Experiences that Influence Medical Students' Personal and Professional Development.

Tracy Parker

A thesis submitted in partial fulfilment of the requirements for the degree of Master of Clinical Education, University of Auckland, 2023

Abstract

Introduction: The transition from pre-clinical to clinical learning is a time of intense personal and professional development for health professions students. Students encounter new and novel experiences that significantly impact their learning and development during this period. Awareness of these experiences and their influence on student development is essential to ensure that students are adequately supported in their learning experience.

Aim: To identify the experiences that influence Year 4 medical students' personal and professional development in the clinical learning environment and to develop strategies that could assist faculty in improving the students' learning experience.

Method: Reflective portfolios, submitted as evidence of personal and professional development, of Year 4 medical students from the University of Auckland formed the foundation of the study. Using a qualitative descriptive methodology, this study analysed the portfolio submissions of twenty Year 4 medical students across five learning domains. The collated data was analysed using six steps of Braun and Clarke's (2006) thematic analysis framework.

Findings: Data analysis identified four key themes describing student experiences when transitioning to the clinical learning environment. These themes were: being a student, being with patients, being a doctor, and being a health professional. The findings suggest that reflective portfolios are valuable for students' personal and professional development. The study further identified that developing skills and strategies to deal with uncertainty, building

resilience and promoting effective relationships could facilitate a successful transition to clinical learning.

Conclusion: The transition to clinical learning is a time of intense personal and professional development. Providing students with skills and strategies to mitigate the challenges involved with experiential learning, such as providing guided reflection and creating opportunities for peer learning, could enable them to optimise their learning experience in the clinical setting. Optimising opportunities in the clinical learning environment assists in facilitating the development of the knowledge and skills required for future doctors.

Acknowledgments

There were moments in this journey when I doubted I could achieve this long-term goal; I am forever grateful to the many people who have helped and supported me on this journey.

Firstly, I must thank the participants in the study; although we never met, I feel privileged to have shared your experiences and hope that this research will help support future doctors during the transition to clinical learning.

To my inspiring team of supervisors, Dr Yan Chen, Dr Rain Lamdin, Dr Jill Yielder and Professor Warwick Bagg, I am forever indebted to you for your support, guidance, unwavering patience, and exemplary supervision. You were with me every step of the way, giving me the confidence, encouragement and inspiration I needed to achieve my goal. Thank you.

Undertaking this thesis has beena challenging journey through which I was priviledged to have incredibly supportive and encouraging friends and family who were with me every step of the way.

Thank you, Rosmary, Ron, Sam, Josh and Zack, you have heard about this goal of mine for many years, and finally, I have achieved it; your encouragement, pride and belief in me were a great source of motivation.

To my friends, particularly Karen, Suzanne and Charmaine, thank you for your belief in me, your unwavering support and your endless encouragement and phone call reminders to ‘get on with it’, thanks for having my back.

And finally to Peter, thank you for being my wingman, supporting, listening and encouraging me to be the best I can be.

Table of Contents

Chapter 1: Introduction.

The construct of professionalism and its definition in medicine has been a subject of debate in the literature, with various definitions proposed by assorted authors (Birden et al., 2014; Cruess et al., 2014; Guraya et al., 2016; Hilton & Southgate, 2007). Defining the concept of medical professionalism is difficult due to its multi-dimensional construct that is influenced by legislative, cultural and societal variations (Garaya et al., 2016; O'Donnabhain & Friedman, 2018). However, there is consensus in the literature that professionalism is about the values, attitudes and behaviours that should be expected of a medical professional (Cruess et al., 2014; Kirk, 2007; Sattar et al., 2016). Globally there has been a move to focus on standards of professionalism in medicine to ensure patient safety and to maintain public trust and confidence in the profession (Cruess et al., 2014; Kirk, 2007).

This chapter begins with an overview of the contextual information that informs the development of the personal and professional skills domain in the University of Auckland medical programme. This will be followed by a discussion on the implementation of reflective portfolios to assess medical students' personal and professional development providing background for the study. Next, the researcher's interest in the topic will be disclosed, and the purpose of the study will be outlined. The chapter will conclude by detailing the structure of the thesis.

1.1 Background to the Study

In 2003 the New Zealand government introduced the Health Practitioners Competence Assurance Act (HPCA). The purpose of this act is to ensure public health and safety by ensuring health practitioners are competent and safe to practice (Health Practitioners Competence Assurance Act, 2003, S.3). The HPCA requires all professional regulatory bodies to be transparent and consistent in the regulation of their members and set requirements for

maintaining professional development. In fulfilling this requirement, the Medical Council of New Zealand sets the standards expected for practice (Medical Council of New Zealand [MCNZ], 2019). It enforces recertification requirements to support doctors in maintaining currency and competency in their practice.

The teaching of professionalism has been identified as an essential domain of learning in undergraduate medical education worldwide (Guraya et al., 2016; Jha et al., 2015; Kirk, 2007). The importance of this requirement has been highlighted by the Medical Council of New Zealand in their publication Good Medical Practice (Medical Council of New Zealand [MCNZ], 2021). This document defines the professional standards the medical profession and the public should expect from a competent doctor. The standards include promoting patient-focused doctors who act ethically, are competent, are honest and trustworthy, are self-aware and committed to lifelong learning. Included in this document are recommendations for medical students to use the standards as a reference for identifying the primary duties of a good doctor and as a source of education and reflection (MCNZ, 2021, p. 5). This affirms that the teaching of professionalism in New Zealand medical education is not optional but an essential foundation of good medical practice.

Professionalism is a developmental process; therefore, medical students must understand what professionalism is, why it is essential and the social obligations and responsibilities that come with a vocation in medicine as they undertake their clinical work. In this way, they understand the need to adopt professional attitudes and behaviours (Cruess et al., 2014). Traditionally the primary way students learnt and assimilated professional behaviours and attitudes was through role modelling what they observed and experienced in clinical practice (Cruess & Cruess, 2012). Contemporary views suggest role-modelling is no longer a sufficient standalone method for teaching professionalism and suggest there is a need to teach professionalism "explicitly as a series of traits and as a moral endeavour through stressing reflection and experiential learning" (Cruess & Cruess, 2012, p. 260).

1.2 University of Auckland Medical Programme

The University of Auckland Bachelor of Medicine Bachelor of Surgery (MBChB) medical degree is a six-year programme. The first three years (Phase 1) are pre-clinical, with the fourth year beginning the start of Phase 2. The second phase introduces students to full-time clinical attachments. This transition from "university student to becoming a medical professional" allows the student to experience and immerse themselves in the 'real' world of medical practice [University of Auckland Phase 2 (Year 4) Guidebook].

The year four students are attached to one of six large teaching hospitals for the year and undertake rotations through General Medicine, General Surgery, Geriatrics, Musculoskeletal, Anaesthetics, General Practice, Emergency Medicine and two speciality rotations. These rotations enable the students to engage in clinical learning, integrating theoretical with practical knowledge. Through experiential learning, the aim is for students to gain competence and confidence in developing clinical skills and knowledge. During this formative phase, clinical supervisors guide the medical students, monitor progression, provide feedback, and undertake assessments to ensure students develop the required competency and are safe to practice.

Each rotation has specific learning outcomes and skills that the students are expected to become proficient in; these skills are generally assessed at the end of each rotation. The longitudinal assessment programme for clinical learning utilises multiple methods to assess the students over the year, aiming to accurately position student competency and reduce the impact of high-stakes assessment. The assessments focus on establishing competency over five major domains of clinical practice, one of which is Personal and Professional Skills.

1.3 Personal and Professional Skills (PPS)

In 2013 the University of Auckland introduced a new domain of learning focused on professionalism in the medical program. The domain, called Personal and Professional Skills,

runs longitudinally over five years (year 2 to year 6) of the programme and is focused on assessing evidence of learning across five central themes: Professionalism and Reflective Practice, Ethics and the Law, Cultural Safety, Health and Wellbeing and Learning and Teaching (Yielder & Moir, 2016).

In this domain, students are encouraged to be responsible for their learning, creating an authentic learning experience as students focus on personalised learning and development. Evidence of achieving the learning outcomes in this domain comes from three sources; observation by clinical staff, assignments and portfolio. Of the three assessment methods, portfolios have the largest weighting towards the final grade for the domain in recognition of the importance of this tool in demonstrating evidence of development (Yielder & Moir, 2016). The selection of a portfolio as an assessment tool was influenced to some degree to keep congruity with the competencies required for post-graduate education, including submitting portfolio evidence of learning and development for reaccreditation purposes (David et al., 2001; MCNZ, 2021). In this way, engagement with the portfolio supported the students' current practice and assisted in developing self-awareness and skills for future practice. The portfolio has been implemented as a longitudinal assessment, so student progression and development can be assessed over time, increasing the reliability of the assessment as an indicator of student performance (Goldie, 2013).

1.4 Portfolios

The use of portfolios as a method of assessing medical student learning and development has become more prevalent in medical education (Driessen et al., 2013; Yielder & Moir, 2016; Gordon, 2003). Portfolio use in undergraduate medical education generally serves two purposes; encouraging reflective practice and assessing workplace learning and development (Buckley et al., 2009). When portfolios are used for assessment, there is a focus on students demonstrating evidence of competency (Driessen et al., 2013). The reflective portfolio

assessment in the personal and professional skills domain focuses on actively engaging students to critically reflect on their emerging practice to develop self-awareness of practice strengths and limitations to direct their learning and development (Tan et al., 2022).

As a student-led, self-directed assessment method, the portfolio allows students to personalise their learning and development by focusing on significant events or experiences relevant to their practice. When reflecting on the experiences, students must evaluate their performance and analyse what they know and what they still need to know (Driessen & Tartwijk., 2013). Engaging in reflection aims to assist the students in identifying what can be learnt from complex and challenging situations. It encourages the students to consider multiple perspectives, develop new understandings and learn from mistakes to enhance and guide personal and professional development to become better practitioners (Hargreaves, 2016).

1.5 Context for the study

Following implementing the PPS portfolio, curriculum leaders evaluated the introduction process identifying the challenges, strengths and limitations of portfolios as a tool to promote personal and professional development (Yielder & Moir, 2016). Following this publication, the curriculum team conducted further research exploring the central issues students identified as significant learning events across all years. In particular, the team was interested in understanding how the students use critical reflection to manage issues and how the programme may use their knowledge of central themes/issues to improve heir learning experiences. This research is a sub-study of this larger project explicitly looking at the year four transition to clinical learning and the experiences that influence their personal and professional development.

1.6 Researcher interest

Having been a registered Medical Imaging Technologist (MIT) for over thirty years, I experienced working through the implementation of continuing professional development (CPD) as a mandatory requirement for ongoing registration following the implementation of the Health Practitioner Competence Assurance Act (2003). I clearly remember the pushback from the medical imaging profession with the requirement to reflect and provide documented evidence of professional development biannually. At this time the majority of the MIT workforce had been trained and educated under an apprenticeship hospital-based system. The concept of reflection, let alone its value, was perceived as an unnecessary box-ticking exercise. At this time, I was working part-time at a large teaching hospital with a young family, and I clearly remember the feeling of resistance to this requirement. I recall thinking reflecting was a waste of time; surely the only way to assess competence was to work with me?

In 2010, I became involved in medical imaging clinical education, initially as a clinical tutor and later moving into an academic and clinical role at a tertiary education institution. In this capacity, I have developed a deeper understanding of professional development and the value of reflection in changing or affirming practice. Over the past few years, I have been marking and assessing portfolios and reflective assignments for the medical imaging profession. I am interested in understanding transitional periods of practice, whether it be students beginning clinical learning or qualified staff transitioning to new workplaces. I am interested in better understanding how the experiences encountered during this transitional period influence professional development across the health professions.

The opportunity arose to explore this area through a sub-study of a larger research project in the PPS domain being explored by the Faculty of Medical and Health Sciences at the University of Auckland.

1.7 Purpose of the research

It is anticipated that the findings of this study will provide faculty with a better understanding of the experiences that influence fourth-year medical students' personal and professional development with the aim of providing recommendations for the general improvement of teaching, learning and assessment within the PPS domain of the medical programme.

In addition, the study results will be written up and submitted to an academic journal and for a conference presentation.

1.8 Thesis Structure

This thesis consists of five chapters beginning with an overview and orientation to the study. Chapter one explains professionalism and professional development in the context of the University of Auckland Programme and how the researcher's background has shaped the development of the research project. Chapter Two explores the relevant literature on medical students' personal and professional development, including the rationale for engaging in professional development, using reflection to support self-awareness and recognising developmental needs. The philosophical approach and research methodology that frames the study will be discussed in Chapter Three. This is followed by a description of the methods used and a discussion on how quality was established. Chapter four will present the study's results using the participants' voice' to support the interpretations made. The final chapter, Chapter five, will discuss the results in greater depth, including a comparative analysis of the data in relation to relevant literature. The chapter will conclude with an outline of the study's limitations, recommendations for future practice and suggestions for future research.

Chapter 2: Literature Review

2.1 Introduction

Chapter one provided an overview of professionalism and background information for the study. This literature review will primarily explore existing literature relevant to undergraduate medical students' development of personal and professional skills in the clinical learning environment. In order to understand the student experience, this review investigated the following aspects of clinical learning: the significance of professional development in medical education and the factors influencing personal and professional development (PPD) for medical students; the use of reflection and portfolios as a method of assessment to evidence development, and the impact of transition on PPD during the move from pre-clinical to clinical learning. The chapter will conclude by identifying gaps in the literature, followed by the research questions of the thesis.

2.2 Personal and Professional Development (PPD) in Medicine

Gaining competence is a developmental process that is constantly evolving; regular engagement in PPD assists medical professionals in maintaining and advancing their practice. To achieve development, clinicians participate in reflective activities to extend and enhance the knowledge, skills and attributes required of a 'good doctor' (MCNZ, 2021; Ikenwilo & Skåtun, 2014). As well as maintaining or improving the practitioners' performance, PPD ultimately has a role in improving patient outcomes (Ikenwilo & Skåtun, 2014; Epstein & Hundert, 2002).

Among the attributes ascribed to what it means to be a good doctor, Steiner-Hofbaur et al. (2018) systematised review found, a commitment to lifelong learning and development was least often mentioned.). Additionally, the studies that targeted medical student opinion demonstrated that student perceptions of a good doctor were linked predominantly to medical competence and interpersonal skills (Steiner-Hofbaur et al., 2018). While identifying

commitment to personal development and self-improvement is not explicit in these findings, it can be argued that perceptions of competence include these characteristics, especially in the context of evidence–based medicine (Cruesta-Briand et al., 2014).

Engaging in PPD requires various skills, including self-assessment, resilience, and a commitment to lifelong learning (Caldwell et al., 2021; Steiner-Hofbaur et al., 2018). Of these skills, self-assessment is arguably the most essential characteristic required to provide a solid foundation for life-long learning. Boud (1995) defines self-assessment as how learners identify the "'standards and/or criteria to apply to their work and judge the extent to which they have met these criteria and standards." (Boud, 1995, p.5). Through self-assessment, learners can realistically critique their performance and monitor their learning needs. It is only possible for learning and development to occur when the learner identifies what they know, the knowledge they need to know and how to go about addressing the gap in learning (Boud, 1995).

As a profession, medicine expects doctors to be proactive and self-monitoring in identifying and addressing learning needs (MCNZ, 2022). These expectations and regulatory requirements for regular, evidenced participation in professional development activities have resulted in medical schools identifying professionalism, which includes developing personal and professional skills as a critical learning domain critical for the undergraduate and postgraduate medical curricula (Agarwai & Lake, 2016; Caldwell et al., 2021; Yielder & Moir, 2016;).

2.2.1 Medical Students and Professional Development

Evidence suggests that supporting medical students' personal and professional development in clinical education is crucial for preparing future doctors in negotiating the complexities of modern healthcare (Caldwell et al., 2021). As doctors in training, medical students inherently recognised the importance of professionalism as part of their educational experience. They also understood the requirement to engage in ongoing professional development to maintain and advance competence (Birden & Usherwood, 2013).

For medical students, a significant proportion of their professional development involved the development of their professional identity. Professional identity is developed through socialisation in a community of practice whereby the student gradually acquires the profession's values, attitudes, beliefs and behaviour (Cruess & Cruess, 2012; Soo et al., 2016). Professional identity is not static; students construct and deconstruct their identities as they engage in daily clinical experiences (Jarvis-Selinger et al., 2019). During these intense learning periods, clinical experiences and interactions can influence personal and professional development in either a positive or negative manner. While positive role modelling has been shown to support student learning and development, the impact of negative role modelling is cause for concern. Negative role modelling can affect student development, influencing their learning ability and attitudes to particular specialities (Aslam et al., 2022; Park et al., 2022).

Working in the clinical setting provides medical students with many opportunities for professional development, whether through interactions with patients or colleagues or practising clinical skills. To function effectively in a dynamic, fast-paced environment, students need to develop the skills to act and relate in professional contexts; these skills form the basis of professional identity, which is essential for the transition from student to a doctor (Goldie, 2013; Park et al., 2022). To achieve the required competency levels, students must learn to be responsible for their developmental needs (Fontana et al., 2015). As self-directed learners, students must proactively engage with learning opportunities and self-monitor their developmental needs through regular self-assessment, a skill required as a lifelong learner (Boud, 1995).

2.2.2 Skills required for Personal and Professional Development

The skills required to support medical students' personal and professional development include stress management, accountability, coping strategies, and health and well-being, with proficiency expected by the completion of undergraduate studies (Caldwell et al., 2021).

Often the focus of medical students entering the clinical learning environment is on gaining practice knowledge, relying on supervisor or colleague feedback to determine gaps in their

knowledge or practice. Effective self-monitoring can only occur when students accept responsibility for their learning (Fontana et al., 2015). The ability to self-assess is not inherent in all learners; therefore, medical programmes must incorporate self-assessment skills in the curriculum to encourage the development of future doctors who can self-monitor their developmental needs (Boud, 1995). Additionally, by encouraging learners to self-assess at an undergraduate level, it is possible to validate the accuracy of self-assessed needs, strengths, and weaknesses through feedback from supervisors and colleagues.

Another fundamental aspect of PPD education is guiding students to integrate their professional selves with their other identities (Goldie, 2013). The guidance goes beyond ensuring students acquire practice knowledge and skills and includes assistance for students to develop non-technical skills such as prioirtising personal health and well-being, self-awareness, resilience, and help-seeking behaviours (Agarwai & Lake, 2016; Kallail et al., 2020, Goldie, 2013).

Further essential skills to support PPD are resilience and adaptability, which help students overcome feelings of inadequacy as they explore different learning strategies to assist them in developing the required skill and knowledge (Malau-Aduli et al., 2020). Additionally, students need to develop the ability to learn from others, and develop an understanding of the need to consider alternative perspectives when engaging in professional practice (Scott et al., 2022).

Periods of intense transition, such as the move from pre-clinical to clinical education, significantly impacts students' perception of proficiency in PPD (Caldwell et al., 2021; Robledo-Gil, 2022). Changes in the learning environment combined with a perceived deficiency in knowledge can cause students to feel stressed, anxious, and inadequate. (Robelo-Gil etal., 2022). For this reason, researchers recommended incorporating activities such as reflection or mentored discussions into the curriculum to help students make meaning of their experiences during transitional periods (Robledo-Gil et al., 2022; Treadway & Chatterjee 2011; Schon, 1987).

2. 3 Reflection

Reflection is a way of learning from personal experience; it is a cognitive process that enables the individual to become more aware of their current level of knowledge, identifying strengths, weaknesses, and gaps in current practice (Grant et al., 2017). In medical education, reflecting on clinical events facilitates students considering experiences from multiple perspectives, learning from mistakes and successes, and developing strategies for future practice (Artioloi et al., 2021). Reflecting critically on experiences assists in fostering a questioning approach to both individual and contextual practice, allowing the student to link understandings to multiple contexts, therefore, instrumental in developing transferable skills (Grant et al., 2017). When engaging in reflection, students are encouraged to critically appraise their current level of knowledge and understanding when exploring experiences they have encountered, identifying where further action is required when areas of concern are identified. In this way, the responsibility for learning and development shifts to the individual learner, and being a life-long learner is a core competency for medical professionals in New Zealand (MCNZ, 2022).

Being constructively critical of individual learning and development encourages medical students to manage practice as emerging health professionals. Being critical is not about fault finding or blame; instead, it is about developing a practice informed by learning from experience. Criticality encourages students to question personal assumptions and understandings, approach practice with an enquiring mind, and be averse to accepting information as correct and factual without question (Grant et al., 2017).

2.3.1 Theoretical Underpinnings of Reflective Practice

Several academic and theoretical positions support the incorporation of reflective practice in the professions. The use of reflection as a deliberate, calculated act was first discussed by Dewey (1910) to emphasise the importance of reflection in 'meaning-making' (p.19). When individuals make meaning, they identify how what works in one context can be applied in another. To make meaning, Dewey (1910) emphasises that learners must have an attitude

that values personal growth and knowledge accumulation when accessing and applying the information to practice.

Kolb (2014) advanced Dewey's work making it relevant to learners with the incorporation of experiential learning. Kolb's learning cycle is a strategy designed to guide learners through stages of reflection and enquiry to maximise the learning and meanings made of experiences (Kolb, 2014). Utilising this cycle transitions the learner through four steps; experiencing a challenging situation, reflecting on what happened, identifying different actions or improvements, and implementing the new strategies into practice. Moving from an emphasis on individual learning to an understanding of learning being socially constructed, Vygotsky and Cole (1978) emphasised the need for educational curriculum to include reflection opportunities. Incorporating these opportunities could encourage metacognitive processes for medical students learning and an ongoing personal and professional development and humanitarian approach to patient care.

Social construction theories also contribute to the theoretical underpinnings of reflective practice. Constructivists, like Vygotsky and Cole (1978), consider learning can only be achieved by a teacher's input, such as professional knowledge and the interactions between learners and their peers. This learning occurs in what Vygotsky and Cole termed the zone of proximal development (1978). For students to learn effectively in this zone, educators need to challenge and prompt the learners, assisting them in applying prior knowledge to the learning experience. As a form of educational scaffolding, educator input aims to guide learners in applying knowledge to clinical practice. Additionally, scaffolding enhances the students' emotional intelligence and self-awareness when building reflective capacity (Grant et al., 2017; Hargreaves, 2016).

The work of Donald Schön added a new perspective to reflection by considering the knowledge of practice in the professions. Through observing professionals at work, Schön (1984) recognised that professional knowledge could not be taught in an educational setting as it was tacit and had to be learned through practice experience (Rolfe, 2014). When considering

professional education Schön's work recognised the significance of reflection in the learning process identifying two distinct types of reflection: reflection in action and reflection on action (Schön, 1984). Reflection in action is how professionals problem-solve or reshape an experience as it unfolds. Sometimes called an ability to 'think on your feet', this type of reflection utilises professionals' knowledge, experience, and actions to navigate unexpected events generating a new understanding. In contrast, reflection on action involves taking a retrospective look at an experience to become aware of the tacit understandings or norms of professional practice (Grant et al., 2017).

2.3.2 Purpose of Reflection

A career in medicine requires a commitment to lifelong learning that occurs along a continuum and is constantly evolving (Jarvis-Selinger et al., 2012). The ability to challenge and assess the relevance of tacit assumptions, knowledge and expectations through reflection changes learning from straight knowledge acquisition to a constructive and meaningful learning experience (Meizrow, 2000). Learning through experience and identifying areas where further development and support is needed is essential in maintaining and advancing lifelong practice (Mann et al., 2009).

The importance of reflection and reflective practice for continual professional development is well-established in the medical education literature (Artioli et al., 2021; Hargreaves, 2016; Mann et al., 2009; Schrempf et al., 2022; Yielder & Moir, 2016). Recognised as a critical component of medical professionalism, the ability to reflect on one’s own performance is considered a fundamental competence for personal and professional development (Artioli et al., 2021; Cruess et al., 2014; Grant et al., 2017; Schrempf et al., 2002; Yielder & Moir, 2016).

Individual learning, professional competence and improved patient outcomes are the impetus for demanding high levels of reflective competency in medical education (Hargreaves, 2016). This aspiration is recognised in the requirement for medical practitioners to demonstrate evidence of engagement in reflective practice as part of the recertification process (MCNZ, 2022). The aim of requiring compulsory engagement in reflective practice is to encourage

self-aware practitioners who can monitor and regulate their professional competence (Mann et al., 2009). Reflective competence that is intrinsically motivated results in deeper and more meaningful learning, accomplishing a responsive and reactive approach to professional practice (Grant et al., 2017; Hargreaves, 2016).

2.3.3 Role of Reflection in Medical Student Professional Development

Medical students can only learn to be reflective practitioners when engaged in the practice of medicine (Rolfe, 2014). For reflection to be meaningful, students need to learn to process experiences in various ways. Through exploring their understanding of personal thoughts, actions, and experiences and considering how these may impact others, students are able to establish a new meaning constructed through engagement with practice (Mann et al., 2009). Reflection is not an intuitive process for all students; therefore, reflection must be taught and assessed explicitly to assist in embedding reflective behaviours throughout the medical school curriculum (Driessen et al., 2008; Schrempf et al ., 2022; Wald et al., 2012; Wald et al., 2009).

Situated learning allows medical students to immerse themselves in the medical community of practice (CoP), enabling them to learn the tacit knowledge inherent in medical practice (Orsmond et al., 2022). A CoP is a group of professionals who share three essential elements; common identity, community, and specific practice knowledge and skills (Cruess et al 2018.; Lave & Wenger, 1991). Medicine contains many CoP, each with its own explicit and tacit knowledge base (Cruess et al., 2018). For medical students transitioning into the clinical learning environment, each new clinical attachment involves integrating into a new CoP, their pathway to assimilation in the community is through legitimate peripheral participation (Lave & Wenger, 1991).

When beginning a new attachment, medical students spend a considerable amount of time observing doctors and others in the clinical environment while working under supervision. Over time as professional development occurs, the student moves from peripheral to full participation by increasing the roles and scope of medical care they are involved in; by

undertaking these increased roles, they learn more about the work of a doctor and the CoP (Orsmond et al, 2022; Wong & Trollope-Kumar, 2014). Reflection during this time assists in supporting students to identify the knowledge, skills and professional attributes required of a medical practitioner (Grant et al., 2017). Additionally, while attached to a CoP, students may observe or engage in experiences in the professional culture that conflict with their personal beliefs, values, or expectations. Through regular reflective practice, students can critically explore these discourses, mediating a resolution and integrating their new understanding of professional values and attitudes observed in practice with their personal beliefs to contribute to professional identity development (Mann et al., 2009; Wald, 2015; Wald et al., 2012).

Literature regarding medical student reflection often focuses on sentinel events; first death, first clinical attachment, and first patient interaction. There is less written on the impact of routine day-to-day experiences that provoke student awareness and may have significant impacts on emerging professional identity (Grant et al., 2017; Jarvis-Selinger et al., 2019). Having established the importance of reflection for professional practice, that is, demonstrating the expertise, attitude, and ethics of a doctor, it is also essential to consider the role of reflectionin forming professional identity (Robledo-Gil et al., 2022; Wilson et al, 2013).

2.3.4 Role of Reflection in Developing Professional Identity

In medicine, professional identity is how an individual thinks of themselves as a doctor. Internally constructed by the individual, professional identity is gradual and constantly evolving as the individual assimilates the professional attitudes, beliefs, and cultural norms and begins to think, feel and act like a doctor (Orsmond et al., 2022; Park & Hong, 2022).

The formation of a professional identity begins early for many medical students identifying as future doctors following acceptance into medical school. Attaining the title of 'doctor' holds high regard in many circles and brings respect and responsibility to the individual (Grant et al., 2017). Extending beyond medical school and the workplace, family, friends, and the wider community also have pride and expectations of the role of a doctor. Consequently, medical

students' personal and professional identities are deeply intertwined (Goldie, 2013; Grant et al., 2017).

Personal and professional identity development is shaped and reshaped as the student is influenced by many factors such as significant experiences, conflicts, role models and the clinical culture (Sarraf-Yazdi et al., 2021). In the medical education context, the literature suggests professional identity formation and development occur concurrently at the individual and collective levels involving socialisation and participation in a CoP (Jarvis-Selinger et al., 2019). The importance of a collective level is explained by a sociocultural theory which focuses on the role engagement in professional, organisational and cultural contexts plays on an individual's psyche and the development of professional identity (Scott & Palinscar, 2013; Vygotsky & Cole, 1978; Wilson et al., 2013).

While many factors influence professional identity formation, the reflective process provides the self-awareness to pursue development and change practice to transform from learner to practitioner (Grant et al., 2017). Professional identity development is incremental; unforeseen breaks mark each stage due to incongruity or 'crises' between personal conceptions of the role and the experiences or challenges occurring in context (Jarvis-Selinger et al., 2012). There are many 'crises' that medical students face, and how they negotiate these predicaments influences their understanding of what it means to be a 'doctor' (Jarvis- Selinger et al., 2012; Kay et al., 2019).

The formation of a professional identity is complex and personalised; it is a process of regular self-reflection involving medical students thinking, feeling and acting on experiences to integrate personal beliefs and attitudes with that of the medical community of practice (Wilson et al., 2013).

2.3.5 Challenges of Reflection for Medical Students

The journey for acceptance into medical school is highly competitive, and students must be high achievers with attributes or activities that make them stand out. If students fear failure, lack confidence or perform poorly in clinical tasks, highlighting areas of practice where development is required can be perceived as threatening by the student (Grant et al., 2017).

As discussed earlier, the close connection between personal and professional identity can mean that criticism is seen as a judgment by the individual resulting in personal distress (Grant et al., 2017). The threat of scrutiny and seen to be wanting may explain why reflection is challenging for many students, particularly when the reflection is a summative assessment viewed by others (Driessen et al., 2008; Grant et al., 2017). The challenge for educators is to empower students to recognise that failures can offer the opportunity for personal and professional growth and development (Shield et al., 2015; Wilson et al., 2013).

While there is clear value in reflection, providing opportunities for exploring student experiences and the influences on personal and professional development must be incorporated into the medical curriculum (Surmon et al., 2016). For this reason, in line with professional body continuing professional development requirements (MCNZ, 2022) medical schools have required students to demonstrate evidence of personal and professional development through critical reflection submitted in a portfolio format.

2.3 Portfolios in Medicine

In medical education, using portfolios to assess clinical skills, knowledge, and competence has become widespread at both postgraduate and undergraduate levels (Driessen & Tartwijk, 2013; Driessen et al., 2017). A reflective portfolio is an educational tool designed to promote the development of reflective skills (Driessen et al., 2017). This tool aims to facilitate self-directed learning and increase self-awareness as practitioners reflect on personal experiences and performances to improve or maintain competence and improve patient outcomes. As a

repository of evidence, portfolios enable learners and assessors to audit learning and development over time (Ng et al., 2015).

By gathering evidence of personal and professional development across domains of practice that may be mandated or identified by the learner, portfolios can facilitate the assessment of complex situations, considering the individual's practice level and context of practice (David et al, 2001). Using portfolios enables medical educators to assess aspects of clinical practice, such as self-assessment and reflective capacity, that are difficult to assess by traditional methods (David et al, 2001). The portfolio format requires evidence collection over time, making it a valuable tool for assessing longitudinal professional development as individual progress is evaluated and measured against the professional competencies required (David et al, 2001). Mandatory requirements for practitioners to demonstrate evidence of reflective capacity and professional development combined with the move to competency-based medical education has resulted in an emphasis on portfolio implementation as a learning and assessment tool in undergraduate medical education (Driessen et al, 2007).

2.4.1 Purpose of Portfolios in Undergraduate Medical Education

The value of portfolios in medical education as a learning and assessment tool is becoming more widely recognised, particularly in promoting reflection and monitoring personal and professional development (Driessen & van Tartwijk, 2013; Yielder & Moir, 2016). Individuals may be limited in their ability to engage in self–assessment, and reflection; therefore, building these opportunities into the curriculum is essential (Driessen et al., 2007; Yielder & Moir, 2016).

Developing a professional portfolio is a skill that transcends all levels of medical practice (Tochel et al., 2009). By incorporating a portfolio assessment into the undergraduate curriculum, medical educators aim to embed self-assessment and reflection as regular practice activities. Additionally, building student confidence in completing a reflective portfolio

as evidence of learning prepares them for future practice in postgraduate training (Buckley et al., 2009).

Reflective portfolios focus on fostering learners' self-assessment and reflective capacity by providing a forum to actively analyse and critique experiences to gain new understandings that lead to development (Driessen & Tartwijk, 2013; Prayson et al., 2017). In this way, learners and supervisors can monitor progression, both the achievements and the required development (Driessen & Tartwijk, 2013). Another advantage of portfolio implementation is the educational benefits for educators provided by student reflection; allowing for the identification of issues and concerns that can be addressed by the program to improve the students learning and development (Buckley et al., 2009).

As previously discussed, the development of professional identity and professionalism is a gradual process; therefore, a longitudinal approach to supporting development and assessment should be the emphasis of curriculum development (Cruess et al., 2014; Goldie, 2013). Aligning to this principle, the University of Auckland Personal and Professional Skills Domain mandates portfolio compilation and assessment across five years of the medical program (Yielder & Moir, 2016). By submitting samples of evidence over time, the reliability of the portfolio assessment is increased, and demonstration of progression is evidenced (Yielder & Moir, 2016).

2.4.2 Attitudes to Portfolio Requirements

Student attitudes toward reflection as a vessel for personal and professional development can be variable, with many not valuing it as a learning strategy (Driessen, 2017). Several factors can contribute to this position, such as; being required to submit reflections on specified themes, fear or reluctance about disclosing personal information, or the time taken to complete reflection takes away from more valuable learning opportunities (Buckley et al., 2009; Driessen, 2017).

It is not uncommon for medical students to feel burdened by the requirement to complete a reflective portfolio during their clinical attachments (Buckley et al., 2009; Grant et al., 2017). Without the motivation of assessment, many students would not voluntarily engage in written reflection as a developmental process (Buckley et al., 2009). When assessments are graded and determine progression within a programme, there is a danger that some students may resort to submitting fictitious reflections to meet assessment criteria (Buckley et al., 2009). Therefore, it is essential to recognise that portfolios are about the process of engaging in reflection as opposed to the content within it (Yielder & Moir, 2016). This can be achieved by ensuring that the assessment matrix focuses on the process of reflection.

2.4.3 Assessment for learning

Using portfolios as an educational tool assists students in focusing on essential practice skills and competencies and the broader aspects of medical practice (David et al., 2001). By defining learning themes and providing the learning outcomes, students can contextualise their learning by linking their experiences and interpretations to competency skills (David et al., 2001). In keeping with adult learning principles, portfolios are an authentic assessment tool that acknowledges the influence of past and present experiences on the development of personal and professional skills (Driessen et al., 2005; Yielder & Moir, 2016). Authentic assessment involves examining the competencies and knowledge expected of future medical professionals (Gupta, 2019). It encourages students to be accountable for their learning and future development (Driessen et al., 2005).

2.5 Transition in Medical Education

As students progress through the medical programme, they will experience several rites of passage that they must negotiate as part of the journey to becoming a doctor (Wald et al., 2010). Rites of passage are challenging experiences that mark the passage from one stage of development to another, assisting with professional identity formation (Benjamin, 1986).

These rites include significant experiences such as the first cadaver laboratory, the first patient death and the transition to clinical learning that allows continued patient contact.

2.5.1 The Clinical Learning Environment

The first major transition in medical education is the move from the pre-clinical to the clinical phase of the curriculum (Scott et al., 2022; Soo et al., 2016). The clinical learning environment is dynamic and opportunistic; not all students will have the same learning experiences in this context. The transition to clinical learning can be a conflicting time for medical students; the excitement of beginning workplace learning and new responsibilities can be tempered by concerns about not having sufficient skills and knowledge to engage in clinical practice (Radcliffe & Lester, 2003; Van Hell et al., 2011).

Engaging in authentic activities that students identify as the 'role of a doctor' and learning from patients can be seen as purposeful learning (Rudland et al., 2022; Scott et al., 2022; Sellberg et al., 2022). In this way, the clinical learning environment transitions students from passive recipients of knowledge to active participants in learning, applying clinical skills and knowledge across many clinical settings (Sellberg et al., 2022). The clinical learning environment allows medical students to engage in rich learning opportunities benefiting personal and professional growth. For some students, the environment can be overwhelming, and the burden of new responsibilities can adversely impact performance and development (O'Brien, 2018). Teunissen and Westerman (2011) argue that in this way, the clinical learning environment can be perceived as either a threat or a challenge.

Learning in a clinical setting involves interacting not only with medical professionals but with the entire healthcare team involved in the care of patients for the assigned placement. The workplace culture can potentially influence student learning and development, either positively or negatively (Scott et al., 2022). Factors such as; orientation approaches, role expectations, staffing shortfalls and learning new ways of working can influence medical students' professional development (Yardley et al., 2018).

When considering the development of future doctors, Kilminster et al. (2011) suggested transitions should be reframed as periods of critically intensive learning. Furthermore, Kilminster emphasised that the extent to which the clinical learning environment acknowledges and supports students during periods of critically intensive learning will contribute to the overall student performance (Yardley et al., 2018).

2.5.2 Theoretical Perspective of Transition

From an educational perspective, a transition is defined as a dynamic progression where students move from one learning environment to another (Dubé et al., 2015; Teunissen & Westerman, 2011). In the medical context, a series of significant transitions must be negotiated to progress from a medical student to an independent practitioner (Colbert-Getz et al., 2016; Yardley et al., 2018). The study of transitions in medical education is well-established in the literature (Atherley et al., 2019; Scott et al., 2022; Surmon et al., 2016; Teunissen & Westerman, 2011). The medical literature often describes these transitions as stressful and challenging as these periods involve significant changes in expectations, responsibilities and learning tasks. These changes are essential for growing clinical skills and knowledge, developing professional identity and professional socialisation (Cruess et al., 2014; Soo et al., 2016; Yardley et al., 2018).

There are a variety of viewpoints on the transition period based on research in the medical education literature (Atherley et al., 2019; Malau-Aduli et al., 2020; Scott et al., 2022; Surmon et al., 2016). In a critical analysis of the medical literature, Atherley et al. (2019) submits that medical education research explores the transition from three theoretical perspectives: educational, social and developmental. These perspectives will be explored in relation to the research topic.

2.5.3 Educational Perspective of Transition

The educational perspective of transition often focuses on the 'students' struggle' (Atherley et al., 2019). Medical educators focus on minimising stress and feelings of lack of preparedness by implementing strategies to ease the transition, e.g., peer mentoring and procedural skills workshops (Atherley et al., 2019). This is supported by research that has shown that implementing 'preparedness' strategies can increase student confidence and familiarity with procedures, reducing pre-clinical anxiety and facilitating a smoother transition to the clinical learning environment (Atherley et al., 2019; Scott et al., 2022; Surmon et al., 2016).

While it is essential to prepare the students for transitions, Kilminster et al. (2011) argued that it is unrealistic to expect to fully prepare students by practising skills in laboratory settings that separated the activity from the unpredictability of both patients and the clinical learning environment (Yardley et al., 2018). Furthermore, solely focusing on preparing the student does not address the other issues associated with the transition, such as assimilating into the clinical team or recognising learning opportunities. For this reason, an educational approach is just one of the tools incorporated by the University of Auckland to assist in student transition to clinical learning.

2.5.4 Social Perspective of Transition

Entering the clinical learning environment can be challenging for medical students as they negotiate the intricacies of assimilating into the clinical team (O'Brien et al., 2007). Integrating into the team is learning how to interact and socialise with other team members. Socialisation is an essential aspect of integration and is necessary for students to learn the knowledge, skills, attitudes, and behaviours required for clinical practice (Atherley et al., 2022). This professional socialisation enables students to become legitimate members of the profession and is an essential component of professional identity formation (Atherley et al., 2022).

In the social perspective of transition, the focus is on ensuring the students feel they 'fit in' (Atherley et al., 2019; Atherley et al., 2022). When entering the clinical learning environment,

students begin to work in the 'real world' of doctors. Lave and Wenger (1991) emphasise that clinical immersion is vital as the feeling of belonging to the medical team motivates students to work on developing the skills and knowledge required of the profession. This sense of belongingness and feeling accepted and valued as part of the team influences professional identity development in novice learners (Scott et al., 2022). For this reason, it is not uncommon for students to be more concerned about fitting in and being one of the team instead of focusing on the learning they should be engaging with when entering new learning spaces (Atherley et al, 2022).

Several identified variables influence the professional socialisation of medical students, including previous experiences, observation of other health professionals and personal experience with healthcare. As students learn about medicine from experienced clinicians, their ideas about medicine and their role as a doctor will change as their experiences grow. While some students may struggle with the socialisation aspect of medicine, it is necessary they work at developing these skills and identify the need to adapt social interactions with others to maximise their learning opportunities (Scott et al., 2022).

2.5.5 Developmental Perspective of Transition

Transition from a developmental perspective focuses on the student's ability to cope with change (Atherley et al., 2019). While acknowledging that transition is challenging, developmental perspective focuses on empowering the student, giving them ownership over their learning and transition experience by fostering transferrable learning strategies and reflection that assist personal and professional development (Atherley et al., 2019; McKee & Markless, 2017). Students need to be self-directed, reflective, and adaptive in their approaches to learning (Atherley et al., 2019). Nurturing developmental skills such as self-directed learning and critical reflection could assist students' ability to cope with change (Cho et al., 2017; Yardley et al., 2018).

In contrast to the educational perspective of transition, which is generally driven by faculty in response to student concerns, little published research has been undertaken considering the developmental aspects of transition from the students' perspectives. The developmental perspective is predominantly student-driven, focusing on developing self-awareness and criticality, empowering the student to lead their development as future medical practitioners. (Atherley et al., 2019).

2.5.6 Challenges of Transitional Periods

The challenges experienced by medical students when transitioning to the clinical learning environment are well documented in the literature (Atherley et al., 2022; Cho et al., 2017; Kilminster et al., 2011; Surmon et al., 2016). These include personal challenges such as coping with changes, dealing with fear and anxiety, to competency concerns about dealing with workload and adjusting to new roles (Cho et al., 2017; Surmon et al., 2016). In addition, there can be variations in the time taken for students to adapt to new situations, slowing down their integration. Being proactive and taking the initiative can be challenging for some students, especially when the rules and expectations are unclear. Having clarity about roles and expectations reduces ambiguity allowing for more effective integration into the clinical learning environment and enabling the student to focus on learning (Sellberg et al., 2022). Dubé et al. (2015) maintain that while students initially find it challenging to adapt to moving between clinical teams, the more times they moved, the easier it became as they gained experience with the transitional skills required to cope with change.

Learning in the clinical setting can be testing for novice practitioners; they need to assimilate into the clinical culture, be competent in clinical skills appropriate for level, be clear about roles and responsibilities and integrate socially with patients, staff and colleagues (Malau-Aduli et al., 2020). Being able to integrate quickly into a team in order to maximise learning opportunities can be a constant pressure for students. There is a significant focus on being engaged and proactive in the clinical learning environment that can see the more extroverted

students push themselves forward to gain learning opportunities. This can be at the expense of less confident students who can become more insecure, questioning medicine as a career choice (Sellberg et al., 2022).

When considering some of these issues surrounding transition periods, establishing what experiences or events influence medical student learning development appears valuable. This knowledge could be used to design interventions or guide curriculum development to support student development in the clinical setting.

2.6 Summary

This chapter provided an overview of existing literature on medical students' personal and professional development, including the rationale for engaging in professional development, using reflection to support self-awareness and recognising developmental needs. Additionally, the importance of evidencing progressions and the influences impacting individual learning and development were discussed. It is evident from the literature that facilitating personal and professional development is complex in undergraduate medical education, where the facilitation of gaining practice knowledge content is the predominant focus of both students and faculty. Additionally, theoretical preparation does not always align with the practice encountered in clinical learning, creating discourses the student must navigate. In order to create a supportive learning environment for novice learners, medical educators need to work collaboratively with clinical placements to implement strategies for supporting and mentoring students. To do this meaningfully, medical educators must identify the experiences influencing students' personal and professional development.

This review demonstrates several gaps in the literature; firstly, there is limited research specifically looking at the developmental perspective of the transition from pre-clinical to clinical learning. Secondly, research exploring the experiences that influence medical students' personal and professional development generally focuses on forming professional

identity, which is an essential component of personal and professional development but not a holistic view of the developmental spectrum. Reviewing these aspects of practice has verified the need for further exploration of medical students' developmental experiences. This literature review has established gaps for further research to understand better the everyday experiences in the clinical environment that influence student learning and development.

2.6 Research Questions

Two research questions underpin the current thesis:

- What experiences influence medical students' personal and professional development as they transition into the clinical learning environment?
- What teaching and learning strategies can be developed to assist faculty in promoting successful personal and professional development for medical students as they transition to clinical learning?

Chapter 3: Research Methodology and Design

3.1 Introduction

This chapter will discuss the qualitative research process undertaken to explore the research questions. It begins with an overview of the philosophical positioning and research methodology that framed the study, followed by a description of the research process, including participant selection, data collection, data analysis, and ethical considerations. The chapter concludes with a discussion on the actions taken to ensure the study's trustworthiness.

3.2 Qualitative Research

Qualitative research is a subjective form of social enquiry aimed at investigating the real-life experiences of people. This type of research offers insights into how experiences are perceived and interpreted by those who encounter them, allowing researchers to uncover the "meaning they attribute to their experiences" (Savin-Baden & Howell-Major, 2013, p. 24). A qualitative approach to enquiry allows the researcher exploring a phenomenon to understand how the participants "make sense of their experience" (Savin-Baden & Howell-Major, 2013, p. 24). Using a qualitative approach to this study allowed for the exploration of medical students' experiences during their transition to clinical learning. Additionally, it provided the opportunity to examine how these experiences influenced students' personal and professional development.

Qualitative research using an interpretive lens assumes that knowledge is socially constructed and that there can be multiple understandings or interpretations of an experience. Additionally, knowledge gained through research applying an interpretive lens is not 'found' but 'constructed' by an individual's social interactions and previous experiences (Merriam & Tisdell, 2015). When selecting an appropriate methodology to frame a research project, researchers should be clear about their "beliefs and feelings about the world and how it should be studied" (Denzin

& Lincoln, 2018, p.19). They will also need clarity on the project's purpose and questions to be explored to ensure an appropriate methodology frames the study (Fleming & Zegwaard, 2018).

As discussed in chapter 2, minimal research has been undertaken on the experiences influencing medical students' personal and professional development during the transition from pre-clinical to clinical learning. The purpose of the study was to explore the student experiences so as to to develop a better understanding of influences on their learning and development. Given the study's exploratory nature, it was determined that a qualitative descriptive methodology, as described by Sandelowski (2000), would be the most appropriate to frame the research project.

3.3 Qualitative Description Methodology

A qualitative descriptive approach was used for this study because it allowed for a focus on understanding a phenomenon through a rich description of the perspectives gained and meanings made by those directly engaged with the experience (Bradshaw et al., 2017; Kim et al., 2017; Neergaard et al., 2009; Sandelowski, 2000). Situated within the constructivist paradigm, qualitative descriptive research investigates a phenomenon from a naturalistic perspective (Denzin & Lincoln, 2018). From this viewpoint, the participants under investigation are studied in their own environment using methods that aim to allow them to present themselves as if they were not being studied (Sandelowski, 2000). Underpinning this approach is the ontological position that multiple realities exist and the epistemological belief that understandings are socially constructed and reconstructed (Bradshaw et al., 2017; Braun & Clarke, 2006). The reconstructed understandings are created by both the participants and the researcher interpreting the data (Bradshaw et al., 2017; Braun & Clarke, 2006). This perspective recognises that reality is subjective, and individuals will make sense of an experience through their interpretations and ascribe their own meaning to the situations encountered (Bradshaw et al., 2017;Braun & Clarke, 2006; Merriam & Tisdell, 2015).

Qualitative descriptive methodology characteristics are particularly relevant for this study, as the research focus was to understand medical student experiences in relation to developing personal and professional skills during a transitional phase of learning. To achieve the study's objectives, it was essential that the data collection method employed aligned with the qualitative descriptive philosophy of investigating experiences or events providing a comprehensive summary in the participants' words (Sandelowski, 2000). In the current study, data was collected from written portfolio submissions where students self-select evidence of learning in the personal and professional skills domain. By exploring this data type, the researcher could capture the students' perceptions and understandings of the experiences encountered.

When focusing on developing a deeper understanding of a phenomenon, a "relatively small purposively selected sample" can be used (Campbell et al., 2020. p. 653). Purposeful sampling is used when targeting individuals knowledgeable about the phenomenon under investigation with the premise that they may hold different ideas or understandings about the same or similar experiences (Palinkas et al., 2015). Traditionally qualitative studies have based an adequate sample size around the principle of meeting data saturation which is when no new information is uncovered from the data, and sufficient data has been obtained to replicate the study (Braun & Clarke, 2013; Fusch & Ness, 2015). In the context of this research project, data was collected from a stratified sample of participants using purposive sampling. Each participant provided multiple pieces of written narratives, allowing for an in-depth exploration of participants' experiences while transitioning to the clinical learning environment.

Having established the research approach, it is essential that the researcher employs a "strategy of enquiry" (Denzin & Lincoln, 2018, p.21) that is relevant and appropriate to answer the research question and is in keeping with the research philosophy or frame of reference (Braun & Clarke, 2022; Fleming & Zegwaard, 2018). It is also crucial that the researcher considers and decides on the type and level of analysis they wish to undertake and how they

wish the findings to be reported (Braun & Clarke, 2006). Researchers undertaking qualitative descriptive studies follow an inductive research process. This process consists of analysing the data, identifying themes and providing a detailed description of an experience using the participants' own words to support the researcher's interpretation of the phenomenon without moving too far from a literal description of the data (Lambert & Lambert, 2012; Sandelowski, 2000).

After considering these recommendations, it was decided that the thematic analysis approach described by Braun and Clarke (2006) would be an appropriate data analysis method for this study. By utilising the flexibility of thematic analysis as a tool to guide the study, the goal was to allow the researcher to recognise and explore significant patterns or themes concerning experiences the research subjects had and the views or perspectives that evolved because of that experience. (Braun & Clarke, 2019; Nowell et al., 2017).

Using an experiential orientation to thematic analysis, this research project employed an inductive or 'bottom-up' approach to data analysis (Braun & Clarke, 2006). An inductive approach to coding allowed the researcher to code the raw data without trying to fit it into any pre-existing frameworks; in this way, the data drove the analysis. Using this approach, the researcher initially provided a straight description of the experiences that have been organised to demonstrate patterns at a surface level. The next step involved the researcher interpreting the data and offering their understanding as to the meanings of the patterns and the importance of the new understandings made. (Braun & Clarke, 2006; Patton, 1990).

To facilitate an inductive approach to data analysis, coding was undertaken at a semantic level; in this way, the themes that evolved were strongly linked to the data in keeping with a qualitative descriptive approach which does not “require the researcher to move far from the data” (Lambert & Lambert, 2012 . p. 256). This approach allowed the researcher to consider all aspects of the data recognising different perspectives and meanings made across the entire data set. Transitioning from the actual data, the researcher interpreted the experiences and meanings to develop abstract categories or concepts in the form of themes. Once the

researcher had identified themes across the data set, exemplars could be extracted directly from the text to support the descriptions and interpretations in the research results (Bradshaw et al., 2017; Neergaard et al., 2009). Although a relatively low level of interpretation is required in qualitative descriptive methodology, interpretation is always present as the exploration will be dependent upon the researchers' preconceptions, insights, understandings, and awareness (Neergaard et al., 2009; Sandelowski, 2010; Vaismoradi et al., 2013).

3.4 Researcher Positionality

As an allied health professional, I have been involved in medical imaging technologists' clinical and academic education for the past decade. This dual perspective affords me some insider knowledge or understanding of students' experiences and challenges as they engage in clinical learning and develop their professional selves. Contrasting the familiarity of the clinical context was assuming the role of an observer or outsider 'looking in' when exploring the experiences of the medical students in this study. As a non-doctor, I do not have the lived experience of being a medical student, doctor or consultant; therefore, I recognise I will see and interpret the data through a different lens. Having both an insider and outsider perspective required me to adopt a highly reflexive approach to both data analysis and interpretations to ensure the study's trustworthiness, which will be discussed later in the chapter.

Part of the reflexive process is acknowledging how my preconceptions, values, biases and experiences may influence my understanding and/or interpretation of the data. I understood the importance of giving the participants a 'voice' as I explored experiences from their perspective. I provided a rich description of the student's experiences; however, I was also aware of my role and responsibility as a researcher in deciding the ultimate direction of the study, the understandings made, and the information reported in the results.

Throughout the research process, I assumed a highly reflexive approach by keeping a research journal, diarising thoughts, decisions and observations. Journalling assisted me in

rationalising and justifying the decisions made throughout the study. Engaging in critical reflection allowed me to consider multiple perspectives and challenged my preconceptions or unconscious bias as I analysed the data. In addition, regular supervision meetings provided a forum to challenge interpretations and provide opportunities for researcher self-reflection.

3.5 Ethical Considerations

In 2018 the Faculty of Medical and Health Sciences undertook a research project entitled: '*Evaluation of significant learning events submitted as evidence of personal and professional development in the MBChB programme.'* This study aimed to undertake a content analysis of all student portfolios from Year 2 through to Year 5 to identify areas where faculty could offer additional support or develop education strategies to enhance the student educational experience. Ethics approval was granted for this project by the University of Auckland Human Participants Ethics Approval Committee (UAHPEC) on 30th July 2018 for three years, Reference number 021343. (Appendix i).

This research is a sub-study of the larger project focusing on one cohort's personal and professional development experiences. An amendment was made to the original approval on 5th October 2020 to include the author as a student researcher on the approved ethics application (Appendix ii). None of the participants was known to the student researcher, a medical imaging technologist not involved in the medical education programme.

3.5.1 Privacy and Confidentiality

The Faculty of Medical and Health Sciences requires that all assessment submissions be de-identified to protect the privacy and confidentiality of patients and staff. In line with this requirement, the students submitted portfolio evidence removing any identifying features such as names or information that could identify staff, colleagues, patients, or locations.

In addition, the student researcher ensured the data of the selected portfolios was anonymised and allocated gender-neutral nom de plumes prior to the analysis process.

3.5.2 – Storage and Disposal of Data

Data collected in this study will be kept on an encrypted USB stick in a locked filing cabinet. Only the researcher will have access to the cabinet and the password for the USB. In keeping with the ethics approval, data will be kept for a period of six years and then destroyed.

3.6 – Research Methods

3.6.1 Participants

Participants in this study were fourth year University of Auckland medical students undertaking the first full year of clinical attachments. All students engaging in the clinical learning programme were required to complete a personal and professional skills portfolio demonstrating learning in this domain as one of their summative assessments. Access to the portfolios was obtained under the umbrella of the principle research project as identified in section 3.5. The year four cohort was selected because it is the medical programme's first major transition from academic to clinical learning. It is a stage or transition where it is anticipated there would or could be significant and novel experiences contributing to students' personal and professional development.

3.6.2 Sampling and Data Collection

Twenty 4th year student portfolios were selected for the study using purposeful sampling (Patton, 2015). There was equal gender representation amongst the selected participants with the sample size equating to 7% of the 2018 class cohort. Participants were selected based on final portfolio grades; the five highest (merit grades), five lowest (fail grade) and the remaining ten were selected across a range of pass grades to ensure representation across the class was reflected in the data sample. Grade variation sampling was employed as there was an underlying assumption by the researcher that participant experiences and understandings would vary across a range of grades. Additional data was kept in reserve on the understanding that if new information was still emerging from the data, the sample size would be increased; this was not required for this study.

3.6.3 Data Analysis

Thematic data analysis was undertaken following the six-step process outlined by Braun and Clarke (2013). I immersed myself in the data; I read each reflection, noting any experiences, phrases or observations that captured my interest. After the first full read-through, I read through the data again to redact any information, for example, names or teams that may have compromised participant anonymity. I then organised the data into groups based on the assessment domains to assist in coding around similar concepts. Having organised the data, I used hard copy data and spreadsheet mapping to begin coding the entire data set.

The second step involved developing initial codes. Taking a semantic approach to coding, I identified features of interest in the data by allocating concise, descriptive labels to capture the essence of the feature of interest. Perceptions, thoughts and understandings were extracted from the data to develop these codes in keeping with an inductive approach to data analysis (Braun & Clarke, 2006). The codes and pertinent dialogue extracts were entered into a spreadsheet to allow for visualisation of the codes generated and where codes may overlap. This process was repeated for each domain across the entire data set, with new codes added as the analysis continued.

Following coding, the next step was to identify broader-level themes from the codes; this involved re-organising the data grouping similar concepts, which resulted in the researcher's identification of twelve subthemes; these were then actively analysed and organised into four provisional themes. The themes and subthemes were reexamined and assessed for consistency and congruency with the research purpose; it was essential to ensure substantive data was present to support each theme and clear differentiation between the themes before the final naming and defining of themes was undertaken. A description of the resultant themes will be presented in the following chapter.

3.7 Quality

The purpose of this research project was to generate truthful, legitimate, and ethical knowledge that could be recognised as legitimate by both students and faculty (Merriam & Tisdell, 2015). It is essential that the quality of the study can satisfy the readers that the research findings are reliable (Nowell et al., 2017). Several techniques have been used in this study to establish the quality or trustworthiness as described by Lincoln and Guba (1985).

3.7.1 Trustworthiness

The notions of credibility, dependability, and confirmability as the criterion for informing the trustworthiness of this study will be discussed in this section (Lincoln & Guba, 1985). Firstly, drafts of this thesis have been read by two of my supervisors, who have some connection to the medical programme. This contributes to credibility. The researcher has strived to describe the participants' perspectives as clearly as possible using excerpts from the data to demonstrate synthesis of interpretation and description.

Secondly, dependability is related to the consistency of findings; a study is deemed dependable if it is audited. Throughout the study, my supervisors have read my transcripts and interpretations, challenging concepts as they guided me through the process. The progression of the study has been documented through a journal which provides transparency and a rationale for the choices made during the research process.

Thirdly, confirmability is established by an audit trail which provides sufficient information to evidence the data collection and analysis process within the research allowing the reader to validate the conclusions arrived at by the researcher. Verification in the form of supervisor checking has been employed to corroborate the data's accuracy. This study's analysis has been closely supported by direct quotations from the participants.

Fourthly, throughout my analysis, I have attempted to provide a rich description of the student experiences. This was achieved by submerging myself in the data, writing and rewriting as

understandings were made and presenting the participants' perspectives as I interpreted them as the focus of the research.

Finally, I have employed reflexivity throughout the research process, critically reflecting on how my background, assumptions and positioning could affect the research process (Findlay, 2006). I have been honest and transparent throughout the research process so that the data presented in this study is accurate. As Findlay (2006) maintains, it is incumbent on the researcher to demonstrate how they have addressed trustworthiness in their work. It is up to the reader to determine whether the study is credible.

3.8 Summary

This chapter has provided an overview of the study's philosophical approach and research design. Qualitative descriptive methodology has provided the background and framework for the study. The process of selecting participants has been discussed, and data collection and analysis framework has been established. Furthermore, the researcher's positionality, ethical considerations, and methods to establish quality have been clarified. The following chapter presents the study's results and the four principal themes identified in the data. Each of these themes will be defined and described in relation to the research questions, with examples from the text used to substantiate interpretations made.

Chapter 4: Results of the Study

4.1 Introduction

Medical students engage in clinical learning to reinforce, apply and develop their medical knowledge and skills. The move to clinical education is a period of intense learning and development as students begin to undertake a doctor's work. This chapter explores the student experience by analysing students' reflective portfolios. Four principal themes have developed from the analysis: 1) the experience of being a medical student, 2) the experience of being with patients, 3) the experience of being a future doctor and 4) the experience of being a health professional. This chapter will present each theme and the subthemes that have emerged through these reflections.

4.2 The Experience of Being a Medical Student.

> *When you finish 3rd year of medical school, you feel like you know a lot about the human body; however, once you are in a hospital setting, it suddenly feels like you know nothing. Although as we get more and more experience in the hospital, our clinical skills and medical knowledge will become more thorough and fluent. I think this is a very good learning process for medical students to get "thrown" into the hospital and have to learn for themselves to build their own charisma and professional skills.*
>
> ***Leslie.***

Moving from the relatively structured student-focused classroom setting to the unpredictable patient-focused clinical learning environment was a significant milestone in the student's journey towards becoming a doctor. Despite engaging in pre-clinical classes focused on building clinical skills and knowledge, many students felt 'thrown in the deep end' when transitioning into their attachments.

This theme is about how students perceived their role as medical students. It covers the sub-themes of developing a sense of belonging, transitioning into the clinical learning environment, and developing interprofessional relationships.

4.2.1 Developing a sense of belonging

As the students transitioned into the clinical learning environment, they created new routines and practices to ensure they coped with the demands and expectations of clinical learning. Clinical attachments required medical students to engage in new and unfamiliar skills such as participating in ward rounds, learning patient examination skills, learning medical concepts, and negotiating the clinical culture. While it was an absorbing and exciting time for face–to–face learning, students also encountered the challenges of being novice learners. One of these challenges was the structure of the clinical learning programme, which necessitated frequent changes in rotations and specialities to ensure students had experienced a cross-section of clinical contexts. Moving from team to team, the known to the unknown, was stressful and induced pre-rotation anxiety for many.

> *I felt overwhelmed very early on, noticing all the workload there was involved in working as a doctor in a hospital and being attached to a particularly busy team on my first attachment added to the worry.*
>
> ***Jamie.***

Through these encounters, students recognised the need for rapid integration and adaptation to maximise their clinical experience.

> *Settling into a clinical rotation quickly was a skill I'd need to get accustomed with.*
>
> ***Harper**.*

A significant factor for successful assimilation into the clinical learning environment was the feeling of 'fitting in' with the medical team.

> *Not quite knowing where you fit in, how you can help and knowing the appropriate times to ask questions are all things that worry me about entering the hospital this year.*
>
> ***Gabriel.***

When starting new clinical rotations, students tried to 'fit in' quickly. Fitting in was the time taken to adjust to the new team, allowing the student to gain a sense of belonging, feeling supported and accepted by those within the team. Part of the belonging was the need for students to know their place in the team, their expectations, and how they could contribute meaningfully.

My general medicine team was relatively work focused and did not feel like much of a team, I felt as though I was often on the outside looking in and as such, did not have much of an idea about what was going on most of the time. I did not thrive in this environment and was so in over my head that I did not even know whatquestions to ask

Xan.

He asked for my name, shook hands with me, and then proceeded to give me a 'lecture' on what his expectations of me as a fourth-year medical student were. In many ways, I appreciated this.

Ellis.

Learning to be part of a new team included getting to know and understand the idiosyncrasies of the attachment speciality. Allowing the students to become involved with the day-to-day functions of the team enhanced understanding, assisted in confidence building and improved the feeling of belonging.

I was exposed to a new experience that allowed me to clerk patients and present to my seniors on a regular basis. I learned a lot from this experience, and although it was a bit foreign to me at first, I realised it's for the best as it helped me to be more confident and independent.

Jamie.

This team had a very close-knit feeling and the friendly attitude and passion for teaching that some of the doctors had helped me to make the most of my time there.

Xan.

I was actually quite useful to my team and more involved than I have ever been. My team was quite welcoming and made the experience more enjoyable.

Billie.

The students' words above suggested a sense of belonging; in contrast to these experiences, other students have felt excluded from the team or found themselves engaging in imitation behaviours that conflicted with personal values to fit in with the team.

I then came to eventually view myself as someone who was just excess baggage and not an actual part of the team. I found that whatever I contributed to the team was not worth much and that I began to think that I was wasting their valuable time.

Keely.

I felt ashamed and lost, I probably didn't like that I was becoming something that wasn't representative of who I am. The constant belittling of patients as crazy, the poor treatment and lack of empathy for patients with functional pain; the ubiquitous nature of the culture of the department was ingraining itself into me.

Frankie.

Along with the challenge of fitting into new teams, students also felt the pressure of being noticed by supervisors. Supervisors are generally senior medical officers leading a team of clinicians with multiple responsibilities and time demands. Supervisors must submit a report on student progression and competence at the end of each rotation. Finding opportunities to impress supervisors and their role in determining student progression created additional pressure during attachments.

I was also incredibly anxious, given the few opportunities I had to see my consultants and demonstrate my competence so they could fill out my supervisor report.

Ellis. *I was always taught that first impressions count, and, on this occasion, I had failed to make a lasting first impression with my consultant. Furthermore, I was fearful and anxious that my actions had set up a strong negative tone for the remainder on the rotation.*

Harper.

Many students tried to make positive impressions by being what they perceived as the 'good student'. There were differing opinions on what constituted a 'good' student; however, there appeared to be a consensus that they are pro-actively engaged in learning, confident and willing to put in extra effort to assist the team.

From my experiences this year, I think that being proactive and engaged in clinical conversations has paid off. It is not as if I get it correct every time. But I have learnt to back myself; I am now a lot more engaged where I ask plenty of questions and often ask questions about content I had been reading about the night before. This shows the team that not only am I interested in whatever they are doing but am also working and trying to engage with the content independently.

Dale.

One problem I run into while trying to maximise my learning is getting caught up in maintaining appearances. I often feel an obligation to stay and end up wasting time doing tasks where I don't learn much, like writing discharge summaries.

Wallis.

Along with working hard to impress the placement teams, students also felt the pressure of getting things right, whether undertaking new clinical skills or presenting patient cases on ward rounds. There was an underlying need to prove knowledge and competence to gain inclusion and acceptance from supervising clinicians.

I was worried about clinical skills sessions because I felt like I had to be like a medical professional the first time I tried something.

Dale.

I suffered from medical student syndrome where I felt as though I had to say everything. Now I have learnt to focus on 'the money' and have really begun to appreciate that the exam and the history isn't about looking good and showy rather it should be about looking for common signs and symptoms to get a common diagnosis.

Innes.

4.2.2 Transitioning to the clinical learning environment

The transition to full-time clinical medical student proved demanding. I was now a somewhat valuable member of a clinical team.

Harper.

Often, students were learning in clinical contexts dominated by high workloads and clinical targets. Under pressure from workloads, there were times when students completed tasks or clinical skills with little or no supervision. These events challenged students with the conundrum of needing to appear able and competent versus the safety of asking for assistance and supervision. Through reflection, many recognised the importance of knowing limitations and asking for assistance.

The situation I'd been tasked with was clearly beyond my level of expertise. Being able to realise when a situation is out of the depths of your control is a cardinal skill – not only as a healthcare professional but for life. Requesting assistance when assistance is needed should not be viewed as a weakness (as I'd so perceived it) but a strength – recognising where your limitations lie.

Wallis

The uncertainty and unpredictability of the clinical learning environment necessitated students being proactive, motivated, and self-directed in their approach to learning. Students looked to maximise their learning experience by taking opportunities as they arose.

In the clinical environment, learning is self-directed. How much you gain from the year is largely dependent on how much effort you put in. This is a big change from previous years, where the content which needed to be learnt was clearly outlined.

Wallis.

As well as engaging in the work of being a doctor, students needed to find new ways of learning and assimilating the knowledge gained to optimise progression and assist with assessment preparation.

> *My consultant pointed out that I don't really have a strategy to learn things in the present environment and tend to rely on learning in my own time once the dayis over and explained how this can really reduce the number of learning opportunities.*
>
> ***Jamie.***

> *I discovered more and more that the learning style within the hospital is completely different from the typical lecture style, with most of the learning being the result of the repeated exposure to certain courses of action and particular patterns of presentation while being immersed in the clinical environment.*
>
> ***Xan.***

> *I utilised repetition as a learning technique, which I feel allowed me to move from a 'slow thinking' process to a more efficient, slick, and intentional approach, driven by situational familiarity and muscle memory rather than superficial understanding.*
>
> ***Alex.***

Assessment of clinical competence was a new experience for many of the students. Moving from the objective uniformity of academic assessment to the variations and unknown realm of assessing clinical skills was challenging and anxiety-inducing.

> *I find OSCEs to be extremely nerve wracking, and I often experience high anxiety levels in the lead up to the examination. I believe this is generally because of the pressure I place on myself to perform highly, and the 'high stakes' conditions only add to my nervousness and unease. This situation has emphasised to me that my grades, which have always been very important to me in validating my competency, may no longer be the greatest indicator of my success, purely due to the subjective and highly variable nature of the clinical environment.*
>
> ***Alex.***

In this context, not meeting competency is considered a failure, an indicator of not being good enough.

Success is the validation I seek to confirm that the effort I put into my studies is not misplaced, and it is what informs my confidence in the clinical environment. When I fail, although I do tryto treat it as a learning event, I often inadvertently perceive it as a reflection of my current, and future abilities.

Ari.

For students, fear of failing was about the assessment and the potential consequences. Students were concerned about the consequences of failure; would failure limit their possible experiences? Would it alter how they were perceived by the healthcare community or even how they perceived themselves?

I am still fearful of failure in the clinical environment and the consequences that may follow, and I think that it is this fear that drive my internal thought processes. Perhaps my concerns of being judged harshly or penalised.

Casey.

How others in the profession perceived the students was important to them, they wanted to be noticed for the right reasons. Many students found there was a fine line between being proactive without overstepping the mark, which assisted in demonstrating they "knew their place". Through immersion in the clinical setting, students became encultured to the hierarchical nature of medicine. They gained an awareness of their place in the team hierarchy and the expectations of that position.

I am aware of my role within the clinical environment, specifically in relation to the medical hierarchy. I am conscious of the fact that I am a junior, and with this comes an expectation that I approach situations that I do not understand or perhaps do not agree with, with both caution and respect.

Alex.

In addition to knowing their place in the hierarchy, students were also becoming aware of the hierarchy of professions.

Consultant ward rounds trump nurse medication dispensing in the hierarchical sense, as if we were to say "consultant time is valuable therefore we must not allow any delay to the round even if it means taking charts off the nurses and disrupting their day. There have been many times where I have been seeing a patient and the nurse has entered the room to take vitals or give medications. When the nurse has noticed me, I have heard many times over "so sorry doctor I will come back later".

Gabriel.

The impact of time, the pressure of workload and learning new ways of acquiring knowledge influenced the students' learning and skills acquisition opportunities.

A lot of short cuts are taken in the hospital, the pressures of time and failings in the system means best practice is often not achieved, medications are not explained, some patients have no idea what is even wrong with them.

Frankie.

I struggled not only with making the transition from my prior pre-clinical habits to clinical medicine (in terms of how I'd go about assimilating information) but also with the content itself.

Harper.

In addition to time, students also navigated the differences between specialities, this aspect of the hidden curriculum brought to light the idiosyncrasies and professional rivalries that can exist between the medical disciplines.

Since being on the wards I have come to appreciate that there is a lot of knowledge, varying options and implicit rules, expectations and beliefs that are engrained into the clinical culture. Although this is not overtly taught, if you pay attention you will pick up on the general culture and approach to medicine that varies between specialties and clinicians.

Alex.

4.2.3 Forming Supervisory Relationships

Forming relationships with supervisors and colleagues in the clinical environment was essential for the students' learning. As novice learners, students often observed from the periphery and depended on clinicians within their teams to role model professionalism and good practice.

> *Senior consultants, registrars and even house officers have a deceptively large influence on our impression of the hospital and how we interact with our patients.*
>
> ***Dale.***

Developing good supervisory relationships could be challenging for the student and the supervisor.

> *You come to appreciate the importance and pervasiveness of time. It is often our greatest enemy, only affording us single moments to see our supervisors and single chances to make a good first impression. It tempts us to live moment-to-moment and to studyto impress one person. By doing this, we may lose our wider values and purpose for learning.*
>
> ***Ellis.***

While time was a significant constraint for forming effective supervisory relations, other factors such as differences in personalities, communication style preferences or the relative status of each party within the team could impact relationship formation.

> *The real challenge for me this year was being able to communicate properly with most of teams that I have been attached to. This may also stem from the fact that I am someone who I believe is easily intimidated by others, especially those who have very strong and bold personalities.*
>
> ***Keely.***

The quality of the supervisor/supervisee relationships formed could be variable. What was most significant, however, was the impact supervisory relationships had on student confidence and engagement in learning.

My first impressions of him were amicable- he asked for my name, shook hands with me, and then proceeded to give me a 'lecture' on what his expectations of me as a fourth-year medical student were. In many ways, I appreciated this- it soundedlike he would be providing me with opportunities to improve my clinical skills, whilst reassuring me that my lack of confidence and skill at this stage was normal and appropriate.

Ellis.

I was afraid of my consultants and my superiors, and I found this naturally hada huge effect on my performance where I would struggle to perform to my ability.

***Innes*.**

He also encouraged us to learn and participate in the discussion more confidently and gave us quite helpful feedback.

Billie.

Some students found the power dynamics in the supervisory relationships challenging to negotiate, identifying there was almost an acceptance in the clinical environment that subservience and being spoken down to was a rite of passage that students must go through.

Unfortunately,many senior clinicians see this unequal power dynamic as vital to training medical students and trainee doctors, as this is how they trained when they were students. It is difficult to fight this kind of behaviour, especially when your grades or career progression in part depend on impressing this senior clinician.

Gabriel.

Students were encouraged to ask for feedback to assist learning, development and self-awareness from clinical teachers in the middle and end of their attachment. Receiving face-to-face feedback on competence was a new experience for many of the students. Some students found managing their emotional reaction to constructive critique challenging, particularly in a public forum, such as presenting a case to the team. Generally, reactions to the feedback depended on the location, how it was delivered and who was present.

At first when I reflected on this feedback I was quite upset and took it very personally. It really knocked my confidence for the subsequent run and I felt very nervous about engaging with the team.

Casey.

He kept saying that he knew I would rather him be harsh about it as it is better for me in the long run, but I thought that he had no sensitivity to the situation. I have never faced criticism like this before, and it was really difficult to take.

Dale.

As students spent longer in the clinical environment, they realised that receiving constructive feedback occurred at all levels and health disciplines. There was a developing awareness that feedback was a valuable way of affirming strengths in practice and allowing focus on areas requiring further development.

Being on the wards I can see that almost everyone is receiving feedback right from the house officers to the registrars and the consultants amongst themselves. Therefore, it is important to learn how to accept it graciously and use it constructively.

***Casey**.*

*My SMO thought that my history taking skills and professional skills were really good. However, she thought that I had some reservations about my examination skills that need to be improved**.***

Billie.

Forming effective supervisory relationships allowed students to feel supported and included in the clinical learning environment. It assisted in enhancing a sense of belonging as they negotiated the transition into clinical learning and dealt with another significant change in their learning- coming face-to-face with patients.

4.3 The Experience of Being with Patients.

This theme is about how students learn to interact with patients. This section considers how students develop an awareness of the patient as a person, recognise the importance of building relationships and come to terms with the patient end of life.

4.3.1 Patients are 'Real' People

Students entered the clinical learning environment to apply their knowledge to the practice of medicine. As they began to immerse themselves into practice, they came face to face with conditions and symptoms they had previously only read about in textbooks.

> *Patients are conscious, rather than just the sum of the anatomy and physiology we learn about. The facts that I was learning about weren't arbitrary pieces of information. People are suffering from these conditions, some of whom sat in front of me that morning.*
>
> ***Taylor.***

Through observation and interaction with medical teams and patients' students began to recognise that the person with the disease should be the focus of their practice, not the disease itself, making learning more meaningful.

> *I must remember that it is a person with a disease, not a diseased person. The person comes first. I need to reconcile that while we do battle with disease, we do this to provide care to patients.*
>
> ***Frankie.***

> *Seeing how the disease affects a patient also cements the signs and symptoms you see. When you have a real patient that is being affected by a disease, thinking about complications, management and prognosis becomes more meaningful.*
>
> ***Wallis.***

The need to practice skills, apply knowledge and build professional relationships while on placement was critical to the student's clinical curriculum. Each rotation had specific skill and knowledge competencies the students were required to achieve for progression. These prerequisites pressured the students to gain as much experience as possible to complete the required tasks. Students sometimes found dissonance between appearing confident and competent versus being genuine about their experience level to ensure they gained the required experience.

> *Giving off an aura of confidence and competency isn't so important as being genuine and even vulnerable with patients. I found this particularly relevant to me as I often have difficulty remaining confident while performing procedures that I have very little experience with. Because this is such a common*

scenario in my training, I feel being more honest to the patient about my skill, while also assuring them that I will do my best, takes a lot of stress of my shoulders, and will hopefully be beneficial on the long run.

Taylor.

I always tell them that I am not very confident with the exams, but I have found that all my patients have been extremely gracious and understanding. I also generally develop a better rapport with real patients which makes things much less awkward.

Dakota.

Although students had attended clinical and procedural skills labs prior to commencing their attachments, undertaking the skills on 'real patients' added a context that was missing in the simulation phase

We need to learn how to do these skills, so we will need to practice on patients, but it makes me very uncomfortable being so inexperienced.

Dale.

Furthermore, I am trying to learn techniques that will make me a better doctor. This includes clerking in a lot of patients as a means to apply the book knowledge I have acquired and see if I can sort out patients on my own and not simply seeing people with an established diagnosis. This has meant that I have really had to push myself and has improved my history taking immensely as I am aware of what questions give me what information and what questions are ridiculous to ask people in real life that medical school actors often advocate for. As clichéd as it is, patients are a great learning opportunity.

Innes.

Through patient interactions and engaging in reflection, students began understanding how their attitudes and values could influence their approach to patient treatment and care.

We do not have to like everyone we treat, and we certainly do not have to like them in order to believethat their lives are worth preserving.

Ellis.

Everybody responds differently when they feel ill, and as clinicians, it is important that we remember this, and acknowledge where our implicit biases may manifest in our attitudes and treatment.

Ellis.

In contrast to identifying the influence of personal bias on patient interactions, many students also discussed the concept of feeling a connection to the patient. Students generally felt more emotionally connected to patients if they shared similar cultures and personal or socioeconomic backgrounds.

My first response was that of great sadness. This woman was of a similar age to me, and while we were in the same place physically, our lives had brought us to very different places.

Riley.

I think I was particularly affected by her story, as opposed to others, because of her age. 21 years is barely a dent in her potential lifespan. I'm currently 21 and I feel like the world is my oyster. To think that there was no solution, in my opinion, was simply tragic. Imagine being 21 and knowing that youwere inevitably going to die, very soon.

Dale.

Many students found that having a shared connection with the patient made it easier to develop rapport and build a relationship with the patient.

4.3.2 – Building relationships

Learning to build relationships with patients was an essential element of the clinical experience. Students learned the essential skills required to build patient-doctor relationships through observation and participation. They identified the importance of developing mutual trust, building rapport and communicating effectively.

Trust forms a foundation of our interaction with patients and colleagues. Without a sense of honesty, trust cannot be built and without unrelenting trust, the doctor- patient relationship ceases to exist.

Harper.

When building a foundation for mutual trust, students discussed how interactions in the clinical environment had highlighted the importance of considering the patient's perspective. There were many reasons for this observation, for example, dealing with underlying concerns, correcting misapprehensions, checking to understand, or building rapport.

It is important to explore a patient's concerns otherwise we are not aware of the motivations or the reasons that underlie these perspectives that from a medical perspective are poorly formed.

Innes.

Moving forward it will be essential to look at these things through the fresh lens of the patient. This will enable me to provide the empathy that patients deserve. To reconcile the fear, emotivity and bravery of patients and their families.

Frankie.

Through considering alternative perspectives, some students began to appreciate the dilemmas patients may experience with the uncertainty of treatment options and outcomes.

What might happen if I didn't have the operation, what would happen if I did? What if something went wrong during the procedure? What if I react to this medication? What if, What if, What if. There is a resounding fear of the unknown and a strong desire to know the exact consequences of choosing a particular treatment, as opposed to the other.

Dale.

Articulating and discussing patient concerns openly and honestly was identified by students as a cornerstone in relationship building and patient-centred care. Another factor the students

recognised was the need for patients to have autonomy and ownership over their treatment and care.

Being put in positions of power as doctors it is very easy to think we know what's best for those we look after, and this naturally leads to conflict regarding consent and patient rights.

Innes.

I would also remember togive each patient the autonomy to make their decision after giving them the sufficient amount of information to do so.

Billie.

In addition to respecting patient autonomy, students also recognised the importance of being authentic when interacting with patients.

*Above all else, being compassionate and empathetic with patients is vital, even as I develop more knowledge and competency***.**

Taylor.

They recognised that being genuine when interacting with patients assisted in building trust.

My goal as a clinician would be to create a safe environment and rapport with all of my patients, such that they feel comfortable discussing their drug usage with me.

Ellis.

Through observing and participating in patient consultations, many students found they used or copied responses that appeared to work for others as a shortcut or benchmark of appropriateness. The following narrative focuses on patient interactions; one of the students identified that there could be a propensity for using rote-learned responses that could take away from the genuineness of the interaction.

Yet what is clear is that the years of clinical practice and study can leave us jaded- unfortunately, the process of this may have already begun, with 'empathy' becoming a 'tick box' on many of our communication skills assessments, leading to students building up ***an 'arsenal' of empathetic phrases*** *to insert in conversations.*

Ellis.

While the students recognised there was an element of safety in having a range of appropriate responses. The clinicians who interacted and responded to patients naturally, respectfully, and engagedly demonstrated that the patient was the centre of their focus, inspiring the students to nurture and improve these skills.

I have always valued the importance of effective communication, respect and bedside manner. The reason why this experience has stuck with me, is because it is a stunning example of all three skills combined. It is a motivational example of what I could be like if I began cultivating these skills early in my clinical career.

Dale.

Students found that developing good relationships involved investing time and getting to know the patient. Getting to know the patient at times was a double-edged sword, notably when the students experienced a patient's death under their team's care.

4.3.3 Dealing with Death

Becoming connected to the patient allows for vulnerability and you can feel responsible in some way for the patient's demise.

Keely.

The death of a patient under the care of the team the student was attached to generally invoked intense emotional responses, especially if the student had personal involvement in the patient's care.

I definitely saw it as my fault that the patient I looked after passed away. The problem with this perception which took me time to realise is that the outcomes of our lives at least in the field of medicine are rarely based on individual actions alone.

Innes.

While students were aware and accepting that patients die in hospital, the reality of witnessing the experience was shocking and upsetting for many.

I think the hardest part of this situation for me was the fact that I was standing there as the wife was being told her husband had died. Her entire world had collapsed. Seeing her reaction to this really upset me and brought tears to my eyes.

Casey.

There were a flurry of emotions running through my mind, and I couldn't hear myself think because of this. These ranged from shock, to disbelief, to confusion, to anger, and sadness to name just a few. Eventually, the most overwhelming emotion that I felt was that of helplessness.

Jamie.

Following such a significant event, many students were surprised by the low-key response to patient death from colleagues in the placement team. In addition, there was some degree of disbelief that the day continued as usual; death was a routine part of clinical life.

It was business as usual. It is easy to interpret this as a lack of remorse (as I initially did) but I think that I initially missed the point. Death and morbidity are frequent companions in this line of work and an important part of the hidden curriculum, and my career is to appreciate its impact.

Harper.

Just because someone (e.g. the senior members of the team) aren't showing any signs of a death affecting them. It does not necessarily mean that they aren't affected by it and are coping in other ways.

Keely.

Some students questioned their response or lack of emotion when faced with patient death. They needed reassurance that their reaction to the event was normal.

> *I realised then that sometimes it is okay to be unaffected by a patient's death and that it occurs commonly, usually if you are not involved in the care of patients, you do not know that well at all. I was also reassured of the fact that over time as you slowly become more and more responsible for the wellbeing of your future patients, that you may find that some deaths will begin to affect you in the future and can even cause very profound moments of grief.*
>
> ***Keely.***

> *I am concerned about what the emotional detachment I have experienced. I am worried it could lead to a lack of empathy in the future.*
>
> ***Xan**.*

Regardless of the emotion, students recognised the need to balance care and compassion for the patient with a degree of detachment to protect themselves.

> *It would be wrong to think that since I felt distraught that this was a "wrong" way to react, but there are better ways to react as a professional so that we can continue to function in highly charged emotional situations. This is different from being cold and callous but is about having emotional control appropriate to the situation.*
>
> ***Harper.***

For some, this was difficult as they felt it was not a topic they could easily discuss.

> *Emotional control/understanding is an important part of the hidden curriculum, and it is often a taboo topic to discuss with regards to how we react to death*.
>
> ***Innes.***

Those who felt supported in talking about their experience could unpack what a patient's death meant to them and their future doctor practice.

> *I learnt that it is ok to be upset by the things we see in the hospital and that we should. Further to this I learnt how important debriefs are in these kinds of*

situations to talk through your thoughts, get support and to support others. I also learnt that sometimes it may take more than just a debrief and one night for you and your emotions to recover from seeing someone die, but that its ok.

Casey.

4.4 – The Experience of Being a Future Doctor

This theme concerns the students' experience working with and observing doctors in the clinical context. This section will discuss the sub-themes of redefining the role of a doctor, recognising the complexities and challenges involved in ethical clinical decision making and the importance of developing interpersonal skills.

4.4.1 Developing Professional Identity

As the students observed doctors in the clinical learning environment going about their day-to-day work, they began to identify attitudes and behaviours they wished to incorporate into their emerging practice.

Honesty, ownership and ultimately humility aredesirable characteristics of a professional. Observing these traits will not only help me with my own professional development but will also assist me in fostering trusting relationships with my colleagues and patients, as wellas potentially inspiring others to examine their own behaviours.

Alex.

Going forward it is important to reconcile that while consent can sometimes be hard, it is a patient's right to give or notgive, and that inappropriately consenting patients "for their own good" will never do them any good. We will do a lot of things to make our difficult jobs easier in the future, but this is one area I will not compromise on.

Frankie.

Through observation, students began to identify desirable and undesirable attributes and qualities in their practice. In addition, they observed the same difference in traits in the practice of their colleagues and supervisors.

*I appreciate humility is a trait I can definitely aim to incorporate into my practice. It is a desirable attribute as it allows the professional to improve him/herself and acknowledge when he has made a mistake. It takes a lot of Mana to own up to our weakness, but this makes us better doctors as we are able to communicate more effectively***.**

Innes.

This behaviour to me was unprofessional, something I did not expect from a consultant. To me professionalism includes respect of the people you are working with no matter what their position.

***Casey*.**

Exposure to variations in practice and approaches to clinical interventions encouraged the students to consider how they may approach situations seeing themselves as future doctor.

As a future clinician, I intend on becoming the kind of health care professional my consultant is (the one who only asks staff to call him by his first name). I wantfor my ward team to respect me, and to feel comfortable in communicating with me on any matter

Gabriel.

*Once I become a clinician, I believe to show professionalism I need to remain aware of how I treat people, I don't want to become arrogant and intitled by the position I may hold, and I want to treat everyone with respect***.**

Casey.

As a future doctor, I too had a duty,to use my voice and draw attention to his medical negligence in the interest of patient safety.

Alex.

4.4.2 Learning clinical decision-making.

Through observation, students began to become aware of the responsibility associated with doctors' clinical decisions.

> *I had not fully appreciated the weight of the responsibility of choosing treatment options. There is an element of clinical decision-making which we are not taught very explicitly in our undergraduate years, whereby you are making decisions for an individual patient at the same time as making decisions about the just distribution of resources for all the patients.*
>
> ***Riley.***

While students could rationalise the need for fair and equitable distribution of finite health resources when delivering patient care, many had not considered the impact this had on clinical decision-making and the need for doctors to look at 'the big picture 'when considering treatment options. When confronted with this, practice students observed the reality of distributive justice as it applied to patient treatment or non-treatment.

> *Something that I had not really considered before entering the clinical environment, is that there we are functioning as a profession with incredibly finite resources, and a vastly greater need for these resources. So, whilst it might seem harsh, the just distribution of resources would dictate that the patient's bed go to someone with more potential for improvement.*
>
> ***Chris.***

> *Overall this experience made me realise how different perspectives, priorities and how ethical principles play an important role in everyday decision making in the hospital environment. I realised that not only are these things important to consider for individual patient cases but that it is also important to keep in mind the bigger picture that there arelimited resources in the hospital and that these need to be allocated fairly.*
>
> ***Casey.***

A few students described being morally conflicted when they encountered situations where non-New Zealand residents presented for treatment that was not eligible for publicly funded

health care and did not have travel insurance coverage. With no ability to pay for services, these patients could be discharged without treatment.

This case outlines a complex ethico-legal dilemma, where we were faced with a man who required emergent intervention but was not financially able to foot the bill and thus his health, and potentially his life may be lost as a result.

Alex.

The source of funding must also be taken into account in fairness to those who contribute towards the resources – that is; residents who pay taxes. Yet it remains to be said, that New Zealand, by global standards, has far more resources than most, and therefore technically does have the means to help these people. And so, this becomes one of those situations where you must act within the law, even if something about the situation does not entirely sit right with you.

Riley.

Through participation in the learning environment, students learned that decision-making was not always resolved by consensus and could conflict with others' opinions or values.

It is the responsibility of that surgeon, as a specialist in their field, to weigh up all of the potential consequences of intervening and decide which route to take, even if colleagues and patients don't agree.

Dale.

There were instances when students observed situations where the clinical decisions were complex. Exposure to these dilemmas led to recognising that these higher-level clinical decisions incorporated a vast array of skills that would need ongoing development as they gained more experience in the clinical learning environment.

Essentially, the doctors had to make the decision to treat or not, taking into account the family's wishes as the patient's autonomy could not be considered. Making this decision on someone's life is a huge responsibility, not one which is to be taken lightly. It is almost like playing God and I feel uncomfortable if I

were to be left with a decision of that magnitude at this stage. I need to continue reflecting on similar cases and discuss decision making processes with senior clinicians to come to terms with making such important decisions in patient management.

Umber.

In contrast to the responsibility of making definitive decisions about patient care, students were also made aware of the uncertainty that could occur in practice. Doctors did not always know the answers.

As a clinician it is important to be confident in your abilities as part of a team because it means we trust in our decisions and also have the confidence to say when we don't know something.

***Innes**.*

As clinicians, medicine presents us with tremendous uncertainty. It lends itself to being more of an art than an exact science.

Harper.

When faced with experiences where consultants or senior clinicians did not have an answer for a diagnosis or treatment pathway, students began to realise that, as practitioners, they would not always have the answers.

Being a good doctor is to acknowledge when we don't know something as this improves my learning but also patient outcomes. There shouldn't be shame or stigma attached to not knowing something and I have found the best clinicians are those who keep their thirst for knowledge and always appreciate that there is more to learn.

***Innes**.*

The students also encountered situations when mistakes were made in their learning environment. While some students recognised that making mistakes was part of medicine and that ownership of errors and learning from the experience was part of the health professionals' journey, others struggled with this concept.

Doctors make mistakes. This is something that I have struggled to deal with both throughout this year and in the past due to my competitive and perfectionistic nature. I am however improving in this respect and have come to terms with the knowledge that mistakes are normal. Learning from mistakes is one thing but correcting them when they are made is just as important.

Taylor.

In taking ownership of mistakes made as a student, the students needed the confidence to communicate the transgression with patients, colleagues, and superiors openly and honestly. They recognised that building trusting relationships based on mutual respect and honesty required them to develop communication and interpersonal skills.

4.4.3 – Developing Interpersonal Skills

Engagement with patients and observation of colleagues and supervisors in the clinical learning environment exemplified the importance of effective communication. Through these interactions, students began to identify barriers to communication they had not previously encountered and the need to consider how to develop their personal practice to facilitate these differences.

Being aware of these cultural considerations as well as my own implicit biases will minimise communication barriers and foster ongoing relationships, that will allow me to work with my diverse patients to reach an understanding that is culturally sensitive and supportive of positive health outcomes.

Alex.

I think a lot of the meaning of the sentences and descriptions are lost during the translation, regardless of how good the interpreters are at their job. Moreover, sometimes it is hard to express yourself in a different language. Not only is the meaning sometimes lost, but also the rapport. I can see how the consultants try so hard to build the report with those patients through body language and gestures; however, I feel that it is not always enough and as if there is something missing.

Billie.

Disagreements between doctors and patients regarding treatment options tend to arise when there is poor communication. There are often differences in the two party's understanding of what the desired end of treatment is or the probability of benefit.

Dale.

Students also began to identify other aspects of practice where different types of communication skills were needed, such as when communicating with their teams. Briefing teams required concise but thorough explanations when presenting patient cases.

There is a lot of uncertainty in medical practice and being able to succinctly express myself allows the whole team to be made aware of uncertainty in differentials or with regards to patient care.

Innes.

Another challenge the students identified was that each speciality had its communication preferences requiring the students to learn and integrate into practice as quickly as possible.

*The hospital and clinical practice in general is its own subculture with its own preferences for communication, its like a code we have to crack to be one of the team***.**

Dakota.

Having identified that communication and interpersonal skills were fundamental in all aspects of practice, the students recognised the importance of developing and extending this skill set. One way to achieve this was by following the example of clinical role models. Students quickly identified consultants or supervisors they wished to emulate; these clinicians were effective communicators and demonstrated a patient-focused approach to medicine.

Despite this heavy workload, my consultant had an incredible ability to make each and every one of her patients, feel like they were at the centre of her attention, every single time she stood at their bedside. Her voice is both inquisitive and understanding; she has an uncanny ability of getting patients to be honest about their symptoms or their"naughty habits."

Dale.

These role models were genuine in their engagement with patients, and interactions focused on building a rapport based on trust, empathy and compassion.

> *While empathy doesn't receive much attention, it actually has a huge, measurable effect on patient outcomes. So above all else, being compassionate and empathetic with patients is vital, even as I develop more knowledge and competency.*
>
> ***Taylor.***

Students also realised that empathy and compassion could extend beyond the patient. One student discussed when the team supported a family in coming to terms with a loved one's prognosis.

> *When the interests of the family and patient clash, we were always taught that we were to prioritise the patient. However, the consultant seemed to be going against this principle. After some reflection, I realised that over the last few days the patient had been mostly unconscious and that supportive care we were providing was not for the patient's comfort, but for the family. It was to show the family that we had not completely given up.*
>
> ***Wallis.***

There were also times when students observed or experienced superiors engaging in difficult conversations, some of which could be personally confronting or conflicting for the parties involved.

> *For me, this was a very difficult consultation, and being naive and very new to the clinical environment, my first emotive response was to feel exactly what the patient was feeling – that is frustration and anger towards the consultant and feeling betrayed that this is all the potential I would be afforded.*
>
> ***Riley.***

> *This was easily the most difficult consultation this year. I have been in many consultations where the patients were delivered bad news. Cancer, death of a loved one, while all difficult conversations they were nowhere near as emotionally taxing as this case. I found myself unable to look at the patient and instead staring at the floor in silence. It was painful to watch a young girl pleading for her life and being repeatedly denied.*
>
> ***Wallis.***

Exposure to confronting experiences highlighted the necessity for developing conflict resolution skills as a health professional.

> Resolving conflict does not have to involve unnecessary bloodshed. It is the sign of true professionalism when you are able to de-escalate a situation efficiently without hurting both parties and reaching a mutual resolution.
>
> ***Innes.***

4.5 The Experience of Being a Health Professional.

This theme is about the student's experience of learning to be a health professional and explores the students' experience of developing clinical professionalism, growing resilience, and reflecting on practice.

4.5.1 Redefining the role of a doctor.

Although students were aware of the role of a doctor in diagnosing and treating disease, working in the clinical environment gave them an appreciation that biomedical concerns were only part of the patient's complexity.

> *So far this year, a large proportion of my study and focus has been geared towards the immediate medical care of patients. On the first day of my Geriatrics rotation, my consultant asked me to personally take ownership over Mrs. P's management as part of my long case history assignment. I was stunned at the surprising lack of medical input she required.*
>
> ***Harper.***

Exposure to clinical learning illustrated to the students that, as doctors, there was a responsibility to consider the psychosocial aspects of patient well-being when making treatment decisions/ recommendations.

Doctors are ultimately in charge of a patient (from admission to discharge) and must oversee ALL aspects of apatient's care (which may encompass difficult and conflicting personal and social factors that maynot allow a patient to be discharged home.

Gabriel.

We didn't want this patient to come to any harm by being sent home over the weekend with insufficient help.

Casey.

Her biggest fear with this was her finances and how she would cope with requiring long-term rest-home level care.

Harper.

They also discovered that there were times when as doctors, they may not treat a patient or advise against treatment. For many students, this was confronting and not an aspect of clinical practice they had previously considered.

The first time I heard this discussion I was taken aback. I was not aware that doctors advise patients of discontinuing their haemodialysis, given that without it these patients would die within several days to a weekand and initially wondered if this was ethical.

Casey.

It was difficult to stand by and do nothing while the patient was so distressed and there was a clear benefit to the patient in stopping his distress.

Umber.

4.5.2 Developing coping strategies

Learning through experience required the learners to deal with change, adapt to new contexts and deal with adversity while continuing to develop professionally. The ability to 'bounce back' was a skill many students identified as necessary but sometimes challenging to enact.

I have never faced criticism like this before, and it was really difficult to take. But it was beneficial because I learned how to take criticism, and I know I will face it frequently in my career. At the time I was so surprised by what he was saying that I couldn't say anything back, but hopefully the next time I find myself in a similar situation I will say what I am thinking.

Dakota.

This was the point at which the situation surpassed my capacity for resilience. I told the registrar that I did not feel well, and he said I should go home. I managed to fight back tears until I was out of sight and earshot of the team, and broke down.

***Innes**.*

Learning to manage experiences was challenging and required the student to recognise the need to develop coping strategies.

It highlighted the importance of having coping strategies for when things do go wrong and how to cope with exhaustion and maintaining relationships.

***Casey**.*

Bottling up my inner frustrations was not a healthy coping mechanism by any stretch. It simply led to unnecessary stress, tension and worry which negatively impacted on my already distressed state of mind. Channeling my thoughts to focus on my purpose in times of distress has really helped me to prioritise and be more efficient with my time management in both my professional and personal life.

Jamie.

Overall, what I took away from this, was the realisation that even at the most senior level, there will be circumstances that surpass your capacity for resilience; circumstances wherein no amount of emotional maturity can equip you to uphold an adequate level of professionalism.

***Riley**.*

One of the ways students found effective in unpacking the experience and making sense of it was through reflecting on their practice.

4.5.3 The Value of Reflection

At the end of each run - somewhat like a tradition - I now allocate time to lie down in my room and reflect on my experiences. With a notebook in hand, I write down the positive and negative parts of my run. By writing it down and objectively reflecting, I can visualise the skills I should implement and the bad habits I should avoid. I actively try to expose my "hidden" curriculum.

Dale.

Reflecting on experiences through portfolio submissions allowed students to develop personal insight and awareness of their practice and responses to the clinical context.

I witnessed an event that motivated me to reflect on my personal approach to addressing mistakes and failures within the clinical environment.

Alex.

Not ignoring my feelings means realising that talking helps me to deal with the emotional stress of clinical practice and appreciating that different people have different ways to deal with the emotional baggage of the job.

Innes.

An overwhelming long-term weakness of mine had always been a lack of awareness and insight, especially in realising when a situation was clearly beyond my scope of control, as had been the case here. The realisation that my previous coping mechanisms were no longer feasible had me stumped.

Harper.

After having spent time deconstructing this personal fear, I have realised that it isn't "failure" itself which affects me the most. What hurts is when I have invested energy, time, effort and passion into something, and I don't have the results to show for it.

Dale.

Through developing self-assessment skills and acknowledging strengths and weaknesses in practice, students could consider future actions and responses to guide their professional development.

This determination to be "the strongest" or the best was just a temporary coping mechanism which took me away from the emotional realities of clinical practice. I was missing the whole point of this learning opportunity. Escaping the pain by shutting my mind off to the real problem did me no good.

Innes.

From my experiences this year, I think that being proactive and engaged in clinical conversations has paid off. It is not as if I get it correct every time. But I have learnt to back myself; I am a professional, intellectually capable, young person, who is going to be a great doctor.

Dale.

What I learnt from this experience moving forward, is that the ethical decision is not always the emotive decision. This is something which as a professional I will have to bear in mind, as I know from this interaction and several others, that I am a very emotive person.

Riley.

4.6 Summary.

The findings of this study were divided into four major themes (being a student, being with patients, being a future doctor, and being a health professional), providing a rich insight into the experiences that influenced Year 4 medical students' learning and development in the clinical environment. The experience of being a medical student discussed the need for students to feel like they belong to the medical community of practice. It identified the need for guidance and support as they found their way in the clinical context. Being with patients focused on the need for students to build relationships with patients. The findings demonstrated that patient interactions can be complex and evoke various emotions in the students. The third theme focused on the experience of being a future doctor and described

how the students learned a medical professional's skills, attributes and behaviours through role modelling and professional identity formation. The final theme concerned being a health professional, the responsibilities of the doctor's role and the importance of reflection for personal and professional development.

Chapter 5: Discussion

This chapter will discuss the outcomes of the study. It will examine the findings in the results relative to existing literature and the research aims. After exploring the identified themes, the key findings will be summarised, study limitations identified and recommendations for future research will be provided.

This study aimed to identify the experiences that influenced medical students' personal and professional development during the transition to clinical learning. The study's results demonstrated that the student's learning and development experiences are multifaceted. The main themes identified are the experiences of: 'being a student, 'being with patients, 'being a future doctor and 'being a health professional'. Three overarching skills further connected these themes, namely dealing with uncertainty, building relationships and building resilience, that could facilitate a successful transition to clinical learning. These skills are essential aspects of physicians' professional development and contribute to patient care, teamwork, and self-care. (Clark, 2009; Lown et al., 2015; O'Riordan et al., 2011).

5.1 Experiences Influencing Personal and Professional Development

Evaluating experiences identified by students as evidence of their personal and professional development through portfolio reflections formed the foundation of the study. Twenty portfolios of Year 4 medical students across five learning domains were analysed using a thematic analysis approach. Four themes were identified in the data, predominantly relating to the experience of being instead of doing. Being experiences focus on the dimensions of self, including how individuals perceive themselves and understand who they are. In contrast, doing experiences focus on knowledge accumulation, clinical skills and competency.

5.2 Theme 1: The experience of being a medical student

5.2.1 Developing a Sense of Belonging

This study demonstrated the importance students placed on fitting in; it was essential for their confidence, ongoing development and well-being to feel like they belonged. 'Belonging' to the students meant fitting in, carrying their weight, being helpful and feeling like they were adding value to the placement teams. An essential part of fitting in with the team was working alongside the medical team to learn the language and culture of the CoP. Atherley et al. (2022), who conducted research on socialisation during the transition to clinical learning, emphasised the necessity of socialisation for successful professional development and stated that this aspect of practice challenged many students. The findings of this study were in line with this analysis. Working and learning with the medical team helped the students assimilate the attitudes, behaviours and values in the context of their placement speciality, which assisted with feeling included (Cruess et al., 2014; Sellberg et al., 2022). Some students, however, found this aspect of practice challenging.

During integration into the workplace, students in the study spent a significant amount of time observing doctors at work and practising skills as the opportunities arose; as they became more confident and competent, they began to participate more fully in the team's work. For the students in the study who were more cautious or passive in their approach to experiential learning, gaining equitable learning opportunities was more challenging. This challenge extended to two students in the study from ethnically diverse backgrounds, where standing back and waiting to be called on is considered the norm. Whether these were isolated incidents or indicative of a more significant issue, the findings indicate that further work is needed to educate faculty, clinicians, students and the wider health professions on cultural variations in perceptions of professionalism and professional behaviours. Jha et al. (2015) study of the literature reinforced these recommendations, further advocating that faculty should be orientating international students to the expectations of professionalism in the local

social and cultural context. Educating students on cultural differences and their impact on their workplace experience could be one way to empower culturally diverse students to engage.

The results of this study reinforced existing literature findings that how well students fit in directly affects learning and development; students who feel they belong are more likely to be comfortable seeking developmental opportunities (Atherley et al., 2022).

5.2.2 The importance of knowing roles and expectations

Students had diverse experiences when starting new rotations, affecting their transition into the workplace and their ability to focus on learning. In the current study, the students who received clear outlines of roles, expectations and orientation were more enthusiastic about engaging in work experience, asking questions and focusing on learning the clinical skills and knowledge required. In contrast, other students found that lack of direction, guidance or even orientation left them confused and unsure about the work to undertake and the required learning. There appeared to be various reasons for this discrepancy in experience, predominantly centred around the team's workload. Although disappointing, this was not an unexpected outcome. It is consistent with existing findings in the literature, emphasising the importance of outlining roles and expectations to ensure students can focus on their learning and development (McKee & Markless, 2017; O'Brien et al., 2007). Transitioning to the clinical learning environment can be highly stressful as students face various uncertainties (Rudland et al., 2022). Clinical training sites need to develop clear guidelines and expectations to ease students into the new learning environment.

5.2.3 Knowing When to Ask Questions

Engaging in authentic clinical skills and tasks with patients improved student confidence and enhanced ongoing development (McKee & Markless, 2017). One of the students in the current study wrote about being responsible for clerking a patient and presenting their findings to the team regularly. They reflected on how the process was strange for them initially, but it helped their confidence and independence as they continued practising. However, one of the

challenges medical students faced was gauging when it was appropriate or inappropriate to ask questions or participate in learning opportunities. Wenger (1998) defines this as situational judgement, a skill that develops with experience and immersion into the workplace. However, how does this apply in a teaching hospital context? When working with superiors, it is not uncommon for students to hesitate to ask questions that may demonstrate deficiencies in their knowledge or fear of asking 'stupid questions.'(Colenbrander et al., 2020). The students in the current study who felt part of the medical team had less trepidation in asking questions to extend their knowledge. In contrast, the students that did not feel included or able to contribute withdrew from active participation, inhibiting their professional learning and development. These outcomes supported literature findings that undertaking the work of a doctor gives legitimacy to belonging to a CoP and creates a sense of belonging (Sellberg et al., 2022). Therefore it is vital to empower students to recognise learning opportunities and proactively engage in experiential learning (McKee & Markless, 2017).

5.2.4 Learning to be self-directed

In the portfolios analysed for this study, it was evident that students reflected on the differences between pre-clinical and clinical learning and considered how the new learning environment might require different skills to achieve their desired outcomes.

Given the relatively unstructured and opportunistic nature of the clinical workplace, students wrote about being encouraged by supervisors, educators and colleagues to be proactive and push themselves forward to maximise developmental opportunities. Students who were confident, assertive, and communicated well felt that they had an advantage in the clinical learning environment; they appeared to find it easier to integrate into the team, gaining opportunities for novel experiences over those of their peers. Several factors could contribute to this; for example, does the clinical culture perceive and reward those that appear confident and willing to engage as more interested? Alternatively, is it because it takes less effort in a clinical culture that is time and resource-poor to engage those that seem interested? What is evident from the literature is that this phenomenon is not isolated to the New Zealand context

but has also been noted in international studies (Atherley et al., 2022; Sellberg et al., 2022). The move from a student-focused and directed learning environment to an opportunistic patient-focused environment was challenging for many students in the current study. Students had to engage in experiential learning and be self-directed to develop and progress in the workplace. Entering the clinical setting, the students felt armed with knowledge from their studies. However, when confronted with applying that knowledge to practice, many students found it challenging. Finding new ways to learn and assimilate vast amounts of often disconnected information was particularly challenging. As a result, the students recognised that they needed to develop different strategies to assist them in learning and applying the required knowledge. One of the students in the study preferred the 'see one, do one' approach to learning, followed by a debrief with their supervisor (Rodriguez-Paz et al, 2008); others preferred to be coached through the process as supervisors talked through their approach to a particular skill (McKimm and Swanwick, 2013). The advantage of supervisors talking through their thought processes as they teach clinical skills is that it allows students to understand the thoughts and rationale behind the procedures. The preferred learning strategy employed by most of the study students was to repeat clinical skills to reinforce learning (Bosse et al., 2015). The students found that repetition and feedback assisted in developing and extending their practice, transitioning from a slow approach to an efficient and intentional approach when engaging in clinical skills.

Another frustration for some students was observing the variation in approaches for the same clinical skill. Recognising that there was more than one way to learn or undertake procedures gave the students options for assimilating knowledge and demonstrating capabilities, influencing their ongoing development. However, this may also be unsettling for some students as they expect only one way of doing things, possibly caused by how they have been assessed academically in the pre-clinical learning environment (Malau-Aduli et al., 2020). In many instances, applying theoretical knowledge to practice necessitated students reframing how they learned and applying that knowledge in a real-life context. Additionally, due to the

self-directed nature of the learning, students struggled with determining the topics to study and the depth required to prepare for daily practice adequately (Malau-Aduli et al., 2022). The challenges encountered have been well documented (Berkhout et al., 2016; Cho et al., 2017; Malau-Aduli et al., 2020). Results from the study confirmed that developing self-direction skills are essential for students to explore and reconcile as part of their ongoing personal and professional development.

5.2.5 Coping with Change

The clinical schedule required the students to attend multiple placements throughout the year. Initially, most students found coping with the change between clinical placements stressful and challenging. Moving between specialities meant that the students who had developed clinical skills and familiarity in an area of practice had to begin the socialisation, learning of implicit rules and integration process with a new team. Some students found that as they developed their clinical experience, they could increase the transferrable skills and knowledge they could take from one placement to the next, making the transition easier. However, this was not the case for all students. These findings align with those of Teunissen and Westerman (2011), who contended that medical educators are responsible for assisting students in developing coping skills for maximising learning opportunities (Atherley et al., 2019).

5.2.6 The impact of supervision

This study has highlighted the marked influence that the relationship students develop with their supervisors has on their learning. Spending time with supervisors allowed students in the study to verify and extend their knowledge and practice, which is crucial for their development. Gaining time to be with supervisors often proved challenging for the students due to the workload and demands of the clinical context, resulting in a variation in the relationships' quality. There were times when students were instructed to undertake clinical skills they had not performed on 'real' patients' without adequate supervision due to either workload pressure or inaccurate perceptions of the student's abilities. The impact of this

situation could be a positive learning experience if the student managed it on their own however if they were unsuccessful, it had the potential for unfavourable outcomes for both the student and the patient. This experience illustrated the need for effective supervisory relationships where the supervisor checked the student's capability or the students, were confident and comfortable enough to articulate their limitations (McKimm & Swanwick, 2013).

The supervisory style also played a significant role in how students in the study engaged in learning. Some students encountered supervisors who made a bad impression with their approach to supervision. These supervisors tended to speak down to students and expected subservience from 'underlings'. As a consequence of this style, the students tended to limit their engagement in learning, doing enough to fulfil the requirements of the rotation but no willingness to extend beyond. This finding paralleled Sellberg et al. (2022), who spoke of students distancing themselves and lacking confidence in the supervisory relationship., and underscores the impact that supervisors can have on the learning experience. The findings from the study supported evidence in the literature recognising the importance of the relationship between students and supervisors in supporting professional development (Kilminster & Jolly, 2000; McKimm & Swanwick, 2013; Sellberg et al.,2022). The supervisor's role in assisting development extended beyond facilitating learning opportunities and clinical knowledge to developing professional attitudes and providing feedback to inform developing practice (McKimm & Swanwick, 2013).

5.2.7 The Impact of Feedback

Students in the study received feedback on their performance and progression during their placement. Although they were aware of the purpose of feedback to inform their progress and identify areas of improvement (Burgess et al., 2020), their reaction to receiving feedback varied. While positive feedback assisted in developing their confidence and reinforcing their progress, critical feedback on areas of practice that required attention or further development met with mixed reactions. One of the students in the study reflecting on a feedback experience recognised that they had taken the constructive feedback personally, which had influenced not

only their hesitancy in engaging with the team but also had detrimental effects on their confidence. The reflection did not disclose the reasons for the student's response to this experience. However, it could be due to many factors, such as; where the feedback was given, who was present and how it was delivered (Burgess et al., 2020). Reviewed literature further suggested that adverse reactions to feedback often occur when there is a misalignment between how recipients perceive their performance versus actual performance (Bakke et al., 2020; Burgess et al., 2020). These findings demonstrated that feedback has a dual purpose in the student's personal and professional development; to improve performance and to promote self-assessment and reflection on practice (Burgess et al., 2020). Students must be open to hearing and acting on feedback to optimise their learning and development (Bakke et al., 2020). To support students viewing feedback as a developmental tool, it appeared evident that students should experience feedback before transitioning to clinical learning.

5.3 Theme 2: The Experience of Being with Patients

5.3.1 Patients are 'Real' People

Coming into contact with patients was perceived as the best part of the clinical learning experience for the students; it was the reason they were there. Face-to-face contact made learning real; talking to patients allowed them to link signs and symptoms to pathologies and see the impact of illness on people's health and well-being. For many students, this contact assisted in integrating theoretical knowledge with the patient and their clinical presentation and made learning easier. Similar to the findings of Bell et al. (2009), students in the current study found that many patients were willing to be open about their condition and its impact on themselves and their families, giving them a holistic perspective of illness missing from the textbooks. In addition, many patients were quite open to students asking them questions about their condition that students may not have asked their supervisors. Students reflecting on their experiences spoke about learning from patients, not only about patient history or clinical

examinations but also about the broader implications of illness. These findings aligned with Bleakly and Bligh's (2008) call for medical education to promote collaborative learning between patients and students to gain knowledge. Although there appears to be a lack of clarity around the definitive educational outcomes of real patient learning (Bell et al., 2009), the developmental benefits gained by students in the study demonstrated the value of learning from patients. These benefits included growing confidence, developing observation and listening skills, gaining clinical knowledge, applying theory to practice and assisting the students in identifying the need to build trust and rapport with patients.

5.3.2 Building relationships

During their observations of patient-doctor relationships, students began to explore their understanding of what constitutes a good patient-doctor relationship. In the analysed portfolios, students in the study had identified the attributes required to build strong relationships through observations in practice. Attributes such as honesty, respect, authenticity, and building trust when forming relationships were the qualities many wanted to develop in their practice. Students' reflections identified how the clinical context's impact could influence patient interactions. Low staffing, high workloads, and the pressure of time could significantly impact patient interactions, resulting in a disconnect between doctor and patient. Students in the study witnessed this disconnect manifest in various ways, patient confusion and noncompliance, which conflicted with them and reinforced the importance of the quality of the patient-doctor relationship in determining health care quality (Ha & Longnecker, 2010).

As students began establishing relationships with patients on the ward and assuming responsibility for basic patient care, they felt more invested in their learning. This finding is comparable to Suikkalaet al.'s (2021) study of nursing students, who found that developing meaningful patient relationships can foster professional confidence and assist with competence. As the confidence in establishing relationships developed, students in the study became more aware of the patient's perspective. The students spoke of the benefits of learning to explore the patient's concerns to understand the motivations informing the patient's

apprehension. By listening to patients' concerns, students in the study validated the patient's position and reinforced their commitment to establishing relationships based on trust and mutual respect. Promoting doctors who can respect alternative perspectives and build authentic, trusting relationships with patients is critical in a patient-centred clinical context (Ha & Longnecker, 2010). Therefore, students must be given the time and opportunity to work on developing the skills required to build effective relationships. Building authentic relationships take time and a genuine desire to get to know an individual; it also requires an investment of self by the student.

5.3.3 Dealing with Death

One of the most challenging events the students encountered was the death of a patient. This experience provoked intense emotions and distress for many of the students. For one student who was directly involved with the patient, the connection made them feel vulnerable and, in some way, responsible for the patient's demise. The principal challenge for the students was learning to deal with their emotions and remain professional as they saw modelled in their colleagues and supervisors. Experiencing death made the students aware of the need to look after their well-being, finding a balance between emotionally protecting themselves and remaining compassionate to patients (Smith-Han et al., 2016). Furthermore, Smith-Han et al. (2018) suggested that the death of a patient changes the student's approach to medicine with the recognition that not everyone can be cured. This finding was not evidenced in this study but had definitive implications for students' personal and professional development that could be explored further.

5.4 Theme 3: The Experience of Being a Future Doctor

5.4.1 Developing Professional Identity

Working alongside clinicians allowed the students to learn doctors' professional knowledge and shape their professional identity. During the transition from pre-clinical to clinical learning, the student's professional identity constantly evolves as they engage in daily clinical activities (Jarvis-Selinger et al., 2019). In the current study, the students preferred to work alongside supervisors or clinicians they perceived to have exemplary practice valuable for their future practice. Similarly, Jarvis-Selinger et al. (2019) found that when students conceptualised their future selves, it was modelled on doctors they had encountered in practice. Given students' tendency to form their future identity based on positive role models, they may choose to emulate less desirable behaviours. To assist in identifying these behaviours, reflective practice has become prominent in medical education for evaluating self-awareness and professional development and promoting lifelong learning (Hargreaves, 2009; Schrempf et al., 2022). When reflecting on professionalism, students in the study demonstrated they had the awareness to identify desirable and undesirable traits in their practice and that of their colleagues.

5.4.2 Learning clinical decision making

As students spent longer in the clinical setting, they began to appreciate the responsibility of being a future doctor and the complexity of the issues they would need to learn to navigate as a medical professional. In their reflective portfolios, some students spoke of 'the huge responsibility' of 'playing God', feeling daunted that they would eventually need to take this responsibility. Students in the study had a theoretical understanding of the doctor's responsibility to ensure the equitable distribution of resources. However, the reality of how this impacted patients conflicted with many of the students in the study. These internal conflicts often occurred when personal values, for example, feeling responsible for treating all sick individuals, were challenged by organisational or legislative determinants of who was

eligible to receive treatment. Students also observed that challenges to personal and professional beliefs could occur within teams when there were differing opinions on the decisions needed. Overall, students in the study recognised the importance of developing clinical decision-making skills for future practice; however, no strategies for developing these skills were reflected in the data. As students engage in clinical learning, supervisors must discuss how decisions are reached and the knowledge that informs the process (Grant et al., 2017). This will allow students to develop foundation knowledge on the clinical decision-making process

5.4.3 Developing Interpersonal Skills

Working alongside clinical teams allowed students in the study to present patient cases to the team. The skills required to communicate in this setting differed significantly from those required to communicate with patients. Students in the study initially found it difficult to be succinct in their precis and, for some, intimidating as they were at the bottom of the knowledge hierarchy within the team. Overcoming the desire to cover all the bases when presenting to the team compared to the risk of offering essential information and differentials only was a big learning curve for the study students. Being able to articulate clinical information clearly and succinctly is a crucial skill for doctors. The need to be able to relay relevant information to a team in emergency situations has led to the development of various structured communication tools in the clinical setting. One of these tools is SNAPPI which is an acronym for: Stop; Notify; Assessment; Plan; Priorities: Invite Ideas (Weller et al., 2014). Students would benefit from learning structured communication tools, such as SNAPPI, to improve their ability to communicate effectively, which in turn may also reduce their anxiety when asked to present in front of the attachment team (Weller et al., 2014).

There were times when students in the study were observers of difficult conversations. In the clinical context, these conversations were predominantly about diagnosing a terminal illness or the prognosis following diagnosis or treatment. Students in the study found these conversations confronting and emotive as they witnessed the patients' reactions to the

information. Interestingly the student's reflections were focused on their emotional response to the patient's reaction as opposed to the doctor's role in breaking the news as they were not directly involved in the conversation with the patient. Despite this, the students in the study felt awkward and unsure of what to say and how to act. Delivering bad news is one of the most challenging duties doctors must undertake; these situations require complex communication in highly emotive environments (Monden et al., 2016). Developing an understanding of strategies to approach these situations may help assist students as they observe and participate in these experiences.

Students in the study understood the importance of effective communication in building relationships with patients; however, there were times when communication was compromised. Some of these challenges included patients who could not speak English, those with cognitive impairment and those who had impaired communication due to medical conditions. Engaging in consultations where communication barriers were present demonstrated to the students that they needed to develop strategies to meet the diverse needs of their patients. At times, students were conflicted by the disparity in consultations when communication barriers were presented; for example, one student discussed how meaning appears to get lost even when using interpreters during consultation. Patients with communication barriers can often be marginalised in the healthcare setting due in part to the pressure of time and available resources, which increases their risk of preventable adverse events (Hurtig et al., 2018). While students in the current study could understand time constraints in the clinical environment, they still perceived it was their duty to communicate effectively; it was just unclear how they would go about this. The number of students who spoke about cultural and physical barriers to communication could indicate a gap in the clinical programme or indicate finding an experience to fulfil the cultural competence criteria of the personal and professional portfolio.

5.5 Theme 4: The Experience of Being a Health Professional

5.5.1 Redefining the Role of a Doctor

Working alongside doctors allowed students in the study to identify aspects of practice they were unaware would form part of their role. While the students knew the doctor's responsibilities in diagnosing and treating illness, many were surprised by the psychosocial considerations doctors evaluated when making decisions and recommendations on a patient's care. The role of a doctor was more diverse than students had anticipated; for example, learning how to negotiate often challenging personal and social circumstances. At the same time, ensuring the patient would be safely cared for on discharge and booking district nursing to change dressings. Exposure to these experiences highlighted the scope of the doctor's role and the social responsibilities that came with being a medical professional. Learning in the clinical setting affords students this new knowledge which helps them gain insights into their role as future doctors.

5.5.2 Developing Coping Strategies

The current study analysed students' reflections over the first year of experiential learning in the clinical setting. During this time, students encountered experiences that tested their coping ability increasing stress and anxiety. There were a wide variety of experiences, such as large workloads, long hours, inability to find time to study, the concern about assessment and learning clinical skills that all contributed to many of the students feeling overwhelmed. The detrimental impact of prolonged stress and anxiety on medical student health and well-being is well-documented in the literature and is a cause for concern (Ludwig et al., 2015; Moir et al., 2018). The medical school faculty has proactively implemented a health and well-being component into the personal and professional skills domain. The influence of these sessions was apparent in the student's reflections as they identified the need to develop coping strategies to deal with the challenges of transition. While many students identified the need for coping strategies, very few appeared to implement them. The study findings indicate that

students need continued support to develop effective coping strategies during the transition to clinical learning.

5.5.3 The Value of Reflection

The students in the study were required to engage in reflective practice as part of their summative assessment in the personal and professional skills domain. Through engagement with the portfolio as a learning tool, the students developed personal insight into their emerging practice and unpacked significant events to make meaning of their experiences. It was not uncommon for students in the study to use reflection to unpack the grey areas of practice, such as assisted dying. Considering the perspectives relative to their values and beliefs enabled the students to identify their positionality on challenging aspects of practice. This application of reflection is an example of the value of reflection as a crucial tool for personal and professional development (Artioli et al., 2021).

Exploring their feelings or reactions to experiences allowed many of the students in the study to develop their growing self-awareness and identify areas of strength in their practice and areas where additional attention was required. Additionally, reflection assisted the students in deconstructing experiences to consider alternative actions or responses for future practice. Grant et al. (2017) maintain that the ability to use reflection to inform development and change practice transforms the learner into a practitioner; this premise forms the foundation of using portfolios to demonstrate evidence of development.

Despite being a compulsory component of the clinical programme, there was an apparent disparity in the level of engagement in reflection demonstrated by the students in the study. The students who embraced reflection to explore their experiences demonstrated depth in their work; they used a critical approach, considered multiple perspectives and unpacked preconceived ideas and personal biases. In comparison, the students who were not invested in the process lacked depth and criticality in their approach and submitted enough to meet the submission criteria.

It is evident through the student reflections in this study that the reflective portfolio is fufiling its role in assisting students' personal and professional development, preparing them for their role as future doctors. The challenge for the faculty is to engage students reluctant to fully embrace the reflective process.

5.6 Critical skills for Negotiating the Transition to Clinical Learning.

Three critical skills have been identified across the four themes identified in this study. The skills were identified through the implications of the student's reflections and are: learning to deal with uncertainty, learning to build relationships and building resilience

Through an analysis of the results, it is evident that the students are learning to deal with uncertainty. This was demonstrated through challenges coping with change, unclear expectations, hesitancy in seeking learning opportunities and concerns with self-directed learning. Although uncertainty is inherent in medicine, the ability to tolerate uncertainty is crucial for medical practice (Patel et al., 2022). Given the nature of uncertainty in practice, it is evident that there is a need to support or provide strategies to assist with managing anxiety.

During the transition to clinical education, students are learning to build relationships in all facets of their experience with patients, colleagues, supervisors and the broader healthcare community. It is clear from the findings in the study that students require additional support in this area of practice, which was evidenced by the challenges students faced in developing effective supervisory relationships and having the time to build trusting relationships with patients. It is vital to support students in learning to build effective relationships as developing medical professionals.

Resilience is the final critical skill identified in the study that students need to assist with their transition. In this study, resilience is the ability of the student to take on board feedback or constructive criticism and bounce back. The need for building resilience was demonstrated in

the study through; adverse reactions to feedback, dealing with a critique on competence and dealing with adversity.

The research findings have demonstrated an opportunity for the faculty to promote critical skills for transition through the following recommendations.

5.7 Recommendations for Helping Medical Students Transition to Clinical Learning

5.7.1 Near-Peer Coaching

Students entering the clinical learning environment need additional support and strategies to develop the skills that will assist in easing the transition. Near–peer coaching is when students a year or two ahead guide student development (Yap et al., 2022). The rationale for introducing this strategy is that having recently experienced the transition process, near-peer coaches can better understand and relate to the students. Evidence in the literature suggests that near-peer coaching is mutually beneficial for students' and coaches' personal and professional development as it allows the coaches to develop their teaching and communication skills (Ramani et al., 2016; Yap et al., 2022). Consideration could be given to either one-to-one coaching or group coaching. An advantage of group coaching is that it encourages students to become comfortable in discussing difficult or challenging experiences with peers, providing feedback and support in a safe environment. Additionally, vocationally trained doctors must participate in peer group reviews as part of the recertification process (MCNZ, 2022). Therefore, introducing this concept at the undergraduate level has benefits for ongoing personal and professional development.

5.7.2 Small Group Teaching for Personal and Professional Development.

Although students undertake the pre-clinical skills and classes in personal and professional skills to prepare them for their transition to clinical learning, they occur in a decontextualised setting with students with minimal clinical engagement experience. Students need to be aware of these concepts before engaging in clinical learning; however, the content lacks reinforcement of context, in essence remaining theoretical as opposed to applied learning. There would be a benefit in having regular protected small group teaching time when students are in the clinical learning environment to focus on explicitly teaching personal and professional skills courses. Revisiting the content covered in pre-clinical skills classes, now that students have experience and frames of reference, will give the content relevance allowing the students to discuss and expand personal and professional development. Utilising the spiral curriculum approach, the teaching sessions should be designed to keep revisiting core concepts and increasing complexity as understanding grows (Harden, 1999).

5.7.3 Developing Reflective Capacity

The study's results aligned with the literature that reflection is essential for medical practitioners (Grant et al., 2017; Mann et al., 2009; Uygur et al., 2019; Wald et al., 2009). However, the findings also illustrate a disparity in students' engagement levels. There is a need to upskill students on the value of reflection in developing the necessary skills to become a reflective practitioner and to provide strategies to assist in this capacity. Current research indicates that the interventions producing the most substantial evidence for improvement are clear guidelines on reflection and feedback (Uygur et al., 2019). Currently, students receive feedback on their reflective portfolios at the end of the clinical year. To assist in guiding the student's reflective capacity, it is recommended that feedback is provided regularly throughout the year. This recommendation could be approached in several ways:

1. Requiring students to submit reflections at staged points throughout the year, this allowing for feedback to be given in a more timely manner to inform subsequent reflections
2. Providing the students with the opportunity to engage in guided reflection through regular small group discussions in the clinical learning environment (Sandars, 2009). Small group reflections will allow the students to consider and learn from other perspectives.
3. Encouraging students to participate in small group online interactive, reflective writing with their peers (Wald, 2009).

5.8 Suggestions for future research

The results of this study suggest that engagement in reflective practice is beneficial for medical students' personal and professional development. However, areas for further exploration were identified. Given the importance of reflection as a competency for medical practitioners, the disparity in student engagement in reflective practice warrants further investigation. It would be helpful for faculty to establish why some students are not fully engaging with the process and identify strategies or interventions to improve student engagement.

5.9 Strengths and Limitations of the Study

To the best of my knowedge, this is the first study to explore the experiences influencing medical students' personal and professional development during the transition to clinical learning using reflective portfolios from the student's perspective. The strength of this study comes from the rich data of student reflections giving voice to the student perspective. In addition, the data analysed was collected longitudinally over the entire transition year, allowing for a comprehensive range of experiences to be identified.

This study's findings may be limited as it is based on one cohort of students in one learning institution covering multiple clinical placement sites. Additionally, participants in the study were selected based on grades; demographics such as age, cultural identity and previous experience were not identified and may have influenced the research findings.

Furthermore, the data that informs the study is based on reflections written for assessment purposes. There are several factors to consider when assessing the appropriateness of this data as a basis for the research project. Firstly, students in the study were asked to provide evidence of learning and development based on specific themes; although the required themes were extensive, there is the potential that some significant experiences have been missed in the data. Secondly, fictional scenarios could be used to fit the assessment criteria; however, it is the reflective process, rather than its content, that contributes to learners' development. As reflective portfolios were the only data source utilised in the study, other data sources, such as focus groups or participant observation, could be included for triangulation purposes.

5.10 Conclusion

This study has revealed that multiple experiences (i.e., being a student, being with patients, being a future doctor, and being a health professional) influence medical students' personal and professional development during the transition to the clinical learning environment. This study adds to the existing literature and confirms reflective portfolios' value in assisting medical students' personal and professional development. The study identified that developing skills and strategies to deal with uncertainty, building resilience and promoting effective relationships would facilitate a successful transition to clinical learning. The transition to clinical learning is a time of intense personal and professional development. Providing students with skills and strategies to mitigate the challenges involved with experiential learning in the clinical setting will enable them to optimise their learning experience and focus on developing the knowledge and skills required of a future doctor.

References

Agarwal, G., & Lake, M. (2016). Personal transition to the profession: a novel longitudinal professional development and wellness medical student curriculum. *Academic Psychiatry*, *40*, 105-108. https://doi.org/10.1007/s40596-015-0463-1

Artioli, G., Deiana, L., De Vincenzo, F., Raucci, M., Amaducci, G., Bassi, M. C., Di Leo, S., Hayter, M. & Ghirotto, L. (2021). Health professionals and students' experiences of reflective writing in learning: A qualitative meta-synthesis. *BMC Medical Education*, *21*(1), 1-14. https://doi.org/10.1186/s12909-021-02831-4

Aslam, F., Mahboob, U., Zahra, Q., Zohra, S., Malik, R., & Khan, R. A. (2022). The drudgery of a doctor's disciple: Exploring the effects of negative role modelling on medical students' professional development. *Medical Teacher,* 1-7. https://doi.org/10.1080/0142159x.2022.2133690

Atherley, A., Dolmans, D., Hu, W., Hegazi, I., Alexander, S., & Teunissen, P. W. (2019). Beyond the struggles: a scoping review on the transition to undergraduate clinical training. *Medical Education*, *53*(6), 559-570. https://doi.org/10.1111/medu.13883

Atherley, A., Hu, W. C. Y., Dolmans, D., Teunissen, P. W., & Hegazi, I. (2022). Medical students' socialization tactics when entering a new clinical clerkship: A mixed methods study of proactivity. *Academic Medicine*, *97*(6), 884. https://doi.org/10.1097/acm.0000000000004627

Bakke, B. M., Sheu, L., & Hauer, K. E. (2020). Fostering a feedback mindset: a qualitative exploration of medical students' feedback experiences with longitudinal coaches. *Academic Medicine*, *95*(7), 1057-1065. https://doi.org/10.1097/acm.0000000000003012

Bell, K., Boshuizen, H. P., Scherpbier, A., & Dornan, T. (2009). When only the real thing will do: junior medical students' learning from real patients. *Medical Education*, *43*(11), 1036-1043. https://doi.org/10.1111/j.1365-2923.2009.03508.x

Benjamin, W. W. (1986). The awesome journey: Rites of passage in medical education. *The Linacre Quarterly*, *53*(4), 69-74. https://doi.org/10.1080/00243639.1986.11877868

Berkhout, J. J., Helmich, E., Teunissen, P. W., van der Vleuten, C. P., & Jaarsma, A. D. C. (2017). How clinical medical students perceive others to influence their self-regulated learning. *Medical Education*, *51*(3), 269-279. https://doi.org/10.1111/medu.13131

Birden, H., Glass, N., Wilson, I., Harrison, M., Usherwood, T., & Nass, D. (2014). Defining professionalism in medical education: a systematic review. *Medical Teacher*, 36(1), 47-61. https://doi.org/10.3109/0142159x.2014.850154

Birden, H. H., & Usherwood, T. (2013). "They liked it if you said you cried": how medical students perceive the teaching of professionalism. *Medical Journal of Australia*, *199*(6), 406-409. https://doi.org/10.5694/mja12.11827

Bleakley, A., & Bligh, J. (2008). Students learning from patients: Let's get real in medical education. *Advances in Health Sciences Education*, *13*, 89-107. https://doi.org/10.1007/s10459-006-9028-0

Bosse, H. M., Mohr, J., Buss, B., Krautter, M., Weyrich, P., Herzog, W., Jünger, J. & Nikendei, C. (2015). The benefit of repetitive skills training and frequency of expert feedback in the early acquisition of procedural skills. *BMC Medical Education*, *15*(1), 1-10.

Boud, D. (2013). *Enhancing learning through self-assessment*. Routledge.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V. & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners.* Sage Publications.

Braun, V. & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589-597. https://doi.org/10.1080/2159676x.2019.1628806

Braun, V. & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative Psychology*, *9*(1), 3-26. https://doi.org/10.1037/qup0000196

Bradshaw, C., Atkinson, S., & Doody, O. (2017). Employing a qualitative description approach in health care research. *Global Qualitative Nursing Research, 4.* https://doi.org/10.1177/2333393617742282

Buckley, S., Coleman, J., Davison, I., Khan, K. S., Zamora, J., Malick, S., Morley, D., Pollard, D., Ashcroft, T., Popovic, C. & Sayers, J. (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. https://doi.org/10.1080/01421590902889897

Burgess, A., van Diggele, C., Roberts, C., & Mellis, C. (2020). Feedback in the clinical setting. *BMC Medical Education*, *20*(2), 1-5.

Caldwell, H. D., Ham, S. A., Mattson, C. D., Woodruff, J. N., & Lee, W. W. (2021). Longitudinal assessment of personal and professional development competencies in medical students. *Journal of General Internal Medicine*, *36*, 2506-2508. https://doi.org/10.1007/s11606-020-05969-x

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing*, *25*(8), 652-661. https://doi.org/10.1177/1744987120927206

Cho, K. K., Marjadi, B., Langendyk, V., & Hu, W. (2017). Medical student changes in self-regulated learning during the transition to the clinical environment. *BMC Medical Education*, *17*, 1-8. https://doi.org/10.1186/s12909-017-0902-7

Clark, P. R. (2009). Teamwork: building healthier workplaces and providing safer patient care. *Critical Care Nursing Quarterly*, *32*(3), 221-231. https://doi.org/10.1097/cnq.0b013e3181ab923f

Colbert-Getz, J. M., Baumann, S., Shaffer, K., Lamb, S., Lindsley, J. E., Rainey, R., Randall, K., Roussel, D., Stevenson, A., Cianciolo, A., Maines, T., O'Brien, B. & Westerman, M. (2016). What's in a transition? An integrative perspective on transitions in medical education. *Teaching and Learning in Medicine*, *28*(4), 347-352. https://doi.org/10.1080/10401334.2016.1217226

Colenbrander, L., Causer, L., & Haire, B. (2020). 'If you can't make it, you're not tough enough to do medicine': a qualitative study of Sydney-based medical students' experiences of bullying and harassment in clinical settings. *BMC Medical Education*, *20*, 1-12. https://doi.org/10.21203/rs.2.16749/v3

Cruess, S. R., & Cruess, R. L. (2012). Teaching professionalism–why, what and how. *FFV in ObGyn, 4*(4), 259.

Cruess, R. L., Cruess, S. R., Boudreau, J. D., Snell, L., & Steinert, Y. (2014). Reframing medical education to support professional identity formation. *Academic Medicine, 89*(11), 1446-1451. https://doi.org/10.1097/acm.0000000000000427

Cruess, R. L., Cruess, S. R., & Steinert, Y. (2018). Medicine as a community of practice: implications for medical education. *Academic Medicine*, *93*(2), 185-191. https://doi.org/10.1097/acm.0000000000001826

Cuesta-Briand, B., Auret, K., Johnson, P., & Playford, D. (2014). A world of difference': a qualitative study of medical students' views on professionalism and the 'good doctor. *BMC Medical Education*, *14*, 1-9. https://doi.org/10.1186/1472-6920-14-77

David, M. F. B., Davis, M. H., Harden, R. M., Howie, P. W., Ker, J., & Pippard, M. J. (2001). AMEE Medical Education Guide No. 24: Portfolios as a method of student assessment. *Medical Teacher*, *23*(6), 535-551. https://doi.org/10.1080/01421590120090952

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The sage handbook of qualitative research* (5th ed.). Sage Publications.

Dewey, J. (1910). *How we think*. DigiCat. https://doi.org/10.1037/10903-000

Driessen, E. W., Van Tartwijk, J., Overeem, K., Vermunt, J. D., & Van Der Vleuten, C. P. (2005). Conditions for successful reflective use of portfolios in undergraduate medical education. *Medical Education*, *39*(12), 1230-1235. https://doi.org/10.1111/j.1365-2929.2005.02337.x

Driessen, E., Van Tartwijk, J., Van Der Vleuten, C., & Wass, V. (2007). Portfolios in medical education: why do they meet with mixed success? A systematic review. *Medical Education*, *41*(12), 1224-1233. https://doi.org/10.1111/j.1365-2923.2007.02944.x

Driessen, E., van Tartwijk, J., & Dornan, T. (2008). The self critical doctor: helping students become more reflective. *BMJ*, *336*(7648), 827-830. https://doi.org/10.1136/bmj.39503.608032.ad

Driessen, E., & Tartwijk, J. (2013). Portfolios in personal and professional development. In T. Swanwick (Ed), *Understanding medical education, evidence, theory and practice* (pp. 193-200) 2nd Ed. https://doi.org/10.1002/9781118472361.ch14

Driessen, E. (2017). Do portfolios have a future?. *Advances in Health Sciences Education*, *22*, 221-228. https://doi.org/10.1007/s10459-016-9679-4

Dubé, T. V., Schinke, R. J., Strasser, R., Couper, I., & Lightfoot, N. E. (2015). Transition processes through a longitudinal integrated clerkship: a qualitative study of medical students' experiences. *Medical Education*, *49*(10), 1028-1037. https://doi.org/10.1111/medu.12797

Epstein, R. M., & Hundert, E. M. (2002). Defining and assessing professional competence. *Jama*, *287*(2), 226-235. https://doi.org/10.1001/jama.287.2.226

Finlay, L. (2006). 'Rigour','ethical integrity'or 'artistry'? Reflexively reviewing criteria for evaluating qualitative research. *British Journal of Occupational Therapy*, *69*(7), 319-326. https://doi.org/10.1177/030802260606900704

Fleming, J., & Zegwaard, K. E. (2018). Methodologies, methods and ethical considerations for conducting research in work-integrated learning. *International Journal of Work-Integrated Learning, 19*(3), 205-213.

Fontana, R. P., Milligan, C., Littlejohn, A., & Margaryan, A. (2015). Measuring self-regulated learning in the workplace. *International Journal of Training and Development*, *19*(1), 32-52.

Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *Qualitative Report, 20*(9), 1408-1416. https://doi.org/10.46743/2160-3715/2015.2281

Goldie, J. (2013). Assessment of professionalism: a consolidation of current thinking. *Medical Teacher*, *35*(2), e952-e956. https://doi.org/10.3109/0142159x.2012.714888

Gordon, J. (2003). Assessing students' personal and professional development using portfolios and interviews. *Medical Education*, *37*(4), 335-340. https://doi.org/10.1046/j.1365-2923.2003.01475.x

Grant, A., McKimm, J., & Murphy, F. (2017). *Developing reflective practice: a guide for medical students, doctors and teachers*. John Wiley & Sons.

Gupta, S. (2019). Authentic Assessment in Medicine. *J. Postgrad. Med. Educ. Res*, *53*, 42-44.

Guraya, S. Y., Guraya, S. S., & Almaramhy, H. H. (2016). The legacy of teaching medical professionalism for promoting professional practice: a systematic review. *Biomedical and Pharmacology Journal, 9*(2), 809-817. https://doi.org/10.13005/bpj/1007

Ha, & Longnecker, N. (2010). Doctor-patient communication: a review. *The Ochsner Journal*, *10*(1), 38–43. https://doi.org/10.5005/jp-journals-10028-1311

Harden. (1999). What is a spiral curriculum? *Medical Teacher, 21*(2), 141–143. https://doi.org/10.1080/01421599979752

Hargreaves, K. (2016). Reflection in medical education. *Journal of University Teaching & Learning Practice*, *13*(2), 6.

Health Practitioners Competence Assurance Act 2003 (NZ). https://www.legislation.govt.nz/act/public/2003/0048/latest/DLM203312.html

Hilton, S., & Southgate, L. (2007). Professionalism in medical education. *Teaching and Teacher Education, 23*(3), 265-279. https://doi.org/10.1016/j.tate.2006.12.024

Hurtig, Alper, R. M., & Berkowitz, B. (2018). The cost of not addressing the communication barriers faced by hospitalized patients. Perspectives of the ASHA special interest groups, 3(12), 99–112. https://doi.org/10.1044/persp3.SIG12.99

Ikenwilo, D., & Skåtun, D. (2014). Perceived need and barriers to continuing professional development among doctors. *Health Policy*, *117*(2), 195-202. https://doi.org/10.1016/j.healthpol.2014.04.006

Jarvis-Selinger, S., Pratt, D. D., & Regehr, G. (2012). Competency is not enough: integrating identity formation into the medical education discourse. *Academic Medicine*, *87*(9), 1185-1190. https://doi.org/10.1097/acm.0b013e3182604968

Jarvis-Selinger, S., MacNeil, K. A., Costello, G. R., Lee, K., & Holmes, C. L. (2019). Understanding professional identity formation in early clerkship: a novel framework. *Academic Medicine*, *94*(10), 1574-1580. ttps://doi.org/10.1097/acm.0000000000002835

Jha, V., Mclean, M., Gibbs, T. J., & Sandars, J. (2015). Medical professionalism across cultures: a challenge for medicine and medical education. *Medical Teacher, 37*(1), 74-80. https://doi.org/10.3109/0142159x.2014.920492

Kallail, K. J., Shaw, P., Hughes, T., & Berardo, B. (2020). Enriching medical student learning experiences. *Journal of Medical Education and Curricular Development*, *7*, 2382120520902160. https://doi.org/10.1177/2382120520902160

Kay, D., Berry, A., & Coles, N. A. (2019). What experiences in medical school trigger professional identity development?. *Teaching and Learning in Medicine*, *31*(1), 17-25. https://doi.org/10.1080/10401334.2018.1444487

Kilminster, S. M., & Jolly, B. C. (2000). Effective supervision in clinical practice settings: a literature review. *Medical Education*, *34*(10), 827-840. ttps://doi.org/10.1046/j.1365-2923.2000.00758.x

Kim, H., Sefcik, J. S., & Bradway, C. (2017). Characteristics of qualitative descriptive studies: A systematic review. *Research in Nursing & Health, 40*(1), 23-42. https://doi.org/10.1002/nur.21768

Kirk, L. M. (2007, January). Professionalism in medicine: definitions and considerations for teaching. In *Baylor University Medical Center Proceedings* (Vol. 20, No. 1, pp. 13-16). Taylor & Francis.

Kolb, D. A. (2014). *Experiential learning: Experience as the source of learning and development*. FT press.

Lambert, V. A., & Lambert, C. E. (2012). Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, *16*(4), 255-256.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge university press.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Sage.

Lown, M., Lewith, G., Simon, C., & Peters, D. (2015). Resilience: what is it, why do we need it, and can it help us?. *British Journal of General Practice*, *65*(639), e708-e710. https://doi.org/10.3399/bjgp15x687133

Ludwig, A. B., Burton, W., Weingarten, J., Milan, F., Myers, D. C., & Kligler, B. (2015). Depression and stress amongst undergraduate medical students. *BMC Medical Education*, *15*(1), 1-5. https://doi.org/10.1186/s12909-015-0425-z

Malau-Aduli, B. S., Roche, P., Adu, M., Jones, K., Alele, F., & Drovandi, A. (2020). Perceptions and processes influencing the transition of medical students from pre-clinical to clinical training. *BMC Medical Education*, *20*(1), 1-13. https://doi.org/10.1186/s12909-020-02186-2

Mann, K., Gordon, J., & MacLeod, A. (2009). Reflection and reflective practice in health professions education: a systematic review. *Advances in Health Sciences Education*, *14*, 595-621. ttps://doi.org/10.1007/s10459-007-9090-2

McKee, A., & Markless, S. (2017). Using action learning sets to support students managing transition into the clinical learning environment in a UK medical school. *Action Learning: Research and Practice*, *14*(3), 275-285. https://doi.org/10.1080/14767333.2017.1360933

McKimm, J., & Swanwick, T. (2013). *Clinical teaching made easy: a practical guide to teaching and learning in clinical settings*. Andrews UK Limited.

Medical Council of New Zealand. (2022, February 21). *Recertification requirements for doctors practising in the General scope of practice.* https://www.mcnz.org.nz/registration/maintain-or-renew-registration/recertification-and-professional-development/recertification-requirements

Medical Council of New Zealand. (2021, November 1). *Good Medical Practice.* https://www.mcnz.org.nz/assets/standards/b3ad8bfba4/Good-Medical-Practice.pdf

Mezirow, J. (2000). Learning as transformation: Critical perspectives on a theory in progress. *The Jossey-Bass Higher and Adult Education Series*. Jossey-Bass Publishers,

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation* (4th ed.). John Wiley & Sons.

Moir, F., Yielder, J., Sanson, J., & Chen, Y. (2018). Depression in medical students: current insights. *Advances in Medical Education and Practice*, 323-333. https://doi.org/10.2147/amep.s137384

Monden, K. R., Gentry, L., & Cox, T. R. (2016, January). Delivering bad news to patients. In *Baylor University Medical Center Proceedings* (Vol. 29, No. 1, pp. 101-102). Taylor & Francis.

Neergaard, M. A., Olesen, F., Andersen, R. S., & Sondergaard, J. (2009). Qualitative description–the poor cousin of health research? *BMC Medical Research Methodology*, *9*(1), 52. https://doi.org/10.1186/1471-2288-9-52

Ng, S. L., Kinsella, E. A., Friesen, F., & Hodges, B. (2015). Reclaiming a theoretical orientation to reflection in medical education research: a critical narrative review. *Medical Education*, *49*(5), 461-475. ttps://doi.org/10.1111/medu.12680

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, *16*(1), https://doi.org/10.1177/1609406917733847

O'Brien, B., Cooke, M., & Irby, D. M. (2007). Perceptions and attributions of third-year student struggles in clerkships: do students and clerkship directors agree?. *Academic Medicine*, *82*(10), 970-978. tps://doi.org/10.1097/acm.0b013e31814a4fd5

O'Brien, B. C. (2018). What to do about the transition to residency? Exploring problems and solutions from three perspectives. *Academic Medicine*, *93*(5), 681-684. https://doi.org/10.1097/acm.0000000000002150

O'Donnabhain, R., & Friedman, N. D. (2018). What makes a good doctor?. *Internal Medicine Journal*, *48*(7), 879-882. https://doi.org/10.1111/imj.13942

O'Riordan, M., Dahinden, A., Aktürk, Z., Ortiz, J. M. B., Dagdeviren, N., Elwyn, G., Micallef, A., Murtonen. M., Samuelson, M. & Thesen, J. (2011). Dealing with uncertainty in general practice: an essential skill for the general practitioner. *Quality in Primary Care*, *19*(3), 175.

Orsmond, P., McMillan, H., & Zvauya, R. (2022). It's how we practice that matters: professional identity formation and legitimate peripheral participation in medical students: a qualitative study. *BMC Medical Education*, *22*(1), 1-9. ttps://doi.org/10.21203/rs.3.rs-542725/v1

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, *42*(5), 533-544. ttps://doi.org/10.1007/s10488-013-0528-y

Park, G. M., & Hong, A. J. (2022). "Not yet a doctor": medical student learning experiences and development of professional identity. *BMC Medical Education*, *22*(1), 1-12. https://doi.org/10.1186/s12909-022-03209-w

Patel, Priya, Jason Hancock, Morwenna Rogers, and Samuel R. Pollard. "Improving uncertainty tolerance in medical students: A scoping review." *Medical Education* 56, no. 12 (2022): 1163-1173. https://doi.org/10.1111/medu.14873

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Sage Publications.

Patton, M. Q. (2015). Purposeful sampling and case selections: Overview of strategies and options. *Qualitative Research and Evaluation Methods*, 264-315.

Prayson, R. A., Bierer, S. B., & Dannefer, E. F. (2017). Medical student resilience strategies: A content analysis of medical students' portfolios. *Perspectives on Medical Education*, *6*, 29-35. https://doi.org/10.1007/s40037-016-0313-1

Radcliffe, C., & Lester, H. (2003). Perceived stress during undergraduate medical training: a qualitative study. *Medical Education*, *37*(1), 32-38. https://doi.org/10.1046/j.1365-2923.2003.01405.x

Ramani, S., Mann, K., Taylor, D., & Thampy, H. (2016). Residents as teachers: Near peer learning in clinical work settings: AMEE Guide No. 106. *Medical Teacher*, *38*(7), 642-655. https://doi.org/10.3109/0142159x.2016.1147540

Robledo-Gil, T., Ryznar, E., Chisolm, M. S., & Balhara, K. S. (2022). Identity and uncertainty: art-mediated medical student reflections in a time of transition. *Medical Education Online*, *27*(1), 2120946. https://doi.org/10.1080/10872981.2022.2120946

Rodriguez-Paz, Kennedy, M., Salas, E., Wu, A. W., Sexton, J. B., Hunt, E. A., & Pronovost, P. J. (2009). Beyond "see one, do one, teach one": toward a different training paradigm. *Postgraduate Medical Journal, 85*(1003), 244–249. https://doi.org/10.1136/qshc.2007.023903

Rolfe, G. (2014). Rethinking reflective education: What would Dewey have done?. *Nurse Education Today*, *34*(8), 1179-1183. https://doi.org/10.1016/j.nedt.2014.03.006

Rudland, J. R., Jaye, C., Tweed, M., & Wilkinson, T. J. (2022). Identifying stressor criteria that hinder or challenge junior clinical medical student learning. *Medical Teacher*, *44*(9), 1051-1059. https://doi.org/10.1080/0142159x.2022.2058382

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing and Health, 23*(4), 334-340. https://doi.org/10.1002/1098-240x(200008)23:4<334::aid-nur9>3.0.co;2-g

Sandelowski, M. (2010). What's in a name? Qualitative description revisited. *Research in Nursing & Health*, *33*(1), 77-84. https://doi.org/10.1002/nur.20362

Sandars, J. (2009). The use of reflection in medical education: AMEE Guide No. 44. *Medical Teacher*, *31*(8), 685-695. https://doi.org/10.1080/01421590903050374

Sarraf-Yazdi, S., Teo, Y. N., How, A. E. H., Teo, Y. H., Goh, S., Kow, C. S., Lam, W.Y., Wong, R.S.M, Ghazali, H.Z.B., Lauw, S., Tan, J.R.M., Lee, R.B.Q., Ong, Y.T., Chan, N.P.X., Cheong, C.W.S., Kamal, N.H.A., Lee, A.S.I., Tan, L.H.E., Chin, A.M.C., Chaim, M. & Krishna, L. K. R. (2021). A scoping review of professional identity formation in undergraduate medical education. *Journal of Ggeneral Internal Medicine*, *36*(11), 3511-3521.

Sattar, K., Roff, S., & Meo, S. A. (2016). Your professionalism is not my professionalism: congruence and variance in the views of medical students and faculty about professionalism. *BMC Medical Education*, 16, 1-7. https://doi.org/10.1186/s12909-016-0807-x

Savin-Baden, M., & Howell-Major, C. (2013). *Qualitative research: The essential guide to theory and practice.* Routledge.

Schon, D. A. (1984). *The reflective practitioner: How professionals think in action* (Vol. 5126). Basic books.

Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. Jossey-Bass.

Scott, S., & Palincsar, A. (2013). Sociocultural theory. https://www.dr-atfield.com/theorists/resources/sociocultural_theory.pdf

Schrempf, S., Herrigel, L., Pohlmann, J., Griewatz, J., & Lammerding-Köppel, M. (2022). Everybody is able to reflect, or aren't they? Evaluating the development of medical professionalism via a longitudinal portfolio mentoring program from a student perspective. *GMS Journal for Medical Education*, *39*(1).

Scott, N. L., Mahran, S., Patel, R., & Culshaw, M. (2022). Perceptions of transition into clinical placement. *The Clinical Teacher*, *19*(2), 129-135. https://doi.org/10.1111/tct.13465

Sellberg, M., Palmgren, P. J., & Möller, R. (2022). Balancing acting and adapting: a qualitative study of medical students' experiences of early clinical placement. *BMC Medical Education*, *22*(1), 1-11. https://doi.org/10.1186/s12909-022-03714-y

Shield, R. R., Farrell, T. W., Campbell, S. E., Nanda, A., & Wetle, T. (2015). Professional development and exposure to geriatrics: medical student perspectives from narrative journals. *Gerontology & Geriatrics Education*, *36*(2), 144-160. https://doi.org/10.1080/02701960.2014.954043

Smith-Han, K., Martyn, H., Barrett, A., & Nicholson, H. (2016). “That’s not what you expect to do as a doctor, you know, you don’t expect your patients to die.” Death as a learning experience for undergraduate medical students. *BMC Medical Education*, *16*, 1-8 https://doi.org/10.1186/s12909-016-0631-3

Soo, J., Brett-MacLean, P., Cave, M. T., & Oswald, A. (2016). At the precipice: a prospective exploration of medical students’ expectations of the pre-clerkship to clerkship transition. *Advances in Health Sciences Education*, *21*, 141-162. https://doi.org/10.1007/s10459-015-9620-2

Steiner-Hofbauer, V., Schrank, B., & Holzinger, A. (2018). What is a good doctor?. *Wiener Medizinische Wochenschrift (1946)*, *168*(15), 398-405. https://doi.org/10.1007/s10354-017-0597-8

Suikkala, A., Timonen, L., Leino-Kilpi, H., Katajisto, J., & Strandell-Laine, C. (2021). Healthcare student-patient relationship and the quality of the clinical learning environment–a cross-sectional study. *BMC Medical Education*, *21*(1), 1-11. https://doi.org/10.1186/s12909-021-02676-x

Surmon, L., Bialocerkowski, A., & Hu, W. (2016). Perceptions of preparedness for the first medical clerkship: a systematic review and synthesis. *BMC Medical Education*, *16*, 1-11. https://doi.org/10.1186/s12909-016-0615-3

Tan, R., Qi Ting, J. J., Zhihao Hong, D., Sing Lim, A. J., Ong, Y. T., Pisupati, A., Xin Chong, E.J., Chaim, M., Inn Lee, A.S., Shuen Tan, L.H., ChewChin, A.M., Wijaya, L., Fong, W. & Radha Krishna, L. K. (2022). Medical student portfolios: a systematic scoping review. *Journal of Medical Education and Curricular Development*, *9*, 23821205221076022. https://doi.org/10.1177/23821205221076022

Teunissen, P. W., & Westerman, M. (2011). Opportunity or threat: the ambiguity of the consequences of transitions in medical education. *Medical Education*, *45*(1), 51-59. https://doi.org/10.1111/j.1365-2923.2010.03755.x

The University of Auckland Faculty of Medical and Health Sciences (2022, January). *MBChB phase 2 (year 4) guidebook 2022*: The University of Auckland. https://wiki.auckland.ac.nz/display/MBChB/MBChB+Portal

Tochel, C., Haig, A., Hesketh, A., Cadzow, A., Beggs, K., Colthart, I., & Peacock, H. (2009). The effectiveness of portfolios for post-graduate assessment and education: BEME Guide No 12. *Medical Teacher*, *31*(4), 299-318. https://doi.org/10.1080/01421590902883056

Uygur, J., Stuart, E., De Paor, M., Wallace, E., Duffy, S., O'Shea, M., Smith, S. & Pawlikowska, T. (2019). A best evidence in medical education systematic review to determine the most effective teaching methods that develop reflection in medical students: BEME Guide No. 51. *Medical Teacher*, *41*(1), 3-16. https://doi.org/10.1080/0142159x.2018.1505037

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, *15*(3), 398-405. https://doi.org/10.1111/nhs.12048

Van Hell, E. A., Kuks, J. B., Borleffs, J. C., & Cohen-Schotanus, J. (2011). Alternating skills training and clerkships to ease the transition from preclinical to clinical training. *Medical Teacher*, *33*(12), e689-e696. https://doi.org/10.3109/0142159x.2011.611837

Vygotsky, L. S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Harvard university press.

Wald, H. S., Davis, S. W., Reis, S. P., Monroe, A. D., & Borkan, J. M. (2009). Reflecting on reflections: Enhancement of medical education curriculum with structured field notes and guided feedback. *Academic Medicine*, *84*(7), 830-837. https://doi.org/10.1097/acm.0b013e3181a8592f

Wald, H. S., Reis, S. P., Monroe, A. D., & Borkan, J. M. (2010). 'The Loss of My Elderly Patient:'Interactive reflective writing to support medical students' rites of passage. *Medical Teacher*, *32*(4), e178-e184. https://doi.org/10.3109/01421591003657477

Wald, H. S., Borkan, J. M., Taylor, J. S., Anthony, D., & Reis, S. P. (2012). Fostering and evaluating reflective capacity in medical education: developing the REFLECT rubric for assessing reflective writing. *Academic Medicine*, *87*(1), 41-50. ttps://doi.org/10.1097/acm.0b013e31823b55fa

Wald, H. S. (2015). Professional identity (trans) formation in medical education: reflection, relationship, resilience. *Academic Medicine*, *90*(6), 701-706. https://doi.org/10.1097/acm.0000000000000731

Weller, J. M., Torrie, J., Boyd, M., Frengley, R., Garden, A., Ng, W. L., & Frampton, C. (2014). Improving team information sharing with a structured call-out in anaesthetic emergencies: a randomized controlled trial. *British Journal of Anaesthesia*, *112*(6), 1042-1049. https://doi.org/10.1093/bja/aet579

Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity*. Cambridge university press.

Wilson, I., Cowin, L. S., Johnson, M., & Young, H. (2013). Professional identity in medical students: pedagogical challenges to medical education. *Teaching and Learning in Medicine*, *25*(4), 369-373. ttps://doi.org/10.1080/10401334.2013.827968

Wong, A., & Trollope-Kumar, K. (2014). Reflections: an inquiry into medical students' professional identity formation. *Medical Education*, *48*(5), 489-501. https://doi.org/10.1111/medu.12382

Yap, A. F. H. W., Ruan, X., & Fong, W. W. S. (2022). Development of a personalized near-peer mentoring programme for final-year medical students with residents as mentors. *Proceedings of Singapore Healthcare*, *31*, 20101058211057325.

Yardley, S., Westerman, M., Bartlett, M., Walton, J. M., Smith, J., & Peile, E. (2018). The do's, don't and don't knows of supporting transition to more independent practice. *Perspectives on Medical Education*, *7*, 8-22. https://doi.org/10.1177/20101058211057325

Yielder, J., & Moir, F. (2016). Assessing the development of medical students' personal and professional skills by portfolio. *Journal of Medical Education and Curricular Development*, 3, JMECD-S30110. https://doi.org/10.4137/jmecd.s30110

Appendices

Appendix A: UAHPEC Approval Letter – Initial Project

Research Office
Post–Award Support Services

The University of Auckland
Private Bag 92019
Auckland, New Zealand

Level 10, 49 Symonds Street
Telephone: 64 9 373 7599
Extension: 83711
Facsimile: 64 9 373 7432
ro-ethics@auckland.ac.nz

UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE (UAHPEC)

30-Jul-2018

MEMORANDUM TO:

Dr Jill Yielder
Faculty Admin

Re: Application for Ethics Approval (Our Ref. 021343): Approved

The Committee considered your application for ethics approval for your study entitled **Evaluation of significant learning events submitted as evidence of personal and professional development in the MBChB programme.**

We are pleased to inform you that ethics approval has been granted for a period of three years.

The expiry date for this approval is 30-Jul-2021.

If the project changes significantly, you are required to submit a new application to UAHPEC for further consideration.

If you have obtained funding other than from UniServices, send a copy of this approval letter to the Activations team in the Research Office at ro-awards@auckland.ac.nz. For UniServices contracts, send a copy of the approval letter to the Contract Manager, UniServices.

The Chair and the members of UAHPEC would be happy to discuss general matters relating to ethics approvals. If you wish to do so, please contact the UAHPEC Ethics Administrators at ro-ethics@auckland.ac.nz in the first instance.

Please quote Protocol number **021343** on all communication with the UAHPEC regarding this application.

(This is a computer generated letter. No signature required.)

UAHPEC Administrators
University of Auckland Human Participants Ethics Committee

Appendix B: UAHPEC Ammendment Approval Letter

Office of the Vice-Chancellor
Office of Research Strategy and Integrity (ORSI)

The University of Auckland
Private Bag 92019
Auckland, New Zealand

Level 11, 49 Symonds Street
Telephone: 64 9 373 7599
Extension: 83711
humanethics@auckland.ac.nz

UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE (UAHPEC)

05-Oct-2020

MEMORANDUM TO:

Dr Jill Yielder
Faculty Admin

Re: Request for amendment of Ethics Approval (Our Ref. 021343): Amendments Approved

The Committee considered the amendment(s) requested to your ethics approval for the project entitled **Evaluation of significant learning events submitted as evidence of personal and professional development in the MBChB programme.**

Approval was granted for the following amendments on 05-Oct-2020:

1. To remove Dr Sharyn Esteves.

2. To add Yan Chen to the project.

3. To add Tracy Parker as a student researcher (Master of Clinical Education).

The expiry date for your ethics approval is **30-Jul-2021.**

Completion of the project: In order that up-to-date records are maintained, you must notify the Committee once your project is completed.

Amendments to the project: Should you need to make any further changes to the project, please complete a new Amendment Request form giving full details along with revised documentation. If the project changes significantly, you are required to submit a new application to UAHPEC for approval.

The Chair and the members of the Committee would be happy to discuss general matters relating to ethics approvals. If you wish to do so, please contact the UAHPEC Ethics Administrators at humanethics@auckland.ac.nz in the first instance.

Please quote reference number **021343** on all communications with the UAHPEC regarding this application.