clinical education?	**What are the strengths of this tool?**	**Indicate the weaknesses of this tool?**	**Is this tool useful for your institution?**	**Other comments**
			to identify shortcomings in terms of clinical education.	scored at the bottom) - in that way, when the tool is used, the user / Department will know exactly which 'questions' to address to improve a specific subsection. For example: if all the governance questions are listed under a 'governance' heading and a score of 80% is obtained, the user can go back to the tool and identify specific weaknesses in the program and address it. The terminology is a bit tricky - and reading and re-reading the terminology makes the tool longer to complete. My suggestion would be to simplify the terms into three broad categories - the clinicians and supervisors and clinical coordinators. The 'clinical educators' that are mentioned in some questions (especially when the question is after or before a question about the supervisors / clinicians) 'throws' one off the flow of the questionnaire (I hope this makes sense)	addressed to improve clinical education and could be used as a monitoring / research tool to evaluate clinical education nationally (and potentially internationally)	implementation in a paper format) I would like to suggest the addition of a totals column / some sort of scoring clarification (i.e. if the person who is going to implement it has to do their own calculations). - this will definitely aid with the reliability of the tool.
7.	21 (Local)	Yes, definitely	This is comprehensive, multi-faceted tool covering all key points for designing and assessing a clinical training programme.	Some of the drop-down responses are a bit generic/vague	This tool will be wonderful to share with our clinical sites and use as a departmental checklist to make sure we have consistency and quality in our clinical programme	Well done for all your hard work. I look forward to it being a tool we can use across all SA universities.
8.	28 (International)	Not really.	It recognises the wide range of influences on clinical placement practices.	It is very South Africa facing - naturally, but this does not translate well to the UK, where I think more of the fundamental underpinning re legislation and regulation are in place. What we audit, and I think I've already sent you our audit tool is more of the detail of environment and experience for students. What is the role and expectation of students, how can we support them, what things need to be in place for them to flourish?	Not really for the reasons given above.	I'll send you our audit if you don't have it already. Hope this helps!

NO	PARTICIPANT NO.	SURVEY QUESTIONS				
		Does this tool evaluate what you consider to be important regarding clinical education?	**What are the strengths of this tool?**	**Indicate the weaknesses of this tool?**	**Is this tool useful for your institution?**	**Other comments**
9.	32 (Local)	It is very comprehensive.	Very considerate and specific with regard to physiotherapy.	It takes a long time to complete e.g. mine took 1 hour and 20 minutes.	Could be if it were modified for our programme.	All the best!
10.	4 (International)	Many aspects	Comprehensive	Much too long, difficult to answer for different years of the programme, repetition in places, not easy to get back to definitions page	Would need to be shortened considerably. Would be good framework to use for self-evaluation.	
11.	8 (International)	Mostly yes	Include important elements of CE	No opportunity for more free text responses. As UK Physiotherapy education providers our CE model varies somewhat so some responses haven't been appropriate for our models.	Probably not as written just now. and too long, but a condensed, modified version may be in future. Good luck and best wishes!	
12.	3 (Local)	Not sure if my answers in this section are going to be that useful given that the structure of placements might differ between the two countries. It seems to cover all of the main issues.	Comprehensive. Interesting idea to give the respondent a series of scores - hard though to know what's a good score and what isn't!	It is long but then it does cover a lot of important issues. Need to know what the scores mean.	it might be - depends on the way it's meant to be used, the reliability and validity of the scores and outcomes and the development of strategies to address areas found to be weaknesses!	
13.	25 (Local)	To a certain extent. However, the depth required to *really* answer some of the questions is not realistic given the format of the tool.	It's relatively varied and covers a wide range of what we might consider to be important with respect to clinical education.	Writing a text response to a complex question is challenging. As a respondent, I really need to care to give you the depth of response that would make it useful to you. Yes/No responses are generally useless given the complexity of what you're exploring. Expecting one person to know the answers to all of these questions is a high bar. Even if you give the tool to different people in the same institution, I expect its utility would be limited. I think that it's probably more useful to speak to the actual clinical supervisors about many of these things, since they're the people actually implementing the clinical programme. Alternatively, have different models for different people, depending on	Not especially. I would prefer an interview-type format that allows for richer engagement with concepts.	No.

NO	PARTICIPANT NO.	SURVEY QUESTIONS				
		Does this tool evaluate what you consider to be important regarding clinical education?	**What are the strengths of this tool?**	**Indicate the weaknesses of this tool?**	**Is this tool useful for your institution?**	**Other comments**
				their responsibilities within the clinical programme.		
14.	24 (Local)	Yes, definitely	It can assist bench marking of clinical education. Similarities and differences can be highlighted. Universities can share and not re-invent the wheel	None	Yes, it is important to critically reflect and identify strengths and weaknesses.	Good luck with everything. This is a very valuable tool. Thank you
15.	16 (Local)	I believe it does!	Covers everything and can be completed by both FW (fieldwork) coordinator; students and clinical tutors to really assist with curriculum review process; particularly for FW component. - the percentages at the end are phenomenal; gives one a concrete idea of where you are, and which areas need focused attention in order to improve.	Length of tool, for good quality information it really requires an insightful and deliberate completion of questions. Not to be rushed or done haphazardly.	Yes! It quantifies the thought processes behind the arrangements that FW coordinators need to implement when arranging FW blocks. Makes the process of FW arrangement systematic and allows for a checking system to ensure that all bases are covered during fieldwork planning.	The aspects of this tool is not specific to physiotherapy and thus can be used for all healthcare disciplines with a fieldwork component to it, my suggestion then would be to replace the "physiotherapy" specific descriptors with just "student" or "within your discipline".
16.	22 (Local)	Yes	Identifying strengths and weaknesses that is easily identifiable with the tool	Maybe include a section regarding the number of clinical sites (hospitals) and the number of students selected.	Yes, would be useful to identify areas to improve upon	Well done!
17.	23 (Local)	Yes	Comprehensive	Hope people don't find it too long to complete.	Yes	

The results of table 6.4 have been extrapolated and are graphically portrayed, in Figures 6.1, 6.2 and 6.3.

The graphs, figure 6.1; figure 6.2 and figure 6.3 summarise the tabulated feedback as follows:

- Feasibility and Utility of VN-CPET
- Strengths of VN-CPET
- Weaknesses of VN-CPET

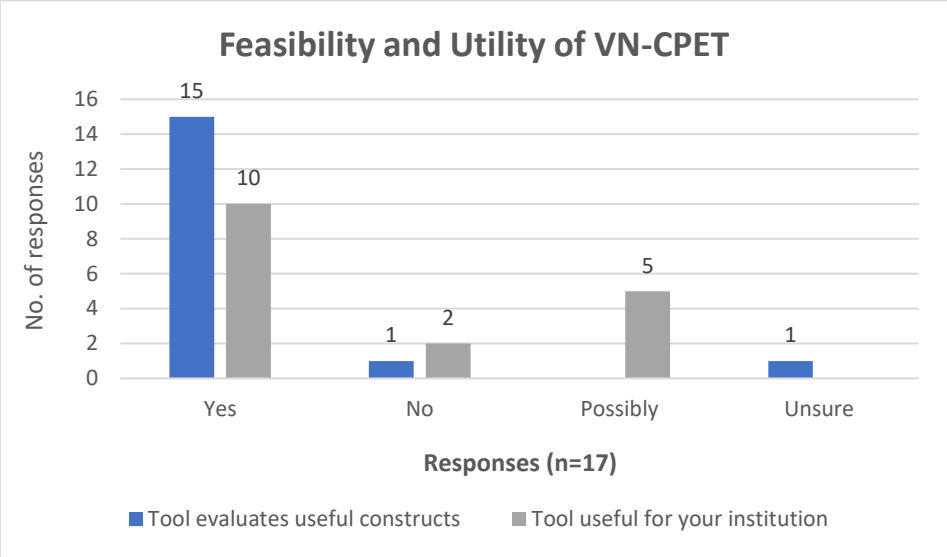

Figure 6.1: Feasibility and Utility of VN-CPET

In figure 6.1 88% of the respondents found that VN-CPET evaluates useful constructs of clinical education, while 59% indicated that VN-CPET would be useful for their institution. Two (12%) respondents indicated that the tool was not useful for their institute, while one (6%) thought it did not measure useful constructs. Twenty-nine percent (29%) thought it was likely to be useful for their institute, thus elevating the institutional usefulness of the tool to 88%.

Table 6.5 Summary of Participant Responses regarding the Utility of VN-CPET

Global responses to utility of VN-CPET		
Useful	**NOT** Useful	**Potentially** useful (with modification)
3 international universities 6 local universities (5 – physiotherapy and 1 non-physiotherapy dpt.)	1 international university 1 local university	3 international universities 1 local university (non-physiotherapy dpt.)

Table 6.5 provides a summary of the responses to the utility of VN-CPET. It should be noted that purposive sampling was used and therefore these results cannot be generalised, except for South Africa, where the majority of the universities find VN-CPET useful. It can be noted that with modification VN-CPET can be adapted to suit various contexts.

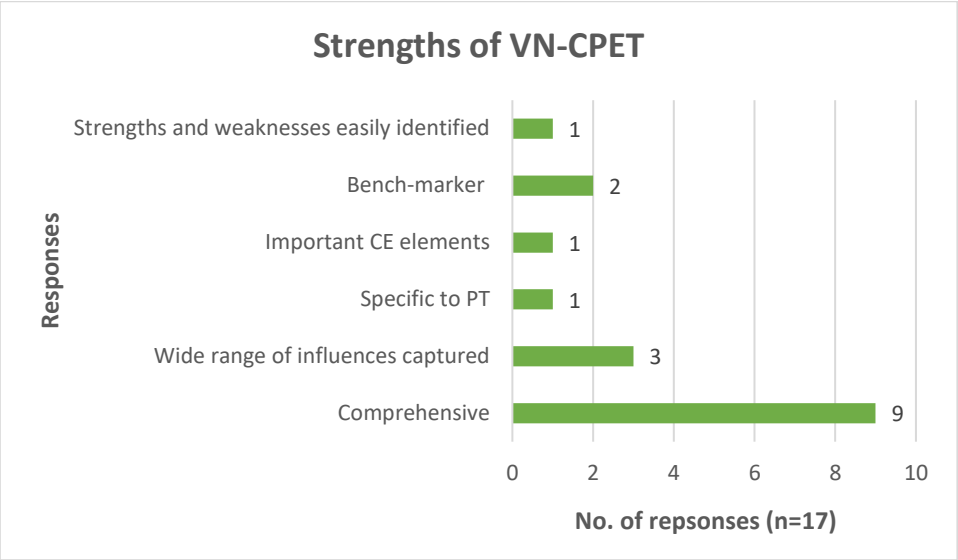

Figure 6.2: Strengths of VN-CPET

Most of the respondents (53%) in figure 6.2 Indicated that the *comprehensiveness* of the tool was a noteworthy strength, followed by the *wide range of influences* that were captured (18%), and 12% thought it was a *bench-marker*.

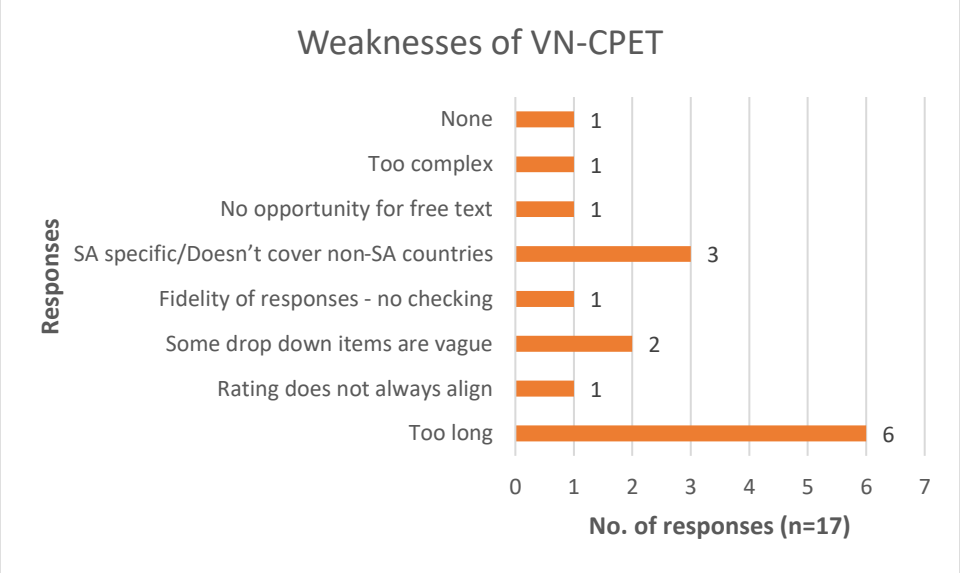

Figure 6.3: Weaknesses of VN-CPET

The most significant weakness cited was that VN-CPET was "*too long"* (35%). Three respondents (18%) thought it was "*specific to the SA context/didn't cover other countries,"* while the remainder of the responses were marginal - see figure 6.3.

6.6 DISCUSSION

The development of VN-CPET, a tool that evaluates a physiotherapy clinical education programme was necessary, as there is no tool that evaluates a physiotherapy clinical education programme independently and reliably. Clinical programme evaluation is inadvertently overlooked during the curriculum review process which is largely focused on the theoretical component; researchers have confirmed the complexity of physiotherapy clinical education (Higgs, 1993; Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; McCallum *et al.*, 2013; Jette *et al.*, 2014), and therefore a standardised tool that can independently evaluate this complex and central component of the physiotherapy curriculum was needed. Fifty-three percent of the respondents found VN-CPET to be comprehensive, while seven percent found that it covered a wide range of influences, thus a total of 71% of the respondents have acknowledged the complexity of physiotherapy clinical education and that this tool, VN-CPET, addresses this complexity.

In this study (previous chapter), internal reliability was established using Cronbach's alpha and was found to be acceptable (0.75), and as previously mentioned, an acceptable alpha is deemed more appropriate in a newly developed tool, than a high alpha (refer to chapter 5, pg. 81). Also, face and content validity were established in chapters 5 (pg. 66).

Construct validity, was measured by determining the feasibility and utility of VN-CPET, using the following questions:

1. Does this tool evaluate what you consider to be important regarding clinical education?
2. What are the strengths of this tool?
3. Indicate the weaknesses of this tool?
4. Is this tool useful for your institution?

Weiner et al (2017) confirmed that the acceptability, appropriateness, and feasibility of an instrument must be determined in order to ensure its' implementation. **Acceptability** refers to the innovation as satisfactory or agreeable, as perceived by implementation stakeholders; **Appropriateness** is the "the perceived fit, relevance, or compatibility of the innovation" and **Feasibility** is defined as the "extent to which the new innovation can successfully be used or carried out within a given setting".

Acceptability and *appropriateness* can be inferred from the question, "Does this tool evaluate what you consider to be important regarding clinical education?" – 88% of the respondents indicated that VN-CPET evaluates important components of physiotherapy clinical education, hence confirming that VN-CPET is acceptable and appropriate. Feasibility was addressed by: "Is this tool useful for your institution?" – 59% indicated that it was. Therefore if 88% found

VN-CPET appropriate and acceptable, and 59% said that it can be successfully used in their institution, VN-CPET is thus an appropriate and useful tool to evaluate physiotherapy clinical education.

Feasibility, acceptability and appropriateness of VN-CPET was further determined by assessing the strengths and weaknesses of the tool: 53% of the respondents found VN-CPET to be very comprehensive, it captured a wide range of influences (18%) and was found to be a bench-marker (12%); while 35% thought that VN-CPET was too long, a drawback that appears to impact utility only. Participant fatigue may also be inferred from the number of incomplete responses (21%) due to the length of the tool – this will be addressed following this study.

The utility of the tool could be inferred from the feasibility and strengths of the tool. The majority of the participants (SA and internationally – table 6.5) will use VN-CPET to evaluate their clinical education programme, even though a shorter version would be preferred. However, a minority (one local and one international did not find VN-CPET useful in its present form, while a few (international and local-non physiotherapy) indicated that with modification it is likely to be useful. VN-CPET is thus found to be acceptable, appropriate and feasible for the majority.

The weaknesses of the tool will be tackled with when further refinement (validity and reliability) of the tool occurs, especially pertaining to the scoring, the objectivity, and the length of the tool. It must be noted that there was space for elaboration of open-ended questions even though a respondent indicates the contrary. Even though this tool has been criticised for being context specific, some respondents have indicated that it could be easily modified to suit another context, as well as suit another profession like Occupational Therapy and Speech and Audiology. However, it is noted that purposive sampling was used, and that careful consideration is given to all views.

6.7 CONCLUSION

VN-CPET has captured the complexity and diversity of clinical education, due to its strength of being “comprehensive” and capturing a “wide range of influences”. Even though lengthy, it was found to be acceptable, appropriate and feasible by the majority of the participants. Moreover, VN-CPET is a valid and reliable tool.

CHAPTER 7

7. DISCUSSION

7.1 INTRODUCTION

In this study, I developed and validated a tool that evaluates a physiotherapy clinical education programme: the Vaneshveri Naidoo Clinical Programme Evaluation Tool (VN-CPET). This tool, a first of its kind, was my response to a call made by several authors (Higgs, 1993; Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; C. A. McCallum *et al.*, 2013; Jette *et al.*, 2014), who tried to evaluate the quality of physiotherapy clinical education, but found the diversity and complexity of physiotherapy clincial education programme tricky to navigate. Comparing "apples with apples" was impossible. Moreover, this evaluative gap was compounded by the lack of a valid and reliable appraisal tool – a gap now filled by VN-CPET. This now means that there is a starting point or a base from which this multidimensional, complex, and diverse programme, can be evaluated. It also means that the quality of specific aspects of the programme can be explored, and appropriate quality assurance measures can be introduced or incorporated. So overall, VN-CPET provides the ability to evaluate physiotherapy clinical education programme inclusively and reliably.

The strength of VN-CPET lies in its rigorous development using mixed methods – qualitative and quantitative methodology (Strohschein, Hagler and May, 2002). The South African context is by no means a barrier to global physiotherapy clinical education, empirically evident by the WP congresses. Educational research conducted within the South African context has been well received and discussed on a par at symposiums held at WP. The educational framework of physiotherapy clinical education is the same, despite the different context.

Seven out of eight universities in SA participated in this study which began with focus group discussions at each of the participating universities and included all stakeholders involved in physiotherapy clinical education (educators; clinicians/managers and students) to inductively determine the items that should be included in the tool, via thematic content analysis. The robust discussions yielded three themes (governance; structure and clinical experience) which were re-categorised in the preliminary tool as: *Governance, Academic Structure* and *Operational Structure* with a total of 131 items. Using the Delphi process, these items were reduced to 108 items. A further reduction of items was undertaken (n=73) and reorganisation of the sections in the tool took place during exploratory factor analysis. The 73 items were further reduced to 58 because of conceptual overlaps. The provisional tool of 58 items and six sections (*Governance; Academic Processes; Learning Exposure; Clinical Orientation;*

Clinical Supervision and Quality Assurance and Monitoring & Evaluation) was validated globally by academics involved in physiotherapy clinical education. The majority declared it to be useful and feasible in varied contexts (Africa, North America and the Middle East), albeit it being rather long, while the UK and one South African University did agree with its usefulness and a New Zealand, SA and UK university thought it had the potential to be useful. Even though this tool considers everything that is important in developing and monitoring a physiotherapy clinical education programme, it must be noted that purposive sampling was used, and therefore this tool has the protentional to be very useful.

7.2 VANESHVERI NAIDOO CLINICAL PROGRAMME EVALUATION TOOL (VN-CPET)

The numerous items (131) that were generated in the preliminary tool demonstrate the breadth and depth of physiotherapy clinical education stated by several scholars who tried to evaluate a physiotherapy clinical education programme (Higgs, 1993; Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; C. McCallum *et al.*, 2013; Jette *et al.*, 2014).

VN-CPET will be presented in part (without the scoring section) (see tables 7.1-7.6), to demonstrate the complexity of clinical education and to discuss the relevance of each section with regard to a physiotherapy clinical education programme.

Table 7.1: Section 1: Governance

No	SECTION 1: GOVERNANCE
1.	Which of the following policies inform your physiotherapy clinical education programme? ▪ Macro level: DHET, DoH (HPCSA, act 54 of 1974) ▪ Meso level: University policies ▪ Micro level: Departmental policies
2.	Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme?
3.	Does institution autonomy supersede the guiding documents from the HPCSA?
4.	Does an active Memorandum of Agreement exist between the university or your department and the clinical training sites?
5.	How are challenging operational issues pertaining to student training resolved at the clinical placements?
6.	Are students aware of the conflict resolution process that must be followed?

Governance (Table 7.1 - section 1 of the tool) refers to a multitude of factors: people, roles, structures, and policies. It is a framework under which stakeholders perform activities within regulated boundaries. The framework includes legislation, regulation, policy, processes, and a value system that enables organisations to meet their goals (Khan, 2015). In this section of the tool, governance refers to policies and agreements that guide the educational programme at a macro, meso and micro level. Programme governance establishes

processes and provides a structure for communication, implementation, and monitoring. It also ensures that policies and best practices are followed. Additionally, it ensures that the programmes goals and objectives are aligned with the larger institutional and regulatory bodies.

A Memorandum of Agreement (MOA) and a Memorandum of Understanding (MOU) are synonymous terms (there is no established legal difference), and are written agreements between two parties, describing a cooperative relationship between two parties wishing to work together on a project or to meet an agreed upon objective. The purpose of the MOA is to have a written understanding of the agreement between the parties and provides a simple but effective format to enter into a general agreement prior to finalizing a more detailed contract or agreement with a party (https://definitions.uslegal.com/, accessed 21 Aug 2020). The MOA in physiotherapy clinical education contains information pertaining to the requirements of student training – clinical objectives that students should achieve; clinical supervision requirements; student evaluation; training hours; clinical orientation; administrative requirements and policies and procedures of the specific clinical site.

In South Africa, a MOA is drawn up between the Regional Department of Health and Department of Higher Education for government clinical training sites. However, when private health facilities and non-governmental organisations are used as a clinical training site, the MOA is drawn up between the physiotherapy academic department and that specific organisation.

Effective communication is essential in a complex field like clinical education where numerous stakeholders are involved. Clear channels of communication are required at different levels of interaction and between various stakeholders in the programme to ensure smooth daily operations. Poor communication often leads to misunderstanding, conflict, confusion, frustration, and poor patient care. The lack of structure and standardisation in communication is cited as a factor that results in poor communication (Foronda, MacWilliams and McArthur, 2016). Other barriers to communication include lack of confidence; lack of experience; complexity of health care; the distracting nature of the health care setting; gender, culture; ethnicity, linguistic differences, education, and communication style (Maguire and Pitceathly, 2002; Gluyas, 2015; Foronda, MacWilliams and McArthur, 2016; Hurtig, Alper and Berkowitz, 2018).

Good communication and interpersonal skills underpin good relationships and team work among all stakeholders (Gluyas, 2015; Foronda, MacWilliams and McArthur, 2016). Effective communication in this section of VN-CPET is covered by the MOA, policies pertaining to

operational matters and conflict resolution. Communication policies provide structure and standardisation of procedure. Communication policies are therefore vital to any organisation and their collaborators (Maiers, Reynolds and Haselkorn, 2005).

Table 7.2: Section 2: Academic Processes

No.	**SECTION 2: ACADEMIC PROCESSES**
7.	Are the theory components completed prior to the clinical exposure?
8.	Are there clear aims and objectives (AO) specified for each clinical exposure?
9.	What opportunities are available for students to learn different languages?
10.	Describe your remediation programme, if available?
11.	Describe your clinical supervisor training programme

This section of the tool (table 7.2) refers to the educational strategies that have been instituted to ensure adequate preclinical training (solid foundational roots in technical skills and theory), as well as the opportunity for students to redeem themselves should they have an unforeseen experience, that may hamper their progress.

Aims and objectives are important educational strategies that aid and direct learning. An aim is a broad statement that informs the learner what must be achieved at large – a statement of intent, whereas objectives are specific measurable outcomes that contributes to achieving the aim – they are more directive in nature: what; how; when (Noddings, 2007). Objectives tend to follow the SMART acronym: specific; measurable; attainable; realistic and timely (Tofade, Khandoobhai and Leadon, 2012; Bjerke and Renger, 2017). Aims and objectives are important learning and coping strategies for students as they enter a new realm. The specific learning direction or objective provides focus and aids success (achieving competence in a particular domain).

Communication difficulties can create disparity in patient care, especially when linguistic differences exist (Antia and Bertin, 2004; Diamond and Jacobs, 2010; Foronda, MacWilliams and McArthur, 2016; Howell *et al.*, 2020). Learning a different language can to some extent assist with overcoming the communication barrier, and hence explicit communication training is required in the health science curriculum which can include learning a different language but more importantly what is required, is how to work with an interpreter (Diamond and Jacobs, 2010; Vela, Fritz and Jacobs, 2016).

In health science education, clinical supervision is core to learning (Dahlstrom *et al.*, 2005; Kilminster *et al.*, 2007; Ernstzen and Bitzer, 2009; Patton, Higgs and Smith, 2018). During students' experiential learning, learning is facilitated by clinicians, by means of bedside

teaching - a process whereby learners learn both technical (e.g. clinical skills) and non-technical skills (e.g. communication skills and professionalism) in the presence of a patient, and assisted by a clinician (Salam *et al.*, 2011; Peters and ten Cate, 2014). Clinicians are not taught teaching skills in their undergraduate degree, because they are trained to be practitioners and not educators. Therefore, clinicians involved in teaching health science students require training in teaching skills, among other skills, like feedback and assessment, that are required to supervise a health science student (Higgs and McAllister, 2007b; Cantillon and De Grave, 2016). Skilful teaching requires training (Saphier and Gower, 1997), thus the need for a supervisor training programme. (Higgs, 1993; Higgs, Refshauge and Ellis, 2001)

Kilminster et al (2007) stated that supervisor training should include "understanding teaching; assessment; counselling skills; appraisal; feedback; careers advice and interpersonal skills". Furthermore, they state that supervisors need to be made aware of helpful and unhelpful supervisory behaviours. Helpful supervisory behaviour includes "giving direct guidance on clinical work, linking theory and practice, engaging in joint problem-solving and offering feedback, reassurance and providing role models", whereas unhelpful supervisory behaviours include "rigidity; low empathy; failure to offer support; failure to follow supervisees' concerns; not teaching; being indirect and intolerant and emphasizing evaluation and negative aspects". Moreover, effective supervisors need to have "good interpersonal skills, good teaching skills and be clinically competent and knowledgeable". The literature demonstrates that these "academic processes" that have emerged during this research process are salient constructs in physiotherapy clinical education (Higgs, 1993; Stachura, Garven and Reed, 2000; Strohschein, Hagler and May, 2002; C. McCallum *et al.*, 2013; Jette *et al.*, 2014).

Table 7.3: Section 3: Learning Exposure

No	SECTION 3: LEARNING EXPOSURE
12.	Does the clinical exposure reflect the national/provincial burden of disease?
13.	How diverse is your clinical exposure regarding the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care?
14.	Describe the clinical exposure that students experience in your institution. (clinical exposure refers to clinical experience in these areas: cardiopulmonary, ICU, orthopaedics: in-patients & out-patients/sport; neurology; paediatrics, community/public health etc.)
15.	How many clinical areas are the students exposed to in their years of undertaking clinical education as an examination subject? (list each year separately, and then add to obtain the total).
16.	How many hours per week do students spend training clinically in their years of undertaking clinical education as an examination subject? (List year separately and then add to obtain the total).
17.	Describe the nature of the clinical experience/exposure (longitudinal/integrated/silo)

Learning exposure (table 7.3) refers to the daily real-life clinical practice that students experience during their training. Undergraduate physiotherapy training prepares the graduate to be a generalist, where they need to know something about everything, and hence their clinical exposure must reflect and align with this wide scope of practice (www.hpcsa.co.za). Likewise, the country's burden of disease must also be reflected in the clinical training programme because graduates need to meet the needs of their country (Hirsh *et al.*, 2007). These factors are important considerations when choosing a clinical training site.

The structure of the clinical experience ultimately prepares the student for both clinical competency and lifelong learning and is dependent on many factors. Hence the amount of time a student spends in a clinical rotation versus the number of clinical rotations the student experiences in one academic year is dependent on the structure of the programme which is informed by governance, and available resources. The nature of the learning exposure however is not governance dependant, autonomy and available resources take precedence and therefore learning can take place in different formats, for example: the block/silo system (short term, randomly sequenced and discipline specific); a longitudinal exposure (long term of 6-12 months where continuity of patient care occurs across different disciplines); or integrated method (linking learning experiences between and across specialities of all core clinical disciplines simultaneously) (Hirsh *et al.*, 2007; Ogur and Hirsh, 2009; Thistlethwaite *et al.*, 2013).

Thistlethwaite et al (2013) advocate for longitudinal placements because students can develop competence in a patient-centred care approach. Moreover, students develop deeper insight and understanding of patient care across the different settings of care, from acute care to community integration by participating in a community of practice. This section of the tool affirms the value of consideration required for the learning exposure. The "where, when, how and the how-long" are critical factors in successful clinical learning.

Table 7.4: Section 4: Clinical Orientation

No.	**SECTION 4: CLINICAL ORIENTATION**
18.	Do students write a pre-block test prior to starting clinical training?
19.	Are policies and procedures of a clinical placement/site overtly communicated to students on the first day at the placement?
20.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation/block?
21.	Are students orientated to all aspects and areas in physiotherapy department (equipment; forms; bathroom; student room; lockers etc) in which they are placed?
22.	Are students orientated to all necessary areas (layout/architecture) of clinical placement?

23.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?
24.	Are students introduced to the interprofessional team at the clinical site when starting a clinical rotation/block?

In this section of the tool, table 7.4, attention is drawn to the importance and need of a clinical orientation programme. Orientation programmes are aimed to enhance student transition (vertically or horizontally) and student success as they adapt to a new environment (Perrine and Spain, 2008; Nguyen *et al.*, 2018). Orientation of a new clinical placement enhances learning by informing students of requirements and expectations; showing them where things are located and introducing them to team members/staff. This activity reduces the stress and anxiety associated with starting at a new clinical rotation or placement. Early familiarisation helps students fit in, feel part of a team, and motivates them (Worrall, 2007). Orientation helps develop a conducive learning environment as students become acclimatised and acquainted with policy, procedure and people.

This section of VN-CPET (table 7.5) exhibits the importance of clinical supervision, an indispensable construct of clinical education that requires continuous enquiry.

Table 7.5: Section 5: Clinical Supervision

No	**SECTION 5: CLINICAL SUPERVISION**
25.	Is a standardised supervision structure applied across all clinical sites during the clinical training?
26.	Is the supervision session patient-centred or student-centred?
27.	State the method of supervision used? (group; one-to-one; peer-led; teacher-led etc)
28.	Describe the teaching methods undertaken during clinical supervision sessions. (refer to definitions page)
29.	When is feedback generally given during the supervision process?
30.	What method of feedback is used?
31.	How is student autonomy fostered by the clinical educator?
32.	How is student inter-professional collaboration ensured or encouraged at the clinical site?
33.	Are basic clinical skills revised during clinical supervision?
34.	How is students' patient management facilitated at the clinical site?
35.	How are students guided with reading and recording in patients' files?
36.	Do students receive dedicated supervision time from the clinician?
37.	Do students receive dedicated supervision time from the university clinical educator?
38.	Are the factors that affect learning considered by the CE during clinical supervision? (student's characteristics; learning style; resources and personal issues/emotions: fear, anxiety etc.)
39.	Are the expectations of the supervisor realistic based on the level (year of study) of the student?
40.	What is the student/supervisor ratio? (e.g. 1sup:8st)

Clinical supervision is central to effective training of health science students (Kilminster *et al.*, 2007; Laitinen-Väänänen, Talvitie and Luukka, 2007; Delany and Bragge, 2009; Ernstzen, Bitzer and Grimmer-Somers, 2009; Ernstzen, Bitzer and Grimmer-Somers, 2010; Ernstzen and Blitzer, 2012; Patton, Higgs and Smith, 2013; Pront, Gillham and Schuwirth, 2016; Meyer, Louw and Ernstzen, 2019), and resounded strongly in this study, and is demonstrated in this quote (one of many): "*The clinical supervisor can make or break you*". Thus, clinical supervision and the relationship with the clinical supervisor, also known as the preceptor or clinical educator, is integral to teaching and learning, and achieving competency in health science education (Laitinen-Väänänen, Talvitie and Luukka, 2007; McAllister, Higgs and Smith, 2008).

Kilminster et al (2007) defined clinical supervision as "The provision of guidance and feedback on matters of personal, professional and educational development in the context of a trainee's experience of providing safe and appropriate patient care". This definition illustrates that the role of a clinical supervisor is equally complex like clinical education itself, where the educator changes roles and stance from the teacher, to the assessor, to the confidante, to the counsellor and the professional during the clinical supervision process (Higgs and McAllister, 2007a). This metamorphosis can create fertile ground for conflict which affects learning, and teaching. Also, the clinical educators themselves experience inner conflict as they struggle to maintain the balance between patient care, workplace administration and student teaching and care/support (Laitinen-Väänänen, Talvitie and Luukka, 2007; McAllister, Higgs and Smith, 2008). Therefore, standardisation in clinical education, and training of clinical educators, may help mitigate some factor that could obstruct teaching and learning in the clinical sphere.

Standardising clinical learning activities lessens disparity between groups and provides structure to learning. Secondly, clear expectations lesson confusion and conflict, and lastly, the changing role of the supervisor is anticipated as the activities change, further reducing stress and anxiety that students often experience during clinical practice (Nelson *et al.*, 2008). Learning activities pertaining to patient management (including inter-professional patient management); supervisor observing students manage patients; case discussions; feedback-regular and timely, and the assessment of students, are activities that can be standardised, whereas the model of supervision (one-to-one; group; collaborative) (Strohschein, Hagler and May, 2002; Moore *et al.*, 2003; Lekkas *et al.*, 2007), and the teaching technique (demonstration; lecture; facilitation; direct questioning; reflection) may vary depending on the learning outcome and need (Carlson, Wann Hansson and Pilhammar, 2009). Other activities such as debriefing and counselling must also be overt and take place when required. Lastly, as discussed above (section 2, Academic processes), and paramount to the success of

student's learning experience, clinicians must be trained in clinical supervision because the skills required of a clinical supervisor/educator are not inherent to all (Hope, 2003), even though it may be argued that physiotherapists are teachers by nature because they educate patients all the time and do not require training in teaching (Higgs and McAllister, 2007a).

Hence, standardisation may provide a largely seamless clinical education landscape as clinical educators prepare students for professional practice that meets the needs of the country efficiently and cost-effectively, amidst their multiple roles. Furthermore, standardisation can assist with improving efficiency and accountability and can be done without losing contextual diversity (Bates *et al.*, 2019). Non-standardisation can lead to inconsistent teaching, assessment, and practice, and ultimately a loss of core clinical skills (Vuso and James, 2017).

Table 7.6: Section 6: Quality Assurance and Monitoring and Evaluation

No	Section 6: Quality Assurance and Monitoring & Evaluation
41.	How do you evaluate your physiotherapy clinical education programme?
42.	Has your clinical education programme been accredited by any professional body/organisation? e.g. WP; HPCSA
43.	List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme?
44.	What resources do you have that strengthen your clinical education programme?
45.	Is there alignment between the curriculum and clinical exposure?
46.	Are your clinical training sites/placements accredited to train students?
47.	Who accredits your clinical training sites?
48.	What steps are taken to create a positive and safe learning environment at the clinical site?
49.	Do students have an opportunity to share their clinical learning experiences with the academic and clinical departments (positive and negative)?
50.	What support structures are in place for your students? (For example: mentor/ peer support programme/debriefing etc.)
51.	Which factors influence learning outcomes of students? (positive/negative) (personal/environmental)
52.	Which graduate attributes are aimed for in your students? a) Professional b) Communicator b) Collaborator d) Leader/manager c) Health Advocate
53.	What assessment methods are used during clinical practice?
54.	How do students travel to clinical sites?
55.	If the clinical site is greater than 60 km away from the university, is free accommodation provided for students at the clinical site or nearby?
56.	Do you have a dedicated clinician at the clinical site that liaises with the university should any operational or student issue arise at the clinical sites?
57.	Do you have a clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement?
58.	Are clinical educators' permanent employees of the university?

Monitoring and evaluation, and quality assurance are different processes that occur simultaneously to ensure that objectives and goals are met; to identify and mitigate unintended effects; to determine the effectiveness and impact of an activity or programme, and to ensure that delivery of activities and their' outcomes match the gold standard (Stachura, Garven and Reed, 2000; Myezwa, M'Kumbuzi and Mhuri, 2001; Annecke, 2008; Tsinidou and Fitsilis, 2010; Jette *et al.*, 2014). Secondly, the difference between these concepts lies in the length, breadth and depth of interrogation: Monitoring is the continuous assessment of a project or programme to determine its' intended and unintended effects (formative evaluation), whereas evaluation is the periodic retrospective assessment of a project or programme to determine its worth: relevance, impact, effectiveness, efficiency and sustainability (summative evaluation) (Stem *et al.*, 2005; Annecke, 2008; National AIDS Control Council, 2012; Porter and Goldman, 2013; Stone-Jovicich *et al.*, 2019). Quality assurance on the other hand is the evaluation of activities against a gold standard or guideline, that is the maintenance of standards (Stachura, Garven and Reed, 2000). In essence, evaluation is the macro process; monitoring is the meso process and quality assurance (QA) is the micro process (figure 7.1).



Figure 7.1: The Macro, Meso and Micro Processes of Programme Evaluation

Extrapolated to clinical education (table 7.6), evaluation informs us of the effectiveness and impact of the clinical education programme – for example, are we producing a graduate who is a professional; health advocate; collaborator; communicator; manager; critical thinker and reflector who is committed to meet the health needs of all communities appropriately and cost effectively? Monitoring informs us if processes in clinical education are taking place, like

clinical orientation, clinical supervision, and assessment. Quality assurance considers the detail in each process, for example the quality of the provision of feedback within the supervision ambit, the type of clinical placements students are exposed to (e.g. orthopaedics; paediatrics or public health), the number of clinical exposures students experience during training, or the amount of time a student spends in clinical training per day, as well as stakeholder satisfaction (students, clinical educators; clinical managers). This section of the tool highlights quality assurance components of clinical education, which impact outcomes and require surveillance.

Monitoring and evaluation, and quality assurance are important because they provide consolidated information about a programme or project's progress; they allow for learning and building of expertise and knowledge; provide transparency and accountability; reveal gaps and errors and provide an opportunity for learning and improvement (early warning and remediation). They also provide the opportunity for questioning and testing assumptions; provide an opportunity to alter policy, procedure and practice; the link between implementers, beneficiaries and decision-makers can be assessed, and they provide a strong foundation for fund raising, and influencing policy (National AIDS Control Council, 2012).

To sum-up, the ability to reliably evaluate the length, breadth and depth of clinical education provides information that an evaluator requires to determine both the formative and summative assessment of the programme. Programme requirements (intended and unintended) can be observed, analysed, and revamped. Moreover, effective monitoring and evaluation require record keeping that is standardised, valid, reliable and logged; VN-CPET fulfils this purpose.

In chapter 2, CIPP (context, input, process, product and impact) was discussed as the most appropriate framework for monitoring and evaluating clinical education (Stufflebeam, 2003). To recap, the CIPP categories are outlined in table 7.7.

Table 7.7: A Summary of CIPP Categories

CIPP	
Context	Obtaining information about the situation to decide on the educational **needs** and to establish programme **objectives**
Input	Identifying **educational strategies** most likely to achieve the desired result
Process	Assessing the **implementation** of the educational programme: Quality Assurance
Product	Gathering information regarding the **results/outcomes** of the educational intervention to **interpret its worth and merit**

In table 7.8, VN-CPET has been restructured to demonstrate its fitting/alignment to CIPP. This alignment was done through a rigorous process of inter-rater classifying, discussion, and consensus of items between the researcher and supervisors (Appendix 19).

Table 7.8: VN-CPET as Context, Input, Process, Product

CONTEXT	
1.	Which of the following policies inform your physiotherapy clinical education programme? • Macro level: DHET, DoH (HPCSA, act 54 of 1974) • Meso level: University policies • Micro level: Departmental policies
2.	Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme?
3.	Does institution autonomy supersede the guiding documents from the HPCSA?
4.	Does an active Memorandum of Agreement exist between the university or your department and the clinical training sites?
5.	How diverse is your clinical exposure regarding the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care?
6.	Describe the clinical exposure that students experience in your institution. (Clinical exposure refers to cardiopulmonary, ICU, orthopaedics: in-patients & out-patients/sport; neurology; paediatrics, community/public health etc.)
7.	Are the expectations of the supervisor realistic based on the level (year of study) of the student?
8.	What resources do you have that strengthen your clinical education programme?
9.	What support structures are in place for your students? (For example: mentor/ peer support programme/debriefing etc.)
10.	Which factors influence learning outcomes of students? (positive/negative) (personal/environmental)
11.	How do students travel to clinical sites?
12.	If the clinical site is greater than 60 km away from the university, is free accommodation provided for students at the clinical site or nearby?
13.	Are clinical educators' permanent employees of the university?
INPUT	
1.	Are the theory components completed prior to the clinical exposure?
2.	Are there clear aims and objectives (AO) specified for each clinical exposure?
3.	Describe your remediation programme (RP), if available?
4.	Describe your clinical supervisor training programme
5.	Describe the nature of the clinical experience/exposure (longitudinal/integrated/silo)
6.	Is a standardised supervision structure applied across all clinical sites during the clinical training?
7.	State the method of supervision used? (group; one-to-one; peer-led; teacher-led etc)
8.	Describe the teaching methods undertaken during clinical supervision sessions. (refer to definitions page)
9.	When is feedback generally given during the supervision process?
10.	What method of feedback is used?
11.	How is student inter-professional collaboration ensured or encouraged at the clinical site?
12.	Are basic clinical skills revised during clinical supervision?
13.	Do students receive dedicated supervision time from the clinician?
14.	Do students receive dedicated supervision time from the university clinical educator?

15.	What is the student/supervisor ratio? (e.g. 1sup:8st)
16.	Do students have an opportunity to share their clinical learning experiences with the academic and clinical departments (positive and negative)?
17.	What assessment methods are used during clinical practice?
PROCESS	
1.	List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme?
2.	How are challenging operational issues pertaining to student training resolved at the clinical placements?
3.	Are students aware of the conflict resolution process that must be followed?
4.	What opportunities are available for students to learn different languages?
5.	Does the clinical exposure reflect the national/provincial burden of disease?
6.	How many clinical areas are the students exposed to in their years of undertaking clinical education as an examination subject? (list each year separately, and then add to obtain the total).
7.	How many hours per week do students spend training clinically in their years of undertaking clinical education as an examination subject?
8.	Do students write a pre-block test prior to starting clinical training?
9.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation/block?
10.	Are policies and procedures of a clinical placement/site overtly communicated to students on the first day at the placement?
11.	Are students orientated to all aspects and areas in physiotherapy department (equipment; forms; bathroom; student room; lockers etc) in which they are placed?
12.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?
13.	Are students orientated to all necessary areas (layout/architecture) of clinical placement?
14.	Are students introduced to the interprofessional team at the clinical site when starting a clinical rotation/block?
15.	Is the supervision session patient-centred or student-centred?
16.	How is student autonomy fostered by the clinical educator?
17.	How is students' patient management facilitated at the clinical site?
18.	How are students guided with reading and recording in patients' files?
19.	How do you evaluate your physiotherapy clinical education programme?
20.	Is there alignment between the curriculum and clinical exposure?
21.	Are your clinical training sites/placements accredited to train students?
22.	Who accredits your clinical training sites?
23.	What steps are taken to create a positive and safe learning environment at the clinical site?
24.	Do you have a dedicated clinician at the clinical site that liaises with the university should any operational or student issue arise at the clinical sites?
25.	Do you have a clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement?
26.	Are the factors that affect learning considered by the CE during clinical supervision? (student's characteristics; learning style; resources and personal issues/emotions: fear, anxiety etc)
PRODUCT	
1.	Has your clinical education programme been accredited by any professional body/organisation? e.g. WP; HPCSA
2.	Which graduate attributes are aimed for in your students?

	a) Professional b) Communicator c) Collaborator d) Leader/manager e) Health Advocate

Using a mixed method of inductive qualitative methodology and quantitative methodology, VN-CPET was rigorously developed, as described in the methodology of each phase of this study. The items of VN-CPET that appears in each CIPP category above, aligns to the items listed in table 7.9, that were deductively developed by the researcher from the literature as demonstrated in chapter 2 (see tables 2.4 and 2.5, p10-13 and figure 2.3, p14).

The important items of physiotherapy clinical education that should be monitored and evaluated, and which are included in VN-CPET, are the following, as outlined in table 7.9:

Table 7.9: A Synopsis of Monitoring and Evaluation Constructs in Physiotherapy Clinical Education within the CIPP Framework

Monitoring and Evaluation			
Context	**input**	**Process**	**Product**

- All stakeholders
- Resources
- Learning environment
- Clinical education framework (structure)
	- Supervisory activities/methods (teaching and learning of technical and non-technical skills)
	- Assessment
	- Development clinical educators
		- Quality assurance:
		  - clinical activities
		  - clinical site
		- Student outcomes (learning and experience)
		- Administrative tasks
		- Student-supervisor relationship
		- Use of training time
			- Graduate competency
			- Programme impact/ effectiveness

Using the CIPP framework and VN-CPET, new physiotherapy clinical education programmes can be established, and established programmes can be evaluated for intended and unintended outcomes, gaps, and effectiveness.

Table 7.10 illustrates the final tool of 58 items and six subsections**.**

Table 7.10: Final Tool: VN-CPET

No.	Section 1: Governance	Scoring
1.	Which of the following policies inform your physiotherapy clinical education programme? • *Macro level: DHET, DoH (HPCSA, act 54 of 1974*) • Meso level: University policies Micro level: Departmental policies	2 All 1 Some 0 None
2.	Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme?	2 Always 1 Sometimes 0 Never
3.	Does institution autonomy supersede the guiding documents from the HPCSA?	2 Always 1 Sometimes 0 Never
4.	Does an active Memorandum of Agreement exist between the university or your department and the clinical training sites?	2 Yes 1 Working towards 0 Not achieved
5.	How are challenging operational issues pertaining to student training resolved at the clinical placements?	2 Appropriate 1 Somewhat appropriate 0 Not appropriate
6.	Are students aware of the conflict resolution process that must be followed?	2 Always 1 Sometimes 0 Never
No.	**Section 2: Academic Processes**	**Scoring**
7.	Are the theory components completed prior to the clinical exposure?	2 Always 1 Sometimes 0 Never
8.	Are there clear aims and objectives (AO) specified for each clinical exposure?	2 Always 1 Sometimes 0 Never
9.	What opportunities are available for students to learn different languages?	2 Always 1 Sometimes 0 Never
10.	Describe your remediation programme, if available?	2 Comprehensive 1 Needs driven 0 Not done
11.	Describe your clinical supervisor training programme	2 Comprehensive 1 Needs driven 0 Not done
No.	**Section 3: Learning Exposure**	**Scoring**
12.	Does the clinical exposure reflect the national/provincial burden of disease?	2 Always 1 Sometimes 0 Never
13.	How diverse is your clinical exposure regarding the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care?	3 Maximally diverse 2 Moderately diverse 1 Minimally diverse
14.	Describe the clinical exposure that students experience in your institution. (clinical exposure refers to clinical experience in these areas: cardiopulmonary, ICU, orthopaedics: in-patients & out-patients/sport; neurology; paediatrics, community/public health etc.)	3 Wide 2 Fair 1 Narrow
15.	How many clinical areas are the students exposed to in their years of undertaking clinical education as an examination subject? (list each year separately, and then add to obtain the total).	3 > 6 areas 2 4 - 6 areas 1 1 - 3 areas
16.	How many hours per week do students spend training clinically in their years of undertaking clinical education as an examination subject? (List year separately and then add to obtain the total)	3 31 - 40 hours 2 21 - 30 hours 1 1 - 20 hours

17.	Describe the nature of the clinical experience/exposure (longitudinal/integrated/silo)	3 Longitudinal 2 Integrated 1 Silo 0 Other
No.	**Section 4: Clinical Orientation**	**Scoring**
18.	Do students write a pre-block test prior to starting clinical training?	2 Always 1 Sometimes 0 Never
19.	Are policies and procedures of a clinical placement/site overtly communicated to students on the first day at the placement?	2 Always 1 Sometimes 0 Never
20.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation/block?	2 Always 1 Sometimes 0 Never
21.	Are students orientated to all aspects and areas in physiotherapy department (equipment; forms; bathroom; student room; lockers etc) in which they are placed?	2 Always 1 Sometimes 0 Never
22.	Are students orientated to all necessary areas (layout/architecture) of clinical placement?	2 Always 1 Sometimes 0 Never
23.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?	2 Always 1 Sometimes 0 Never
24.	Are students introduced to the interprofessional team at the clinical site when starting a clinical rotation/block?	2 Always 1 Sometimes 0 Never
No.	**Section 5: Clinical Supervision**	**Scoring**
25.	Is a standardised supervision structure applied across all clinical sites during the clinical training?	2 Always 1 Sometimes 0 Never
26.	Is the supervision session patient-centred or student-centred?	2 Patient-centred 1 Student-centred 0 Not considered
27.	State the method of supervision used? (group; one-to-one; peer-led; teacher-led etc)	2 Various 1 One only 0 None
28.	Describe the teaching methods undertaken during clinical supervision sessions. (refer to definitions page)	2 Various 1 One only 0 Not considered
29.	When is feedback generally given during the supervision process?	2 Immediately 1 End of rotation 0 Not given
30.	What method of feedback is used?	1 Written 1 Verbal 1 Peer 0 None
31.	How is student autonomy fostered by the clinical educator?	2 Scaffolded approach 1 Abrupt/sudden 0 No autonomy
32.	How is student inter-professional collaboration ensured or encouraged at the clinical site?	2 Appropriate 1 Somewhat appropriate 0 Not done
33.	Are basic clinical skills revised during clinical supervision?	2 Always 1 Sometimes 0 Never

34.	How is students' patient care facilitated at the clinical site?	2 Appropriate 1 Somewhat appropriate 0 Not done
35.	How are students guided with reading and recording in patients' files?	2 Appropriate 1 Somewhat appropriate 0 Not done
36.	Do students receive dedicated supervision time from the clinician?	2 Always 1 Sometimes 0 Never
37.	Do students receive dedicated supervision time from the university clinical educator?	2 Always 1 Sometimes 0 Never
38.	Are the factors that affect learning considered by the CE during clinical supervision? (student's characteristics; learning style; resources and personal issues/emotions: fear, anxiety etc)	2 Always 1 Sometimes 0 Never
39.	Are the expectations of the supervisor realistic based on the level (year of study) of the student?	2 Always 1 Sometimes 0 Never
40.	What is the student/supervisor ratio? (e.g. 1sup:8st)	2 Appropriate 1 Somewhat appropriate 0 Not appropriate
No.	**Section 6: Quality Assurance & Monitoring and Evaluation**	**Scoring**
41.	How do you evaluate your physiotherapy clinical education programme?	2 Evaluated 1 Working towards 0 Not evaluated
42.	Has your clinical education programme been accredited by any professional body/organisation? e.g. WP; HPCSA	2 Fully accredited (local+ international) 1 Partially accredited (local only) 0 Not accredited
43.	List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme?	2 Rigorous QAM 1 Working towards QAM 0 No QAM
44.	What resources do you have that strengthen your clinical education programme?	2 Always 1 Sometimes 0 Never
45.	Is there alignment between the curriculum and clinical exposure?	2 Always 1 Sometimes 0 Never
46.	Are your clinical training sites/placements accredited to train students?	2 Yes 1 Working towards 0 No
47.	Who accredits your clinical training sites?	3 University accreditor 2 Regulatory body 1 Professional association 0 Other: specify
48.	What steps are taken to create a positive and safe learning environment at the clinical site?	2 Several 1 Few 0 None
49.	Do students have an opportunity to share their clinical learning experiences with the academic and clinical departments (positive and negative)?	2 Always 1 Sometimes 0 Never
50.	What support structures are in place for your students? (For example: mentor/ peer support programme/debriefing etc.)	2 Adequate support 1 Some support 0 No support

51.	Which factors influence learning outcomes of students? (positive/negative) (personal/environmental)	2 Several 1 Few 0 None
52.	Which graduate attributes are aimed for in your students? d) Professional b) Communicator e) Collaborator d) Leader/manager f) Health Advocate	2 All 1 Some 0 None
53.	What assessment methods are used during clinical practice?	2 Appropriate 1 Somewhat appropriate 0 Not appropriate
54.	How do students travel to clinical sites?	2 Mainly university transport 1 Mainly own transport 0 Mainly public transport
55.	If the clinical site is greater than 60 km away from the university, is free accommodation provided for students at the clinical site or nearby?	2 Always 1 Sometimes 0 Never
56.	Do you have a dedicated clinician at the clinical site that liaises with the university should any operational or student issue arise at the clinical sites?	2 Always 1 Sometimes 0 Never
57.	Do you have a clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement?	2 Yes 1 Working towards 0 No
58.	Are clinical educators' permanent employees of the university?	2 Always 1 Sometimes 0 Never

7.3 **Tool Scoring System**

This unique self-rating scoring system (see various sections of tool - table 7.10) was chosen based on respondents' feedback during the Delphi process, and upon reflection by the researcher and the supervisors on the value of the information obtained from each line item. The aim of the tool and hence scoring system is to provide both formative and summative information of each subsection and the sum of all sections respectively, to identify strengths and weaknesses of the parts, and the sum. Equal weighting was allocated across each section to provide the sum of each subsection and the overall mean score of all six sections, expressed as a percentage (Haberman and Sinharay, 2010; Joshi *et al.*, 2015). The objectivity of the scoring system (Haberman and Sinharay, 2010; Joshi *et al.*, 2015) is the aim of future studies.

To allocate a score for each question, the evaluator must analyse the answer offered and choose an option from the scoring options provided that best suits the answer provided. This is the subjective component of the scoring, which requires further refinement. To elaborate further on the scoring, the evaluator judges the answer provided against the scoring options provided. It is therefore recommended at this point that the tool be completed by two people, with one person answering the questions in the tool, and another person, an independent

adjudicator, scoring the tool. This would enable a more impartial score, compared to one person answering and scoring, until further refinement of the scoring is done.

Interpretation of scoring system:

Section 1 has six questions, with the highest score of a line item being 2. Therefore, a total score of 12 for section A: 12 out 12 equals 100%. Section 2: 10 out 10 = 100%; Section 3: 17 out of 17 = 100%; Section 4: 14 out of 14 = 100%; Section 5: 36 out of 36 = 100% and Section 6: 37 out of 37 = 100% (table 7.11). The total score of the tool is the average of the percentage total - see example in table 7.12.

Table 7.11: Outline of the Tool Scoring System

	Section 1	**Section 2**	**Section 3**	**Section 4**	**Section 5**	**Section 6**	**Total score**
Total sub-score	12	10	17	14	36	37	Mean of percentage (%) aggregate
Percentage	12/12=100%	10/10=100%	17/17=100%	14/14=100%	36/36=100%	37/37=100%	

Table 7.12 is an example of how the total score, and sub-score, is obtained.

Table 7.12: An example of the Scoring

Section	**Score Obtained**	**Percentage of Score Obtained**
1	10/12	83%
2	5/10	50%
3	5/17	29%
4	8/14	57%
5	20/36	56%
6	30/37	81%
Total Score (%) (average of percentage scores)		**59.3%**

7.4 CONCLUSION

The aim of this study was to develop, validate and test the reliability an assessment tool that evaluates the effectiveness of a physiotherapy undergraduate clinical education programme because the quality and effectiveness of physiotherapy clinical education remains elusive. Attempts to evaluate physiotherapy clinical education were contentious due to the diverse, multidimensional, and complex nature of physiotherapy clinical education.

Most scholars have suggested that CIPP is the most appropriate model to use to evaluate physiotherapy clinical education because it can account for the complex, diverse and dynamic nature of the programme. However, the specific aspects which should be evaluated under each CIPP category had yet to be determined, a problem compounded by the lack of a valid and reliable evaluation tool. Strohschein et al (2002), McCallum et al (2013) and Jette et al (2014) recommended that more research be conducted to identify prominent features of current clinical education processes.

Using both qualitative and quantitative research methods in this study, prominent features of clinical education were identified, and a tool was developed: Vaneshveri Naidoo Clinical Programme Evaluation Tool (VN-CPET) which measures key constructs of physiotherapy clinical education. A subjective scoring system unfolded, however still being able to provide an evaluative response. The objectivity of the scoring and item response rating requires further in-depth research.

Reliably evaluating the length, breadth and depth of the clinical exposure provides information that an evaluator requires to determine both the formative and summative assessment of the programme. Basic requirements can be monitored (quality assurance) while other experiences (nice-to-have) can be created, which could be a distinguishing and competitive feature for a specific physiotherapy school. Conversely, unintended events may be detected. The Vaneshveri Naidoo Clinical Programme Evaluation Tool therefore enables the intended and unintended events to be observed and evaluated.

CHAPTER 8

8. CONCLUSION

8.1 INTRODUCTION

The aim of this study was to develop, validate and test the reliability of an assessment tool that evaluates the effectiveness of a physiotherapy undergraduate clinical education programme.

The aim was achieved through several objectives and processes:

- To determine the items and domains that need to be included in the tool **(Phase 1)**
- To establish the face and content validity of the preliminary tool **(Phase 2)**
- To establish the construct validity of the preliminary tool by assessing the feasibility and utility of the consequently evolved provisional tool **(Phase 3)**

The result of these processes was the development of the Vaneshveri Naidoo-Clinical Programme Evaluation tool, VN-CPET. In the final tool, there are six subcategories with a total of 58 questions:

1. Governance
2. Academic Processes
3. Learning Exposure
4. Clinical Orientation
5. Clinical Supervision
6. Quality Assurance & Monitoring and Evaluation

The Vaneshveri Naidoo Clinical Programme Evaluation Tool is a self-rating tool that was found to be useful, comprehensive and a bench-marker, although a bit long. Additionally, it aligns with the CIPP framework (Stufflebeam, 2003), which appears to be the gold-standard evaluative framework for clinical education.

8.2 STRENGTHS AND LIMITATIONS OF THIS STUDY

The strength of the tool lies in the careful process of its development and statistical analysis. Each stage had good sample sizes and good response rates. It was also found to be potentially useful on the global platform and with minor modification this tool could be useful to other Health Sciences courses as well. Subjectivity in the scoring component of the tool exists. This level of subjectivity could be omitted in the future. Inter-item factor analysis was

not done, and this could possibly shorten the tool (the length of the tool – 58 questions, may prevent its' utility). Purposive sampling was used to determine the feasibility and utility of this tool; therefore, this tool should be used bearing the limitations in mind.

8.3 RECOMMENDATIONS FOR FURTHER RESEARCH

It is recommended that the tool be shortened – a further reduction of items, and a rigorous weighting system (tool scoring system) be developed to ensure complete objectivity of the outcomes.

8.4 IMPLICATIONS FOR FUTURE PRACTICE

This monitoring and evaluation, and quality assurance tool, VN-CPET, the first of its kind, can evaluate the length, breadth, and depth of a Physiotherapy Clinical Education Programme. The context, input, process, and product (CIPP) (Stufflebeam, 2003) of a Physiotherapy Clinical Education Programme has been conceptualised in a South African context and can be applied to any context globally with slight tweaking and the omission of context specific words. It would then render the tool potentially applicable to any to any Physiotherapy Clinical Education Programme internationally, and to any Health Science Education Course, like Occupational Therapy. None-the-less, the complex and multidimensional components of a Physiotherapy Clinical Education Programme can now be evaluated using the **Vaneshveri Naidoo Physiotherapy Clinical Programme Evaluation Tool (VN-CPET).**

To sum-up VN-CPET a validated and standardised tool which was developed through a rigorous methodological process of qualitative and quantitative methods, can be used to evaluate a physiotherapy clinical education programme's context, input, process, and product. Furthermore, it can used to insert quality assurance measures in a physiotherapy clinical education programme, thereby enabling high quality clinical education training and experiences for students. Additionally, it can be used to determine the local responsiveness of the clinical education programme and the international competitiveness; with some modification it can be used compare, compete, and benchmark with international physiotherapy clinical education programmes. Also, with some modification, it can be used to evaluate other Health Science courses too.

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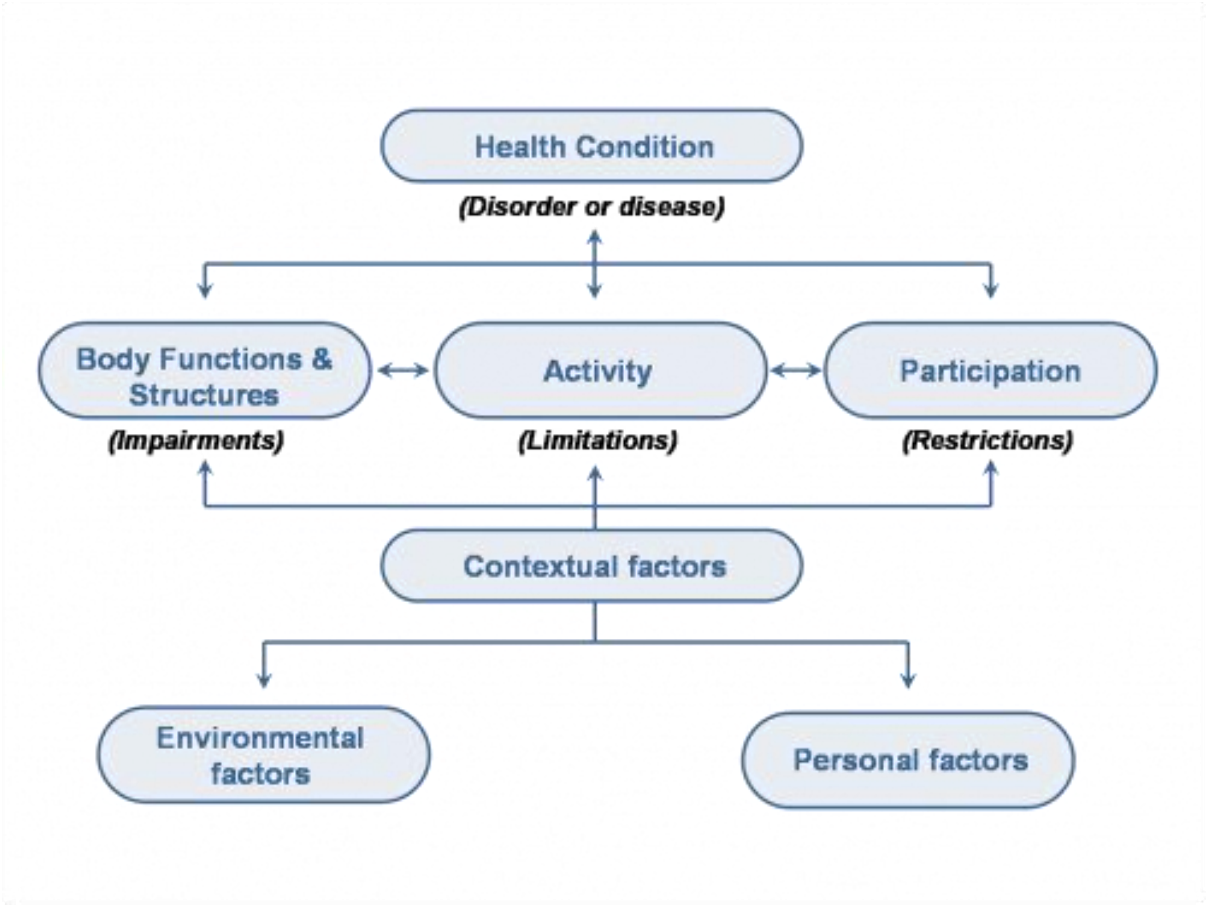
APPENDIX 1

THE INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH



(WHO, 2020)

APPENDIX 2

- **PHYSIOTHERAPY: MINIMUM STANDARDS FOR TRAINING**

Health Professions Council of South Africa

Professional Board for Physiotherapy, Podiatry and Biokinetics

Minimum standards for training: PHYSIOTHERAPY

1. **Rationale for the Profession**

Physiotherapy is a healthcare profession that provides services to individuals and communities/ populations to develop, maintain and restore maximum movement and function, throughout the lifespan. Physiotherapy is provided for individuals who have, or may develop impairments, activity limitations, and participation restrictions, related to conditions of the neuromusculoskeletal, neurological, cardiovascular, pulmonary, and/or integumentary systems as they relate to human movement, or due to personal and environmental factors. Physiotherapy is concerned with identifying and maximising quality of life and movement potential within all the pillars of health care, namely promotion, prevention, treatment/ intervention, habilitation / rehabilitation and referral[1]. Knowledge and application of the science of human movement is central to the profession of Physiotherapy.

2. **Purpose of training**

The undergraduate programme must equip physiotherapists with the basic knowledge, skills and attitudes to enable them to function as reflective practitioners within the philosophy and values inherent to the physiotherapy profession within the South African healthcare context, taking into consideration the national and global burden of disease. The training aims to deliver professionals, who understand patient-centred care, have excellent communication and collaborative skills and high standards of ethical and professional behaviour, and have the ability to conduct research and apply evidence-based practice.

The undergraduate programme trains physiotherapists to meet the minimum standards required for registration with the Board for Physiotherapy, Podiatry and Biokinetics of the Health Professions Council of South Africa.

[1] World Confederation for Physical Therapy. Policy statement: Regulation of the physical therapy profession. London, UK: WCPT; 2017. www.wcpt.org/policy/ps-regulation

3. General

3.1. Minimum requirements for access to training

National Senior Certificate with university admission endorsed by Umalusi (Quality Assurance Council), or an equivalent qualification. In addition, the accredited tertiary institutions may have specific entry requirements for their Physiotherapy programme.

The following subjects are highly recommended:

- Mathematics
- Physical Science
- Life Sciences / Biology

3.2. Length of the program

The program is a four-year Professional Bachelor degree with students exiting at HEQF level 8 (http://www.saqa.org.za/docs/misc/2012/level_descriptors.pdf). It is preferred that the program is situated in a Medical or Health Sciences Faculty to ensure outcomes related to inter-professional health education are met.

A graduate is entitled to apply for Post-Graduate Diploma, Master and PhD degree programs providing he/she meets the specific institutional entry requirements.

3.3. Mode of delivery

The four-year full-time program has theoretical, practical, clinical and workplace-based components. A variety of learning and teaching methods may be utilised, including face-to-face or classroom-based, blended- and online learning methodologies. Problem-based, enquiry-based learning and similar methods are encouraged. Group work and inter-professional training are also part of the course. Incorporating technology to increase access, optimise teaching and learning and improve service delivery is also recommended.

3.4. Registration with the HPCSA

All undergraduate and postgraduate students must register as students with the HPCSA for the full duration of the program, from year one until they exit the program. After completion of Community Service, graduates are eligible to register with the HPCSA as independent practitioners.

4. Broad outcomes for the program

The successful Physiotherapy graduate must:

4.1. Be ethically accountable to the profession, client and community

4.2. Be able to execute safe, effective and professional practice

4.2.1. Demonstrate knowledge of the normal and abnormal functioning of the human body and psyche.

4.2.2. Perform a physiotherapy evaluation of the client(s)'s physical, functional and psychological status, analyse his/her/their needs, formulate a hypothesis and predict prognosis.

4.2.3. Identify risk, precautions and contraindications, and modify treatment plans accordingly.

4.2.4. Develop and implement an evidence-based intervention plan.

4.2.5. Evaluate the effectiveness of this intervention using appropriate outcome measures and incorporate the findings in future practice.

4.3. Be able to communicate appropriately and effectively with clients, family and other members of the healthcare team.

4.4. Exhibit sensitivity towards the cultural environment on the outcomes of health care.

4.5. Be able to plan, implement and evaluate appropriate, cost-effective physiotherapy services within the South African health context.

4.6. Be able to identify, apply and/or develop appropriate technology to support physiotherapy practice.

4.7. Be able to interpret and conduct supervised research in physiotherapy practice.

4.8. Be able to advocate for patient/client groups with particular health needs (including the poor and marginalised members of society).

5. Program Fundamentals

The program must comply with the following Higher Education Qualifications Sub-Framework (HEQSF) minimum requirements for a professional degree in Health Sciences:

NQF Exit Level: 8
Minimum total credits: 480 (includes a minimum 30 credits for Research)
Minimum total credits at Level 8: 120

The PPB board strongly recommends programs do not exceed this by more than 5% (maximum 510 credits).

The table below defines content, exposures and/or activities with minimum credit load for each (1 credit = 10 notional hours). It also provides *guidance* concerning what the students' need to 'know' or 'know of' (knowledge) and what they need to be able to 'do' (practical or clinical skill(s)).
Please note that work integrated learning (WIL) should occur throughout the four years of the program (refer to the PPB guideline for WIL – Addendum 1).

It remains the prerogative of institutions to develop their curriculum to ensure graduates exit with the necessary knowledge, skills, attitudes and behaviours as outlined in the broad outcomes above (Section 4).

Content/ Exposure/ Activity	Knowledge level	Practical/ clinical skill(s) component	Minimum credits
5.1. Professional Behaviour & Practice Management			20
5.1.1 Professionalism	✓	✓	
5.1.2 Bioethics	✓		
5.1.3 Medical Law	✓		
5.1.4 Human rights	✓		
5.1.5 Cultural and socio-economic diversity	✓		
5.1.6 Healthcare systems	✓		
5.1.7 Health promotion & prevention	✓	✓	
5.1.8 Principles of rehabilitation	✓	✓	
5.1.9 Communication (includes effective interviewing, education, counselling)	✓	✓	
5.1.10 Documentation & report writing	✓	✓	
5.1.11 Practice management	✓	✓	
5.2. Research methods (including research ethics)			35
5.3. Body structure, organs & systems			80
5.3.1 Cellular & Molecular Biology	✓		
5.3.2 Histology	✓		
5.3.3 Chemistry (atomic structure and the nature of bonding in molecules, ionic substances and metals, electrochemistry, stoichiometry, gasses, chemistry of biomolecules, chemical kinetics, Krebs cycle)	✓		
5.3.4 Anatomy of the musculoskeletal-, cardio-vascular-, respiratory-, central and peripheral nervous systems, integumentary system, metabolism, endocrine- and immune systems	✓	✓	
5.3.5 Physiology of the muscle- neurological, respiratory, cardio-vascular, digestive, renal, endocrine, reproductive and immune systems	✓	✓	

Content/ Exposure/ Activity	Knowledge level	Practical/ clinical skill(s) component	Minimum credits
5.3.6 Applied physiology including pain and exercise	✓	✓	
5.3.7 Changes across the lifespan (from pre-birth to the older person)	✓	✓	
5.3.8 Behaviour and mental health	✓		
6.4 Biomechanics and human movement			80
5.4.1 Physics (e.g. splinting and mechanics, mechanical energy, work and power, momentum, temperature and thermal energy, waves and radiation, electro-stimulation)	✓	✓	
5.4.2 Normal development (motor control) and changes across the lifespan	✓		
5.4.3 Biomechanics	✓	✓	
5.4.4 Movement analysis	✓	✓	
5.5.5 Ergonomics	✓	✓	
5.5.6 Muscle testing & function	✓	✓	
5.5.7 Joint testing & function	✓	✓	
5.5.8 Neural testing & function	✓	✓	
5.5.9 Cognitive, emotional & behavioural influence on human movement	✓		
5.5.10 Anthropological and sociological perspectives on health/ movement	✓		
6.6 Pathology (aligned with local burden of disease)			40
5.5.1 Anatomical pathology (inflammation, healing and repair; disease on cellular level)	✓		
5.5.2 Non-communicable diseases (including obesity, diabetes, cardio-vascular disease, cancer)	✓		
5.5.3 Communicable diseases (including HIV/AIDS, TB)	✓		
5.5.4 Pain	✓		

Content/ Exposure/ Activity	Knowledge level	Practical/ clinical skill(s) component	Minimum credits
5.5.5 Risk factors for illness/movement disorders	✓		
5.5.6 Cognitive, emotional & behavioural functioning in illness and pain	✓		
5.5.7 Anthropological and sociological perspectives on illness	✓		
5.6 Pharmacology			6
5.7 Interpretation of special tests/ investigations			6
5.7.1 Imaging (e.g. X-rays, MRI, fMRI, PET scans, LODOX, ultrasound)	✓		
5.7.2 Pathology tests	✓		
5.7.3 Blood gasses	✓		
5.7.4 EMG	✓		
5.7.5 EEG	✓		
5.7.6 Movement -function tests (e.g. 3-D motion analysis)	✓		
5.7.7 Doppler (Ultrasound)	✓		
5.7.8 Nerve conduction tests	✓		
5.8 Communication			12
5.8.1 Effective interviewing, education, counselling within the bio-psychosocial model (including verbal & non-verbal skills in communicating information, advice, instruction and professional opinion to service users, colleagues and others)	✓	✓	
5.8.2 Additional (local) language (optional)			
5.9 Functional assessment of the movement system (includes cardio –respiratory systems)			10
5.9.1 Functional outcome measures	✓	✓	
5.9.2 Field tests	✓	✓	

Content/ Exposure/ Activity	Knowledge level	Practical/ clinical skill(s) component	Minimum credits
5.10 Manual techniques for assessment			20
5.10.1 Neuro-musculoskeletal assessment (including ROM & flexibility testing (e.g. goniometry, inclinometry, composite flexibility tests), strength, power, endurance (e.g. Oxford scale, dynamometry), neuro-dynamic testing (nerve conduction, sensation, proprioception) balance, and functional testing)	✓	✓	
5.10.2 Cardio-respiratory assessment (e.g. auscultation, chest expansion/ breathing pattern, peak expiratory flow)	✓	✓	
5.10.3 Cardio-vascular assessment (e.g. heart rate, blood pressure, peripheral pulses, perfusion, oedema)	✓	✓	
5.10.4 Neurological status (e.g. level of consciousness)	✓	✓	
5.10.5 Skin integrity (e.g. observation, palpation, wound/scar size measurement/ mapping)	✓	✓	
5.10.6 Fitness testing	✓	✓	
5.10.7 Pain	✓	✓	
5.10.8 'Special tests' / differential diagnostic tests of joint and soft tissue injuries	✓	✓	
5.10.9 Anthropometric measurements	✓	✓	
5.11 Clinical reasoning process			15
5.11.1 Hypothesis generation and review/modification	✓	✓	
5.11.2 Goal setting	✓	✓	
5.11.3 Identification of personal and professional limitations	✓	✓	
5.11.4 Referral	✓	✓	
5.12 Manual techniques for treatment			20
5.12.1 Neuro musculoskeletal techniques (e.g. facilitation [including proprioceptive and exteroceptive facilitation techniques], strength, power and endurance re-education and training, spinal and peripheral joint mobilisation, soft-tissue mobilisation, neural mobilisation)	✓	✓	

Content/ Exposure/ Activity	Knowledge level	Practical/ clinical skill(s) component	Minimum credits
5.10 Manual techniques for assessment			20
5.10.1 Neuro-musculoskeletal assessment (including ROM & flexibility testing (e.g. goniometry, inclinometry, composite flexibility tests), strength, power, endurance (e.g. Oxford scale, dynamometry), neuro-dynamic testing (nerve conduction, sensation, proprioception) balance, and functional testing)	✓	✓	
5.10.2 Cardio-respiratory assessment (e.g. auscultation, chest expansion/ breathing pattern, peak expiratory flow)	✓	✓	
5.10.3 Cardio-vascular assessment (e.g. heart rate, blood pressure, peripheral pulses, perfusion, oedema)	✓	✓	
5.10.4 Neurological status (e.g. level of consciousness)	✓	✓	
5.10.5 Skin integrity (e.g. observation, palpation, wound/scar size measurement/ mapping)	✓	✓	
5.10.6 Fitness testing	✓	✓	
5.10.7 Pain	✓	✓	
5.10.8 'Special tests' / differential diagnostic tests of joint and soft tissue injuries	✓	✓	
5.10.9 Anthropometric measurements	✓	✓	
5.11 Clinical reasoning process			15
5.11.1 Hypothesis generation and review/modification	✓	✓	
5.11.2 Goal setting	✓	✓	
5.11.3 Identification of personal and professional limitations	✓	✓	
5.11.4 Referral	✓	✓	
5.12 Manual techniques for treatment			20
5.12.1 Neuro musculoskeletal techniques (e.g. facilitation [including proprioceptive and exteroceptive facilitation techniques], strength, power and endurance re-education and training, spinal and peripheral joint mobilisation, soft-tissue mobilisation, neural mobilisation)	✓	✓	

Content/ Exposure/ Activity	Knowledge level	Practical/ clinical skill(s) component	Minimum credits
5.15.3 Aqua/hydrotherapy	✓		
5.15.7 Other technologies (e.g. vibration therapy, ultrasound imaging for musculoskeletal diagnostics and rehabilitation, virtual reality, mirror imaging, nanotechnology, genomics and robotics)	✓		
4.18.7 Dry needling	✓		
6.18 Clinical training*			100
6.18.1 Setting			
a. Primary (rural, community, homes)	✓	✓	
b. Secondary (-hospital)	✓	✓	
c. Tertiary (-hospital)	✓	✓	
d. Intensive care unit	✓	✓	
e. In-patient	✓	✓	
f. Out-patient	✓	✓	
g. Clinic (specialised)	✓	✓	
h. Private practice	✓	✓	
i. Sports practice/event (can include recovery massage)	✓	✓	
j. School (e.g. schools for children with special needs)	✓	✓	
k. Retirement homes	✓	✓	
6.18.2 Exposure/conditions			
Broad spectrum clinical conditions and/or patient presentations	✓	✓	
6.18.3 Activities			
a. Recordkeeping	✓	✓	
b. Statistics (consultation, management and outcome statistics)	✓	✓	

Content/ Exposure/ Activity	Knowledge level	Practical/ clinical skill(s) component	Minimum credits
c. Inter-professional education (e.g. ward rounds, case discussions)	✓	✓	
d. Writing reports and referral letters	✓	✓	
e. Group education and exercise classes	✓	✓	
f. Observe medical/nursing and/or surgical procedures	✓	✓	
g. Reflection	✓	✓	
TOTAL			480

6. Quality assurance

6.1 Quality assurance measures should be aligned with the institutional policy, and the program must be **accredited** by the PPB Board of the HPCSA, a process that occurs every 5 years.

6.2 Lecturers lecturing and assessing physiotherapy specific content and or involved in clinical training must must comply with all requirements for annual registration with the HPCSA and be registered as a Physiotherapist with the HPCSA.

6.2.1 It is recommended that lecturers (including external lecturers and clinical supervisors) have a master's degree and/or at least 3 years of clinical experience; and

6.2.2 should demonstrate CPD and ongoing development in teaching and learning

6.2.3 **Performance appraisal** for all lecturers/educators (360° recommended)

6.2.4 Lecturer/educator peer assessment (voluntary but recommended especially for new lecturers/ educators)

6.3 **Comprehensive study guides** in which exit outcomes, the learning activities, tests and/or examination processes and promotion criteria are clearly indicated, must be available to all students before the start of any module/course.

6.4 **Student feedback** must be sought

6.4.1 Per module (at least every two years for existing modules and with new modules/ courses must be conducted within the first year)

6.4.2 Lecturer feedback (every 1 - 2 years)

6.4.3 Program feedback (this occurs at the end of the fourth/final year and if possible repeated 6-12 months after graduation)

6.5 **Lecturer to student ratio**:

6.5.1 Theory only - this will depend on mode/method of delivery, the resources and space available

6.5.2 Theory and practical demonstrations - a ratio of no more than 1:25 is recommended

6.5.3 Theory and group work (e.g. problem-based learning) - a ratio of 1:15 is recommended

6.5.4 Practical/tutorials - a ratio of 1:20 is recommended

6.5.5 Clinical setting (e.g. around a patient bedside) - a ratio of 1:5 is recommended (but this can vary based on the nature of pedagogy and clinical setting e.g. ICU vs gym/rehabilitation setting)

6.6 Clinical placements Students must work under **supervision** by a registered Physiotherapist. Refer to the guidelines for placements without a qualified physiotherapist (Addendum 2)

6.7 Assessment:

6.7.1 **Internal moderation**

All summative assessments must be moderated (i.e. checked for alignment with module outcomes and to ensure editorial quality) in line with the institutional policy.

6.7.2 **External moderation**

6.7.2.1.1 All exit level module outcomes (i.e. all NEQF 8 exit level modules) and all final year courses/modules must be externally moderated (i.e. checked for alignment with module and program outcomes; and that assessments validity and reliability)

6.7.2.1.2 All students should be seen (at least in part) by an external examiner (note that an external moderator should not be considered a "second examiner" although may fulfil dual roles)

6.8 Facilities:

These must be adequately equipped and maintained to deliver the program, i.e. meet the program and course/module outcomes and comply with basic health and safety regulations.

Addendum 1

PPB BOARD GUIDELINES FOR WORK INTEGRATED LEARNING (WIL) IN B DEGREE (PROFESSIONAL) PROGRAMS

BACKGROUND:

The CHE in their guideline document[1] for Work integrated learning (WIL) states that "university teachers should think carefully about the relationship between the workplace and the university. A university education is not about job training, and a WIL curriculum should not be dictated by economic or narrow workplace interests. Instead the university must be (as it always has been) responsive to society and responsive to the needs of students to become productive members of society. Beyond that, part of the mission of higher education has also been to look beyond immediate problems and to prepare students to change and improve existing practices, not merely to adapt to the world as they find it".

DEFINITION:

WIL is used as an umbrella term to describe curricular, pedagogic and assessment practices, across a range of academic disciplines that integrate formal learning and workplace concerns and includes **classroom-based and workplace-based forms of learning** that are appropriate for the professional qualification. Academic and workplace practices are **aligned for the mutual benefit of students and workplaces**[1].

APPROACHES:

The integration of theory and practice in student learning can occur through a range of WIL approaches. WIL is primarily intended to enhance student learning, and **should respond to concerns about graduateness,**

employability and civic responsibility. Examples include: action-learning, apprenticeships, cooperative education, experiential learning, inquiry learning, inter-professional learning, practicum placements, problem-based learning, project-based learning, scenario learning, service-learning, team-based learning, virtual or simulated WIL, work-based learning, work experience, workplace learning, etc. (refer to CHE's WIL Good Practice Guide for definitions of these terms p:71-77).

Where does it fit and what are the HPCSA minimum requirements?

It is important to note that WIL should occur **throughout the four years** of the program. Typically, the earlier years will focus more on knowledge and clinical skills acquisition/training which can be practiced on healthy models/ peers in laboratories or in virtual or simulated environments or in work-place settings. Transition from theory to practice can be facilitated in many ways through for e.g. problem-based, scenario-based and enquiry-based learning which may occur in the classroom and/or the clinical/workplace environments. The further development of graduate attributes, also referred to a 'critical skills' and professional competencies, should occur in workplace (real world) settings.

The PPB board does not stipulate the minimum no of hours to be spent on skills acquisition/training. There is a common understanding however that whichever learning strategy is used for this, the teaching and learning and assessment practice ensures that students are competent to apply these to patients/ clients in real world/ workplace settings. The minimum requirements for workplace-based learning (WPBL) however are specified.

For a 4-year professional program:

Year	Hours	Remuneration
> year 3 & 4	1 000*	unpaid

* hours allocated per year is not specified (and some of the clinical hours may be offered in Years 1 & 2)

For Physiotherapy, a year of Community Service (paid) is required before graduates can register as professionals with the HPCSA.

Currently this requirement does not exist for Biokinetics or Podiatry graduates.

For the Biokinetics 3+1 year programs:

Year	Hours	Remuneration
Year 1 (honours year)	500hr (clinical rotations)	unpaid
Year 2 (internship)	800hrs (fulltime 12-month placement	paid

<u>Outcomes:</u>

The outcomes for WPBL must be clear and the teaching and learning activities, exposure and assessment aligned with these outcomes.

The clinical or workplace setting should:

- ensure that students have adequate exposure
- ensure that students have equivalent exposure *(it is recognised that not all students can work in all the same settings)*
- allows for development of well-rounded healthcare professional (includes the development of graduate attributes and/or critical competencies (e.g. communicator; scholar, professional, collaborator, health advocate)

Assessment:

The following are recommended for assessment in WPBL:

- Regular formative and summative assessment (e.g. demonstration of practical skills (DOPS), mini clinical exam (mini-CEX), case discussions, 'setting specific exit' exam/ assessment)
- Portfolio – demonstrating student's growth across the 1000hrs
- Exit exam (which is externally moderated)

The following are **recommended for further reading**:

1. Council for Higher Education: Work Integrated Learning: a good practice guide (2011). https://www.che.ac.za/sites/default/files/publications/Higher_Education_Monitor_12.pdf

2. Yousuf Guraya, S. (2015). Workplace-based Assessment; Applications and Educational Impact. *The Malaysian Journal of Medical Sciences: MJMS*, *22*(6), 5–10. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5295751/

3. Buckley, S. et al. (2009). The educational effects of portfolios on undergraduate student learning: A best evidence medical education (BEME) systematic review. *BEME guide no. 11. Medical Teacher, 31*(4), 282-298. doi:10.1080/01421590902889897 http://www.tandfonline.com/doi/full/10.1080/01421590902889897

4. Liu, C. (2012). An introduction to workplace-based assessments. *Gastroenterology and Hepatology from Bed to Bench*, *5*(1), 24–28. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4017451/

APPENDIX 3

- **ETHICAL CLEARANCE CERTIFICATE: UNIVERSITY OF THE WITWATERSRAND**

M140706

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M140706

NAME: (Principal Investigator)	Ms Vaneshveri Naidoo
DEPARTMENT:	School of Therapeutic Sciences/Physiotherapy Medical Schoool
PROJECT TITLE:	The Development of Assessment Tool to Evaluate the Effectiveness of an Undergraduate Physiotherapy Clinical Education Programme
DATE CONSIDERED:	25/07/2014
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Prof Aimee Stewart
APPROVED BY:	Professor PE Cleaton-Jones, Chairperson, HREC (Medical)

DATE OF APPROVAL: 22/08/2014

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House University.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned researcl and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from th research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**.

Principal Investigator Signature M140706Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

Office of the Deputy Vice-Chancellor (Research and Postgraduate Affairs

TO: Ms V Naidoo
School of Therapeutic Sciences
Department of Physiotherapy
Medical School
University

E-mail: Vaneshveri.Naidoo@wits.ac.za

CC: Supervisor: Professor A Stewart
<Aimee.Stewart@wits.ac.za>
and <HREC-Medical Research Office@wits.ac.za>

FROM: Mr Iain Burns
Human Research Ethics Committee (Medical)
Tel: 011 717 1252

E-mail: Iain.Burns@wits.ac.za

DATE: 2021/02/04

REF: R14/49

PROTOCOL NO: **M210160** (This is your ethics application reference number. Please quote it in all enquiries, oral or written, relating to this study.)

PROJECT TITLE: *Addressing the blind spot: the development of an assessment tool to evaluate physiotherapy clinical education*

Please find attached the Clearance Certificate for the above project. I hope it goes well and that an article in a recognized publication comes out of it. This will reflect well on your professional standing and contribute to Government funding of the University.

MSWorks2000/Iain0007/Clearscan.wps

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

R49 Ms V Naidoo

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M210160

NAME: (Principal Investigator)	Ms V Naidoo
DEPARTMENT:	School of Therapeutic Sciences Department of Physiotherapy Medical School University
PROJECT TITLE:	*Addressing the blind spot: the development of an assessment tool to evaluate physiotherapy clinical education*
DATE CONSIDERED:	Ad hoc
DECISION:	Approved unconditionally
CONDITIONS:	Formerly M140706 (expired on 2019/08/21)
SUPERVISOR:	Professor A Stewart
APPROVED BY:	Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	2021/02/04

This Clearance Certificate is valid for 5 years from the date of approval. An extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office secretariat on the 3rd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated from the research protocol as approved, I/we undertake to submit details to the Committee. **I agree to submit a yearly progress report**. When a funder requires annual re-certification, the application date will be one year after the date when the study was initially reviewed. In this case, the study was initially reviewed in «**Missing mail merge field**» and therefore reports and re-certification will be due in the month of «**Missing mail merge field**» each year. Unreported changes to the study may invalidate the clearance given by the HREC (Medical).

Signature of Principal Investigator

4 February 2021

Date

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172076

Reference: Mrs Sandra Benn
E-mail: sandra.benn@wits.ac.za

27 January 2021
Person No: 9301988Y
TAA

Mrs V Naidoo
206 Emerald Street
Laudium
0037
South Africa

Dear Mrs Vaneshveri Naidoo

Doctor of Philosophy: Change of title of research

I am pleased to inform you that the following change in the title of your Thesis for the degree of **Doctor of Philosophy** has been approved:

From:	**The development of an Assessment tool to evaluate the effectiveness of an Undergraduate physiotherapy clinical education programme**
To:	**Addressing the Blind Spot: The Development of an Assessment Tool to Evaluate Physiotherapy Clinical Education**

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

APPENDIX 4

- **DATES OF FOCUS GROUP MEETINGS**

- **ETHICAL CLEARANCE CERTIFICATES AND CONSENT TO PARTICIPATE FROM ACADEMIC AND CLINICAL DEPARTMENTS**

DATES OF FOCUS GROUP MEETINGS		
Date	**Institute**	**No. of groups**
2014/2015	Wits (pilot)	2
28 July 2015	UCT (am & pm)	2
29 July 2015	US	1
30 July 2015	UWC	1
11 Aug 2015	UKZN	1
24 Aug 2015	SMU	1
3 Sep 2015	HJH	1
1 Oct 2015	HJH	1
29 Sep2015	UFS	1
21 Oct 2015	CHBAH (am & pm)	2
10 Feb 2016	SBAH	1
Feb 2016	UP - cancelled	0
	Total	**14**

APPENDIX 4.1

- **ETHICAL CLEARANCE CERTIFICATE: UNIVERISTY OF CAPE TOWN**

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E52-24 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6338 • **Facsimile** [021] 406 6411
Email: shuretta.thomas@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

09 October 2014

HREC REF: 740/2014

Dr M Maleka
Physiotherapy
University of Witwatersrand
7 York Road
Parktown
2193

Dear Dr Maleka

PROJECT TITLE: THE DEVELOPMENT OF AN ASSESSMENT TOOL TO EVALUATE THE EFFECTIVENESS OF AN UNDERGRADUATE PHYSIOTHERAPY CLINICAL EDUCATION PROGRAMME (PhD candidate - V Naidoo)

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee for review.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

Approval is granted for one year until the 30th October 2015.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.
(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

Please quote the HREC REF in all your correspondence.

We acknowledge that the PhD student, Vaneshveri Naidoo will also be involved in this study.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Yours sincerely

pp TJ Burgess

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE
Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938

This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.
The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

HREC 740/2014

APPENDIX 4.2

- **ETHICAL CLEARANCE CERTIFICATE: UNIVERSITY OF KWAZULU NATAL**

UNIVERSITY OF
KWAZULU-NATAL

School of Health Sciences
Westville Campus
Private Bag X54001
DURBAN
4001

17 November 2014

Ms V Naidoo
Physiotherapy Dept
WITS

Dear Ms Naidoo

Gate-keeper's Permission to Access the UKZN SHS Physiotherapy Staff for Research

Permission is hereby granted for you to approach the staff in the Physiotherapy Dept in the UKZN School of Health Science for the purpose of your post graduate studies in Physiotherapy at WITS, as titled below:

"The Development of an Assessment Tool to Evaluate the Effectiveness of an Undergraduate Physiotherapy Clinical Education Programme".

This permission is granted on the basis of:

1. The Ethical Clearance of your project at WITS as per Certificate M140706; and
2. Compliance with the participant information and informed consent procedures as approved in the Ethical Clearance of your project.

All the best with your study.

Yours sincerely

Prof. HJ van Heerden

Academic Leader for Research School of Health Sciences

Tel: + 27 31 260 7394 Fax: + 27 31 260 7903 e-mail: vanheerdenj@ukzn.ac.za

School of Health Sciences

APPENDIX 4.3

- **ETHICAL CLEARANCE CERTIFICATE: UNIVERSITY OF STELLENBOSCH**

UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvennoot • your knowledge partner

07 November 2014

Ms Vaneshveri Naidoo
Department of Physiotherapy
University of Witwatersrand

Dear Ms Naidoo

Concerning research project: ***The development of an assessment tool to evaluate the effectiveness of an undergraduate physiotherapy clinical education programme***

The researcher has institutional permission to proceed with this project as stipulated in the institutional permission application. This permission is granted on the following conditions:

- The researcher must obtain permission from the Head of the Department of Physiotherapy, Stellenbosch University before undertaking this study.
- Participation is voluntary.
- Persons may not be coerced into participation.
- Persons who choose to participate must be informed of the purpose of the research, all the aspects of their participation, their role in the research and their rights as participants. Participants must consent to participation. The researcher may not proceed until she is confident that all the before mentioned has been established and recorded.
- Persons who choose not to participate may not be penalized as a result of non-participation.
- Participants may withdraw their participation at any time, and without consequence.
- Data must be processed in a way that ensures the anonymity of all participants.
- The data must be responsibly and suitably protected.
- The use of the collected data may not be extended beyond the purpose of this study.
- Individuals may not be identified in the report(s) or publication(s) of the results of the study.
- The privacy of individuals must be respected and protected.
- The researcher must conduct her research within the provisions of the Protection of Personal Information Act, 2013.

Best wishes,

Prof Ian Cloete
Senior Director: Institutional Research and Planning

Afdeling Institusionele Navorsing en Beplanning • Institutional Research and Planning Division
Privaatsak/Private Bag X1 • Stellenbosch • 7602 • Suid-Afrika/South Africa
Tel. +27 21 808 9987 • Faks/Fax +27 21 808 4650

APPENDIX 4.4

- **ETHICAL CLEARANCE: UNIVERSITY OF THE FREE STATE**

Dear Mrs Naidoo,

Kindly note the decision of the Ethics Committee at the meeting held on 25 November 2014:

PROJECT TITLE: THE DEVELOPMENT OF AN ASSESSMENT TOOL TO EVALUATE THE EFFECTIVENESS OF AN UNDERGRADUATE PHYSIOTHERAPY CLINICAL EDUCATION PROGRAMME

Congratulations, your project was approved.

Kind regards,
Maré Marais
Secretariat

Ms Maré Marais

Research Division (Ethics Committee)

Office of the Dean: Health Sciences
Block D, Dean's Division, Room D115
PO Box 339 (Internal Post Box G40)
Bloemfontein 9300
South Africa

+27 (0)51 401 7795
+27 (0)51 405 2812

+27 (0)51 444 4359

MaraisMGE@ufs.ac.za

www.ufs.ac.za

UNIVERSITY OF THE FREE STATE UNIVERSITEIT VAN DIE VRYSTAAT YUNIVESITHI YA FREISTATA

University of the Free State:
This message and its contents are subject to a disclaimer.
Please refer to http://www.ufs.ac.za/disclaimer for full details.

Universiteit van die Vrystaat:
Hierdie boodskap en sy inhoud is aan 'n vrywaringsklousule onderhewig.
Volledige besonderhede is by http://www.ufs.ac.za/disclaimer vrywaring beskikbaar.

APPENDIX 4.5

- **PERMISSION GRANTED FOR FOCUS GROUP DISCUSSIONS FROM STEVE BIKO ACADEMIC HOSPITAL**

From: van Niekerk, Esme (gphealth) [mailto:Esme.vanNiekerk@gauteng.gov.za]
Sent: 08 February 2016 08:02 AM
To: Vaneshveri Naidoo
Subject: RE: Permission to Collect Data at SBAH

Good Morning Vanesh

Focus group session confirmed as arranged: Wed, 10 Feb, 13h00-15h00

Please come to the Physio Department. We will escort you from there

Regards

ESME VAN NIEKERK
ASSISTANT DIRECTOR PHYSIOTHERAPY
STEVE BIKO ACADEMIC HOSPITAL
TEL: 012 354 1645
FAX: 012 354 1041

APPENDIX 4.6

- **PERMISSION GRANTED FOR FOCUS GROUP DISCUSSIONS FROM SEFAKO MAKGATO HEALTH SCIENCES UNIVERSITY**

From: Sannie Manale [mailto:sannie.manale@smu.ac.za]
Sent: 17 August 2015 03:49 PM
To: Anri Human; Bhekiwe Mtshali; Collin Makanatleng; Dennis Themba; Frida Kotsokoane; Karabo Raphokwane; Machuene Manamela; Muziwakhe Tshabalala; Ntombenkosi Sobantu; 'Rethabile Nkuna'
Subject: FOCUS GROUP DISCUSSION & STAFF MEETING

Dear colleagues

This is to inform you the Focus Group Discussion on Clinical Education by Vaneshri Naidoo, PhD student from Wits university will be as follows:-

Date : Monday, 24 August 2015

Time : 10h00 – 12h00

Dr Mtshali requests that you please avail yourself to this meeting.

PLEASE NOTE: It is the same date as our Staff Meeting, but the staff meeting starts at 08h30 – 09h45.

Kind Regards

Ms Sannie Manale
Department Physiotherapy
HSB Room N204
Tel : 012 521 3828
Cell : 082 478 7830
E-mail : sannie.manale@smu.ac.za

APPENDIX 4.7

- **PERMISSION GRANTED FOR FOCUS GROUP DISCUSSIONS FROM CHRIS HANI BARAGWANETH ACADEMIC HOSPITAL**

RE: Permission to collect data at the physiotherapy department

C Haarhoff, Elizma (gphealth) <Elizma.Haarhoff@gauteng.gov.za>
To Vaneshveri Naidoo

You replied to this message on 18 Sep 2015 10:43.
This message was sent with High importance.

Dear Vaneshveri

You have permission to proceed with data collection. I have the signed permission with me. You can pick it up at any time when you are here at CHBAH.

Regards,
Elizma

APPENDIX 4.8

- **PERMISSION GRANTED FOR FOCUS GROUP DISCUSSIONS FROM THE UNIVERSITY OF THE WESTERN CAPE**

Research

NM Nondwe Mlenzana <nmlenzana@uwc.ac.za>
To Vaneshveri Naidoo

Reply | Reply All | Forward | ...
Mon 20 Jul 2015 12:43

You replied to this message on 20 Jul 2015 13:24.

Nondwe Mlenzana.vcf
611 bytes

Hi Vaneshveri

I reminded staff but they are not responding. I think if you can come to our staff meeting on Wednesday at 13H00 it will be better as all staff will be available to brief us on your study and set up the date (28-30 July) as stated in your email that will be super.

Regards

Nondwe



APPENDIX 4.9

- **PERMISSION GRANTED FOR FOCUS GROUP DISCUSSIONS FROM HELEN JOSEPH HOSPITAL**

HJH Meeting

HJ

Ebrahim, Tasneem (GPHEALTH) <Tasneem.Ebrahim@gauteng.gov.za>
To Vaneshveri Naidoo

Reply | Reply All | Forward | ...

Mon 31 Aug 2015 08:13

You replied to this message on 01 Sep 2015 11:15.

Good morning Vanesh

Regarding the meeting for your study, we are struggling to avail everyone at the same time for 2 hours, we have allowed for the community service therapists to meet with you on Thursday 3 September at 14:30-16:00 this is in place of our usual staff meeting time.

For permanent staff we are not able to schedule a session anytime soon as it will be back week next week and we have staff attending courses this week. Also, we are booked till end September , I can suggest you come through may be at 11:30 in the last week of September perhaps and we can do one from 11:30- 13:00 and I will allow for staff to take lunch later or earlier on the day. If you are fine with this we can do 1 October 11:30-13:00?

Kind Regards

Tasneem Ebrahim
HOD Physiotherapy
Helen Joseph Hospital
011 489 0334

APPENDIX 5

- **RESULTS OF THE FOCUS GROUP PROMTPS**

  - **Always start with a 'warm-up' question**:

    Let us talk about clinical education:

    - Tell me about your experience (and feelings) as a student regarding clinical training
    - What are your thoughts on…? (a clinical physiotherapy education programme)

  - **Possible Probes**
    - That is an interesting point, what do others think?
    - Hold on to that thought, I will write it down to finish this issue and get back to it
    - Tell me more…
    - Tell participants to remind you not to forget a point that was brought up in the middle of another discussion.
    - What was it that was upsetting?
    - Why did you hate it?
    - Surely you also had good experiences
    - Can you expand on that?
    - If someone dominates – respond as follows: I hear what you are saying, let me hear what others have to say

  - **Other Comments**
    - Be part of the group; circular setting; no desks; refreshments –relaxed comfortable atmosphere.
    - Exercise calmness; friendliness and confidence
    - Perhaps introduce yourself to them prior to the FGD – set up meetings with certain people to explain study
    - Have cues to stop a dominant character
    - Sort attendees carefully from younger to more senior (to stop power differentials), separate the participants and do not have mixed groups, if possible – triangulate the four groups after data are obtained.
    - Have a mixed group if specific groups are not possible (e.g. academics + clinicians)
    - Nature of the topic determines how open the statement should be

- Always ask the who, what, where, when and why questions
- **Reflect** at the end of a session: should I:
  - Continue
  - Stop
  - Start

  } doing
- Have different colour card system: cue cards – facilitator writes on cards:
  - **Red**: important points
  - **White**: things to prompt
  - **Yellow**: reminders
- tell the participants that: I got these cards to write on that will help me not forget anything; note-taker can write for you as well
- Check Book by Morton – social research – have an idea of where you want to lead the discussion (hidden agenda) – have the questions ready – important questions from literature review
- Set up a video to look at myself – verbal and non-verbal cues - REFLECT as above
- Watch body language of the participants

- **Other questions that could be asked**:
  - What is your experience with clinical education?
  - What are the features of clinical training?
  - Comment on the structure of a clinical programme (core constituents/systems involved - e.g., communication/organisation) - how should it be structured?
  - Does the programme allow for diversity in culture?
  - What attributes should a clinical programme encompass?
  - What are the attributes (qualities) of a physiotherapy graduate; what are the more important ones; can you rate them?
  - What should be evaluated in clinical training?
  - What are your thoughts on role modelling?
  - What are your thoughts about clinical supervision/ (what components of clinical supervision do you think are important)?
  - What are your thoughts on reflective practice in student learning?
  - What are your thoughts and experience about institutional support - comments?
  - How do we achieve the balance of nationally responsive and internationally competitive?
  - Let's discuss effectiveness

- Paraphrase when you are stuck; or say: just explain that to me again; I am having difficulty understanding, can someone else explain that
- FGD – no longer than two hrs even if data saturation has not occurred. Participants should participate until the end.
- Can have house rules e.g. turn off cell phones; feel free to go to the bathroom at any time; help yourself to tea and coffee; feel free to stand up if you need to.

APPENDIX 6

- **INVITATION AND INFORMATION SHEET FOR FGD**

Dear Colleagues

Hello my name is Vaneshveri Naidoo. I am doing my PhD through the Physiotherapy Department of the University of the Witwatersrand. My dissertation involves the development of an assessment tool.

The aim of this study is to develop, validate and test the reliability of an assessment tool that evaluates the effectiveness of a Physiotherapy Undergraduate Clinical Education Programme.

What is the significance of this study?
The development of such a tool will enable the clinical programme to be reliably evaluated and assist in determining any flaws in a physiotherapy clinical education programme. Hence quality assurance mechanisms can be introduced in a clinical programme to try to ensure high quality clinical training.

What would you be expected to do?
You are invited to join a focus group discussion (FGD) to determine the items and categories that need to be included in the tool. You have been chosen based on your expertise in clinical education. The discussion will stem from broad statements or questions that will be posed to you. The discussion will be analysed to produce items and categories to be included in the tool. A preliminary tool will be compiled from the FGD, which will be emailed to you two weeks later for consensus. The FGD will be approximately 2 hours long. Your consent will be required to audio-record the discussion as well as participate in the FGD. You will also be required to complete a short demographic questionnaire. It would be greatly appreciated if you would participate in the study by attending the FGD on_____. Participation in this study is voluntary and thus you are by no means compelled to participate. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw from the study at any time without penalty or loss of benefits.

The results of the study will be made available via journal publication, congress presentation as well as on-line at Wits medical library. A copy of the dissertation will be available at Wits medical library upon completion of this study.

Confidentiality
Confidentiality of all information will be maintained where possible at all times although absolute confidentiality is not possible in a FGD. No identifying information will be shared among attendees of the FGD.

For more information or if you have any queries please contact me on (011) 717 3729/3702 or 082 420 3657 or Vaneshveri.naidoo@wits.ac.za. And the Chair of the HREC Prof Cleaton-Jones 0117171234

Yours Sincerely,

Vaneshveri Naidoo

APPENDIX 7

- **LETTER OF CONSENT – PARTICIPATION IN THE FOCUS GROUP DISCUSSION (FDG)**

Your consent for **participation** in the FGD is requested.
The aim of the FGD is to determine the items and domains that need to be included in the tool.

I, _____ hereby consent to **participate** in the FGD.
(print full name and surname)

This study has been explained to me and I understand what is required of me.

Signed: _____

On this day _____ in_____

APPENDIX 8

- **DEMOGRAPHIC INFORMATION: FGD**

1. Participant no: _____
2. Age:_____
3. Qualification: _____
4. Institute qualification obtained:_____
5. No of years qualified:_____
6. Name of Employer:_____

7. Are you self-employed: ☐ Yes ☐ No

8. Are you employed in: ☐ Academia
   ☐ Private practice
   ☐ Government Institute, Please specify: _____
   _____
9. Employment designation: _____
10. No. of years employed at current employer: _____
11. Capacity of involvement with physiotherapy students:
    _____

Thank you.

APPENDIX 9

- **FOCUS GROUP GUIDE**

Opening line: Tell me about your experience (and feelings) as a student regarding clinical training/ What are your thoughts on…..

Rules:

- **Welcome and introduction**
- turn off cell phones
- tea/coffee/muffins
- free to stand/bathroom
- safe environment/all info confidential (no repercussions)
- aim and objective of FGD & step to follow (phase 2)
- aim of observer + use of card system + time keeping
- everybody introduces themselves
- introduce + aim of observer + card system +time keeping

- different colour card system: cue cards – facilitator writes on cards
  - Red: important points
  - white: things to prompt
  - Yellow: reminders

    (tell the participants that: I got these cards to write on that will help me not forget anything; note-taker can write for you as well)

Focus Group Guide (Structure)	**Graduate Attributes**	**Effectiveness of a Programme**	**Probes**
Features of clinical training: ➢ Comment on the structure of a clinical programme (how should it be structured) ➢ core constituents/systems involved: organisation – university or inst. support/ Communication/professionalism/ skills etc. ➢ Does programme allow for cultural diversity? – how?	▪ Self-directed learner ▪ Critical thinker ▪ Reflector ▪ responsible ▪ professional ▪ Good communicator ▪ empathy ▪ innovative ▪ confident ▪ independent ▪ respect ▪ Self-awareness (strengths/weaknesses) ▪ ability to document ▪ safe and effective ▪ EBP ▪ Behaviour – 1st line practitioner ▪ Goal setting ▪ ethics	Understanding define	▪ That's an interesting point, what do others think? ▪ Hold on to that thought, I will write it down to finish this issue and get back to it. ▪ Tell me more… ▪ Tell participants to remind you not to forget a point that was brought up in the middle of another discussion. ▪ What was it that was upsetting? ▪ Why did you hate it? ▪ Surely you also had good experiences? ▪ Can you expand on that? ▪ I hear what you are saying, let me hear what other have to say. ▪ Always ask the who, what, where, when and why questions
Clinical hours			
Blocks (integrated /silos)			
Assessment			
Reflective practice			
Elective block			
Remediation			
Stat bodies: HPCSA/WCPT			
SA Health Policy			
Burden of disease			
Balance: nationally responsive and internationally competitive?			**REFLECTION**
Clinical supervision: ➢ Important components of supervision ➢ How much supervision (dependence vs autonomy) ➢ Characteristics of ideal Clinical supervisor ➢ Role Modelling ➢ Feedback ➢ Model of supervision ➢ Training of supervisors			• Reflect at the end of a session: should I… ➢ Continue ➢ Stop ➢ Start } doing

APPENDIX 10

- **INVITATION AND INFORMATION SHEET – DELPHI 1**

Dear Colleagues

Hello, my name is Vaneshveri Naidoo. I am doing my PhD through the Physiotherapy Department of the University of the Witwatersrand. I contacted you previously to participate in focus group discussions (FDG). This is a follow-up to that phase of the study. My dissertation involves the development of a tool which evaluates the effectiveness of a physiotherapy undergraduate clinical education program. You are invited to participate in this phase of the study based on your expertise in clinical education.

The aim of this phase of the study will be to:
Establish the face and content validity of the preliminary tool, after items have been generated from the FGD, through the following process:

- Obtain consensus with regard to items that should be included in the tool
- Reduce the number of items contained in the tool

What is the significance of this study?
The development of such a tool will assist in determining any flaws in an undergraduate clinical education programme consequently alluding to both national relevance and international competitiveness. Hence quality assurance mechanisms can be introduced in a clinical programme to try to ensure high quality clinical training.

What would you be expected to do?
Please peruse the questionnaire and decide on pertinent questions that should be included in the tool. You are also expected to sift redundant questions; delete inappropriate questions or regroup questions as you see appropriate. You may also suggest pertinent questions to be included in the questionnaire. Your assistance in achieving the aims of this phase of the study is greatly appreciated. Participation in this study is voluntary and thus you are by no means compelled to participate. Refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled. You may withdraw from the study at any time without penalty or loss of benefits.

The results of the study will be made available via journal publication, congress presentation as well as on-line at Wits medical library. A copy of the dissertation will be available at Wits medical library upon completion of this study.

Confidentiality
Confidentiality of all information will be maintained where possible at all times. No identifying information will be shared among participants.

For more information or if you have any queries please contact me on (011) 717 3729/3702 or 082 420 3657 or Vaneshveri.naidoo@wits.ac.za. And the Chair of the HREC Prof Cleaton-Jones 0117171234

Yours Sincerely,

Vaneshveri Naidoo

APPENDIX 11

- **DELPHI 1: QUESTIONNAIRE**

Dear Colleagues

In the latter part of 2015 or early 2016 we held a focus group discussion to determine items and domains that need to be included in a tool which will evaluate the 'Effectiveness of an Undergraduate Physiotherapy Clinical Education Programme'.

Below are the questions that emanated from the thematic content analyses following the focus group discussions. These are possible questions that could appear in the tool, depending on your judgement.

There are three sections:

- Section 1: Governance [pg. 2]
- Section 2A: Academic Structure [pg. 3-5]
- Section 2B: Operational Structure (at clinical site) [pg. 6-8]

You are required to indicate if the question must be included in the tool, possibly be included or excluded (tick the relevant box to indicate your response).

The question will be included in the tool if 80% consensus is achieved for the specific question.

It should take you approximately 10-15 minutes to complete this questionnaire.

DUE DATE: 19 October 2017

I sincerely thank you for your participation!

Section1: GOVERNANCE

Are the following considered with regard to your clinical education programme?

No	Item	Must Include	Possibly Include	Exclude
1.	Do you consult the HPCSA guidelines when structuring your physiotherapy clinical education programme?			
2.	Do you consult the WCPT guidelines when structuring your physiotherapy clinical education programme?			
3.	Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme?			
4.	Do you comply with the WCPT guidelines when structuring your physiotherapy clinical education programme?			
5.	Do you consult any DoH Policies when structuring your physiotherapy clinical education programme?			
6.	Which DoH Policies informs your physiotherapy clinical education programme?			
7.	Does an active Memorandum of Agreement exist between the university or your department and the clinical sites your students train at?			
8.	Has your clinical education programme been accredited by the HPCSA?			
9.	Has your clinical education programme been accredited by WCPT?			
10.	Has any other accreditation body accredited your clinical education programme?			
11.	Does institution autonomy supersede the guiding documents from the HPCSA and DoH?			
12.	Do you employ external clinical educators/supervisors* to supervise your students?			
13.	Do you have full- time employed clinical educators who supervise your students?			
14.	Do you have part-time employed clinical educators who supervise your students?			
15.	Do your students use university provided transport to travel to and from clinical sites?			
16.	If the clinical site is greater that 60km away from the university, do you provide free accommodation for your students at the clinical site?			
17.	What resources do you have available that fortify your clinical education programme?			

***The terms: **clinical educator** and **clinical supervisor** are used synonymously

Section 2A: ACADEMIC STRUCTURE

Are the following considered with regard to your clinical education programme?

No	Item	Must Include	Possibly Include	Exclude
1.	Is there congruence between the curriculum and clinical exposure?			
2.	Does the clinical exposure reflect the local burden of disease?			
3.	Does the clinical exposure reflect the national burden of disease?			
4.	Does the clinical exposure reflect the global burden of disease?			
5.	Are the theory components completed prior to the clinical exposure?			
6.	What is the total amount of time spent training clinically?			
7.	In which year of study does the clinical exposure commence?			
8.	Is the first time of clinical exposure (referring to the question above) an observation year only?			
9.	In which year of study is clinical education (the assessment and treatment of patients) examinable?			
10.	Are there clear aims and objectives stipulated for each clinical exposure or clinical block?			
11.	How many clinical areas are the students exposed to in their **first** year undertaking clinical education as an examination subject?			
12.	How many hours per week do students spend training clinically in their **first** year undertaking clinical education as an examination subject?			
13.	How many **clinical areas** are the students exposed to in their final year undertaking clinical education as an examination subject?			
14.	How many **hours per week** do students spend training clinically in their final year undertaking clinical education as an examination subject?			
15.	How diverse is your clinical exposure? (with regard to ethnicity and levels of health care)			
16.	State the various types of clinical institutions/levels of health care your students are exposed to during their **first year** of clinical exposure.			
17.	State the various types of clinical institutions/levels of health care your students are exposed to during their **final year** of clinical exposure.			
18.	Do all students have an equal opportunity of being exposed to the various types of clinical training sites?			
19.	Do all students have an equal opportunity of being exposed to the various types of conditions taught in the curriculum?			
20.	Is the clinical exposure conducted in silos? (e.g. block 1=paediatrics; block 2=orthopaedics)			
21.	Is the clinical exposure integrated?			
22.	Is the clinical exposure longitudinal?			
23.	Describe the clinical exposure that students experience in your institution.			
24.	Are students placed alone or in pairs/groups at a specific clinical site?			
25.	Who is responsible for student supervision at the clinical site?			
26.	Does a lecturer supervise students at the clinical site?			
27.	Does an externally employed clinician (part-time) supervise students at the clinical site?			
28.	Are the clinical supervisors/educators permanently employed by the university?			
29.	How many dedicated hours of clinical supervision do students receive?			

No	Item	Must Include	Possibly Include	Exclude
30.	Describe the clinical supervision programme you have in place for your students.			
31.	Is a standardised supervision structure applied across all clinical sites?			
32.	Are your clinical educators/supervisors screened to ensure that they are passionate and committed to student training? (clinical supervision is not just a source of income)			
33.	Do you have a clinical supervisor training programme?			
34.	How many hours are spent training your clinical supervisors?			
35.	What topics are discussed in your clinical supervisor training programme?			
36.	Does your clinical supervisor training programme include a practical component?			
37.	Describe your clinical supervisor training programme.			
38.	Once the clinical supervisor training programme is completed, do attendees obtain a qualification or an attendance certificate only?			
39.	Do you have a mentor system in place for your students?			
40.	Do your student's have the opportunity to debrief after clinical blocks?			
41.	How is the information obtained during debriefing followed through?			
42.	Do you have peer support programme for your students?			
43.	Mention any other support structures in place to which your students have exposure.			
44.	Is there an opportunity for remediation, should a student underperform in a clinical area?			
45.	Outline the criteria for students to qualify for remediation?			
46.	Describe your remediation programme, if available?			
47.	Do you have a communication structure in place for students to follow should they have a query, complaint or compliment, at both the clinical site and university?			
48.	Do your students have the opportunity to learn a different language based on the language of clients they may be exposed to?			
49.	Do you have a dedicated clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement and deal with any issues that arise at the clinical sites?			
50.	How do you evaluate your physiotherapy clinical education programme for shortcomings?			
51.	What quality assurance measures do you have in place for your physiotherapy clinical education programme?			
52.	What graduate attributes do you strive for?			
53.	Are the factors that could prevent the graduate attributes from being achieved considered? (environment; resources; background)			
54.	Are the factors that affect learning outcomes considered? (operational issues at clinical site; structural shortcomings from the university programme; student personal issues)			
55.	Are students voices heard with regard to curriculum, policy and decision making?			

*****The terms: **clinical site** and **clinical placement** are used synonymously

Section 2B: OPERATIONAL STRUCTURE (at clinical site)

Are the following considered with regard to your clinical education programme?

No	Item	Must Include	Possibly Include	Exclude
1.	Do you have a dedicated clinician at the clinical site/placement* that liaises with the university should any operational or student issue arise at the clinical site/placement?			
2.	Are your clinical sites/placements accredited to train students?			
3.	Who accredits your clinical training sites?			
4.	State the accreditation criteria used to accredit clinical training sites			
5.	Is the ethos of the clinical site one of teaching and learning?			
6.	Do clinicians (on-site) assist with clinical supervision of students?			
7.	Is there a dedicated clinician who assists students with general issues during their practical training time at the clinical site?			
8.	Is there a dedicated clinician who assists students with clinical queries (assessment and treatment of patients) at the clinical site?			
9.	Is there a structured clinical supervision programme in place for students?			
10.	Are policies and procedures of a clinical placement/site overtly communicated to students on the first day at the placement?			
11.	Are students orientated to all necessary areas (lay-out/architecture) of the clinical placement?			
12.	Are students orientated to all aspects and areas in the physiotherapy department (equipment; forms; bathroom; student room; lockers etc.) in which they are placed?			
13.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?			
14.	Are students introduced to the multidisciplinary team at the clinical placement during orientation of the site?			
15.	Are the expectations of the supervisor overtly communicated to students on the first day at the clinical placement/site?			
16.	Are the expectations of the supervisor realistic, based on the level of the student?			
17.	Are the expectations of the students obtained by the supervisor on the first day at the clinical site?			
18.	Do students write a pre-block test prior to starting clinical training?			
19.	Do students receive dedicated supervision time from the clinician?			
20.	What is the impact of clinician workload on student supervision?			
21.	Do students receive dedicated supervision time from the university supervisor?			
22.	What is the student/supervisor ratio? (e.g. 1sup: 8st)			
23.	State the method of supervision engaged? (group ;one-to-one; peer-led; teacher-led etc)			
24.	Is each supervision session structured or spontaneous?			
25.	Is the supervision session patient-centered or student-centered?			
26.	Is the supervision session student driven or teacher driven?			
27.	As supervision progresses from week to week during the allocated time of the student at the clinical placement how is autonomy fostered by the clinician?			
28.	As supervision progresses from week to week during the allocated time of the student at the clinical placement, how is autonomy fostered by the university supervisor?			

No	Item	Must Include	Possibly Include	Exclude
29.	Are the students learning style considered during clinical supervision?			
30.	Are the following factors that affect learning considered during student supervision: student's characteristics, resources and personal issues?			
31.	Describe your teaching methods undertaken during clinical supervision sessions **[see Appendix A: pg.9]**			
32.	Are you cognisant of your demeanour during clinical supervision, which could impact a positive learning outcome?			
33.	Are you cognisant of your personality and interpersonal skills that could impact a positive learning outcome?			
34.	How is feedback undertaken?			
35.	When is feedback undertaken?			
36.	Where is feedback undertaken?			
37.	Indicate the type feedback that is given (written; verbal)			
38.	What method of feedback is used? (Reflective; Set-go method; ALOBA or BOOST method etc.) **[see Appendix B: pg.10]**			
39.	Does the feedback aid learning (constructive feedback)?			
40.	How do you ensure that the student has understood the feedback provided?			
41.	Is the feedback that is provided, honest?			
42.	Describe the ambience when feedback is provided.			
43.	Are you cognisant of your demeanour during feedback?			
44.	What methods of evaluation are used to evaluate students during clinical practice?			
45.	How are students evaluated by the clinician at the clinical site? (summative or formative)			
46.	How are students evaluated by the university supervisor? (summative or formative)			
47.	What steps are taken to create a positive learning environment at the clinical site?			
48.	What steps are taken to ensure a safe learning environment at the clinical site?			
49.	Are basic clinical skills revised during supervision of students?			
50.	How is students' patient management facilitated at the clinical site?			
51.	Reading and recording in patients files: how are students guided through this process?			
52.	Are students assigned a mentor at the clinical site?			
53.	Are structured, debriefing sessions available at the clinical site?			
54.	Who conducts the debriefing session at the clinical site?			
55.	How is the information obtained during debriefing at the clinical site followed through?			
56.	How is student interprofessional collaboration ensured at the clinical site?			
57.	Is the student's clinical learning experience (positive vs negative) important to you?			
58.	How are students emotions (fear, anxiety, overwhelmed), during clinical practice handled?			
59.	What efforts do supervisors make in ensuring they are good role models to students?			

*****The terms: **clinical site** and **clinical placement** are used synonymously

APPENDIX A: TEACHING METHODS

- Advice
- Case presentation
- Mock examination
- Discussion
- Problem-solving
  - Reflection
  - Demonstration
  - Create challenge
  - Problem based learning (PBL)
  - Q & A sessions
  - Tuts/teach specific skill
  - Small group session – group teaching
  - Watch surgery

APPENDIX B: TYPES OF FEEDBACK:

- Reflective Method
  - Students identify their strengths
  - Teacher reinforces these & adds more
  - Student identifies areas for improvement
  - Teacher reinforces these, adding further areas if necessary + providing constructive suggestions for improvement
  - Discuss strengths and weakness

- SET-GO method (descriptive and directed towards behaviour)
  - What I saw – describing what I saw
  - What else did you see? – what happened next (prompts if necessary)
  - What do you think – encouraging reflection/problem solving
  - What goals are we trying to achieve – teacher facilitates problem solving
  - Any offers on how to achieve goals

- ALOBA (agenda-led; outcome based analysis)
  - Learner reflects and acknowledges areas where help is needed
  - Tasks or goals that need to be achieved are identified (reflection/facilitator driven) – learning experience for both student and facilitator
  - learner and facilitator suggest skills to achieve outcome (problem solving) – [facilitator praises achievements; introduces theories]
  - Rehearsal of skills (abovementioned) to achieve outcome
  - Facilitator summarises skills to achieve outcomes (action plan)

- BOOST

  B = balanced (negative and positive points)

  O = observed only (no thoughts)

  O = objective or owned (factual)

  S = specific (avoid broad statements)

  T = timely (as soon as possible)

APPENDIX 12

- **INVITATION AND INFORMATION SHEET – DELPHI 2**

Dear Colleagues

Hello, my name is Vaneshveri Naidoo. I am doing my PhD through the Physiotherapy Department of the University of the Witwatersrand. I contacted you previously to participate in Delphi round 1. This is a follow-up to that phase of the study. My dissertation involves the development of a tool which evaluates the effectiveness of a physiotherapy undergraduate clinical education program. You are invited to participate in this phase of the study based on your expertise in clinical education.

The aim of this phase of the study is to:
Reduce the number of items contained in the tool. You are requested to make a decision regarding items that should be included in the tool.

What is the significance of this study?
The development of such a tool will assist in determining any flaws in an undergraduate clinical education programme consequently alluding to both national relevance and international competitiveness. Hence quality assurance mechanisms can be introduced in a clinical programme to try to ensure high quality clinical training.

What would you be expected to do?
Please peruse the questionnaire and decide on pertinent questions that should be included in the tool. You are also expected to sift redundant questions; delete inappropriate questions or regroup questions as you see appropriate. Your assistance in achieving the aims of this phase of the study is greatly appreciated. Participation in this study is voluntary and thus you are by no means compelled to participate. Refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled. You may withdraw from the study at any time without penalty or loss of benefits.

The results of the study will be made available via journal publication, congress presentation as well as on-line at Wits medical library. A copy of the dissertation will be available at Wits medical library upon completion of this study.

Confidentiality
Confidentiality of all information will be maintained where possible at all times. No identifying information will be shared among participants.

For more information or if you have any queries please contact me on (011) 717 3729/3702 or 082 420 3657 or Vaneshveri.naidoo@wits.ac.za. And the Chair of the HREC Prof Cleaton-Jones 0117171234

Yours Sincerely,

Vaneshveri Naidoo

APPENDIX 13

- **DELPHI 2: QUESTIONNAIRE**

DELPHI – round 2

- The aim of this phase of the Delphi is to make a final decision on the questions that must be included in the tool
- You are not required do provide an answer to the questions
- You are required to indicate if the question must **either** be **included** **or** **excluded**
- Choose one option only:
  - Include or
  - Exclude
- The question will be included in the tool, if 80% consensus is achieved for the specific question
- It should take you approximately 8-10 minutes to complete this questionnaire
- Comments regarding the phrasing of questions are welcome, i.e. if you feel a certain question should be rephrased, please insert exactly how you think the question should be phrased.

Please note some questions have been altered (changed; split or rephrased) as per feedback from respondents.

DUE DATE: 8 Dec 2017

THANK YOU!

The questions are separated into three sections:

The following was conceptualized according to the data obtained from the focus groups:

Section 1: **Governance -** refers to the policies and quality assurance processes that are put in place for your clinical education programme

Section 2A: **Academic Structure -** refers to the procedures and processes that are put in place by the academic department to ensure a cohesive clinical training programme

Section 2B: **Operational Structure -** refers to the procedures and processes that are put in place by the academic department together with the clinical placement to ensure a smooth and harmonious clinical training programme

Please Note:

- Consent to participate in this study was obtained during the focus group discussions (phase 1 of study)
- The researcher is the only one privy to the names of the participants. There is no identifying data on the questionnaires, hence the anonymity of the participants is maintained
- Supervisors of this study:
  - Prof Aimee Stewart (PhD) [aimee.stewart@wits.ac.za]
  - Prof Douglas Maleka (PhD)[douglas.maleka@smu.ac.za]
- Ethics contact person:
  - Prof P Cleaton-Jones [peter.cleaton-jones1@wits.ac.za}

Section1: GOVERNANCE

Should the following questions be included in a tool that will be used to evaluate a Physiotherapy Clinical Education programme?

No	Item	Include	Exclude
18.	Do you consult the WCPT guidelines when structuring your physiotherapy clinical education programme?		
19.	Do you comply with the WCPT guidelines when structuring your physiotherapy clinical education programme?		
20.	Do you consult any DoH Policies when structuring your physiotherapy clinical education programme?		
21.	Which DoH Policies informs your physiotherapy clinical education programme?		
22.	Has your clinical education programme been accredited by WCPT?		
23.	Has any other accreditation body accredited your clinical education programme?		
24.	Does institution autonomy supersede the guiding documents from the HPCSA?		
25.	Does institution autonomy supersede the guiding documents from the DoH?		

*****The terms: **clinical educator** and **clinical supervisor** are used synonymously

Section 2A: ACADEMIC STRUCTURE

Should the following questions be included in a tool that will be used to evaluate a Physiotherapy Clinical Education programme?

No	Item	Include	Exclude
56.	Does the clinical exposure reflect the national burden of disease?		
57.	Does the clinical exposure reflect the global burden of disease?		
58.	Are the theory components completed prior to the clinical exposure?		
59.	Is the first time of clinical exposure in the programme/curriculum an observation year only?		
60.	How many clinical areas are the students exposed to in their **first** year undertaking clinical education as an examination subject?		
61.	How many hours per week do students spend training clinically in their **first** year undertaking clinical education as an examination subject?		
62.	How diverse is your clinical exposure with regard to ethnicity?		
63.	How diverse is your clinical exposure with regard to the different levels of health care: Primary, Secondary, Tertiary level Health Care		
64.	State the various types of clinical institutions/levels of health care your students are exposed to during their **first year** of clinical exposure.		
65.	*Is the clinical exposure integrated?		
66.	*Is the clinical exposure longitudinal?		
67.	Describe the clinical exposure that students experience in your institution.		
68.	Are students placed alone or in pairs/groups at a specific clinical site?		
69.	Do lecturers supervise students at the clinical site, during the clinical block/rotation?		
70.	Does an externally employed clinician (part-time) supervise students at the clinical site?		
71.	Are the clinical supervisors/educators permanently employed by the university?		
72.	Is a standardised supervision structure applied across all clinical sites during the clinical block/rotation? (structure refers to the format or organization of supervision during the clinical rotation)		
73.	Are your clinical educators/supervisors screened to ensure that they are passionate and committed to student training? (clinical supervision is not just a source of income)		
74.	How many hours are spent training your clinical supervisors?		

*Both an integrated and longitudinal exposure refers to interdisciplinary patient care in order to achieve various clinical objectives in a non-structured manner (i.e. not treating in silos, for example not only treating the orthopaedic/ neuro/ cardiopulmonary condition). The difference between the two is the time period and the approach to learning. In the longitudinal approach a patient-centered care approach is the focus, instead of it being more of a learner-centered approach as in the integrated approach. The integrated approach is for a short period of time (4-6weeks), whereas a longitudinal approach is at least 6-12 months

No	Item	Include	Exclude
75.	What topics are discussed in your clinical supervisor training programme?		
76.	Does your clinical supervisor training programme include a practical component?		
77.	Describe your clinical supervisor training programme.		
78.	Once the clinical supervisor training programme is completed, do attendees obtain a qualification or an attendance certificate only?		
79.	Do you have a mentor system in place for your students?		
80.	How is the information obtained during debriefing followed through?		
81.	Do you have peer support programme for your students?		
82.	Mention any other support structures in place, to which your students have exposure.		
83.	Describe your remediation programme, if available?		
84.	Do your students have the opportunity to learn a different language based on the language of clients they may be exposed to?		
85.	How do you evaluate your physiotherapy clinical education programme for shortcomings?		
86.	What graduate attributes do you strive for?		
87.	Are the factors that could prevent the graduate attributes from being achieved considered? (environment; resources; background)		
88.	Are the factors that affect learning outcomes considered? (operational issues at clinical site; structural shortcomings from the university programme; student personal issues)		
89.	Are student's voices heard with regard to curriculum, policy and decision making?		
90.	Do you have part-time employed clinical educators who supervise your students?		
91.	How do your students travel to clinical sites? Specify the percentage of 'student's own transport' vs 'University provided transport'		

Section 2B: OPERATIONAL STRUCTURE (at clinical site)

Should the following questions be included in a tool that will be used to evaluate a Physiotherapy Clinical Education programme?

No	Item	Include	Exclude
60.	Are your clinical sites/placements accredited to train students?		
61.	Who accredits your clinical training sites?		
62.	State the accreditation criteria used to accredit clinical training sites		
63.	Is the ethos of the clinical site one of teaching and learning?		
64.	How are student and operational issues resolved at the clinical placement; and are students aware of this process?		
65.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?		
66.	Are students introduced to the multidisciplinary team at the clinical placement during of the site?		
67.	Are the expectations of the supervisor realistic, based on the level (year of study) of the student?		
68.	What is the impact of clinician workload on student supervision?		
69.	State the method of supervision engaged? (group ;one-to-one; peer-led; teacher-led etc)		
70.	Is each supervision session structured or spontaneous?		
71.	Is the supervision session patient-centered or student-centered?		
72.	Is the supervision session student driven or teacher driven?		
73.	As supervision progresses from week to week during the allocated time of the student at the clinical placement how is autonomy fostered by the clinician?		
74.	As supervision progresses from week to week during the allocated time of the student at the clinical placement, how is autonomy fostered by the university supervisor?		
75.	Are the students learning style considered during clinical supervision?		
76.	Are the following factors that affect learning considered during student supervision: student's characteristics, resources and personal issues?		
77.	Describe your teaching methods undertaken during clinical supervision sessions **[see Appendix A: pg. 7]**		
78.	Are you cognisant of your demeanour during clinical supervision, which could impact a positive learning outcome?		
79.	Are you cognisant of your personality and interpersonal skills that could impact a positive learning outcome?		
80.	When is feedback undertaken? (immediately or at a later time)		
81.	Where is feedback undertaken? (in private or in front of the patient)		
82.	Indicate the type feedback that is given (written; verbal)		
83.	How do you ensure that the student has understood the feedback provided?		
84.	Is the feedback that is provided, honest?		
85.	Describe the ambience when feedback is provided (taking into account your demeanour).		
86.	What steps are taken to create a positive and safe learning environment at the clinical site?		
87.	Are basic clinical skills revised during supervision of students?		
88.	How is students' patient management facilitated at the clinical site?		
89.	Reading and recording in patients files: how are students guided through this process?		
90.	Are students assigned a mentor at the clinical site?		
91.	Are structured, debriefing sessions available at the clinical site through the mentor, supervisor or HOD?		
92.	How is the information obtained during debriefing at the clinical site followed through?		
93.	How is student interprofessional collaboration ensured at the clinical site?		

No	Item	Include	Exclude
94.	Is the student's clinical learning experience (positive vs negative) important to you?		
95.	How are students emotions (fear, anxiety, overwhelmed), during clinical practice handled?		
96.	What efforts do supervisors make in ensuring they are good role models to students?		

*****The terms: **clinical site** and **clinical placement** are used synonymously

APPENDIX A

Teaching methods

- Advice
- Case presentation
- Mock examination
- Discussion
- Problem-solving
  - Reflection
  - Demonstration
  - Create challenge
  - Problem based learning (PBL)
  - Q & A sessions
  - Tuts/teach specific skill
  - Small group session – group teaching
  - Watch surgery

APPENDIX 14

- **INVITATION AND INFORMATION SHEET – DELPHI 3**

Dear Colleagues

Hello, my name is Vaneshveri Naidoo. I am doing my PhD through the Physiotherapy Department of the University of the Witwatersrand. I contacted you previously to participate in focus group discussions (FDG) and Delphi rounds 1 and 2. **This is the third Delphi round**. My dissertation involves the development of a tool which evaluates the effectiveness of a physiotherapy undergraduate clinical education program. You are invited to participate in this phase of the study based on your expertise in clinical education.

The aim of this phase of the study will be to:

- Suggest a **scoring system** for the tool
- Suggest a **name** for the tool

What is the significance of this study?

The development of such a tool will assist in determining any gaps in an undergraduate clinical education programme consequently alluding to both national relevance and international competitiveness. Hence quality assurance mechanisms can be introduced in a clinical programme to try to ensure high quality clinical training.

What would you be expected to do?

Your opinion is required regarding a scoring system for this tool as well as a name for this tool. Your assistance is achieving the aim of this phase of the study is greatly appreciated. Participation in this study is voluntary and thus you are by no means compelled to participate. Refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled. You may withdraw from the study at any time without penalty or loss of benefits.

The results of the study will be made available via journal publication, congress presentation as well as on-line at Wits medical library. A copy of the dissertation will be available at Wits medical library upon completion of this study.

Confidentiality

Confidentiality of all information will be maintained where possible at all times. No identifying information will be shared among participants.

For more information or if you have any queries please contact me on (011) 717 3729/3702 or 082 420 3657 or Vaneshveri.naidoo@wits.ac.za or the Chair of the HREC Prof Clement Penny [Clement.penny@wits.ac.za] /011 717 1234

Yours Sincerely,

Vaneshveri Naidoo

APPENDIX 15

- **DELPHI 3: QUESTIONNAIRE**

Dear Colleagues

Thank you for participating in this study. This is the third Delphi round. In round's 1 and 2 consensus was obtained regarding items that should be included in the tool, followed by reducing the number of items contained in the preliminary tool, respectively.

The aim of this phase of the Delphi is to **recommend** a **scoring system**, as well as a **name** for the tool.

A scoring system/method has also been suggested {e.g. click on this icon: Choose an item. to reveal the suggested scoring system}. Please can you read the questions below, click on the icon to reveal the options and then comment on the appropriateness of the options, or give alternative suggestions.

Do not answer the questions.

Comments regarding the re-phrasing of questions are welcome. If you feel a certain question should be rephrased, please type-in exactly how you think the question should be phrased, next to the specific question.

Page 13 of this document has been allocated to suggest a name for this tool and additional comments.

It should take you approximately 8-10 minutes to peruse this questionnaire.

Please note that some questions have been altered (i.e. changed; split or rephrased) as per feedback from respondents from the previous Delphi rounds.

DUE DATE: 1st June 2018

THANK YOU!

Vaneshveri Naidoo

Please note:

Consent to participate in this study was obtained during the focus group discussions (phase 1 of study).

The researcher is the only one privy to the names of the participants. There is no identifying data on the questionnaires; hence the anonymity of the participants is maintained.

Supervisors of this study:

- Prof Aimee Stewart (PhD) [aimee.stewart@wits.ac.za]
- Prof Douglas Maleka (PhD) [douglas.maleka@smu.ac.za]

HREC contact person: Prof Clement Penny [Clement.penny@wits.ac.za] /011 717 1234

The tool contains three sections:

1. **Governance**
2. **Academic Structure**
3. **Operational Structure**
   (This was conceptualized after the analyses of the focus group discussions in 2017)

Governance:
This refers to the policies and quality assurance processes that are put in place for your clinical education programme.

Academic Structure:
This refers to the procedures and processes that are put in place by the academic department to ensure a cohesive clinical training programme.

Operational Structure:
This refers to the procedures and processes that are put in place by the academic department together with the clinical placement to ensure a smooth and harmonious clinical training programme.

SECTION 1: GOVERNANCE Click here to enter a date.

No.	Statement	State the Documented evidence E.g. Document 5.1 of 2015	Suggested Response	Your Suggestion: Alternate Scoring system
1.	Which DoH policies inform your physiotherapy clinical education programme?		Choose an item.	
2.	Has your clinical education programme been accredited by any professional body/organisation? E.g. WCPT; HPCSA Specify the accreditation body.		Choose an item.	
3.	Does institution autonomy supersede the guiding documents from the HPCSA?		Choose an item.	
4.	Are student's voices heard with regard to curriculum, policy and decision making?		Choose an item.	
5.	Does an active Memorandum of Agreement exist between the University or your Department and the clinical training sites?		Choose an item.	

SECTION 2: ACADEMIC STRUCTURE Click here to enter a date.

No.	Statement	State the Documented evidence E.g. Document 5.1 of 2015	Suggested Response	Your Suggestion: Alternate Scoring system
1.	How do you evaluate your physiotherapy clinical education programme?		Choose an item.	
2.	What graduate attributes do you strive for?		Choose an item.	
3.	Are the theory components completed prior to the clinical exposure?		Choose an item.	
4.	Describe the clinical exposure that students experience in your institution.		Choose an item.	
5.	Does the clinical exposure reflect the national burden of disease?		Choose an item.	
6.	How diverse is your clinical exposure with regard to the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care?		Choose an item.	
7.	How many clinical areas are the students exposed to in their first year of undertaking clinical education as an examination subject?		Choose an item.	
8.	How many hours per week do students spend training clinically in their first year of undertaking clinical education as an examination subject?		Choose an item.	
9.	State the various levels of health care (Primary, Secondary, Tertiary level and Private Health Care) that your students are exposed to during their first year of clinical exposure.		Choose an item.	
10.	Are your clinical training sites/placements accredited to train students?		Choose an item.	
11.	If 'Yes' to question 10: Who accredits your clinical training sites?		Choose an item.	
12.	Are students, in general, placed alone, in pairs or in groups at a specific clinical site?		Choose an item.	
13.	How do your students travel to clinical sites? Specify the percentage of 'student's own transport' vs 'university provided transport'		Choose an item.	
14.	*Is the clinical exposure integrated?		Choose an item.	
15.	*Is the clinical exposure longitudinal?		Choose an item.	
16.	Describe your clinical supervisor training programme		Choose an item.	
17.	How many hours, per year, are spent training your clinical supervisors?		Choose an item.	
18.	Is a standardised supervision structure applied across all clinical sites during the clinical block/rotation?		Choose an item.	

No.	Statement	State the Documented evidence E.g. Document 5.1 of 2015	Suggested Response	Your Suggestion: Alternate Scoring system
	(structure refers to the format or organization of supervision during the clinical rotation)			
19.	Do lecturers supervise students at the clinical site, during the clinical block/rotation?		Choose an item.	
20.	Does an externally employed clinician (part-time) supervise students at the clinical site?		Choose an item.	
21.	Are the clinical supervisors/educators permanently employed by the university?		Choose an item.	
22.	What support structures are in place for your students? E.g. mentor/ peer support programme/ debriefing		Choose an item.	
23.	Do your students have the opportunity to learn a different language based on the language of clients they may be exposed to?		Choose an item.	
24.	Describe your remediation programme, if available?		Choose an item.	
25.	Which factors influence learning outcomes?		Choose an item.	
26.	Which factors influence graduate attributes from being achieved?		Choose an item.	
27.	Is there alignment between the curriculum and clinical exposure?		Choose an item.	
28.	Are there clear aims and objectives specified for each clinical exposure or clinical block?		Choose an item.	
29.	Do you have a dedicated clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement and deal with any issues that may arise at clinical sites?		Choose an item.	
30.	What quality assurance measures do you have in place for your physiotherapy clinical education programme?		Choose an item.	

SECTION 3: OPERATIONAL STRUCTURE Click here to enter a date.

No.	Statement	State the Documented evidence E.g. Document 5.1 of 2015	Suggested Response	Your Suggestion: Alternate Scoring system
1.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation		Choose an item.	
2.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?		Choose an item.	
3.	Are students introduced to the multidisciplinary team at the clinical placement during orientation of the site?		Choose an item.	
4.	How is students' patient management facilitated at the clinical site?		Choose an item.	
5.	Reading and recording in patients files: how are students guided through this process?		Choose an item.	
6.	Are the students learning style considered during clinical supervision?		Choose an item.	
7.	Are the factors that affect learning considered during student supervision? (student's characteristics, resources and personal issues)		Choose an item.	
8.	Are the expectations of the supervisor realistic, based on the level (year of study) of the student?		Choose an item.	
9.	Are the expectations of the students obtained by the supervisor on the first day at the clinical site?		Choose an item.	
10.	State the method of supervision engaged?		Choose an item.	
11.	Is each supervision session structured or spontaneous?		Choose an item.	
12.	Is the supervision session patient-centered or student-centered?		Choose an item.	
13.	Is the supervision session student driven or teacher driven?		Choose an item.	
14.	As supervision progresses from week to week during the allocated time of the student at the clinical placement, how is autonomy fostered by the supervisor?		Choose an item.	
15.	Describe your teaching methods undertaken during clinical supervision sessions Advice/ Case presentation/ Mock examination / Discussion/ Problem-solving/ Reflection/ Demonstration/ Create challenge/ Problem based learning (PBL)/ Q & A sessions/ Tuts/ teach specific skills/ Small group teaching/ Watch surgery		Choose an item.	
16.	What method of feedback is used?		Choose an item.	
17.	When is feedback generally given during the supervision process?		Choose an item.	

No.	Statement	State the Documented evidence E.g. Document 5.1 of 2015	Suggested Response	Your Suggestion: Alternate Scoring system
18.	Where is feedback generally given during the supervision process?		Choose an item.	
19.	Indicate the type of feedback that is given		Choose an item.	
20.	How do you ensure that the student has understood the feedback given?		Choose an item.	
21.	What steps are taken to create a positive and safe learning environment at the clinical site?		Choose an item.	
22.	Are basic clinical skills revised during supervision of students?		Choose an item.	
23.	Are structured, debriefing sessions available at the clinical site through the mentor, supervisor or HOD?		Choose an item.	
24.	How is the information obtained during debriefing at the clinical site followed through?		Choose an item.	
25.	How is student interprofessional collaboration ensured or encouraged at the clinical site?		Choose an item.	
26.	Do students have an opportunity to share their clinical learning experiences (positive and negative)?		Choose an item.	
27.	Are students' emotions (e.g. fear, anxiety, feeling overwhelmed) taken into consideration during clinical training or during clinical supervision sessions?'		Choose an item.	
28.	How are student issues resolved at the clinical placement? Are students aware of this process?		Choose an item.	
29.	How are operational issues pertaining to student training resolved at the clinical placements?		Choose an item.	

Name this tool:	
Additional Comments:	

Thank you, your input is sincerely valued!

Kind Regards,

Vaneshveri

APPENDIX 16

- **PARTICIPANT'S RESPONSES – DELPHI 3 QUESTIONS**

COMMENTS

Section 1: Governance	
Q	**Comment(s)**
1	Provide a list of the policies
	I don't think both of the first options are needed. I think an option saying, 'the following policies (specify)' and 'none'.
	Will include an option for 'other' to allow for additional comments / thoughts not found under the suggested response.
	There are both multi-lateral and bilateral agreements with DoH. DHET and our institution.
	I suggest that you list the specific policies and then the person can tick the ones that they use in their respective departments. Still have the last option, 'none' or 'none used'.
	Would it not be easier to list DoH policies by means of a drop-down list and participants select it from there as opposed to asking them to recite the policies off hand?
	Give a choice of DoH policies to choose from
	I think you need list relevant policies here as national, provincial
	If you are asking for specifications for both options, is it necessary to have a drop list. Shouldn't you rather just specify the policies you are using?
	If possible list all policies with yes/no and have other (specify) as last items.
	Specify the policies and ask respondents to choose those applicable to them.
2	Perhaps provide the list of examples given to choose from instead of just selecting 'yes' or 'no'
	Maybe you can add a component. If not, why not? (Reasons provided)
	'Working towards' should also have a specify option
	How will they score if accredited by one and working towards the other?
	Include all three items
	For "working towards" maybe they should specify the timeline e.g. process started in 2016, approval scheduled for 2018.
	I suggest you change the following: First option – the bracket bit e.g. specify the professional body and organization relevant. The second option – "working towards accreditation"
	Agree with suggested response except for "working towards", should this not be noted as "other", with space for written information to be added?
	Would suggest that option for NO should also have specify with it.
	Yes/No If Yes specify the organization If No why?
	Working towards; in the process.
	Working towards accreditation
3	Maybe they need to explain in all places where you think a yes or a no will not be enough and you may want some more information.
	If yes which documents and why?
	Include both
	If yes, justify
	Agree with suggested response except for "working towards", should this not be noted as "other", with space for written info to be added?
	Add an option of "unsure" or "depends on policy"

	Have a follow up question If Yes why? If Yes No why?
4	I am not sure if it is? Or certain questionnaires should be developed for student to fill in and lecturers should read through it and follow though.
	If not, provide reasons?
	If yes, how is it implemented/applied
	Maybe a add don't know option
	Include all 3 items
	I wonder if this should be rephrased. Are student's voices formally heard with regard to curriculum, policy and decision making?
	Agree with suggested response except for "working towards", should this not be noted as "other", with space for written info to be added?
	Have a follow up question If Yes why? If No why?
	Working towards / under review
	Working towards (complete sentence). If possible consider asking them to indicate how the students' voices are heard (for those who say, 'yes')
5	If not, provide reasons
	Accidentally answered this question. Fine – No suggestions
	Maybe add a don't know option
	Include all 3 items
	"Working towards" sound a bit vague. I suggest stating what you are working towards. For example, working towards having a memorandum of agreement.
	Agree with suggested response except for "working towards", should this not be noted as "other", with space for written information to be added.
	Have a follow up question If Yes why? If No why?

Section 2: Academic Structure	
Q	**Comment(s)**
1	Feedback as another option?
	Your options should be perhaps be in line with the work “evaluate”. For example: good, fair, adequate, satisfactory e.t.c
	Will you include an option for ‘other’ to allow for additional comments/thoughts not found under the ‘suggested response’?
	Include all 4 items as a response option
	External examiners, student input/feedback, student throughput, clinician comments/feedback, internal evaluations (eg weekly submissions, end of clinical block assessments etc).
	I suggest that in brackets at each option you add an explanation on what you imply with the word. E.g. when someone chooses ‘impact’ what would this refer to as a means of making sure what you imply is perceived the same by the respondent.
	Will you supply definitions for that you mean by impact etc?
	Suggest you explain the terms impact/outcome etc
	This is not clear – may need descriptors or sub-items under e.g. impact
2	Attributes are examples such as good work ethic, professionalism, time management etc. Shouldn’t these words fall under the suggested response?
	This question seems to require a descriptive answer and a yes/no? Maybe a list of attributes could be added?
	The three options does not answer the question; maybe change question to ‘do you strive for…..
	The question and the possible answers do not correlate. Either change the question or the suggested response.
	The question and the responses don’t seem to speak to the same thing? Should you not guide this more responses and list those you feel are relevant e.g. professionalism, time management e.t.c?
	I don’t think these options answer the question at all
	Not clear…what have we achieved?
	Include all 4 items as a response option
	Response seems inappropriate – surely a list will suffice?
	The suggestion does not match the question. Perhaps make it open ended
	The drop down options do not match the question
	Presently our curriculum is guided by the CANMEDS graduate attributes.
	This scoring does not seem appropriate? Should it not match with graduate attribute documents such as CanMeds?
	The question asks what the attributes are but the responses listed does not have the attributes as options. The suggested response does not make sense. If you want the participants to choose your options the question should be something like this: Did your graduates achieve the proposed attributes envisioned?
	This grading does not respond to the question. Probably list of attributes e.g. professionalism, clinician, researcher.
	Mainly – they could then select the main attribute.
	I don’t think that this drop list is grammatically fitting. Shouldn’t there be specifications here.
	I feel like these options do not help answer the questions – depends what expected answers you are looking for in terms of clinical/maturity etc?
	The options do not answer the question
	The choice items don’t correlate with the question attributes (quality). Reflective practice, socially accountable…suggest you give 5 choices with the graduate attributes or give a space where respondents can add the attributes.
	List the attributes that they should choose from and include item ‘other’
3	What about if some are completed but not all? Don’t think ‘working towards’ makes sense here.
	Include all 4 items as a response option

	"Working towards" – replace with in parallel/scaffolded
	Perhaps give an option to expand on No. e.g. No, it is throughout the semester on teaching days.
	Perhaps there should be an option of partially
	Sometimes they are aligned (for some groups of students) and sometimes not.
	Should this not be Yes – partial completion theory , No
	Exclude the 'working toward' option
	Insert 'all' and delete 'the' from the question
	Need to give a checklist of attributes, this is currently not adequate
	Agree with suggested response except for 'working towards', should this not be noted as 'other', with space for written information to be added?
	Have a follow up question If yes, how? If no, why?
	Appropriate (I am not sure about the item, 'working towards' – include if others think it is appropriate – I would opt for yes/no only.
4	Maybe specify areas covered and not covered because going back to our first discussion when we were in community service, I remember that some universities did not have a wide clinical exposure compared to Wits.
	Will narrow be similar to specialized? What is the difference between narrow and selected?
	Explain further
	Either change the question or the suggested response
	Don't think these options are specific enough – no idea what you mean.
	Limited instead of narrow
	General patient diagnosis/population. Specified i.e. neuro/ortho/medical and surgical
	Options such as: primary health care, secondary health care, tertiary care, community care, simulation, private sector, clinics/old age/institutional care/palliative care, rehabilitation centers
	What is the difference between selected and narrow?
	Options to expand? i.e. name the areas. It gives a better indication.
	Acceptable but consider allowing for a description in a separate box.
	Rather than selected I would suggest the term 'targeted' as in targeted to burden of disease in SA.
	Focus I think is a better word than narrow.
	How are these measurable?
	Need to give broad options to choose from
	Give a space to explain…the question is describe
	List possible clinical exposure items they should choose from or make it clear that this is open ended (without items to choose)
5	Fine – but you are assuming everyone has the same understanding of what the national burden of disease is
	Include all 4 items as a response option
	Have a follow up question If yes, how? If no, why?
6	See comment above regarding selective
	Maybe be a bit more specific with your possible options to vague.
	I don't think the answer will tell you anything – if 'narrow' you have no idea what is left out.
	Limited instead of narrow
	Perhaps consider a 'Likert type scale' for each level of health care.

	Option to specify e.g. secondary only
	?Aligned, partly aligned or non-aligned I think might be better responses.
	How are these measurable?
	Will give them a choice? Primary, secondary, tertiary, private health care? For them to choose as many as applicable.
	Consider writing each level of care with yes/no next to each item
7	Don't you rather want a specific number e.g. 5 and then in your analysis you change it to categorical if you want? Otherwise if it ranges 5-6, then you don't have a specific answer and the data analysis is limited.
	Maybe include the areas choices
	Include all items as a response option
	I would change this – to whether students are exposed to clinical education in the 1st year – with yes/no as the grading.
	Is it not better to know which clinical areas are being referred to as opposed to the number of areas? I would suggest that the different areas be listed as part of a drop down list from which the respondent can select.
	What if it is zero? No zero option. Would record the question. Any students in their 1st year of undertaking clinical education as an examination subject? Yes/No If yes, how many? If no, why not?
	If possible write clinical areas for them to tick and this will give more information (total number of clinical areas and names of the clinical blocks – better to know that they do e.g. ortho and neuro than to just know that they do two blocks.
8	Why was 30 hours omitted?
	Perhaps consider using ranges e.g. 0-10, 10-20, 20-40 hours
	Perhaps make it a range e.g. 40 hours; 20-40 hours; 10-19 hours etc
	This question should be rephrased – maybe consider. How many hours per week do students spend in clinical practice in their first year of undertaking clinical education as an examination subject? Not clear if you require practical or theory hours in response. With the above phrasing you will get more homogenous information.
	Use categories for respondents to choose from
	Are there questions about other clinical years or is it just about first year of clinical training? It will also be useful to know when they start clinical training (2nd/3rd/ 4th year) – ignore if these are covered elsewhere in the document.
9	..and secondary
	Give a choice to choose as many as applicable. Add 'none of the above'. There is also public-private partnerships (Phila Sonke)
	Some? Is this not supposed to be 'other' – rather let them choose more than one item and have last items as 'other' just in case they want to specify e.g. NGO or NPO which is not necessarily considered private or government (can have some which are a combination of private and government).
10	If yes, accredited with which body? If no, provide reasons (barriers)
	Include all items as a response option
	See suggestion made previously regarding 'working towards accreditation'
	Have a follow up question If yes, how? If no, why?
11	Maybe add a similar question regarding no and the barriers for accreditation.
	Include all items as a response option
	Have a follow up question If yes, how? If no, why?

12	What if some are alone and some in pairs and some in 3's
	Will a combination of answers be allowed?
	Add option "varies according to placement"
	Maintain standardization with the responses. Start with alone, in pairs, in a group.
13	Maybe break this question down into two separate questions to make sure you get the information you want.
	Own transport means own car or get a lift. Should public transport not be an option as well
	How do you specify percentage in the suggested response?
	Include all items as a response option
	The suggested response does not specify the percentage, would this be something that the respondent needs to write in?
	Walking? If I live in Soweto Diepkloof I will walk to Bara, public transport?
	Consider providing space for them to fill in the percentages
14	If no, provide reasons
	I see there is an asterisk, but I am not sure what this means
	Maybe be a bit more specific with your possible options to vague
	Integrated with what?
	Include all items as a response option
	Add "working towards"?
	Will the term integrate be explained?
	Question not clear for me
	Have a follow up question If yes, how? If no, why?
15	If no, provide reasons
	Maybe be a bit more specific with your possible options or ask to provide detail of the exposure.
	What do you mean?
	Include all items as a response option
	Add : working towards can be an option
	I think you should explain this…particularly if you have new academics answering this questionnaire.
	Could add 'partly'
	Have a follow up question If yes, how? If no, why?
16	Not all Universities provide this training
	What about specific/specialized?
	What it if is just their own perception that it is comprehensive? Should they maybe explain what they base their answer on?
	Maybe be a bit more specific with your possible options or ask to provide detail of the program
	Informally (guidance/training by staff as possible); formally (e.g structured educational programme). Comprehensive might create answer bias = seems like the best answer.
	Consider adding "nonexistent" or the equivalent
	I believe there will space writing of description.
17	Same as my previous comments regarding a range vs numbering
	Maybe add specify about the type of training.

	Include all items as a response option
	Include on average (especially since your training may only be needs driven (alt – what is the minimum number of hours spent on training supervisors / clinical educators.
	Add > 15
	How many hours….are spent <u>on</u> training…?
18	If no, provide reasons
	Include all items as a response option
	Agree with suggested response except for 'working towards', should this not be noted as 'other', with space for written information to be added?
	Have a follow up question If yes, how? If no, why?
	Consider including, 'if yes, how many hours per clinical block'
19	Maybe reasons for either yes or no?
	Maybe add item – some
	Include all items as a response option
	Do you not want to know how many lecturers (keeping in mind total lecturing staff?
	Some do not especially if they are more involved with post graduate students
	I think you should add a sometimes option here.
	Have a follow up question If yes, how? If no, why?
20	Maybe reasons for either yes or no?
	I wonder if you can't make questions 19 and 20 one question where they choose lecturers, external people or both.
	If yes, what percentage of supervisors are externally employed/clinicians?
	Maybe add item – some
	Include all items as a response option
	Maybe confusing
	And clinical educators on a permanent, 5/8 basis (25 hours per week).
	Delete part time. Especially employed means that they are not employed by the University.
	Sometimes is often applicable in cases of lecturers being on sabbatical etc
	Have a follow up question If yes, how? If no, why?
21	Motivate your answer
	If yes, what percentage of supervisors are permanently employed by the University?
	Yes – temporary contracts renewed on yearly basis.
	Include all items as a response option
	Could offer the alternate payment structures (e.g. contract/sessional or per hour etc)
	Consider "Other (specify)"
	Not all (presently 7).
	Not always
	Could add 'partly'
	Agree with suggested response except for 'working towards', should this not be noted as 'other', with space for written information to be added?

	Have a follow up question If yes, how? If no, why?
22	What if I want to choose all the options? Do I state that under 'other'? Or an 'all of the above' option maybe?
	Include all items as a response option
	Peer support, academic support, student wellness (health issues support).
	Will this scoring allow selection of all items?
	What about combinations?
23	If no, provide reasons
	Include all items as a response option
	Why working towards?
	This question is confusing. Do your students have the opportunity to learn the language spoken by the majority of their clients?
	Agree with suggested response except for 'working towards', should this not be noted as 'other', with space for written information to be added?
	Have a follow up question If yes, how? If no, why?
24	There should be space to have the description and answers, the suggested responses don't allow that
	Feel that the options and the question are not aligned
	The question asks "describe" – once the person chose the option, will they know that they need to describe it as well?
	The question and the possible answers do not correlate. Either change the question or the suggested response.
	The options here don't seem to allow for description? Unless there will be a separate space made available for free text entry?
	Clinical or academic or both?
	Describe?
	Include all items as a response option
	Open ended?
	The question says 'describe' – should it not be open ended then?
	Presently strongly supported at first year level. Support at other years provided by academic staff as need arises (based on academic performance).
	If this question is "describe" then a single item score is unnecessary?
	The options that respondents can choose do not align with the question
	Response not suitable for question. Change question to, do you have a remediation programme?
	These options do not describe a remediation process. Are you wanting to know whether or not a remediation process exists?
	My thoughts are that the question can be more specific. If you are looking for the type of content in the remediation programme then perhaps the options should more specific but if you are just looking to find out if they have a remediation programme then altering the question to state something like, do you have a remediation programme? Maybe more relevant.
	This question can't be scored this way. Maybe it should be removed if it can't be scored?
	I would assume that this is an open ended question so that respondents are free to type answers in?
	Create space for description.
25	Add 'all of the above'
	Include all items as a response option
	Are you referring to barriers? Factors that impact negatively or both?

	All of the options included
	Does background refer to student personal background? I feel that student personal issues come in here as well?
	What about combinations?
26	Fine – but we don't know, it is a guess. What is meant by graduate attributes?
	Include all items as a response option
	Role models etc…there are many activities that can be used to develop/facilitate competency in GA.
	Multiple factors (personal, academic, environmental, financial etc)
	Which factors influence? Positively and negatively? Or just negatively.
	What about combinations?
	Pedagogy….
	Consider having additional items under each category (e.g. list of possible environmental factors etc) and end each category with 'other'.
27	If no, provide reasons
	Include all items as a response option
	I assume you mean curriculum outcomes?
	Ideally, all clinical sites to be aligned with what is being taught in the curriculum. This would facilitate integration of theory and practice.
	Agree with suggested response except for 'working towards', should this not be noted as 'other', with space for written information to be added?
	Have a follow up question If yes, how? If no, why?
28	If no, provide reasons
	Include all items as a response option
	Why working towards?
	Have a follow up question If yes, how? If no, why?
29	If no, provide reasons
	Include all items as a response option
	Agree with suggested response except for 'working towards', should this not be noted as 'other', with space for written information to be added?
	Have a follow up question If yes, how? If no, why?
30	There should be space to have the answers, the suggested responses don't allow that
	Feel that the options and the questions posed are not aligned. The questions may need changing for the proposed options.E.g have a quality assurance measures been implemented.
	I don't think these options align with the question; these are not yes/achieved answers – you have to provide quality assurance options such as reviews/assessments on a regular basis, other (specify) etc.
	The question and the possible answers do not correlate. Either change the question or the suggested response.
	The options don't seem to allow for expansion in answering the question posed? Unless there will be a separate space made available for free text entry?
	They can say achieved but you have no idea what has been achieved – doesn't answer the question of what?
	Choice should reflect different QA measures.
	?Procedures/measures identified as options.
	List some…internal and external moderation (and for which modules?)

	External examiner at each block evaluation. Dedicated clinician at each site to monito and assist students (in addition to clinical supervisor).
	Again what measures do you have – the question doesn't need single item choice but needs a written explanation.
	Again response not sufficient for the question. Change question to, 'Do you have quality assurance measures…..?
	Perhaps these options should be more like: All (As per required document etc or some)?
	You are not answering the question with these options.
	This question cannot be scored this way. If no alternative scoring system considers removing.
	The suggested response does not agree with the question, would this be something that the respondent needs to write in?
	? responses don't answer the question
	List possible quality assurance measures and include other.

Section 3: Operational structure	
Q	**Comment(s)**
1	If no, provide reasons
	Will you include an option for 'other' to allow for additional comments/thoughts not found under the 'suggested response'?
	Include all items as a response option
	Have a follow up question. If yes, how? If no, why?
2	Include all items as a response option
	Have a follow up question. If yes, how? If no, why?
	Question: Do you mean clinical department?
3	If no, provide reasons
	Include all items as a response option
	Perhaps give an option that speaks to the answers needed for example students are required to work independently
	Have a follow up question. If yes, how? If no, why?
4	There should be space to have the answers, the suggested responses don't allow that
	If no, provide reasons. How asks for descriptive answers and not if it is achieved or not.
	The question and the possible answers do not correlate. Either change the question or the suggested response.
	The options don't seem to allow for expansion in answering the question posed? Unless there will be a separate space made available for free text entry?
	Options don't answer the question HOW
	How? By clinical staff. By supervisor. None/ students is left to own devices
	Options don't make sense for the question
	Perhaps give an option that speaks to the answers needed
	Clear procedures in at each site. Close monitoring of students
	Single choice item not appropriate here. Need a selection or open answer.
	These responses do not align with the question posed.
	The suggested response does not agree with the question, would this be something that the respondent needs to write in?
	Feel that the options and the question posed are not aligned. You are asking, 'how' but the options relate to whether they were achieved or not.
	Give options or leave a space for explanation
	Response not appropriate for the question – change to, 'Is students' patient management facilitated at the clinical site?' The response given does not answer the how.
	Do you want to ask whether patient management is facilitated at the clinical site rather?
	You are not answering the question with these options
	List the possible ways in which patient management can be facilitated for them to choose from – include, 'other'.
	Scoring system not suitable for this question. Maybe you should remove it if it can't be scored properly.
5	There should be space to have the answers, the suggested responses don't allow that
	How, to me should provide options and then maybe based on the number of methods used scoring can be allocated?
	The question and the possible answers do not correlate. Either change the question or the suggested response.
	The options don't seem to allow for expansion in answering the question posed? Unless there will be a separate space made available for free text entry?
	Options don't answer HOW
	Options should include the how: by clinical staff, supervisor, none/student must manage alone
	Options don't make sense for the question
	This needs close supervision, as students should be taught this and not expected to know. Monitoring on regular basis is required.
	Suggested response: provided training, self-taught, mentored

	These responses do not align with the question posed. You need to have specific options for example, an example of a patient recording provided to student or review of recordings and then providing feedback to student or assisting student to write records at the bedside etc.
	The suggested response does not agree with the question, would this be something that the respondent needs to write in?
	Feel that the options and the question posed are not aligned. You are asking, 'how' but the options relate to whether they were achieved or not.
	Have a follow up question. If yes, how? If no, why?
	Are students guided through this process – again can't ask how. Change response to yes, partly, no
	These do not answer your question
	Are these options in terms of the documented evidence the respondents will supply?
	You are not answering the question with these options
	List the possible ways in which students can be guided and include, 'other'.
6	If no, provide reasons
	Include all items as a response option
	Clinical supervisors (especially ad hoc supervisors) should be required to have knowledge of this (included in all clinical supervisors training)
	Have a follow up question. If yes, how? If no, why?
7	If no, provide reasons
	Include all items as a response option
	Clinical supervisors should be made aware (however, these are often confidential)
	Have a follow up question. If yes, how? If no, why?
8	If no, provide reasons
	Include all items as a response option
	Have a follow up question. If yes, how? If no, why?
9	If no, provide reasons
	Include all items as a response option
	Have a follow up question. If yes, how? If no, why?
10	Is it not rather one on one?
	Include all items as a response option
	Perhaps add option, 'more than one method employed'
	Remove 'all' and give an option of choosing more than one item (to cover those who do two of the methods and not all)
	What about combinations?
11	Include all items as a response option
	Add neither option. If neither state
	Can't be both. Delete both – replace with other instead.
12	Include all items as a response option
13	Should be both
	Include all items as a response option
	Both
	Should 'both' not be added to the drop down list?
	Add option, 'both'
	Both
14	There should be space to have answers, the answers, the suggested responses don't allow that.
	How needs more elaboration?
	The question and the possible answers do not correlate. Either change the question or the suggested response.
	The options don't seem to allow for expansion in answering the question posed? Unless there will be a separate space made available for free text entry?
	Options don't answer HOW

	How? Options need to be given here of how autonomy can be fostered.
	Answer doesn't make sense for the question
	Both?
	The question is open-ended, so options do not adequately answer it. Maybe something similar to what you have at number 16
	This is student competence-dependent
	I am not familiar with methods used to facilitate autonomy in students but methods used in patients which might work as responses could be: motivational interviewing, goal setting, facilitated problem solving
	Responses do not align with the question asked
	The suggested response does not agree with the question, would this be something that the respondent needs to write in?
	Feel that the options and the question posed are not aligned. You are asking 'how' but the options relate to whether they were achieved or not. So options should be 'through structured feedback' etc
	Write options
	Can't ask how
	These do not answer your questions
	You are not answering the question with these options
	List possible ways in which autonomy can be fostered for them to tick whatever is applicable. Include 'other'.
	This question does not fit the scoring system. If not alternative, consider removing.
15	Provide all options as a choice with 'other' at the end. Allow participants to choose multiple answers.
	List them
	Instead of 'describe' consider 'which/what teaching method/s do you undertake during…. Then list the possible methods for ticking more than one item.
16	Check spelling of the second positive.
	Include all items as a response option
	If I was answering, I would probably be thinking about verbal or written or group feedback or individual –'other' covers this.
	Summative and or formative
17	Add options for next week or at the end of the block.
	Include all items as a response option
	Add: After supervision session
	Throughout the block? End of block only?
18	What about adding an option namely, both?
	Include all items as a response option
	I would add an option – with fellow students present but in the absence of the patient.
	If I was answering, I would probably be thinking in presence of other students/medical team – 'other' covers this.
19	Both is good
	Can maybe add both: combination of verbal and written
	If feedback is given verbally and written, would I indicate this under other or maybe a both option
	Include all items as a response option
	Should 'both' not be added to the drop-down list
	Add option 'both'
20	Include all items as a response option
	Both and student agreeable with learning/competency objectives to be achieved/improved on
	Other needs to include student suggest alternative method
21	There should be space to have the answers, the suggested responses don't allow that
	Similar to "how" question, steps/options should be outlined and then the examiner can determine how many were achieved or not.
	The question asks what steps, while the answer is appropriate for a yes/no question.

	The question and the possible answers do not correlate. Either change the question or the suggested response.
	The options don't seem to allow for expansion in answering the question posed? Unless there will be a separate space made available for free text entry?
	Options don't answer HOW
	Options need to be given here in terms of different steps that can be taken
	Open question?
	Positive and safe learning environment at the clinical site supported by many factors – clinicians support of students learning at site, site conducive to learning (environment), student keenness to learn and meet site learning objectives and outcomes.
	Specific steps could be listed here: MOU signed at start of clinical between student and supervisor. Confidentiality ensured.
	Responses given does not align with the question posed
	The suggested response does not agree with the question, would this be something that the respondent needs to write in?
	These options don't really describe the steps
	Add responses
	Response not appropriate for question asking 'what'. Strengthen knowledge base, provision of support, reflective learning etc.
	Inappropriate scoring system rather say specify
	Is this in reference to a document?
	You are not answering the question with these options.
	List possible steps that can be taken to create a positive and safe… and let them choose more than one. Include 'other'.
	This question doesn't fit the scoring system. If not alternative, consider removing
22	If no, provide reasons
	Add another option (specify)
	Include all items as a response option, perhaps add 'partly' or 'if needed'
	Consider adding 'partially'
	Add: partly
	Have a follow up question. If yes, how? If no, why?
23	Options available of mentor, supervisor, HOD or specify
	This question is loaded….wrong information can be forthcoming, are they saying yes to the mentor, supervisor, HOD or all three?
	Add another option (specify)
	Can maybe also include other?
	Do you want to know who debrief the student?
	Should 'other' not be added in , with space for written info to be added
	Add: mostly or partly
	Have a follow up question. If yes, how? If no, why?
24	Maybe a No follow through could be added or another
	Include all items as a response option, perhaps add 'other'
	University/departmental management and referral to university wellness resources
	Not sure what referral means
25	Include all items as a response option
26	If no, provide reasons
	Maybe include where?
	Include all items as a response option, possible addition of 'sometimes'
	Structured feedback sessions. 'Debriefing'
	Add if no, explain
	Add option, 'depends on placement area'
	Have a follow up question. If yes, how? If no, why?

	Not always/sometimes should be added
27	If no, provide reasons
	Include all items as a response option
	Consider adding 'specify' to both options
	Student-dependent on sharing these feelings. Debriefing prior to block commencement would facilitate student support.
	Add if no, explain
	Have a follow up question. If yes, how? If no, why?
	Include partly as an option
	Not always/sometimes should be added
28	Maybe split this questions
	There are 2 questions here – which do you want answered?
	2 questions in one. Perhaps consider splitting the two for better quality information
	Separate these two items
	Line of communication
	This is two questions – should it not be listed separately
	You need to add an option (yes/no) that speaks to the second part of the question
	Two questions in one. Separate them for clear responses. Include mediation for the first question. Second question just yes or no.
	You have two questions here so you should have two options
29	Include all items as a response option
	Hierarchical structure note here? If feedback, how?
	Curriculum review process
	Add: Face to face meetings

Overview of responses (VVN):

1. Responses did not always align with the questions asked
2. Leave space for open-ended questions
3. Have the ability to choose more than one option

What the researcher noticed post D3:

1. On the questionnaire, the option of suggested response left out the word scoring: it should have been: suggested scoring response - this created confusion and led the participants to misinterpret the scoring options as answer options. [Answering the question was supposed to be in the column that states: state the documented response].

NB. a suggestion from one of the respondents:

- questionnaire still too long
- provide guidance re the time it will take to complete this questionnaire, and the documents needed to complete this tool (was in the introduction)

APPENDIX 17

- **VN-CPET USED FOR FACTOR ANALYSIS**

Dear Colleagues

Thank you for participating in the Delphi phase of this study.

The next phase of this study is factor analysis.

Factor analysis is a statistical data reduction and analysis technique that strives to explain correlations among multiple outcomes as the result of one or more underlying explanations, or factors. The technique involves data reduction, as it attempts to represent a set of variables by a smaller number.

What is requested of you?

You are now requested to answer all the questions in the space provided. You must also provide evidence for all of your answers. After the question is answered, you must then please score the answer by choosing one or more of the three scoring options available – the highest score will be applicable if more than one scoring outcome is chosen.

Information that you will need in order to answer the questions:

a) Policies: government, university and departmental policies that governs your clinical education programme

b) Curriculum documents

c) Standard operational procedures pertaining to the clinical education component of the curriculum

How long will it take to complete this questionnaire?

It is envisaged that it should take you approximately 2 hours to complete this tool.

There are three sections with a total of 68 items/questions. Section 1: Governance has six questions; section 2: Academic Structure has 34 questions and section 3: Operational structure contains 44 questions.

You are advised to peruse this tool so that you can gather all your supporting documents prior to completing all the questions. Completing this tool over two sittings is also advised; complete section 1 and 2 first, thereafter, next day/sitting, complete section 3 – this is just a suggestion and not a necessity.

Attached is a list of definitions and abbreviations as well, for you to refer to. Printing this page prior to answering the questions is recommended.

Do you consent to participate in the study?

- ◯ Yes
- ◯ No

ABBREVIATION
DHET: Department of Higher Education and Training
DoH: Department of Health
HPCSA: Health Professions Council of South Africa
WCPT: World Confederation for Physical therapy
RP: Remediation Programme
QAM: Quality Assurance Measures
AO: Aims and Objectives

DEFINITION OF TERMS
Governance refers to the policies and quality assurance processes that are put in place for your clinical education programme

Academic structure refers to the procedures and processes that are put in place by the academic department to ensure a cohesive clinical training programme

Operational structure refers to the procedures and processes that are put in place by the academic department together with the clinical placement to ensure a smooth and harmonious clinical training programme

Integrated exposure refers to interdisciplinary patient care in order to achieve various clinical objectives in a non-structured manner (i.e. not treating in silos, for example not only treating one specific condition e.g. only orthopaedic/neuro/cardiopulmonary condition). The integrated approach is for a short period of time (4-6weeks) and is a more learner-centred approach.

Longitudinal exposure also refers to interdisciplinary patient care in order to achieve various clinical objectives in a non-structured manner. In the longitudinal approach a patient-centred care approach is the focus, lasting for at least 6-12 months

Own Transport is the student's private vehicle

Clinical exposure/area refers to the various clinical areas e.g. orthopaedics (in-patient/out-patient/sport), neurology (traumatic brain injury and spinal cord injury), ICU, paediatrics, community physiotherapy, cardiopulmonary (medical and surgical cases)

Supervision structure refers to a structured programme that is followed by the clinical supervisor during supervision sessions.
structure refers to the format or organization of supervision during the clinical rotation/block

Clinical educator and clinical supervisor terms are synonymous

Teaching Method refers to the following:
Advice/ Case presentation/ Mock examination / Discussion/ Problem-solving/ Reflection/ Demonstration/ Create challenge/ Problem based learning (PBL)/ Q & A sessions/ Tuts/ Teach specific skills/ Small group teaching/ Watch surgery

SECTION ONE: GOVERNANCE

1. Which of the following policies inform your physiotherapy clinical education programme?
   - Macro level: DHET, DoH (HPCSA, act 54 of 1974)
   - Meso level: University policies
   - Micro level: Departmental policies

   _____

   Kindly score your response
   - ◯ All
   - ◯ Some
   - ◯ None

   Additional comments _____

2. Has your clinical education programme been accredited by any professional body/organisation? e.g. WCPT; HPCSA

   _____

   Kindly score your response
   - ◯ Fully accredited (local + international)
   - ◯ Partially accredited (local only)
   - ◯ Not accredited

   Additional comment _____

3. Does institution autonomy supersede the guiding documents from the HPCSA?

   _____

   Kindly score your response
   - ◯ Never
   - ◯ Sometimes
   - ◯ Always

   Additional comments _____

4. Are student's voices formally heard with regard to curriculum, policy and decision making?

   _____

   Kindly score your response
   - ◯ Always
   - ◯ Sometimes
   - ◯ Never

   Additional comments _____

5. Does an active Memorandum of Agreement exist between the university or your department and the clinical training sites?

   _____

   Kindly score your response
   - ◯ Achieved
   - ◯ Working towards
   - ◯ Not achieved

	Additional comments	_____
6.	Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme?	_____
	Kindly score your response	◯ Achieved ◯ Working towards ◯ Not achieved
	Additional comments	_____

SECTION TWO: ACADEMIC STRUCTURE

1. How do you evaluate your physiotherapy clinical education programme?

Kindly score your response
- ◯ Evaluated
- ◯ Working towards
- ◯ Not Evaluated

Additional comments

2. If the clinical site is greater that 60 km away from the University, do you provide free accommodation for your students at the clinical site?

Kindly score your response
- ◯ All the time
- ◯ Sometimes
- ◯ Never

Additional comment

3. What resources do you have that strengthen your clinical education programme?

Kindly score your response
- ◯ All the time
- ◯ Sometimes
- ◯ Never

Additional comment

4. List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme?

Kindly score your response
- ◯ Rigorous QAM
- ◯ Working towards QAM
- ◯ No QAM

Additional comments

5. Which of the following graduate attributes do you strive for?
a) Professional
b) Communicator
c) Collaborator
d) Leader/manager
e) Health Advocate
f) Scholar

Kindly score your response
- ◯ All
- ◯ Some
- ◯ None

	Additional comments	

6. Are the theory components completed prior to the clinical exposure?

Kindly score your response	◯ Always ◯ Sometimes ◯ Never
Additional comment	

7. Describe the clinical exposure that students experience in your institution. (Clinical exposure refers to cardiopulmonary, ICU, orthopaedics: in-patients & out-patients/sport; neurology; paediatrics, community/public health etc.)

Kindly score your response	◯ Wide ◯ Narrow
Additional comment	

8. Is the clinical exposure integrated? (see definitions page)

Kindly score your response	◯ Integrated ◯ Silo ◯ Other
Additional comments	

9. Is the clinical exposure longitudinal? (see definitions page)

Kindly score your response	◯ Yes, longitudinal ◯ Not longitudinal ◯ Other
Additional comment	

10. Does the clinical exposure reflect the national/provincial burden of disease?

Kindly score your response	◯ Always ◯ Sometimes ◯ Never

Additional comment

11. How diverse is your clinical exposure with regard to the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care?

Kindly score your response
- ◯ Maximally diverse
- ◯ Moderately diverse
- ◯ Minimally diverse

Additional comments

12. How many clinical areas are the students exposed to in their years of undertaking clinical education as an examination subject? (list each year separately, and then add to obtain the total).

Kindly score your response
- ◯ 1-3 year(s)
- ◯ 4-6 years
- ◯ >6 years

Additional comments

13. How many hours per week do students spend training clinically in their years of undertaking clinical education as an examination subject? (List year separately and then add to obtain the total)

Kindly score your response
- ◯ 0-20 hrs.
- ◯ 21-30 hrs.
- ◯ 31-40 hrs

Additional comments

14. Are your clinical training sites/placements accredited to train students?

Kindly score your response
- ◯ Fully accredited
- ◯ Partially accredited
- ◯ Not accredited

Additional comments

15. Who accredits your clinical training sites?

Kindly score your response
- ☐ University accreditor
- ☐ Regulatory body
- ☐ Professional association

Additional comment

16. Are students in general, placed alone, in pairs, or in groups at a specific clinical site?

Kindly score your response
- ○ Groups
- ○ Pairs
- ○ Alone

Additional comments

17. How do your students travel to clinical sites?

Kindly score your response
- ☐ University transport
- ☐ Public transport
- ☐ Own transport

Additional comments

18. Specify the percentage of student's own transport versus public transport versus university provided transport.

Kindly score your response
- ○ University
- ○ Public transport
- ○ Own

Additional comments

19. Describe your clinical supervisor training programme

Kindly score your response
- ☐ Comprehensive
- ☐ Needs driven
- ☐ Not done

Additional comments

20. How many hours per year are spent on training your clinical supervisors?

Kindly score your response
- ○ More than one day
- ○ Full day
- ○ Half day

Additional comments

21. Is a standardised supervision structure applied across all clinical sites during the clinical block/rotation?

Kindly score your response
- ◯ Standardised structure applied
- ◯ Working towards standardization
- ◯ Not standardised

Additional comment

22. Do academic staffs supervise students at the clinical site, during the clinical block / rotation?

Kindly score your response
- ◯ All supervise
- ◯ Some supervise
- ◯ None supervise

Additional comment

23. Does an externally employed clinician (part-time) supervise students at the clinical site?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

24. Are the clinical educators permanently employed by the university?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comments

25. What support structures are in place for your students? For example mentor/ peer support programme / debriefing etc.

Kindly score your response
- ◯ Adequate support
- ◯ Some support
- ◯ No support

Additional comment

26. Do your students have the opportunity to learn a different language based on the language of clients they may be exposed to?

Kindly score your response

- ◯ Formally Structured opportunity
- ◯ Unstructured opportunity
- ◯ No opportunity

Additional comment

27. Describe your remediation programme (RP), if available?

Kindly score your response

- ◯ RP available
- ◯ Working towards RP
- ◯ No RP

Additional comment

28. Which positive factors influence learning outcomes?

Kindly score your response

- ◯ Several
- ◯ Few
- ◯ None

Additional comment

29. Which negative factors influence learning outcomes?

Kindly score your response

- ◯ Several
- ◯ Few
- ◯ None

Additional comment

30. Which resources influence graduate attributes from being achieved?

Kindly score your response

- ◯ Several
- ◯ Few
- ◯ None

Additional comment

31. Which environmental factors influence graduate attributes from being achieved?

Kindly score your response
- ◯ Several
- ◯ Few
- ◯ None

Additional comment

32. Which personal factors of students influence graduate attributes from being achieved?

Kindly score your response
- ◯ Several
- ◯ Few
- ◯ None

Additional comment

33. Is there alignment between the curriculum and clinical exposure?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

34. Are there clear aims and objectives (AO) specified for each clinical exposure?

Kindly score your response
- ◯ Clear AO
- ◯ Some AO
- ◯ No AO

Additional comment

35. Do you have a dedicated clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement?

Kindly score your response
- ◯ Yes
- ◯ Working towards
- ◯ No

Additional comment

SECTION THREE: OPERATIONAL SUPPORT

1. Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation/block?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comments

2. Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comments

3. Are students introduced to the multidisciplinary team at the clinical placement during orientation of the site?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comments

4. How is students' patient management facilitated at the clinical site?

Kindly score your response
- ◯ Completely facilitated
- ◯ Partially facilitated
- ◯ Not facilitated

Additional comments

5. Reading and recording in patients files: how are students guided through this process?

Kindly score your response
- ◯ Completely guided
- ◯ Partially guided
- ◯ Not guided

Additional comments

6. Are the students' learning style considered during clinical supervision?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comments

7. Are the factors that affect learning considered during student supervision? (student's characteristics, resources and personal issues)

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comments

8. Are the expectations of the supervisor realistic, based on the level (year of study) of the student?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

9. Are the expectations of the students obtained by the supervisor on the first day at the clinical site?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

10. What methods of supervision are they engaged in?

Kindly score your response
- ◯ Various methods
- ◯ One method
- ◯ Not considered

Additional comment

11. Is each supervision session structured or spontaneous?

Kindly score your response

- ○ Structured
- ○ Unstructured
- ○ Not done

Additional comment

12. Is the supervision session patient-centered or student-centered?

Kindly rate the appropriateness of the question

- ☐ Patient -centered
- ☐ Student -centered
- ☐ Not considered

Additional comment

13. Is the supervision session student driven or teacher driven?

Kindly score your response

- ○ Student driven
- ○ Teacher driven
- ○ Supervision not done

Additional comment

14. As supervision progresses from week to week during the allocated time of the student at the clinical placement, how is autonomy fostered by the supervisor?

Kindly score your response

- ☐ Scaffolded approach
- ☐ Abrupt/sudden
- ☐ No autonomy

Additional comment

15. Describe your teaching methods undertaken during clinical supervision sessions. (refer to definitions page)

Kindly score your response

- ○ Variety of teaching methods
- ○ One teaching method
- ○ Teaching methods not considered

Additional comment

16. What method of feedback is used?

Kindly score your response

- ◯ Verbal
- ◯ Written
- ◯ Peer
- ◯ None

Additional comment

17. When is feedback generally given during the supervision process?

Kindly score your response

- ◯ Halfway through the block
- ◯ End of block
- ◯ Once a week
- ◯ Not at all

Additional comment

18. Where is feedback generally given during the supervision process?

Kindly score your response

- ◯ Privately
- ◯ In the clinic with all other students
- ◯ Not at all

Additional comment

19. How do you ensure that the student has understood the feedback given?

Kindly score your response

- ◯ Several
- ◯ Few
- ◯ None

Additional comment

20. What steps are taken to create a positive and safe learning environment at the clinical site?

Kindly score your response

- ◯ Several
- ◯ Few
- ◯ None

Additional comment

21. Are basic clinical skills revised during supervision of students?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

Additional comment

22. Are structured, debriefing sessions available at the clinical site through the mentor, supervisor or HOD?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

Additional comment

23. How is the information obtained during debriefing sessions at the clinical site followed through?

Kindly score your response
- ○ Appropriate
- ○ Somewhat appropriate
- ○ Not appropriate

Additional comment

24. How is student inter-professional collaboration ensured or encouraged at the clinical site?

Kindly score your response
- ○ Appropriate
- ○ Somewhat appropriate
- ○ Not appropriate

Additional comment

25. Do students have an opportunity to share their clinical learning experiences (positive and negative)?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

Additional comments

26. Are student's emotions (e.g. fear, anxiety, feeling overwhelmed) taken into consideration during clinical training or during clinical supervision sessions?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

27. How are student issues resolved at the clinical placement?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

28. Are students aware of this process?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

29. How are operational issues pertaining to student training resolved at the clinical placements?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

30. Do clinicians (on-site) assist with clinical supervision of students?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comments

31. Is there a structured clinical supervision programme in place for students?

Kindly score your response
- ◯ Always
- ◯ Sometime
- ◯ Never

Additional comments

32. Are policies and procedures of a clinical placement/site overtly communicated to students on the first day at the placement?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

33. Are students orientated to all necessary areas (layout/architecture) of clinical placement?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

34. Are students orientated to all aspects and areas in physiotherapy department (equipment; forms; bathroom; student room; lockers etc) in which they are placed?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

35. Are the expectations of the students obtained by the supervisor on the first day at the clinical site?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

36. Do students write a pre-block test prior to starting clinical training?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

37. Do students receive dedicated supervision time from the clinician?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comments

38. Do students receive dedicated supervision time from the University supervisor?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

39. What is the student/supervisor ratio? (e.g 1sup:8st)

Kindly score your response
- ◯ Appropriate
- ◯ Somewhat appropriate
- ◯ Not appropriate

Additional comments

40. What methods of evaluation are used to evaluate students during clinical practice?

Kindly score your response
- ◯ Appropriate
- ◯ Somewhat appropriate
- ◯ Not appropriate

Additional comments

41. How are students evaluated by the clinician the clinical site? (summative or formative)

Kindly score your response
- ◯ Appropriate
- ◯ Somewhat appropriate
- ◯ Not appropriate

Additional comments

42. How are students evaluated by the University supervisor (summative or formative)?

Kindly score your response
- ◯ Appropriate
- ◯ Somewhat appropriate
- ◯ Not appropriate

Additional comment

43. Do you have a dedicated clinician at the clinical site/placement* that liaises with the University should any operational or student issue arise at the clinical site/placement?

Kindly score your response
- ◯ Always
- ◯ Sometimes
- ◯ Never

Additional comment

44. State the method of supervision engaged? (group; one-to-one; peer-led; teacher-led etc)

Kindly score your response
- ☐ Group
- ☐ One to one
- ☐ Peer led
- ☐ Teacher led

Additional comments

Government section score

Academic structure

Operational structure

APPENDIX 18

- **VN-CPET FOR FEASIBILITY AND UTLITY DATA COLLECTION**
- NB. The name was changed to **Vaneshveri Naidoo Clinical Evaluation Tool (VN-CPET)**

Confidential Appendix 16

Vaneshveri Naidoo Clinical Audit Tool (VN-CAT)

Dear Colleagues

My name is Vaneshveri Naidoo. I am doing my PhD through the Physiotherapy Department of the University of the Witwatersrand, Johannesburg, South Africa. My dissertation involves the development of an assessment tool.

The aim of this study is to develop, validate and test the reliability of an assessment tool that evaluates the effectiveness of a Physiotherapy Undergraduate Clinical Education Programme.

What is the significance of this study?

The development of such a tool will assist evaluating the clinical education programme consequently alluding to both national relevance and international competitiveness. Hence quality assurance mechanisms can be introduced in a clinical programme to try to ensure high quality clinical training.

What would you be expected to do?

You are invited to participate in this phase of the study to investigate the feasibility and utility of the tool that had been developed as part of the main study and has been through the process of face and content validation. You have been chosen to participate in this study as the structure of your Physiotherapy undergraduate programme is similar to that of Wits University, Physiotherapy Department.

The construct validity of the tool has thus to be determined.

Below, you will find the questions pertaining to the tool, as well as questions regarding the feasibility and utility of the tool at the end.

You are requested to:

a) Answer all the questions in the space provided

b) After the question is answered, you must then please score the answer by choosing one or more of the possible scoring options available - the highest score will be applicable if more than one scoring outcome is chosen.

Information that you will need in order to answer the questions:

a) Policies: government, university and departmental policies that governs your clinical education programme

b) Curriculum documents

c) Standard operational procedures pertaining to the clinical education component of the curriculum

How long will it take to complete this questionnaire?

It is envisaged that it should take you approximately 30 minutes to complete this tool.

Your assistance is greatly appreciated. Participation in this study is voluntary and thus you are by no means compelled to participate. Refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled. You may withdraw from the study at any time without penalty or loss of benefits.

The results of the study will be made available via journal publication, congress presentation as well as on-line at Wits medical library. A copy of the dissertation will be available at Wits medical library upon completion of this study.

Confidentiality of all information will be maintained where possible at all times. No identifying information will be shared among participants.

For more information or if you have any queries please contact me on (+27)11 717 3729/3702 or (+27)82 420 3657 or Vaneshveri.naidoo@wits.ac.za. And the Chair of the Human Research Ethics Committee, Prof Clement Penny 0117171234.

Yours Sincerely,

Vaneshveri Naidoo

Do you consent to participate in the study?	◯ Yes ◯ No
University of respondent	◯ University of the Witwatersrand ◯ University of Pretoria ◯ Sefako Makgatho Health Sciences University ◯ University of Cape Town ◯ Stellenbosch University ◯ University of the Western Cape ◯ University of Free state ◯ University of Kwazulu-natal ◯ Other, specify
Specify: name of instituiion	_____
Designation of respondent	◯ Head of department ◯ Clinical coordinator ◯ Undergraduate coordinator ◯ Other, specify
Specify: designation	_____
First name of respondent	_____

Definition of terms

Integrated exposure refers to interdisciplinary patient care in order to achieve various clinical objectives in a non-structured manner (i.e. not treating in silos, for example not only treating one specific condition e.g. only orthopaedic/neuro/cardiopulmonary condition).

The integrated approach is for a short period of time (4-6 weeks) and is a more learner-centred approach.

Longitudinal exposure also refers to interdisciplinary patient care in order to achieve various clinical objectives in a non-structured manner. In the longitudinal approach a patient-centred care approach is the focus, lasting for at least 6-12 months.

Own Transport is the student's private vehicle.

Clinical exposure/area refers to the various clinical areas e.g. orthopaedics (in-patient/outpatient/sport), neurology (traumatic brain injury and spinal cord injury), ICU, paediatrics, community physiotherapy, cardiopulmonary (medical and surgical cases).

Supervision structure refers to a structured programme that is followed by the clinical supervisor during supervision sessions.
structure refers to the format or organization of supervision during the clinical rotation/block.

Clinical educator and clinical supervisor terms are synonymous.

Teaching method refers to the following:
Advice/ Case presentation/ Mock examination / Discussion/ Problem-solving/ Reflection/ Demonstration/ Create challenge/ Problem based learning (PBL)/ Q & A sessions/ Tuts/ Teach specific skills/ Small group teaching/ Watch surgery.

1. Which of the following policies inform your physiotherapy clinical education programme?
   - Macro level: DHET, DoH (HPCSA, act 54 of 1974)
   - Meso level: University policies
   - Micro level: Departmental policies

   (DHET: Department of Higher Education and Training, DoH: Department of Health, HPCSA: Health Professions Council of South Africa)

   _____

   Kindly score your response
   - ○ All
   - ○ Some
   - ○ None

2. Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme?

   _____

   Kindly score your response
   - ○ Always
   - ○ Sometimes
   - ○ Never

3. Does institution autonomy supersede the guiding documents from the HPCSA?

   _____

   Kindly score your response
   - ○ Always
   - ○ Sometimes
   - ○ Never

4. Does an active Memorandum of Agreement exist between the university or your department and the clinical training sites?

   _____

   Kindly score your response
   - ○ Yes
   - ○ Working towards
   - ○ Not achieved

5. How are challenging operational issues pertaining to student training resolved at the clinical site?

   _____

   Kindly score your response
   - ○ Appropriate
   - ○ Somewhat appropriate
   - ○ Not appropriate

6. Are students aware of the conflict resolution process that must be followed?

   _____

   Kindly score your response
   - ○ Always
   - ○ Sometimes
   - ○ Never

7. Are the theory components completed prior to the clinical exposure?

Kindly score your response

- ○ Always
- ○ Sometimes
- ○ Never

8. Are there clear aims and objectives specified for each clinical exposure?

Kindly score your response

- ○ Always
- ○ Sometimes
- ○ Never

9. Do your students have the opportunity to learn a different language based on the language of clients they may be exposed to?

Kindly score your response

- ○ Always
- ○ Sometimes
- ○ Never

10. Describe your remediation programme (RP), if available?

Kindly score your response

- ○ Comprehensive
- ○ Needs driven
- ○ Not done

11. Describe your clinical supervisor training programme

Kindly score your response

- ○ Comprehensive
- ○ Needs driven
- ○ Not done

12. Does an externally employed clinician (part-time) supervise students at the clinical site?

Kindly score your response

- ○ Always
- ○ Sometimes
- ○ Never

13. Does the clinical exposure reflect the national/provincial burden of disease?

Kindly score your response

- ○ Always
- ○ Sometimes
- ○ Never

14. How diverse is your clinical exposure with regard to the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care?

_____

Kindly score your response

- ○ Maximally diverse
- ○ Moderately diverse
- ○ Minimally diverse

15. Describe the clinical exposure that students experience in your institution.
(Clinical exposure refers to cardiopulmonary, ICU, orthopaedics: in-patients & out-patients/sport; neurology; paediatrics, community/public health etc.)

_____

Kindly score your response

- ○ Wide
- ○ Fair
- ○ Narrow

16. How many clinical areas are students exposed to in their years of undertaking clinical education as an examination subject?
(List years separately and then add to obtain the total)

_____

Kindly score your response

- ○ > 6 areas
- ○ 4 - 6 areas
- ○ 1 - 3 areas

17. How many hours per week do students spend training clinically in their years of undertaking clinical education as an examination subject?
(List year separately and then add to obtain the total)

_____

Kindly score your response

- ○ > 40 hours
- ○ 31 - 40 hours
- ○ 21 - 30 hours
- ○ 1 - 20 hours

18. Describe the nature of the clinical experience/exposure.
(longitudinal/integrated/silo)

(see definitions page)

_____

Kindly score your response

- ○ Longitudinal
- ○ Integrated
- ○ Silo
- ○ Other

Specify other

_____

19. Do students write a pre-block test prior to starting clinical training?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

20. Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation/block?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

21. Are policies and procedures of the physiotherapy clinical department overtly communicated to students on the first day at the clinical site?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

22. Are students orientated to all aspects and areas in physiotherapy department (equipment; forms; bathroom; student room; lockers etc) in which they are placed?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

23. Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

24. Are students orientated to all necessary areas (layout/architecture) of clinical placement?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

25. Are students introduced to the inter-professional team at the clinical site when starting a clinical rotation/block?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

26. Is a standardized supervision structure applied across all clinical sites during the clinical training?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

27. Is the supervision session mainly patient-centred or student-centred?

Kindly score your response
- ○ Mainly patient-centred
- ○ Mainly student-centred
- ○ Not considered

28. State the method of supervision used? (group; one-to-one; peer-led; teacher-led etc)

Kindly score your response
- ○ Various
- ○ One only
- ○ None

29. Describe the teaching methods undertaken during clinical supervision sessions (refer to definitions page)

Kindly score your response
- ○ Various
- ○ One only
- ○ Not considered

30. When is feedback generally given during the supervision process?

Kindly score your response (more than one option can be chosen)
- ☐ Immediately
- ☐ End of rotation
- ☐ Not given

q30_Immediately

q30_End of block

q30Not given

q30bb

31. What method of feedback is used?

Kindly score your response	☐ Verbal ☐ Written ☐ Peer ☐ None ☐ Other: specify
q31_Verbal	_____
q31_written	_____
q31_peer	_____
q31_none	_____
q31bb	_____
Other	_____

32. How is student autonomy fostered by the clinical educator?

_____

Kindly score your response	◯ Scaffolded approach ◯ Abrupt/sudden ◯ No autonomy

33. How is student inter-professional collaboration ensured or encouraged at the clinical site?

_____

Kindly score your response	◯ Appropriate ◯ Somewhat appropriate ◯ Not done

34. Are basic clinical skills revised during clinical supervision?

_____

Kindly score your response	◯ Always ◯ Sometimes ◯ Never

35. How is students' patient management facilitated at the clinical site?

_____

Kindly score your response	◯ Appropriate ◯ Somewhat appropriate ◯ Not done

36. How are students guided with reading and recording in patients' files?

Kindly score your response
- ○ Appropriate
- ○ Somewhat appropriate
- ○ Not done

37. Do students receive dedicated supervision time from the clinician?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

38. Do students receive dedicated supervision time from the university clinical educator?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

39. Are the factors that affect learning considered by the CE during clinical supervision? (student's characteristics; learning style; resources and personal issues/emotions: fear, anxiety etc)

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

40. Are the expectations of the supervisor realistic based on the level (year of study) of the student?

Kindly score your response
- ○ Always
- ○ Sometimes
- ○ Never

41. What is the student/supervisor ratio? (e.g. 1sup:8st)

Kindly score your response
- ○ Appropriate
- ○ Somewhat appropriate
- ○ Not appropriate

42. How do you evaluate your physiotherapy clinical education programme?

Kindly score your response
- ○ Evaluated
- ○ Working towards
- ○ Not evaluated

43. Has your clinical education programme been accredited by any professional body/organisation? e.g. WCPT; HPCSA

_____

Kindly score your response

- ○ Fully accredited (local+ international)
- ○ Partially accredited (local only)
- ○ Not accredited

44. List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme?

_____

Kindly score your response

- ○ Rigorous QAM
- ○ Working towards QAM
- ○ No QAM

45. What resources do you have that strengthen your clinical education programme?

_____

Kindly score your response

- ○ Always
- ○ Sometimes
- ○ Never

46. Is there alignment between the curriculum and clinical exposure?

_____

Kindly score your response

- ○ Always
- ○ Sometimes
- ○ Never

47. Are your clinical training sites/placements accredited to train students?

_____

Kindly score your response

- ○ Yes
- ○ Working towards
- ○ No

48. Who accredits your clinical training sites?

_____

Kindly score your response

- ○ University accreditor
- ○ Regulatory body
- ○ Professional association
- ○ Other: specify

49. What steps are taken to create a positive and safe learning environment at the clinical site?

_____

Kindly score your response	◯ Several ◯ Few ◯ None

50. Do students have an opportunity to share their clinical learning experiences with the academic and clinical departments (positive and negative)?

Kindly score your response	◯ Always ◯ Sometimes ◯ Never

51. What support structures are in place for your students?
(For example: mentor/ peer support programme/debriefing etc.)

Kindly score your response	◯ Adequate support ◯ Some support ◯ No support

52. Which factors influence learning outcomes of students?
(positive/negative) (personal/environmental)

Kindly score your response	◯ Several ◯ Few ◯ None

53. Which graduate attributes are aimed for in your students?

Kindly score your response by comparing your answer to the following list of graduate attributes: a) Professional b) Communicator c) Collaborator d) Leader/manager e) Health Advocate	◯ All ◯ Some ◯ None

54. What assessment methods are used during clinical practice?

Kindly score your response	◯ Appropriate ◯ Somewhat appropriate ◯ Not appropriate

55. How do students travel to clinical sites?

Kindly score your response	○ Mainly university transport ○ Mainly own transport ○ Mainly public transport
56. If the clinical site is greater than 60 km away from the university, is free accommodation provided for students at the clinical site or nearby?	_____
Kindly score your response	○ Always ○ Sometimes ○ Never
57. Do you have a dedicated clinician at the clinical site that liaises with the university should any operational or student issue arise at the clinical sites?	_____
Kindly score your response	○ Always ○ Sometimes ○ Never
58. Do you have a clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement?	_____
Kindly score your response	○ Yes ○ Working towards ○ No
59. Are clinical educators' permanent employees of the university?	_____
Kindly score your response	○ Always ○ Sometimes ○ Never
Governance	_____
Academic process	_____
Leaning exposure	_____
Pre-clinical procedures	_____
Clinical supervision	_____
Overall monitoring	_____

Total clinical assessment score _____

Please answer the questions below regarding the feasibility and utility of tool.	
Does this tool evaluate what you consider to be important regarding clinical education?	
What are the strengths of this tool?	
Indicate the weaknesses of this tool	
Is this tool useful for your institution? Please elaborate.	
Any other comments	

APPENDIX 19

- **FINAL TOOL – CIPP CONSENSUS BETWEEN RESEARCHER AND SUPERVISORS**

How does VN-CPET correlate to CIPP?

These are the results of VN-CPET's alignment to CIPP categories, following independent classification of the items by the researcher and the study supervisors. Thereafter a discussion of the categorisation occurred in order to reach consensus.

A summary of CIPP categories:

CIPP	
Context	Obtaining information about the situation to decide on the educational **needs** and to establish programme **objectives**
Input	Identifying **educational strategies** most likely to achieve the desired result
Process	Assessing the **implementation** of the educational programme: Quality Assurance
Product	Gathering information regarding the **results/outcomes** of the educational intervention to **interpret its worth and merit**

VN-CPET evolved into six sections: Governance; Academic Processes; Learning Exposure; Pre-clinical Procedures; Clinical Supervision and Monitoring/Evaluation.

Alignment to CIPP was based on the definitions above; coded by three independent coders and discussed to resolve disagreement.

The sub-categories of each category of VN-CPET is outlined below and illustrates its alignment to CIPP:

VNCPET		
No	**Section 1: Governance**	**Alignment to CIPP**
59.	Which of the following policies inform your physiotherapy clinical education programme? • Macro level: DHET, DoH (HPCSA, act 54 of 1974) • Meso level: University policies • Micro level: Departmental policies	context
60.	Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme?	context
61.	Does institution autonomy supersede the guiding documents from the HPCSA?	context
62.	Does an active Memorandum of Agreement exist between the university or your department and the clinical training sites?	context
63.	How are challenging operational issues pertaining to student training resolved at the clinical placements?	process
64.	Are students aware of the conflict resolution process that must be followed?	process

No.	**Section 2: Academic Processes**	**Alignment to CIPP**
65.	Are the theory components completed prior to the clinical exposure?	Input
66.	Are there clear aims and objectives (AO) specified for each clinical exposure?	Input
67.	Do your students have the opportunity to learn a different language based on the language of clients they may be exposed to?	Process
68.	Describe your remediation programme (RP), if available?	Input
69.	Describe your clinical supervisor training programme	Input
No	**Section 3: Learning Exposure**	Alignment to CIPP
70.	Does the clinical exposure reflect the national/provincial burden of disease?	Process
71.	How diverse is your clinical exposure with regard to the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care?	Context
72.	Describe the clinical exposure that students experience in your institution. (Clinical exposure refers to cardiopulmonary, ICU, orthopaedics: in-patients & out-patients/sport; neurology; paediatrics, community/public health etc.)	Context
73.	How many clinical areas are the students exposed to in their years of undertaking clinical education as an examination subject? (list each year separately, and then add to obtain the total).	Process
74.	How many hours per week do students spend training clinically in their years of undertaking clinical education as an examination subject? (List year separately and then add to obtain the total)	Process
75.	Describe the nature of the clinical experience/exposure. (longitudinal/integrated/silo)	Input
No.	**Section 4: Pre-clinical procedures**	**Alignment to CIPP**
76.	Do students write a pre-block test prior to starting clinical training?	Process
77.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation/block?	Process
78.	Are policies and procedures of a clinical placement/site overtly communicated to students on the first day at the placement?	Process
79.	Are students orientated to all aspects and areas in physiotherapy department (equipment; forms; bathroom; student room; lockers etc) in which they are placed?	Process
80.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?	Process
81.	Are students orientated to all necessary areas (layout/architecture) of clinical placement?	Process
82.	Are students introduced to the interprofessional team at the clinical site when starting a clinical rotation/block?	Process
No	**Section 5: Clinical supervision**	**Alignment to CIPP**
83.	Is a standardised supervision structure applied across all clinical sites during the clinical training?	Input
84.	Is the supervision session patient-centred or student-centred?	Process
85.	State the method of supervision used? (group; one-to-one; peer-led; teacher-led etc)	Input
86.	Describe the teaching methods undertaken during clinical supervision sessions. (refer to definitions page)	Input
87.	When is feedback generally given during the supervision process?	Input
88.	What method of feedback is used?	Input
89.	How is student autonomy fostered by the clinical educator?	process
90.	How is student inter-professional collaboration ensured or encouraged at the clinical site?	input
91.	Are basic clinical skills revised during clinical supervision?	input

92.	How is students' patient management facilitated at the clinical site?	process
93.	How are students guided with reading and recording in patients' files?	process
94.	Do students receive dedicated supervision time from the clinician?	input
95.	Do students receive dedicated supervision time from the university clinical educator?	input
96.	Are the factors that affect learning considered by the CE during clinical supervision? (student's characteristics; learning style; resources and personal issues/emotions: fear, anxiety etc)	Process
97.	Are the expectations of the supervisor realistic based on the level (year of study) of the student?	context
98.	What is the student/supervisor ratio? (e.g. 1sup:8st)	Input
No	**Section 6: Monitoring/Evaluation**	**Alignment to CIPP**
99.	How do you evaluate your physiotherapy clinical education programme?	Process
100.	Has your clinical education programme been accredited by any professional body/organisation? e.g. WP; HPCSA	Product
101.	List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme?	Process
102.	What resources do you have that strengthen your clinical education programme?	Context
103.	Is there alignment between the curriculum and clinical exposure?	Process
104.	Are your clinical training sites/placements accredited to train students?	Process
105.	Who accredits your clinical training sites?	Process
106.	What steps are taken to create a positive and safe learning environment at the clinical site?	Process
107.	Do students have an opportunity to share their clinical learning experiences with the academic and clinical departments (positive and negative)?	input
108.	What support structures are in place for your students? (For example: mentor/ peer support programme/debriefing etc.)	Context
109.	Which factors influence learning outcomes of students? (positive/negative) (personal/environmental)	Context
110.	Which graduate attributes are aimed for in your students? (a)Professional b) Communicator c) Collaborator d) Leader/manager e) Health Advocate	product
111.	What assessment methods are used during clinical practice?	input
112.	How do students travel to clinical sites?	Context
113.	Specify the percentage of student's own transport versus public transport versus university provided transport.	Context
114.	If the clinical site is greater than 60 km away from the university, is free accommodation provided for students at the clinical site or nearby?	Context
115.	Do you have a dedicated clinician at the clinical site that liaises with the university should any operational or student issue arise at the clinical sites?	Process
116.	Do you have a clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement?	Process
117.	Are clinical educators' permanent employees of the university?	Context

VN-CPET as Context, Input, Process, Product

	CONTEXT
14.	Which of the following policies inform your physiotherapy clinical education programme? • Macro level: DHET, DoH (HPCSA, act 54 of 1974) • Meso level: University policies • Micro level: Departmental policies
15.	Do you comply with the HPCSA guidelines when structuring your physiotherapy clinical education programme?
16.	Does institution autonomy supersede the guiding documents from the HPCSA?
17.	Does an active Memorandum of Agreement exist between the university or your department and the clinical training sites?
18.	How diverse is your clinical exposure regarding the different levels of health care: Primary, Secondary, Tertiary level; Private Health Care?
19.	Describe the clinical exposure that students experience in your institution. (Clinical exposure refers to cardiopulmonary, ICU, orthopaedics: in-patients & out-patients/sport; neurology; paediatrics, community/public health etc.)
20.	Are the expectations of the supervisor realistic based on the level (year of study) of the student?
21.	What resources do you have that strengthen your clinical education programme?
22.	What support structures are in place for your students? (For example: mentor/ peer support programme/debriefing etc.)
23.	Which factors influence learning outcomes of students? (positive/negative) (personal/environmental)
24.	How do students travel to clinical sites?
25.	Specify the percentage of student's own transport versus public transport versus university provided transport.
26.	If the clinical site is greater than 60 km away from the university, is free accommodation provided for students at the clinical site or nearby?
27.	Are clinical educators' permanent employees of the university?
	INPUT
1.	Are the theory components completed prior to the clinical exposure?
2.	Are there clear aims and objectives (AO) specified for each clinical exposure?
3.	Describe your remediation programme (RP), if available?
4.	Describe your clinical supervisor training programme
5.	Describe the nature of the clinical experience/exposure (longitudinal/integrated/silo)
6.	Is a standardised supervision structure applied across all clinical sites during the clinical training?
7.	State the method of supervision used? (group; one-to-one; peer-led; teacher-led etc)
8.	Describe the teaching methods undertaken during clinical supervision sessions. (refer to definitions page)
9.	When is feedback generally given during the supervision process?
10.	What method of feedback is used?
11.	How is student inter-professional collaboration ensured or encouraged at the clinical site?
12.	Are basic clinical skills revised during clinical supervision?
13.	Do students receive dedicated supervision time from the clinician?
14.	Do students receive dedicated supervision time from the university clinical educator?
15.	What is the student/supervisor ratio? (e.g. 1sup:8st)
16.	Do students have an opportunity to share their clinical learning experiences with the academic and clinical departments (positive and negative)?
17.	What assessment methods are used during clinical practice?

	PROCESS
1.	List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme?
2.	How are challenging operational issues pertaining to student training resolved at the clinical placements?
3.	Are students aware of the conflict resolution process that must be followed?
4.	Do your students have the opportunity to learn a different language based on the language of clients they may be exposed to?
5.	Does the clinical exposure reflect the national/provincial burden of disease?
6.	How many clinical areas are the students exposed to in their years of undertaking clinical education as an examination subject? (list each year separately, and then add to obtain the total).
7.	How many hours per week do students spend training clinically in their years of undertaking clinical education as an examination subject?
8.	Do students write a pre-block test prior to starting clinical training?
9.	Is a comprehensive orientation programme undertaken at the clinical site when students start each clinical rotation/block?
10.	Are policies and procedures of a clinical placement/site overtly communicated to students on the first day at the placement?
11.	Are students orientated to all aspects and areas in physiotherapy department (equipment; forms; bathroom; student room; lockers etc) in which they are placed?
12.	Are students introduced to all staff members in the physiotherapy department when starting at a clinical placement?
13.	Are students orientated to all necessary areas (layout/architecture) of clinical placement?
14.	Are students introduced to the interprofessional team at the clinical site when starting a clinical rotation/block?
15.	Is the supervision session patient-centred or student-centred?
16.	How is student autonomy fostered by the clinical educator?
17.	How is students' patient management facilitated at the clinical site?
18.	How are students guided with reading and recording in patients' files?
19.	How do you evaluate your physiotherapy clinical education programme?
20.	Is there alignment between the curriculum and clinical exposure?
21.	Are your clinical training sites/placements accredited to train students?
22.	Who accredits your clinical training sites?
23.	What steps are taken to create a positive and safe learning environment at the clinical site?
24.	Do you have a dedicated clinician at the clinical site that liaises with the university should any operational or student issue arise at the clinical sites?
25.	Do you have a clinical coordinator at the university to coordinate the clinical programme between the university and clinical site/placement?
26.	Are the factors that affect learning considered by the CE during clinical supervision? (student's characteristics; learning style; resources and personal issues/emotions: fear, anxiety etc)
	PRODUCT
3.	Has your clinical education programme been accredited by any professional body/organisation? e.g. WP; HPCSA
4.	List the quality assurance measures (QAM) you have in place for your physiotherapy clinical education programme?
5.	Which graduate attributes are aimed for in your students? (a)Professional b) Communicator c) Collaborator d) Leader/manager e) Health Advocate

APPENDIX 20

- **TURN-IT-IN REPORT**

ADDRESSING THE BLIND SPOT THE DEVELOPMENT OF AN ASSESSMENT TOOL TO EVALUATE PHYSIOTHERAPY CLINICAL EDUCATION

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