

Emerging discourses shaping high-fidelity simulation as an education platform in Aotearoa New Zealand pre-registration nursing education:

A Foucauldian discourse analysis

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Abstract

There is much literature supporting the use of high-fidelity simulation as a teaching modality in healthcare education. Few, however, offer a critical reading of simulated learning to examine the discourses and discursive practices shaping undergraduate nurses' experiences and knowledge, or how simulated learning translates into practice. The emergence of high-fidelity simulation as a teaching learning modality raises the question of centrality of power as to what discourses influence the use of high-fidelity simulation and ultimately learning.

This study critically examines the emerging discourses and discursive practices that influence the use of high-fidelity simulation in pre-registration nursing education in Aotearoa New Zealand. Data for this research were located from journal articles and interviews with academic nurse educators, Bachelor of Nursing students, and others. Discourse analysis informed by the work of Michel Foucault and others revealed powerful nursing and medical discourses, and the existence of sub-discourses of simulation pedagogy, realism and replacement of actual clinical hours. In this study I have focused on the disciplinary technologies and the effect these technologies have on constructing professional subjectivities of nursing students and academic nurse educators experiencing high-fidelity simulation. The emergence of practices which establish and resist such discourses have made it easier to briefly glimpse into the conditions that made high-fidelity simulation as a teaching modality possible, whilst also creating the possibility for thinking about high-fidelity simulation and simulation technology in a different light.

Analysis reveals that utilising the technology involved in high-fidelity simulation has the potential to provide an immersive clinical learning experience that, as the scholarly literature attests, fits the preferences of the millennial student. However, the pre-registration nursing student interviewees in this study did not conform to this millennial student discourse, instead preferring actual clinical experiences with patients, to learn how to be a nurse and learn how to establish therapeutic relationships with the patient, including family and whānau. Alternative discourse emerging in literature, narratives of academic nurse educators and pre-registration

students, talks of pre-registration nursing education valuing actual clinical experiences as an essential element for learning nursing practice. Conversely proponents of HFS contest that well developed and structured simulation activities, including debriefing, can provide a platform to apply theory to practice, albeit simulated practice. What is clear is that with the proliferation of technology in nursing education, additional research is required to establish a more substantial evidence base to inform future curricula and policy development, particularly regarding the continuing debate of HFS replacing clinical experiences.

The contribution this thesis makes is to highlight the contested domain of high-fidelity simulation as a teaching modality in pre-registration nursing education. By acknowledging such discourses and discursive practices within which we work as academic nurse educators, we may recognise more clearly the processes by which we select what is crucial, and what is not. Further research that connects nursing student learning utilising high-fidelity simulation, including the student experience would significantly improve understanding of the impact of high-fidelity simulation on student learning and transfer of that learning to their new graduate experience.

Table of Contents

Attestation of Authorship	ix
Acknowledgements	x
Chapter 1: Introducing the thesis	
Introduction	1
Contextualising the use of HFS in pre-registration nursing education	2
My position in HFS- a personal narrative	3
Significance of study	7
Focus of Inquiry- problematising HFS use in pre-registration nursing education	11
Research Aims	14
Key concepts	15
<i>Academic nurse educator</i>	15
<i>Simulation</i>	15
<i>Manikin or mannequin</i>	16
<i>Simulation-based education</i>	17
<i>Fidelity</i>	17
Structure of thesis	19
Overview of the structure of thesis	19
Summary	21
Chapter 2: Key philosophical and theoretical concepts	22
Introduction	22
Choosing Michael Crotty’s framework to position the research process.....	23
Epistemological stance	24
The Enlightenment and modernism	28
Postmodernism	30
Modernism, postmodernism and nursing	33
Michael Foucault’s philosophical position	35
Foucauldian philosophical concept	37
<i>Discourse and knowledge</i>	37
<i>Subjects</i>	39
<i>Foucault’s view of power and the subject</i>	41
<i>Biopolitics and biopower</i>	43
<i>Emergence of medico-scientific gaze-the individual as an object</i>	43
<i>Foucault’s historical perspective</i>	46
<i>Theoretical principles of disciplinary technologies and subjectivities</i>	46

Summary	48
Chapter 3: Foucault's principles of archaeology and genealogy and approach to discourse analysis	50
Introduction	50
Interrogating function, processes and features of discourses	51
<i>Applying concepts of statement to the text</i>	52
<i>Surfacing the discourse</i>	54
Why use Foucault's archaeological principles	55
Interrogating the discourse- the methodological principle of reversal	56
<i>Systems of exclusion</i>	57
<i>Procedures of limitation</i>	59
<i>Roles and restrictions</i>	60
Genealogy: Analysing relations of power, knowledge, and effects	60
Principles of genealogy	62
<i>Principle of discontinuity</i>	62
<i>Principle of specificity</i>	63
<i>Principle of exteriority</i>	64
Using Foucault's methodological toolbox	64
Foucauldian discourse analysis	66
Summary	67
Chapter 4: Research methods	69
Introduction	69
Selection of appropriate text	69
Generating and collecting data: the phases of data collection	70
<i>Initial review</i>	70
<i>Literature search process</i>	71
<i>Naturally occurring text</i>	73
<i>Interviews</i>	73
<i>Intended sample and recruitment for interviews</i>	76
<i>Recorded audio interviews</i>	77
<i>Other textual data</i>	79
Ethical considerations	81
<i>Real or potential risk</i>	82
<i>Confidentiality</i>	83
<i>Informed consent</i>	83

<i>Anonymity</i>	84
<i>Storage and dissemination of information</i>	84
Approach to data analysis	85
<i>Sorting textual data</i>	85
<i>The complexities in doing discourse analysis using Foucault</i>	86
<i>Levels of discourse analysis</i>	88
Approach to data analysis in this study	89
<i>Phase one- construction of the discursive object</i>	90
<i>Phase two- identifying subject positions made available by discourse</i>	91
Maintaining rigour	93
<i>Myself as a postmodernist researcher using Foucault and self-reflexivity</i>	93
<i>Trustworthiness</i>	95
<i>Crystallisation</i>	95
<i>Auditable trail</i>	95
Summary	96
Chapter 5: The emergence of high-fidelity simulation as an object: history of present	97
Introduction	97
Applying Foucault’s archaeological tools of analysis	98
Historicising the surfacing of high-fidelity simulation as a discursive object	99
<i>Historicising the use of HFS in health education</i>	100
<i>Historicising the use of HFS in pre-registration nursing education</i>	104
<i>Use of HFS in pre-registration nursing education within an Aotearoa New Zealand context</i>	106
Emergence of high-fidelity simulation as a stable identity and material conditions facilitating such emergence	109
<i>Material conditions enabling medical discourse and the discursive object</i>	110
<i>Has patient safety been medicalised?</i>	112
<i>Material conditions enabling nursing discourse and the discursive object</i>	115
Material conditions enabling the emergence of other sub-discourses	117
<i>The sub-discourse of simulation pedagogy</i>	118
<i>The sub-discourse of replacing clinical experiences with high-fidelity simulation</i>	121
<i>Making it real - the sub-discourse of realism</i>	124
Summary	127

Chapter 6: Textual representation of discursive practices shaping HFS in pre-registration nursing education	129
Introduction	129
Approach to the analysis of the text from published literature	130
Are there problems within pre-registration nursing education? The positioning of high-fidelity simulation as a solution	131
Is technology a driver in the use of simulation as a teaching modality?	135
The cost of technology - how HFS has come to be a practice whereby cost has been normalised	139
The sub-discourse of HFS pedagogy, discursive field of simulation technology and further legitimisation of HFS as an object	144
Discursive practices associated with the sub-discourse of HFS pedagogy	147
<i>Management of HFS</i>	147
<i>Practising skills and patient safety</i>	151
Discursive practices associated with sub-discourse of replacing clinical experiences	154
Processes by which sub-discourse of realism is established	159
Summary	161
Chapter 7: Normalising and professionalising discourses of HFS and how other ways of knowing have been marginalised	163
Introduction	163
Why use narratives as text data?	164
Discourse and sub-discourse surfaced from the literature	165
The construction of professionalising discourse and HFS	166
What is being said by whom in the narratives?	170
The sub-discourse of HFS as a pedagogy - contested legitimacy	171
<i>The influence of resources on the use of HFS as an education modality</i>	176
<i>The benefits of using technology - benefit for whom?</i>	180
<i>The Foucauldian concept of surveillance and its impact on student learning</i>	183
The sub-discourse of HFS and clinical experience equivalence	187
Summary	191
Chapter 8: Knowing how to nurse - how real is the simulated clinical environment?	193
Introduction	193
Overview of the sub-discourse of realism	194
The simulated patient, simulated environment, and suspension of disbelief – the subject position of thinking like a nurse and making it real	195

<i>Making it real for BN students</i>	195
<i>Making it real for academic nurse educators and student learning</i>	203
The subject position of knowing how to be a nurse	208
The sub-discourse of realism of HFS and substituting actual clinical experiences	
– knowing how to be a nurse in a simulated clinical environment	211
Summary	215
Chapter 9: Discussion and conclusions.....	217
Introduction	217
Revisiting the aims of the research	217
How the prominence of HFS as a teaching modality eventuated and the discourses	
shaping this pedagogical dominance	219
<i>The discursive production of HFS as a teaching modality through nursing and</i>	
<i>medical discourse</i>	220
Discourses and discursive practices influencing the use of HFS in pre-registration	
nursing education in Aotearoa New Zealand	222
<i>Sub-discourse of simulation as a Pedagogy</i>	223
<i>Sub-discourse of HFS replacing actual clinical experiences</i>	227
<i>The sub-discourse of realism</i>	228
How discourse constructing HFS shape nursing students' subjectivity and nursing	
practice	229
Future options and implications for theory and practice	232
Recommendations and future research	234
Limitations	237
Concluding statement	238
References	242
Appendices	276

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the awards of any other degree or diploma of a university or other institution of higher learning.

Signed _____

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Chapter one: Introducing the thesis

Introduction

This thesis came about in response to my own personal and professional interest in the use of high-fidelity simulation (HFS) in pre-registration nursing education. As an academic nurse educator, the unprecedented use of simulation-based education (SBE) and simulation technology in healthcare education raises questions for me about what is shaping and constructing their use in pre-registration nursing education, in an Aotearoa New Zealand context. I believe several assumptions have been accepted without objection and these assumptions have allowed HFS to gain the firm foothold it has in early 21st-century pre-registration nursing education. Indeed, in some countries, for example the United States, HFS is a *pari-passu* substitute for actual clinical experiences for pre-registration nursing students. This is not the current situation in Aotearoa New Zealand.

As a discipline, nursing needs to think critically about HFS use, and its dominance, in the educational preparation of nurses. This research is, in some ways, a response to that call. Using a postmodernist lens and the work of French philosopher Michel Foucault and other researchers who have used Foucault's work, including Fadyl (2013), Foster (2020), Neville (2005), Nicholls (2008) and Wilkinson (2007), has enabled me to problematise the use of HFS in Aotearoa New Zealand pre-registration programmes, and to explore and critically analyse the historical conditions that have made this possible.

To critique the contemporary practices around the use of HFS, this research draws on the tenets of postmodernism and Foucauldian discourse analysis methodology to address the research question: *What are the discourses and discursive practices that influence the use of high-fidelity simulation as an approach to intentional and unintentional teaching and learning in pre-registration nursing education in Aotearoa New Zealand?* Using this methodology allows me to examine the ways HFS is talked about and used and thus identify how, as a discursive object, HFS is constructed both within and outside of the text. Once, through this analysis, and the

different subject positions of HFS are visible, I am able to explore how this shapes BN nursing students' subjectivity and, ultimately, nursing practice.

In this chapter I introduce the reader to the aims and the context in which my research is situated. A narrative of my professional and personal interest in HFS and my motivation to undertake the research is presented, as well as an overview of HFS as an educational modality, including its current position within the context of pre-registration nursing education in Aotearoa New Zealand. The chapter concludes with an overview of all the chapters in this thesis.

Contextualising the use of HFS in pre-registration nursing education.

The use of, and investment in, HFS as a teaching, learning and assessment modality in healthcare education has increased significantly at an international level. In many countries HFS is increasingly penetrating and influencing pre-registration, professional development, and continuing education arenas in many disciplines of the healthcare workforce (Bogossian et al., 2018). With the continuing accelerated use of technology in healthcare simulation, and the recent emergence in the use of virtual simulation, the scope for simulation use has widened considerably.

Consequently, the augmented use of HFS in healthcare education is now well documented in the literature. A testament to this is the ever-expanding simulation (including HFS) research literature within medicine, nursing, and other health disciplines, all contributing to the production of knowledge and practice that is healthcare simulation. At the same time a billion-dollar industry has emerged with an abundance of simulation product manufacturers along with their associated simulation websites and promotional material.

The acceleration in the use of HFS has, in large part, been as a response to the challenges in modern healthcare education, particularly patient safety (Alinier & Platt, 2014). As a result, we see landmark research publications concerned with patient safety, issues regarding human factors, and systems failures, for example, *To Err is Human: Building a Safer Health System* (Kohn et al., 2000). Thus, there is broad support for HFS to be used as a teaching modality to

mitigate risk, reduce adverse events, and improve patient outcomes (Institute of Medicine, 2000; Lucian Leape Institute, 2012; Shepherd, 2017; Workforce Australia, 2009). Other significant research includes the American National Council of State Boards of Nursing (NCSBN) simulation study, which calls for clinical experiences to be replaced with HFS (Hayden et al., 2014).

The argument in this thesis is that there is a need to pause, take a step back, and question the assumptions made around HFS and its effectiveness. There is also a need to be wary of the seemingly unquestionable discursive culture that affirms HFS as a ground-breaking and enhanced learning environment. Multiple narratives of what HFS involves, how it should be used and its standing in health care education have emerged as a result of its accelerated use. We have also seen an increase in simulation research activities, particularly within the medical arena, which further entrench HFS as a legitimate educational modality. Several of these studies investigate the impact of using HFS as an educational modality and its effect on learner performance, imbued with the notion that HFS produces a particular kind of practitioner or ensures that certain qualities are learnt that can be applied in future practice. High-fidelity simulation has the potential then, to become a conduit to create a learning environment providing the repetition of structured activity with the goal of improving performance, thus facilitating deliberate practice (Owen et al., 2017). This narrative surfaces questions about the centrality of knowledge and power relationships, the construction of discourse influencing the use of simulation, and the position of HFS in pre-registration nursing education and, consequently, highlights a need to interrogate the discourses and discursive practices influencing the use of HFS in this arena.

My position in HFS—a personal narrative

This research is motivated not only by my professional interest in HFS as an academic nurse educator but also by a keen desire to explore the emergent discourses that may be shaping the use of HFS, and simulation technology, in pre-registration nursing education. I am particularly interested in how the use of manikins, no matter how life-like, influences learning, the role HFS

plays in pre-registration nursing students' social construction of professional socialisation and indeed how nursing culture is embodied through such a simulation modality. A significant influence for undertaking such research is an interest in how HFS influences learning when using manikins in place of real patients. Ultimately, by exploring these discourses I hope to gauge the impact HFS has on professional practice.

Several years ago, I recall someone saying to me that in order to attract nursing student enrolments, academic nurse educators needed to ensure their educational institution was providing state-of-the-art simulation equipment in pre-registration nursing education. Such a statement of course presupposes that pre-registration nursing education programmes need state-of-the-art simulation equipment to provide quality education and attract student enrolments. I wasn't so sure, and I was suspicious that commercial business motivations promoting simulation technology were at play.

As a Registered Nurse of 42 years and Registered Midwife, I have experienced many changes in nursing and midwifery, particularly in the accelerated use of technology, within both clinical practice and, more recently, pre-registration nursing education. When starting out as an academic nurse educator in the Aotearoa New Zealand tertiary sector in 2006, the use of computerised manikins and trainers was a relatively new concept. Although I was acutely aware of the use of computerised manikins in healthcare education, the extent of their use, how they were applied, and the overwhelming promotion of simulation products within nursing education was a very new phenomenon.

My simulation experience in hospital-based nurse training in a London hospital in the late 1970s involved practising nursing skills on fellow nursing students acting as patients and acting as a patient myself. I vividly recall using oranges to practise injectables, and when sharing stories with my contemporaries, I discovered this method of simulation was the norm. Many of our nursing skills were learnt 'on the job' with real patients on the wards when we went out to placement, often only four to six weeks after starting training. Static, adult-sized dolls, which had little resemblance to a real adult were used, along with torsos for cardio-pulmonary

resuscitation (CPR). Memories of being in a blue and white national uniform in a classroom come flooding back. The excitement and feeling like a real nurse because I was wearing a uniform, along with apprehension and uncertainty around what I was supposed to be doing, or why, remain with me. My instruction on CPR consisted of banging the chest and trying to compress the hard plastic torso of the Resusci Annie. Roles and expectations in such an event were never addressed, just the task at hand and, like many other nursing students, I hoped I would not have to do this in real life. Back then, most of the learning took place with real patients in the ward setting and it relied heavily on the traditional medical/surgical teaching strategy of see one, do one, and teach one. This became even more significant as we progressed through the programme with junior students following behind us. This traditional approach and its origins reflect nursing of the day, very much imbued in the apprenticeship model, and influenced heavily by the medical profession.

My first experiences of working with a computerised manikin were as a Public Health Nurse in rural Australia in early 2000. I was involved in delivering the Nest enhancement programme, an infant simulator-based programme, aimed at raising adolescents' awareness around teenage pregnancy. The Nest programme, piloted between 2003-2006, endeavoured to encourage adolescents to become aware of the responsibilities of caring for a baby by taking home and providing total care for a simulated infant (Brinkman et al., 2016). The manikin mimicked an infant, could be programmed to cry, usually at night, and required the student to bathe, dress and provide nappy changes. Personal memories are of these adolescents being in awe of this baby with many assuming their role as the primary carer very seriously, with the support of their parents. Indeed, this marked the moment in my professional career, where I began to recognise the potential value of simulation technology in health education.

As an academic nurse educator in the tertiary sector and working with pre-registration nursing students, I was excited by the range of equipment we had in the clinical practice units. These included manikins, various teaching task trainers, as well as the general promotion of HFS as the way forward in nursing education. I remember attending a moulage workshop in Christchurch in 2007 and being inspired, and motivated, to get involved in HFS. The concept of

moulage sounded exciting and innovative. I have now been involved as an academic nurse educator for nearly sixteen years and have been actively involved over this time in using simulation, including HFS, with pre-registration nurses.

Over the last seven years within the Bachelor of Nursing programme, and in my current role as simulation lead for the department, I work alongside District Health Board (DHB) educators, and the DHB simulation lead in a shared teaching space in a built-for-purpose simulation centre. During this time, I have become increasingly aware of the many influences and challenges associated with HFS, including the increasing pressure on academic nurse educators to be familiar with the potential uses for the technology, to be competent users of such technology and to acquire the skills to embed simulation, including HFS, into the nursing curricula. I am very much exposed to HFS on a day-to-day basis and consequently immersed in what I interpret as a predominately modernist learning environment. HFS is still seen by many as the province of experts, dependent on specialised knowledge and perhaps further consolidating the privileged status of those who have the expertise (Kneebone, 2016).

Traditionally, nursing, as a profession, has been influenced by the modernist paradigm (Neville, 1997). However, it is through a postmodern perspective that we can best respond to rapidly changing foci within pre-registration nursing education, such as the use of HFS as a replacement for actual clinical experience hours. For me then, there is a conundrum. On the one hand I am very much part of this modernist structured environment, imbued with scientific evidence-based practice, on the other, I am attempting to take a postmodernist position by questioning and troubleshooting such modernist narratives around the use of HFS. Through this critical lens, I will review how we, as academic nurse educators, talk and practice in this arena.

During my professional clinical nursing practice, and as an academic nurse educator, it has become evident that health care professions increasingly identify the value of SBE activities to reinforce certain healthcare concepts and practices. Being involved in decision-making around the management and purchase of simulation resources and developing and delivering simulation activities, including HFS, has required me to regularly upskill to gain proficiency in the use of

technology in simulation. It has also become imperative to seek out and use new simulation-based training equipment and techniques that will enhance the learning opportunities for students. This exposure has fuelled an interest in exploring the driving forces behind the use of the technology, the rise of simulation as a teaching and learning platform as well as the costs associated with its use, maintenance, and upgrades.

Concomitant to this increasing involvement in simulation has been an interest in and questioning of the influences on simulation use, particularly concerning computerised manikins. Hence this research is motivated by an interest in exploring the emergent discourses that may be shaping the use of HFS in pre-registration nursing education. As an academic nurse educator deeply involved in HFS at pre-registration nursing level, transparency of personal values and assumptions is crucial. It is, therefore, imperative that there is a degree of self-reflexivity as reflective research enables the researcher to be transparent in when reflecting on emerging views and experiences. Self-reflexivity, as it relates to ethics and research rigour is discussed in greater depth in chapter four.

Significance of the study

So why is it necessary to problematise such discourse? What are the conversations or the thinking around why technology or high-fidelity is used in simulation, particularly in pre-registration nursing education? Why, as an academic nurse educator, do I want to unsettle the current position on HFS, or ‘ruffle the feathers’ so to speak? From a postmodernist perspective, the intention is not to dismiss HFS as an educational modality, but instead to question how certain knowledges and practices have emerged as permissible, gaining the status and currency of truth. As Foucault suggests, discourse can privilege ways of seeing and organising certain practices (Foucault, 1972). The intention is to unpack and reconsider the discursive formation of such an educational modality and to think beyond HFS discourse as it is currently formed and authorised.

Unpacking such discursive practices creates an interstice for a more in depth understanding of HFS discourse and for nurturing other ways of thinking around the use of HFS in pre-

registration nursing education, from both an historical and contemporary perspective. Thus, this research provides academic nurse educators and others with an opportunity to gain a better understanding of the discourses influencing the use of HFS in pre-registration nursing education and to more clearly recognise the processes by which to decide what is essential, or not, in using HFS.

Critical commentary in the literature emphasises that world-wide the current healthcare climate remains a challenge, as nurse academics are confronted with preparing pre-registration nurses for a diverse and highly complex workforce (Bogossian et al., 2018; Erlam et al., 2016; Spence et al., 2019). Accordingly, there is increasing dialogue that nursing curricula need to be revisited, and educational activities aligned with the ways the current generation of nursing students learn (Erlam et al., 2016; Tutticci., 2016a). The Nursing Council of New Zealand (NCNZ) has recently reviewed pre-registration education nursing programme standards (NCNZ, 2021) and guidelines (NCNZ 2020). More recent challenges to global health systems and economies, such as the COVID-19 pandemic, have precipitated the need to review alternative modalities in delivering pre- registration nursing education. Such challenges include the availability of face-to-face clinical instruction and limited clinical experiences due to public health measures associated with lockdown. These COVID-19 impacts, including disruption to the delivery of pre-registration nursing education, make it timely to re-examine the use of HFS in this context.

High-fidelity simulation, as a teaching modality, has gained considerable attention as a solution for some of the challenges associated with delivering nursing education (Bogossian et al., 2018; World Health Organisation [WHO], 2018). More recently, pre-registration nursing programmes are employing, within their curricula, other enhanced learning environments, including immersive technologies such as HoloLens with a view to graduating workplace-ready nurses. Within pre-registration nursing education circles and in nursing literature generally, the use of simulation is spoken of as an effective teaching-learning modality and is recognised by the NCNZ as being an integral part of nursing education throughout the tertiary sector (Wordsworth et al., 2014; NCNZ, 2020). However, the level of simulation fidelity remains ambiguous. The

current position of the NCNZ, as articulated in its recently revised education programme standards, is that simulation hours are not considered as equivalent to clinical experience hours or direct face-to-face patient contact within New Zealand Bachelor of Nursing programmes. (NCNZ, 2020).

Across the various health disciplines, SBE takes a range of forms. At one end of the spectrum are activities using no technology at all, such as when students role play with no unique props. There are activities utilising a degree of low-fidelity simulation such as part-task trainers with limited functions. For example, when students practise skills on each other with essential equipment or practise skills, such as catheterisation on a static manikin. Some academic nurse educators make use of developing technologies including computerised manikins or task trainers that offer a range of capabilities such as voice, a detectable pulse and blood pressure, which learners can monitor. High-fidelity simulation involves the use of sophisticated life-like manikins, mimicking human anatomy and physiology, in a realistic patient environment (Massoth et al., 2019). In the findings of Bogossian et al. (2018), curricular integration of simulation activities within Australian and Aotearoa New Zealand pre-registration nursing education programmes is mainly associated with the use of low to medium fidelity with, in some cases, actors making real bodies available.

These different forms of simulation have been utilised in nursing education for several decades (Nehring et al., 2009). The use of both medium-fidelity and high-fidelity simulation has been increasingly used within nursing and other health arenas (Erlam et al., 2016; McNamara et al., 2014; Nehring et al., 2013; Wordsworth et al., 2014). Educators widely regard SBE, including HFS, as a learner-centred, experiential approach situated in an environment replicating the real world, integrating the multiple facets of learning, including the cognitive, affective, and psychomotor domains (Rooney et al., 2015).

As suggested by both Sherwin (2012) and Tun et al., (2015), there is a plethora of literature that supports the use of HFS, and the use of programmed computerised manikins, in a dynamic learning environment. More recently, and particularly within the nursing arena, there has been a

shift in focus. Educators are thinking about how computerised manikins and simulation contribute to learning and the underlying pedagogy to facilitate this. In particular, the call from academic nurse educators is to explore the transferability of skills learned in the simulation environment into clinical practice (Bogossian et al., 2018; Rooney et al., 2015). Additional questions surface regarding the realism associated with using computerised manikins and the impact on student learning. Are there alternatives to high technology simulation such as actor patient? Tun et al. (2015) question whether HFS requires complete and faithful replication of reality, or instead can be achieved through "... accurate representations of real-world cues and stimuli" (p. 163).

Of crucial importance, is that nurses and other health professionals are under increasing scrutiny to provide safe and effective patient care. What counts as safe and effective patient care is itself discursively produced in healthcare discourse and is discussed further in chapter five. The continuing pressure for nursing education providers to produce graduates who are workforce ready ultimately dictates how curricula are delivered. Proponents of HFS promote that it be used to not only teach skill acquisition and task training but also to develop critical thinking skills, assess nursing competencies, develop interprofessional communication, and address patient safety (Durham, 2008). Consequently, HFS activities are constructed as an all-encompassing educational approach to address the many challenges in pre-registration nursing programmes.

It would seem that the increasing focus on patient safety in healthcare education is primarily to address the increasing number of adverse events (Lewis et al., 2012). Closely aligned with the focus on patient safety is the increasing search for education methods that do not expose the patient to potential risks (Lewis et al., 2012). Subsequently, the result has been the augmented integration of HFS, as an innovative educational platform into many health professional curricula to address the ethical issue of practising on real patients and to mitigate against medical adverse effects. There is a large body of nursing literature that discursively establishes HFS as an ideal model to address the issue of patient safety (Seaton et al., 2019; Erlam, 2015; Durham & Alden, 2008; Jeffries, 2007; McNamara, Reid-Searle & Dwyer, 2014; Nehring et al.,

2013; Wordsworth et al., 2014). This literature mirrors the increasing volume of medical literature on patient safety that is discussed in more detail in chapter five.

The rise of HFS as an educational modality has necessitated nursing institutions providing state-of-the-art simulation suites equipped with high-fidelity manikins (Lapkin & Levett-Jones, 2011; McNamara et al., 2014). Schiavenato (2009) considers that the high-fidelity manikin has become synonymous with the word simulation in many health arenas. The cost-effectiveness of using such simulation, and the investment educational institutions must make to acquire such equipment, has subsequently come into question. To that end, research undertaken by Lapkin and Levett-Jones (2011) showed that medium-fidelity simulation was the most cost-effective approach in producing skill acquisition, clinical reasoning, and student satisfaction.

The augmented use of HFS within nursing education is quite transparent, along with the pressure experienced by schools of nursing to acquire state-of-the-art simulation technology. A consideration for this study is that there is a substantial body of nursing and other health literature supporting the concept that HFS fosters refinement and application of knowledge and skills in a realistic and safe simulated clinical environment (Durham & Alden, 2009; Jeffries, 2007). Consequently, there is construction of HFS as an innovative opportunity for nursing students to practise both psychomotor and cognitive skills in a safe learning environment (Durham & Alden, 2008; Jeffries, 2007; Sherwin, 2012).

Focus of Inquiry: - problematising HFS use in pre-registration nursing education.

With the increasing pressure on nursing education institutions to prepare nursing students to be workforce ready, it is timely to reflect on the use of HFS in this educational arena. With the unprecedented acceleration in HFS use in healthcare education, academic nurse educators must be instrumental in delivering nursing education that is student-centred and designed to meet the requirements of the respective professional regulatory bodies, for example the NCNZ. In addition, nursing education needs to be designed to promote effective clinical reasoning skills to have a positive impact on patient outcomes (Levett-Jones, 2017).

Studies that take a critical stance on how discourses and discursive practice view simulation and the way it shapes nursing knowledge and practice are limited. From my previous readings of simulation literature there are few studies that offer a critical analysis of simulated learning. One example is in the work of Limoges (2009), who explores power relations and hierarchies of knowledge shaping pre-registration nursing students' experiences. This gap in analytical inquiry has driven an interest in viewing simulation from a more interrogative stance, using a critical gaze to question how knowledge and power are being used to construct and sustain certain positions, or discourses, around the use of simulation, and what is simulated.

From previous readings of simulation literature, it is evident that there is a considerable volume of research undertaken from a quantitative, modernist stance, but there is comparatively little literature exploring simulation learning from a qualitative stance. In addition to this, whilst there is an abundance of literature supporting the use of SBE in nursing education and other health disciplines, very little of the literature is focused on the use of HFS in pre-registration nursing education, particularly from an Aotearoa New Zealand perspective. More recent literature has centred on the use of HFS replacing actual clinical hours, in particular the National Council of State Boards of Nursing (NCSBN), National Simulation Study (Hayden et al., 2014). Such a discussion potentially provides a critical interface for nurse academics to explore, when considering changes in the delivery of pre-registration nursing education and the role that HFS might play in that process.

To critique contemporary practices in the use of HFS, this study draws on the tenets of postmodernism and discourse analysis methodology based on Foucauldian theory. Using this methodology enables interrogation of how knowledge and power constructs and sustains certain subject positions, or discourses, and how this shapes nursing students' subjectivity and, ultimately, nursing practice. Postmodernism and Foucauldian discourse analysis are discussed in more depth in chapters two and three.

Using a postmodernist lens and Foucault's methodological principles challenge the centrality of knowledge and power relationships, and subsequent construction of discourses influencing the

use of HFS and its position in nursing education. A central tenet of postmodernity is to deconstruct or critique grand narratives to reveal the differences and instabilities within. Grand narratives, or metanarrative, is a term introduced by French philosopher Jean-François Lyotard (1924-1998). It explains how stability and order are maintained in modern societies through the stories a culture tells itself about its practices and beliefs. The grand narrative not only explains but legitimises knowledge, and existing power relations (Neville, 2005). The postmodernist view rejects the grand narrative, preferring mini narratives that focus on small practices and specific local contexts, as well as on the diversity of human experience, rather than large scale universal concepts (Klages, 2001). Such mini narratives make no claim of universality or truth. The philosophical position of postmodernism and the deconstruction of grand narratives are discussed further in chapter two.

Undertaking this interrogation provides a context in which to position HFS and its use in nursing education, and as Lemke (2011) alludes to, using Foucault unsettles the telling of truths, or as Foucault coins it, parrhesia, in his work *The Hermeneutics of the Subject* (2005). From a Foucauldian perspective what people say and write are manifestations of discourses, with their origins not in the attitudes or opinions of the person, but the discursive culture in which they are situated (Burr, 2015). Utilising Foucault's methodological principles facilitates the examination of a variety of texts central to HFS, and the discourses that inform those texts.

Utilising a Foucauldian analytical approach also allows for an interrogation into why some voices are heard whilst others are silenced, who benefits from such discourse and by what means discourses maintain their authority. As a result, such an approach raises questions addressing power, empowerment, and disempowerment. Discourse analysis does not only involve the "... examination of text and the social uses of language but also the study of the ways in which the very existence of specific institutions and of roles for individuals to play are made possible by ways of thinking and speaking" (Hodges et al., 2008, p. 570).

For this study, text generated for analysis originates from a range of sources associated with simulation use in pre-registration nursing education in Aotearoa New Zealand. The text includes

scholarly literature, grey literature, naturally occurring text and text from narratives generated from a mix of individual and focus group interviews with pre-registration nursing students and academic nurse educators working in pre-registration nursing programmes. A representative from NCNZ and a simulation equipment provider in Aotearoa New Zealand are also interviewed. Research methods, including data collection, are discussed in more depth in chapter four.

Research aims.

This study questions the discourses and discursive practices that influence the use of high-fidelity simulation in pre-registration nursing education within an Aotearoa New Zealand context. My interest in the accelerated use of HFS in pre-registration nursing education drives this study which addresses the research question: What are the discourses and discursive practices that influence the use of HFS as an approach to intentional and unintentional teaching and learning in pre-registration nursing education in Aotearoa New Zealand?

The aims of this research are to:

- Explore how the prominence of HFS as a teaching modality eventuated and how discourses shape this pedagogical dominance.
- Interrogate the discourses that influence the use of HFS in pre-registration nursing education in Aotearoa New Zealand.
- Investigate troubling phenomena or potential tensions that exist within discourses for HFS including how other ways of knowing have been marginalised.
- Consider how discourses constructing HFS shape nursing students' subjectivity and ultimately, nursing practice, particularly in the absence of the embodiment of real patients.

The argument informing the above aims is that the use of HFS has been normalised to the extent that it is used in its many forms uncritically, with assumptions about its advantages and utility.

The term normalisation is found in Foucault's 1975 writing *Discipline and Punish: The Birth of the Prison*, in the context of his account of disciplinary power. Foucault considered normalisation to involve the construction of an idealised norm of conduct.

Key concepts

Several simulation concepts and definitions have evolved and have been constructed over the years possibly as a result of increased usage of HFS in healthcare education. In the context of this thesis, several terms germane to HFS are defined with some of these terms discussed in more depth in chapter five. With the increasing expansion of simulation terminology, it is important that the terms used in this thesis are explained to enable the reader to understand how I have interpreted their meaning. I am cognisant that many of these terms are themselves heavily laden with meaning representing more of a modernist, rather than postmodernist position. As I have alluded to previously, the HFS community is very much imbued in a modernist world view.

Academic nurse educator

The term academic nurse educator is used in this thesis in the context of a nurse educator who teaches pre-registration nursing students within the tertiary sector. An academic nurse educator is an educator and researcher who has clinical experience in a specialty area, and who is responsible for designing, implementing, evaluating, and revising educational programmes for nursing students within a formal academic programme leading to a degree (Booth et al., 2016).

Simulation

Simulation in its broadest sense refers to the reproduction or replication of something real through imitation. McNaughton (2012) suggests that simulation is a series of activities resulting from dynamic discursive practices and conditions that are socio-culturally derived. Discursive practices and conditions may vary depending on the application and the socio-cultural context within which they are positioned which highlights the effect of using such an educational modality on shaping a learner's knowledge and subjectivity.

One of the definitions most widely used in the medical literature is provided by David Gaba (2004) who states, "... simulation is a technique - not a technology - to replace or amplify real patient experiences with guided experiences, artificially contrived, that evoke or replicate substantial aspects of the real world in a fully interactive manner" (p. 2). Gaba uses terms such as technique, interactive and guided experiences implying that simulation is more of an educational process facilitating and generating outcomes in a particular way. Other early users describe simulation in more operational terms. Pamela Jeffries (2005), for example, defines simulation thus: "...activities that mimic the reality of a clinical environment ... designed to demonstrate procedures, decision-making and critical thinking through techniques such as role-playing and the use of devices such as interactive videos or manikins" (p. 97).

A more recent definition used by the International Nursing Association for Clinical Simulation and Learning (INACSL) Standards Committee (2016), states simulation is "...an educational strategy in which a particular set of conditions are created or replicated to resemble authentic situations that are possible in real life. Simulation can incorporate one or more modalities to promote, improve, or validate a participant's performance." (p. 44). What we see here is that the INACSL has alluded to the education perspective and have provided further dimensions to the potential strategic use of simulation. In this study, the INACSL definition of simulation is used.

Manikin or mannequin?

With the expansion of technology within simulation comes a plethora of simulation terminology. Usage of the terminology creates assumptions, with varying terms, or the same term meaning different things in different contexts and by different users of simulation. An example is the usage of the word's manikin and fidelity. The term manikin is spelt in numerous ways; it is often spelt mannequin within HFS literature. The Oxford English Dictionary's (2021) definition of a mannequin is a model of a human figure or part thereof used to display clothes in a shop window, or a dressmaker's dummy. I argue that using the spelling mannequin has numerous connotations and immediately devalues the manikin as representing the human body and patient.

For this study, the term manikin is used, meaning a jointed model of the human body, used in anatomy or as an artist's lay figure (Oxford English Dictionary, 2021). The term manikin is derived from the 16th-century Dutch word manneken meaning small man. This definition resonates as it is more in keeping with viewing the manikin as representing the patient body, rather than a clothing dummy. Differences in terminology and meaning show how language can construct and control assumptions and thinking. It is interesting to note that, more recently, both terms have been used in the literature, including the Laerdal Medical™ website (2020). It is contestable that the usage of simulation terminology is problematic as it can formulate assumptions and convey the meaning that can be controlled and regulated. This perspective of embodiment or lack thereof and realism is discussed in more depth in chapter eight.

Simulation-based education

The term simulation-based education (SBE) generally refers to a broad collection of structured activities that replicate actual or potential situations in education, practice, and research. Such activities allow participants to develop or enhance knowledge, skills, and attitudes and provide an opportunity to analyse and respond to realistic situations in a simulated environment (INACSL Standards Committee, 2016).

Fidelity

Fidelity in simulation has traditionally been defined as the degree in which the simulator replicates the real world. Using such a definition, manikins are labelled as either low, medium, or high-fidelity depending on how closely they represent real life. The concept, definitions and applications of simulation fidelity remain to be debated in the literature despite it being recognised as a crucial factor in terms of the design and educational effectiveness of a simulation (Tun et al., 2015). Consequently, there is a degree of inconsistency between definitions of fidelity.

Meakin et al. (2011) consider the category of simulation fidelity to be dependent on the degree of realism of the simulation, with high-fidelity simulation (HFS) providing the most realistic

simulation using manikins, actors, and standardised patients (Meakin et al., 2011). Weller et al. (2012) state, "... fidelity describes the extent to which a simulation represents reality. It also refers to the psychological effect of "immersion" in the situation, or "being there" and the extent to which the clinical environment is accurately represented" (p. 2). These interpretations of fidelity supported by the 2018 World Health Organisation document (WHO) Simulation in Nursing and Midwifery, who state that fidelity is the "... degree in which simulated clinical experiences approaches reality, determined by the environment, materials and equipment used and factors associated with the student" (WHO, 2018, p. 4). According to Lopreiato et al. (2016), fidelity is:

... the ability to view or represent things as they are to enhance believability...the ability of the simulation to reproduce the reactions, interactions, and responses of the real-world counterpart. It is not constrained to a certain type of simulation modality, and higher levels of fidelity are not required for a simulation to be successful. (p. 12)

The INACLS definition of fidelity is based on Lopreiato et al. (2016) and states that fidelity is:

... the ability to view or represent things as they are to enhance believability. The degree to which a simulated experience approaches reality; as fidelity increases, realism increases. The level of fidelity is determined by the environment, the tools and resources used, and many factors associated with the participants. Fidelity can involve a variety of dimensions. (p. 42)

Kunst et al. (2018) believe that others use the term to describe the level of technological sophistication of the equipment alone, such as a computerised manikin, rather than the conceptual, environmental, and psychological authenticity. The use of HFS encompassing a high level of technology allows for the systematic control of practice, presentation of feedback, and introduction or, conversely, suppression of environmental distractions, within a safe controlled learning environment (Beaubien, J., & Baker, D., 2004). What is apparent in the literature is that many within the simulation community use the terms simulation and high-fidelity simulation almost interchangeably. This over emphasises the importance of the technology used to the detriment of more fundamental issues, such as the learning goals, content, and design of the simulation activity itself. It also perpetuates several myths, such as higher levels of technology and fidelity lead to a more effective learning experience and

outcome. The differing interpretations of what constitutes fidelity subsequently creates a degree of incongruity and is discussed in greater depth in chapter eight.

Structure of the thesis

The thesis is structured somewhat differently to a conventional thesis, reflecting the nature of discourse analysis. Traditionally the review of literature is at the forefront of the thesis to enable findings or results to be linked to such data. In this thesis the first four chapters set the scene for the study by introducing the study, explaining the philosophical underpinnings and a discussion on how Foucault's work is applied to the research question. The research methods utilised in this study are also presented. These chapters are so positioned to enable the reader to draw on key concepts to facilitate the interrogation and review of text which is treated as data and weaved through the thesis. These preliminary chapters are followed by four analysis chapters and a final discussion chapter.

Overview of the structure of the thesis

Chapter One: This chapter provides a background to the area of research interest, contextualising the aim of the thesis. An overview of critical arguments is presented with an outline of the main aims associated with this research. It also explains the role of high-fidelity simulation in pre-registration nursing education within Aotearoa New Zealand, and in an international context.

Chapter Two: This second chapter presents the philosophical approach chosen for this thesis. It begins with an overview of the philosophies of social constructionism and postmodernism, along with Foucault's philosophical and theoretical position. The fundamental principles and methodological guidelines necessary for conducting a Foucauldian discourse analysis are explored, including the subject, discourse, power/knowledge and resistance and technologies of discipline and subjectivity. Positioning fundamental philosophical underpinnings in this way provides a conduit to review and critically interrogate the data in this thesis.

Chapter Three: This third chapter presents the application of Foucault's philosophical and theoretical principles to the research question, presenting Foucault's concepts of archaeology and genealogy. An interpretation of Foucauldian theory is presented along with various techniques drawn from Foucault's works and other researchers who have utilised Foucault's toolkit.

Chapter Four: This fourth chapter outlines the research methods used in this thesis. The methods of text generation are discussed and how data were collected and processed, including recruitment of participants and interview processes. It also includes techniques used to analyse data based on Foucault's methodological principles. Ethical considerations to undertake this thesis are also presented here.

Chapter Five: The fifth chapter presents a brief history of simulation and HFS in pre-registration nursing education. Foucault's methodological tools of archaeology are used to analyse text generated from published literature, and to trace the emergence and surfacing of dominant nursing and medical discourse and sub discourses in the use of HFS as a teaching-learning modality in pre-registration nursing education in Aotearoa New Zealand.

Chapter Six: In this sixth chapter, Foucault's methodological tools are used to critically interrogate nursing and medical discourse in Australian and Aotearoa New Zealand published literature since 2000. In addition to nursing and medical discourse, the three sub-discourses of simulation pedagogy, realism and HFS replacing actual clinical experiences are also interrogated. An analysis of such discourse emerging within a social, historical, and cultural context is presented, actively constructing the notion of HFS as a legitimate education modality.

Chapter Seven: This seventh chapter presents data generated through interviews with academic nurse educators, BN nursing students and others including a NCNZ representative and simulation business representative. From the textual analysis, various subject positions made available by discourses associated with the object of HFS are identified illustrating the different ways people talk about, and use, HFS.

Chapter Eight: The focus of this chapter is on the sub-discourse of realism and the surreptitious and apparent influences that such discourse has on subject positions offered and made available to pre-registration Bachelor of Nursing (BN) students and academic nurse educators, by their association with the object of HFS. The chapter presents an analysis of personal narratives generated by academic nurse educators, BN nursing students and others, including a NCNZ representative and simulation business representative.

Chapter Nine: In chapter nine I discuss the analysis findings, the contribution to existing literature and recommendations about how the use of high-fidelity simulation (HFS) may be reconsidered in pre-registration nursing simulation-based education, within an Aotearoa New Zealand context.

Summary

This chapter has addressed the basis for the study including a personal narrative of how the focus of inquiry for this research evolved. The significance and focus of the study have been discussed, including a background of key concepts inherent to the thesis, the research question and aims. The following chapter explores the philosophical and theoretical underpinnings of the research relating to the emerging discourses of HFS use in pre-registration nursing education, with the aim of providing a situated perspective from which the rest of the thesis may be read.

Chapter Two: Key philosophical and theoretical concepts

Introduction

The previous chapter presented an introduction to and the background motivation for this research, including a discussion on how the work of French philosopher Michel Foucault informs the theoretical and methodological approach to this thesis. In chapter two, the philosophical and theoretical influences used to approach this critical inquiry as well as the structuring of the research process are discussed in more depth. In order to problematise the area of inquiry, aligning methodology and methods is essential. The author's philosophical position, research beliefs and assumptions also play a vital role in the research study. Crotty's (1998) epistemological framework, which comprises four research design elements to assist in framing the research process facilitates this synthesis. The framework clarifies and conceptualises the base of the research process and enables interconnection of interrelating concepts. As suggested by Wener and Woodgate (2013), one of the framework's strengths is its ability to provide consistency amongst concepts. In the following sections, I discuss my understanding of the tenets of the core philosophical positions underpinning this study, namely an epistemological position of social constructionism, and the philosophical and theoretical position of postmodernism.

A significant focus for undertaking this thesis inquiry is to problematise the use of HFS in pre-registration nursing education. Applying Foucauldian philosophical and theoretical principles enables the questioning of assumptions about discursive practices influencing HFS critically, and the thinking around HFS from multiple perspectives. The chapter also outlines the philosophical and theoretical position of French philosopher Michel Foucault (1926-84) in whose work has fundamentally informed the author's perceptions in defining the focus of this study and its methodology.

Choosing Michael Crotty's framework to position the research process

To guide the research process, a framework that would enable alignment between the focus of research inquiry, epistemological and theoretical position, methodology and methods was required. Many qualitative researchers use step-by-step processes for approaching the research design (Wener & Woodgate, 2013). Crotty (1998), however, maintains that many researchers fail to consider the consequences of their choices, often transitioning directly from the research question to the method of data collection. Michael Crotty (1998) suggests that researchers need to engage with their focus of study from a broader theoretical perspective. Crotty's framework is selected to help scaffold the research process for this study.

Crotty (1998) suggests that the distinguishing factor between different methodological approaches to research is related to their grounding in epistemology. He also proposes that epistemology, theoretical perspective, methodology and methods all must be considered to guide the research process and that each element informs the others (Crotty, 1998). Within a research context, Crotty (1998) maintains that epistemology is the theory of knowledge that forms the foundations of the research and defines what kind of knowledge is possible. He explains that epistemology "... is the theory of knowledge embedded in the theoretical perspective and thereby in the methodology" (Crotty, 1998, p. 3).

The theoretical perspective is the particular philosophical position which provides a context for the research, grounding the methodological criteria. Examples include postmodernism, feminism, and branches of interpretivism. According to Crotty (1998), "... methodology is the strategy or plan of action which lies behind the choice and use of particular methods" (p. 3), that links the methods to the research outcomes. Discourse analysis is an example of such a methodology.

The framework, concludes with a discussion of the methods used to undertake the research, including the gathering of data utilising such tools as questionnaires, interviews, participant observation, ethics, and analysis (Crotty, 1998). According to Crotty epistemology, theoretical perspectives, methodology and methods represent distinct levels of decision making and are

arranged hierarchically so that all the different methods are contained within the three epistemologies: objectivism, constructionism, and subjectivism (Feast, 2010). As Feast (2010) suggests, within Crotty's framework, each epistemology contains assumptions about the nature of the world, and these assumptions are, in turn, embedded in particular methods.

Epistemological Stance—what is the theory of knowledge embedded in the theoretical perspective and thereby in the methodology?

From the Greek word *epistemé*, meaning knowledge, epistemology is a branch of philosophy concerned with the theory of knowledge and truth (Scotland, 2012). A core concept of epistemology is that it reflects systems that individuals use for making sense of their world and how they know the world to be (Polit & Beck, 2012). According to Cohen et al. (2018) an epistemological position concerns "... the very bases of knowledge-its nature and forms, how it can be acquired and how communicated to other human beings" (p. 5). For Crotty (1998), epistemology is a way of looking at the world and making sense of it. As Hashil Al-Saadi (2014) suggests, Crotty builds on this by explaining that "... epistemology deals with the 'nature' of knowledge, its possibility (what knowledge is possible and can be attempted and what is not), its scope and legitimacy" (p. 2).

For Crotty (1998) epistemological positions include those of objectivism, constructionism, or subjectivism. As alluded to by Crotty (1998), objectivism is the belief that truth or meaning reside within an object and is independent of human subjectivity. For those adopting such a philosophical lens, all contextual factors and human bias are removed to observe and know the phenomena as it exists, independent of the human mind (Crotty, 1998). Adhering to an objectivist epistemology means that objects are believed to embody elements that are above and beyond the influence of humans, researchable through unbiased observation.

As maintained by Crotty (1998), Auguste Comte (1798-1857) a French philosopher, popularised the term positivism when he sought to "... apply the scientific paradigm, to the social world" (p. 19). As a theoretical position, positivism focuses on the importance of objectivity and evidence in searching for the truth. Also, positivism asserts the position that meaning and meaningful

realities already reside in objects awaiting discovery, and they exist apart from any kind of people's consciousness (Crotty, 1998). According to Creswell (2009) "... positivists attempt to identify causes which influence outcomes" (p. 7). And as Scotland (2012) suggests, this is why positivism and objectivism are often perceived as synonymous with the scientific method.

In contrast to the objectivist tradition with its direct observation, subjectivism, interpretivism, and constructionism are epistemological positions that make sense of the world through our perceptions and interpretations of the world around us. As Crotty (1998) explains, "... people may construct meaning in different ways, even in relation to the same phenomenon" (p. 9). As such, knowledge of the world is based on our understanding which arises from our reflection on events rather than only on lived experiences (Ormston et al., 2014). A central tenet of constructionism is that meaning is created through an interaction of the interpreter and the interpreted, and that the interpreter's observations are shaped by the phenomena and societal influences (Crotty, 1998). Accordingly, constructionism makes no claim to search for truth; it acknowledges that the interpreter is separate from the phenomena being observed and that interpretations may be influenced.

With its roots in phenomenology, social constructionism emerged in the early 20th century, with a focus on the development of shared constructs of experience, or consciousness (Galbin, 2014). Social constructionism holds, as a central assumption, that individuals construct knowledge from their shared experiences, and that new information is incorporated into that frame of experience (Garrison et al., 2012). Protagonists of social constructionism, including Berger and Luckman (1967), suggest knowledge is subsequently jointly constructed, forming a basis for shared assumptions, with social constructionism looking at ways in which individuals construct their social reality (Galbin, 2014). Berger and Luckman (1967), in their work *The Social Construction of Reality*, contend that all knowledge, including the most basic taken-for-granted common sense knowledge of everyday reality, is derived from, and maintained by, social interactions. When people interact, they do so with the understanding that their respective perceptions of reality are related, and as they act upon this understanding their shared knowledge of reality becomes reinforced (Berger and Luckman, 1967).

A core belief for social constructionists is that phenomena and explanations that we think are true should be assessed critically, and that social processes should be examined to interrogate their role in the production of that perceived reality (Galbin, 2014). This practice will inform how meaning is subsequently adopted by members of a particular society or community and how they view, interpret and deal with particular phenomena. In other words, a concept or practice which may appear to be natural and obvious to those in the group, may be a falsehood to others (Galbin, 2014). The accepted meaning placed on an object, event, or practice by such a society or group is considered to be a social construct. As suggested by Michel Foucault (1978), social constructionism implies that identity is always under construction and exposed to discursive practices such as power relations and discourses. Galbin (2014) similarly proposes that social constructionism "... is concerned with ways in which knowledge is historically situated and embedded in cultural values and practices" (p. 89).

The terms constructionism and constructivism appear to be closely linked. However, when used in the literature their meaning is not always clear (Young & Collin, 2004). Whereas knowledge and views of reality created through the social interactions of a group are the central tenets of social constructionism, constructivism and social constructivism focus on the learning that takes place within an individual, through group interactions. Constructivism regards how people learn, and is more evident in education theory, coming to prominence through the works of philosophers and educational theorists such as John Dewey (1859-1952), Lev Vygotsky (1896-1934) and Jean Piaget (1896-1980). Dennick (2012) explains that constructivism is more of an orientation towards learning than a theory. A central tenet of constructivism being that learning is an active, contextualised process of constructing knowledge rather than acquiring it. Closely aligned with notions of learner-centred education (Forrest & McKimm, 2019), the learner brings prior knowledge and experience into the interaction, which is also influenced by the cultural and social environment (Galbin, 2014). Through experiencing situations and things, and reflecting on those experiences, people are able to construct their understanding and knowledge of the world. Social constructivism is closely related to social constructionism in that individuals are interacting together to construct knowledge. The difference being that with social

constructionism, knowledge is constructed through social interactions within the group whilst with social constructivism, knowledge is constructed through the individual's learning that takes place because of their interactions within the group (Galbin, 2014).

The use of simulation-based activities, including HFS, in pre-registration nursing education involves a process of creating a simulated clinical environment to replicate a clinical experience. Simulation can replicate the real world, systems, and people's behaviours and disseminate knowledge (Bogossian, 2018; Gaba, 2004; Jeffries, 2005). When one is immersed within such an integrative, social activity, one can construct an understanding of not just the phenomena at hand but also how to be a part of that society in different ways and from the different perspectives of nursing practice, nursing subjectivities and professionalism. As philosophical positions, both social constructionism and social constructivism align well with HFS.

Constructivism considers that learning occurs most effectively when people are actively involved in creating concrete thoughts in the real world (Fosnot, 2005; Forrest & McKimm, 2019). It appears to resonate strongly with simulation, given that simulation as an education and learning modality provides opportunities for both the deconstruction and reconstruction of previous perspectives and the construction of new viewpoints and practices. As suggested by McHaney, Reiter and Raychav (2017) "... within constructivist worldviews, each new concept is mediated by previous constructions of reality" (p. 8). Forrest and McKimm (2019) also consider "... simulation is suited to a constructivist approach as it is highly experiential, requiring mental and physical activity and affords the opportunity for reflection" (p.17). A social constructivist position would be more aligned with an inquiry focusing on how individuals view the world and their construction of reality arising from the learning that takes place, because of their interactions within a group.

Given that the focus of this study is on processes of power relations and discourses shaping the use of HFS in pre-registration nursing education, an epistemological position of constructionism, in particular social constructionism, is adopted. Using such a position infers that our knowledge is constructed and dependent on not only human perception, but also social

experiences and social or cultural factors. In the context of this inquiry, from a social constructionist perspective, knowledge can be constructed by the social interactions between simulators as simulated patients, nurse academics and those undertaking the simulation experiences, the nursing students. Along with the epistemological position of social constructionism, postmodernism also underpins this thesis and is discussed in the following sections. To unpack the central tenets and associated complexities of postmodernism, I first outline and discuss what the term modernism.

The Enlightenment and modernism– philosophical position of postmodernism

An interrogative stance crucially allows the researcher to question and problematise reality and truth claims, as well as links between knowledge production and power. Addressing the research question, the aims of this thesis and exploring data through a postmodernist lens enables such an interrogative viewpoint. To clarify the central tenets, along with the complexities of postmodernism, I must first engage with what is meant by the terms modern and modernism as modernism and postmodernism are intrinsically linked. Postmodernism, according to Mease (2016), offers a response and critique to modernism.

Modernism is often associated with a philosophical position that emerged in response to intellectual and technological Eurocentric shifts occurring at the time of the European Enlightenment (Mease, 2016). However, for some, the nascence of early modernism can be traced back to pre-Enlightenment times. The philosophical ideas of Rene Descartes (1596-1650) on the nature of knowledge and modern method, Frances Bacon's (1561-1626) science as power and Thomas Hobbes' (1588-1679) more political philosophy on the state and the science of human nature, form the early basis of modernism (Webb & Wright, 2000).

The Enlightenment was an intellectual movement that dominated from the late 17th century through to the 19th century in Europe. The Enlightenment included a range of ideas centred on rationality and reason as the primary source of authority and legitimacy and brought with it new worldviews of science and philosophy (Zafirovski, 2011). Bristow (2017), advocates that for many Enlightenment philosophers the Enlightenment was not a historical period but rather a

process of social, psychological, or spiritual development, unbound to time or place (Bristow, 2017). The Enlightenment rejected scholasticism which was predicated on the thinking of the church, monarchy and aristocracy, and which dominated during pre-Enlightenment times. Such theist thinking was considered the only source of knowledge at the time and thus heavily influenced social norms and values (Zafirovski, 2011). The philosophical origins of scholasticism can be traced back to philosophers such as Plato and Aristotle but are closely identified with medieval philosophy (Zafirovski, 2011).

It is not until the 17th century that we see the more well-known reactions to scholasticism in the works of Descartes (Hatfield, 2018). René Descartes is often referred to as the first philosopher of modernity. Considered to be a protagonist of early modern philosophy, Descartes was one of the first to abandon scholasticism, challenging the scholastics' method and viewpoint that God was omnipotent. Prone to doubt, Descartes promoted the development of new science, grounded in observation and experiment, holding a view many considered to be radical, on the relationship between the mind and body (Hatfield, 2018).

A prominent protagonist of the Enlightenment, Immanuel Kant (1724–1804) based his philosophy on the belief that knowledge is constrained to the science of the natural, empirical world (Bristow, 2017). A theme of Kant's work is that the world and the mind equally must be understood. Such a position shaped European philosophy well into the 20th century and with its emphasis on the scientific method and reductionism, along with an increased questioning of religious orthodoxy, it laid the foundations for modern philosophy. (Bristow, 2017). A variety of 19th-century movements, including liberalism, trace their intellectual heritage to the Enlightenment, and many consider the ideas of the Enlightenment paved the way for the political revolutions of the 18th and 19th centuries (Bristow, 2017).

Historians, and writers in different disciplines, have suggested various dates as starting points for modernism. It is widely considered that modernism is both a philosophical and an art movement arising from cultural trends and changes resulting from wide-scale transformations in Western society during the late 19th and early 20th centuries (Webb & Wright, 2000).

Modernism bases its philosophy on the belief that there are truths or knowledge that are already known or to be known, with a strong emphasis on the belief that reason, and science provide accurate, objective, and reliable foundations of knowledge. Subsequently, for modernist thinkers, such foundations are developed using empirical methodologies.

The term modernity is also used to represent this period of attitudes and practices that arose in the wake of the Enlightenment and is closely linked with the philosophy of modernism. For Foucault, modernity is marked by developments of questioning traditional thought, and despite being viewed as a postmodernist, he rejected the postmodern label, instead seeing his work as a critical history of modernity (Foucault, 1984). Foucault presents his view of modernity as an attitude, rather than a historical period (Foucault, 1984):

By 'attitude' I mean a mode of relating to contemporary reality; a voluntary choice made by certain people; in the end, a way of thinking and feeling, a way, too of acting and behaving that at the same time marks a relation of belonging and presents itself as a task. (p. 39)

The industrial revolution marked by the development of modern industrial societies and the rapid growth of cities, played a key role in shaping modernism. Contemporaneous to this came social structures influenced by the economic, social, and political platforms. Capitalism and its quest for new materials and technologies to promote consumerism was a significant force behind modernism. Indeed, German philosopher Karl Marx (1818-1883) noted that it was the rise in power of industrial capitalists against the decline of aristocratic landowners that made modernism different, and that unregulated capitalism led to rapid and continual social change (Hudis, 2012; Mease, 2016). Marx posited that as capitalists continued to exploit resources and people, and as systems continued to produce disruptions for the workers, inevitably there would be a point at which the workers would revolt and take ownership and power for themselves (Mease, 2016).

Postmodernism

The onset of postmodernism is difficult to date and remains highly contestable (Bugeja, 2007; Docherty, 2014), but it is generally said to have come about as a response to the philosophical

assumptions of modernism, rejecting and challenging the methodological desire for order embedded within modernism (Bugeja, 2007; Mease, 2016; Webb & Wright, 2000). As Bugeja (2007) explains, postmodernism as a philosophical movement came about as "... an expression of discontent in response to the failure of the Enlightenment project to deliver on its promises" (p. 4). Some contend that such societal responses and changes in western culture and worldview occurred after the Second World War, gradually preparing the path for a postmodern culture towards the end of the 20th century (Docherty, 2014). Postmodernism applies to postmodern theory encompassing philosophical ideas, whereas the term postmodernity is applied to any aspect of living in a postmodern world. In practice, the terms are often used interchangeably (Habermas & Ben-Habib, 1981).

From a philosophical, arts and political perspective the term postmodern refers to critiques and theories typified by theorists such as Foucault and Derrida who emphasise the subjective nature of reality, observing alternatives and interpretations of the truth (Bugeja, 2007). Postmodernists are sceptical about what counts as knowledge, what truth is, and who can determine the validity of that truth (Bugeja, 2007). Subsequently, postmodernist thinking enables the exploration of the ambiguity of knowledge and truth, and as discussed by Punch (2005), views knowledge as dependent on socio-cultural contexts, interpretive traditions, tacit discourses, and unacknowledged values. This theoretical stance encourages us to "... think about research and reality reflexively by attempting to unveil the complex ideological and political agendas hidden in writing and practice" (Freshwater & Rolfe, 2001, p. 531).

As discussed in chapter one, postmodernists are sceptical of the type of grand-narratives and grand theories that modernists seek, questioning the concepts of objective reason and truth. For philosophers such as Michel Foucault and Jean-François Lyotard, the order and stability of modernism are maintained in modern societies through the means of grand or master narratives. Grand narrative and master narrative are terms used by Lyotard in his 1979 work *La condition postmoderne: rapport sur le savoir-The Postmodern Condition: A Report on Knowledge*. In this work, Lyotard critiques the Enlightenment, and modernist institutional and ideological forms of knowledge, and introduces the notion of knowledge in terms of postmodernist society (Lyotard

et al., 1984). Lyotard et al. (1984) propose that the status of knowledge altered as societies moved towards a post-industrial and postmodern age after the late 1950s.

Lyotard et al. (1984) use the term grand narrative or metanarrative to represent the concept of a world view which they suggest is an essential part of modernity. For Lyotard, grand narratives are knowledge in the form of storytelling, with the narrative not only explaining, but also legitimating power relations and customs as it is applied to the social relations within that culture (Lyotard et al., 1984). As Lyotard et al. (1984) further explain, "... an institution differs from a conversation in that it always requires supplementary constraints for statements to be declared admissible within its bounds ... they also privilege certain classes of statements ... whose predominance characterises the discourse of the particular institution" (p. 17). For Lyotard and others, including Foucault, it is the mistrust and breaking up of such grand narratives that characterises postmodernist philosophy.

In addition, postmodernists question the assumption that objective reason and knowledge are unaffected by subjective beliefs and opinions (Lyotard, 1979). Certainly, postmodernists do not dismiss the use of logic and reason but do, however, reject the modernist assumption that the use of reason and logic is the only way in which to investigate the world. Subsequently, some, including Foucault, do not reject modernism outright but view postmodernism as an extension of modernism, not a complete break from it (Habermas, 1981). He sees these new forms of interpretation existing along a continuum on which a diversity of forms, however contradictory, coexist and on which no single idea dominates (Jameson, 1991).

Postmodernists, in their opposition to modernism, often adopt a critical attitude towards the modern model of society such as capitalism (Hedlund-de Witt, 2014), and as suggested by Hedlund-de Witt (2014), postmodernists instead "... emphasise "post-material" values, like creativity, uniqueness, authenticity, imagination, feeling, and intuition" (p. 8317). From a postmodernist perspective, the notion of socially constructed reality enables the formation of certain positions by individuals in a society who are in a constant state of social interaction and

discourse (Galbin, 2014). The numerous realities formed gradually become established, giving legitimacy to those realities and subsequent knowledge.

Modernism, postmodernism, and nursing

Modernist ideas have always permeated nursing practice and how the development of nursing knowledge is viewed. As Neville (1997) suggests, historically nursing has been heavily imbued with the progressive, modernist quest of human improvement through scientific methodologies based on empirical ways of viewing and rationality. Even though during the Enlightenment healthcare, particularly medicine, had begun to extricate itself from the church, and advances in healthcare were brought about through scientific inquiry, the occupation of nursing did not significantly alter until the mid-19th century (Lister, 1997). The term modern nursing is used to describe a particular type of nursing, first witnessed in the mid-19th century, embodied by modernisations in nursing practice attributed to Florence Nightingale. Florence Nightingale herself is considered modernist with her views that only observable physical and environmental factors impact on health, and objective science as the only source of truth (Lister, 1997).

Nurse training coincided with a process of reform marked by the establishment of major hospitals and health institutions, along with the increase in status given to the medical profession. Such reform, by its very nature, began to chart a course away from the traditional intuitive role of the nurse towards a more educated role. The task-allocation system of nursing was one change in this reform process and is typical of the modernist industrial concept that more effective time management results in maximum production (Lister, 1997). The essential task for the working nurse was to complete the routines and tasks allocated for the patients.

Paradoxically, under this system, the patient, as a whole person, was not the central concern of the individual nurse. In addition to this, power was organised hierarchically, with the increasing role and status of the matron under the domain of the medical profession (Lister, 1997).

The influence of the modern paradigm has brought about many nursing opportunities. Scientific methodologies have enabled the growth of nursing education, research and practice, and new technologies have assisted and improved practice in both the clinical and educational arenas.

Under the auspices of the modernist position, nursing began to establish for itself theoretical constructs as models of nursing which articulated the underlying structure of all the different activities which were called nursing, ultimately creating nursing as a professional entity. While these models were produced within the academic context of designing courses at bachelor's degree level and above, adopting a postmodernist perspective enables nurses generally to become reflexive of their views and practice, and to engage with the essential awareness of the importance of the individual and core universal values. As suggested by Neville (1997), with nursing so intrinsically influenced by the modern paradigm there must be some postmodern debate to respond to rapidly changing healthcare systems and to fulfil our social mandate to our communities.

When I set out on this journey, I was aware that I wanted to question the use of HFS in pre-registration nursing education. I had no desire to abandon or change existing practices, but I was keen to help provide a new way of understanding simulation and its relationships with tertiary-based pre-registration nursing education and professional practice. As discussed in chapter one, following an initial reading of literature encompassing the use of HFS in pre-registration nursing education, it was evident that there is a gap in analytical inquiry and a paucity of rich theoretical literature exploring simulation learning from a qualitative and critical stance, or exploring power relations and hierarchies of knowledge in this context. Using the theoretical lens of postmodernism has the potential to disrupt and trouble this field of inquiry. As Nicholls (2008) alludes to "... postmodern and post-structural approaches to research are typically sceptical of the rational certainty and logical tidiness of empiricism, the authorial dominance of hermeneutics, and the saturating absolutism of historiography" (p. 30).

For this thesis, a postmodern lens is used to question the assumptions embedded in competing discourse and how these assumptions or views have shaped the use of HFS in pre-registration nursing education. This enables reality to be viewed from various positions and ensures various points of view are heard and not subjugated. As suggested by Wilkinson (2007), "... truth cannot be represented as a single reality but exists as the possibility for multiple realities and therefore, truths" (p.17).

Michel Foucault's philosophical position

The purpose of this section is to provide the reader with a synopsis of Foucauldian principles, and concepts which provide a lens through which to develop and determine the reader's subject position around the phenomenon being interrogated. How I interpret these principles enables me to situate and conceptualise this study, allowing me to interpret and analyse the data generated through the present research. What follows is not a full summary of Foucault's work but a synopsis of the fundamental philosophical and theoretical ideas underpinning this work. This section overviews Foucault's critical philosophical and theoretical concepts associated with discourse, subjects, and power. How these principles have been applied to the research question is discussed in chapter three and four.

Michel Foucault (1926-1984) does not position himself with any specific philosophical position per se (McKinlay & Starkey, 1998). From my readings, it is apparent that Foucault is a complex and diverse thinker who draws from multiple sources but who aligns himself with no single philosophical position. And, as Mease (2016) asserts, Foucault is used by both the postmodernist and post-structuralist researcher. Foucault's contribution as a philosophical theorist and historian has been to encourage, through an examination of discourse, the questioning of the operation and role of power within the social construction of knowledge, subjectivity, and social norms (Schrift, 2006).

Foucault, a French philosopher, social theorist, and historian, insists in much of his work that he is in fact a modernist who presents his ideas as a critical history of modernity (Koopman, 2010). As Foucault articulates "...the central issue of philosophy and critical thought since the eighteenth century has always been, still is, and will, I hope, remain the question: What is this reason that we use? What are its historical effects? What are its limits, and what are its dangers?" (Foucault, 1984, p. 14). Foucault believes that the post Enlightenment period helped in a new scientific reality and rationality, enabling modern forms of disciplinary and professional knowledge to manage people by transforming them into objects of knowledge (Foucault, 1995). However, Best and Kellner (1991) argue, "... Foucault draws upon an anti-

enlightenment tradition that rejects the equation of reason, emancipation, and progress, arguing that an interface between modern forms of power and knowledge has served to create new forms of domination" (p. 94). Mease (2016) would seem to agree that Foucault's is postmodernist thought, in that the sense postmodernism has come to represent a variety of interpretations of what the truth is, most of which deny the certainty of an Enlightenment point of view.

Post-structuralists also use Foucault for his theoretical approach to language. Motivated by the work of Ferdinand de Saussure (1857-1913), Foucault found importance in the structuralist notion that language is controlled by sets of rules, governing a range of possible relations. However, it seems that Foucault rejects the idea that language can be objectively described, or that we cannot think outside the meaning of the language, which is a central tenet of structuralism (Harcourt, 2007). Foucault believes that language does not mask or obscure reality but instead takes part in the subtleties by which reality is established. An example is found in Foucault's 1963 work *The Birth of the Clinic: An Archaeology of Medical Perception*. In this work, we see Foucault coin the term medical gaze which he used to represent the dehumanising medical separation of the patient's body from the patient's identity (Foucault, 2003).

Foucault was primarily concerned with the exercise of power within social systems and explored how social control is constructed and maintained. In *The Birth of the Clinic: An Archaeology of Medical Perception*, Foucault proffers the notion that as a person enters the health arena as a patient, a field of knowledge of the body is created and sustained by the medical profession, who focuses on separating the patient's body from the patient as a whole person, thus dehumanising the patient. Foucault explains this is a result of constructs that facilitate the investigation and scrutiny of the human body, and also associated power interests. These constructs, according to Foucault (Foucault, 2003), while central to the concept of the medical gaze, can become a possible target for manipulation. Misslebrook (2013) confirms that "... Foucault develops the concept of 'the medical gaze', describing how doctors modify the patient's story, fitting it into a biomedical paradigm, filtering out non-biomedical material" (p. 312) and suggests that doctors are doctor-oriented, as opposed to patient-oriented. As a result,

medicine creates "... an abusive power structure" (Misselbrook, 2013, p. 312). Despite not positioning himself with any particular philosophical position, Foucault would argue that his research area was not a post-structuralist philosophy of language but a history, in what he termed the archaeology or genealogy of knowledge production. Foucault's approach is resolutely to "... develop a new understanding of historical developments as processes of rupture, deviation, and contingency" (Finkelde, 2013, p.1246).

Foucauldian philosophical concepts

Michel Foucault (1979) primarily addresses the relationships between power and knowledge and how these are used as a form of control through societal institutions. He emphasises that knowledge is socially constructed and constituted according to power relations. Foucault further maintains that knowledge and power dynamically produce subjects within the socio-cultural conditions in which they exist.

Discourse and knowledge

A central element of Michel Foucault's theoretical position is his notion of discourse. Foucault uses the term discourse to represent a historically dependent social system that produces knowledge and meaning. In his work *The Archaeology of Knowledge* Foucault notes that discourse is distinctly material in effect, producing what he calls "... practices that systematically form the objects of which they speak" (Foucault, 1972, p. 52). He talks of discourse as a way of organising knowledge that structures the formation of social relations, influenced by institutions and power, and the acceptance of the discourse as a social fact (Foucault, 1972).

Foucault explores the formation of discursive objects, suggesting that the systems and practices producing knowledge are governed by *a priori* rules that operate beneath the consciousness of the individual subject (Foucault, 2002). The term *a priori* refers to knowledge which comes before. For Foucault, *a priori* rules are rules prescribed by extraordinary power within social order which legitimises specific knowledge, and which precedes the discourse (Foucault, 2002).

Foucault calls these systems of knowledge epistemes or discursive formations, suggesting that these systems subsequently produce discourse which, in turn, affects power relations within a social order, specifying particular rules and categories.

Foucault (1972) suggests that discursive formation concerns how objects are formed and emerge in the individual's or a society's experience. For example, in the context of this study, HFS as a teaching modality and nursing knowledge. Foucault turns his attention to why some discourses have shaped the systems of beliefs from which they create meanings and asserts that these systems dominate how we define and organise both our social world and ourselves. Therefore, what is believed to be truth is shaped from these discourses.

Foucault's work holds a fundamental position that discourse plays a significant role in constructing what is real for each of us, and that once a discourse is established, it spreads throughout society. Using the metaphor of the body to represent society, Foucault describes discourses as filtering through society like the arterial and venous systems of the body (Grbich, 2013). The terms discourse and discursive practices capture Foucault's central critical point that discourses are practices or more specific sets of practices that refer to knowledge rather than to language. Bacchi and Bonham (2014) concur when they explain discursive practices are practices of discourse, meaning knowledge formations, rather than language use.

Within his earlier work, Foucault challenges the divine status of knowledge. To this end, he shows how knowledge is formed in the interaction of multiple and contingent practices within different sites. The term discursive practices describe practices and operation of knowledge formation by focusing on how specific knowledge operates. Discourse can be perceived as varieties of knowledge that regulate our thinking, including unconscious ways in which we process text and talk. Subsequently, this creates patterns of contextualised experiences or phenomena which can contribute to how we understand and shape practices, relationships, and truth.

Analysing discourse can be a powerful tool for understanding complex phenomena, including the inner workings of systems of power that construct what is true and not true (Hodges et al.,

2008). As suggested by Nestel et al. (2018), discourses can exist at the same time and in the same place, competing for dominance over knowledge claims. As a result, discourses exist within systems of power relations and can be materially impacted by access to resources, as well as unwritten agreements about who gets to speak, and who makes the rules.

Utilising Foucault's philosophical position, there is an assumption that discourses exist both formally and informally, affecting socialisation processes and pedagogical and professional practices in nursing curricula structures, including the use of HFS in pre-registration nursing education. The use of the term discourse within this thesis refers to not only ways of thinking and communicating that thinking, but also as Foucault suggests "... practices that systematically form the objects of which they speak" (Foucault, 1972, p. 49). Nursing knowledge and nursing practice and professionalism are such objects, constituted through both the language that is used to describe it, as well as through particular practices. It is in this context that discourses shaping the use of HFS in nursing education are interrogated, and their impact on nursing knowledge and practice.

Subjects

From a Foucauldian perspective, the subject is not merely a substitute for a person but is a term which encapsulates the possibility of being a certain kind of person. For Foucault, the subject is philosophically significant. In his works *Discipline and Punish: the birth of the prison* (1975) and *The History of Sexuality, Volume I: an Introduction* (1976) we see Foucault develop his elucidation of the emergence of the subject, in the context of what he calls disciplinary power. Foucault views power as productive right down to the individuals themselves, with individual identity being the product of power (Foucault, 1995). Foucault believes such subjects inherit a system of power, that both creates our possibilities and constrains our existence (Foucault, 1982). As Yazdannik, Yousefy and Mohammadi (2017) propose, "... this means that power is described as a relational process that is embodied in context-specific situations and is partially identifiable through its ideological effects on the lives of people" (p. 4).

For Foucault, the subject position highlights the productive nature of disciplinary power. He maintains it is not the subject who produces the knowledge but rather the discursive formation, with the subject being only one component (Foucault, 1982). Foucault is particularly interested in the development of individuality and the theorisation of practices through which a particular body is turned into a subject. In his work *The Subject and Power* (1982), Foucault identifies three main modes or sets of modes, which he terms "...modes of objectification which transform human beings into subjects." (Foucault, 1982, p. 777). Foucault theorises that the subject is a social construction as a result of power and disciplines (Foucault, 1982). Foucault perceives that this analysis of the subject enables the interrogation of how the subject, discourse and rules are determined as valid or normalised, and how power produces this reality. As Foucault (1979) states "... in fact, power produces; it produces reality; it produces domains of objects and rituals of truth. The individual and the knowledge that may be gained of him belong to this production" (p. 208).

A significant focus for Foucault is to interrogate ways in which to explore how discourses make certain subject positions possible. In this thesis, for instance, one of the leading analytical drivers has been the formation of nursing subjectivities, particularly nursing student subjectivity. For example, I am interested in whose authority carries legitimacy and who is speaking on HFS use, as well as who is being allowed to provide commentary on particular objects. In this thesis, areas of significant interest are the authorities of expertise that promote particular discourses important for nursing students and academic nurse educators in the context of HFS. There is no doubt that nursing students and academic nurse educators occupy different subject positions that place them in differing relations to particular objects. This is somewhat of a certainty, in that academic nurse educators bring with them clinical experience and knowledge, while nursing students do not. These different subject positions affect and influence nursing knowledge, nursing professionalism, clinical practice, and even relationships with patients.

Foucault's view of power and the subject

Foucault affirms that discursive production does not occur randomly; but that it is shaped by the power relations that produce it, giving the discourse the character of the event in which it occurs since it materialises in the social practices of the subjects. He proposes that subjects are produced and governed within their culturally subjective conditions (Foucault 1982). Foucault's position on power can be found in much of his work, but particularly in his 1976 work, *The History of Sexuality: An introduction* and his 1975 work, *Discipline and Punish*.

In his early 1970s work, Foucault investigates the types of power relations that produce discourses, and how these power relations have an overwhelming effect in modern societies. Foucault's viewpoint is focused on power functions and, he is interested in the development of these discourses in the modern world and their formation and establishment through more historically situated power-relations. Indeed, these discourses enable professional and disciplinary knowledge to manage individuals and transform them into what Foucault terms, objects of systems of knowledge (Foucault, 1970). Such a position is a significant deviation in thinking from other critical theorists of the time, who saw freedom as the opposite of power. To Foucault, power is not an object but a relation, an interaction, operating and producing reality. Consequently, Foucault's interest lies in the social processes through which systems of thought and knowledge are constructed and applied to the human subject in order to construct an object. According to Foucault, it is the discursive formations formed through power relations, not the subject itself, that produces knowledge.

Foucault articulates his notion of power at two levels. We see emerging in Foucault's later work the historical transition from the pre-modern form of sovereign or legal power to more modern forms of disciplinary power. We also see Foucault positioning his notion of power against the former more traditional theoretical and philosophical views that reflect power in terms of the sovereign and models offered by the legal system. Foucault (1978) challenges the idea that power is wielded by individuals or groups by way of sovereign acts of domination or coercion, seeing it instead as dispersed and pervasive, " ... power is everywhere; not because it embraces

everything, but because it comes from everywhere” (Foucault, 1978, p. 96). Foucault (1978) considers legal power at one level operates openly, and can be extremely useful, for example, within the justice system and prisons where control of the person or subject can occur. Foucault also regards power occurring in institutions such as schools and health arenas, for example, hospitals, where subjects could potentially be disciplined, or controlled, through formal power, such as disciplinary action, regulations, and assessments. However, he contends that our behaviours are shaped not so much by legal rules, but rather by various subtle strategies of power such as educational and religious institutions. Foucault views that even if power relations are unequal or even where power is being used oppressively, productive power relations take place which influence and ultimately shape new behaviours.

Integral to Foucault’s conception of the operation of power is the act of resistance by those the power is exerted upon (Foucault, 1978). Resistance is central to understanding the operation of power relations, and is itself an operation of power, being present at any point where the operation of power is taking place. According to Foucault (1978), the act of resistance can present itself as a target or as a form of support to the operation of power-relations. Power is always accompanied by resistance. It is fundamental in a power relationship "... where there is power, there is resistance, and yet, or rather consequently, this resistance is never in a position of exteriority in relation to power" (Foucault, 1978, p. 98). Unlike sovereign power, disciplinary power is often not evident until resistance occurs. As Foucault explains, disciplinary power requires the co-operation of the subject. No power relation can exist without the constant resistance between two bodies, it is the force and resistance within social interaction.

How this co-operation comes about is of interest to Foucault. He is concerned with how practice professions and their institutions such as schools and hospitals exercise their power, operating concurrently with, and possibly undermining, the subject’s legal power (Fahy, 2002). In this thesis, I interrogate how power circulating as a force within the use of HFS affects the way pre-registration students and nurse academics engage in teaching and learning interactions and the power relations at play.

Biopolitics and biopower

The concepts of biopower and biopolitics also emerge in Foucault's 1976 work, *The History of Sexuality Volume I: an Introduction*. While biopolitics and biopower feature in Foucault's work within the broader conceptualisations and genealogies of power and governmentality, it has been alleged by some that Foucault's theory of these concepts is not sufficiently precise (Adams, 2017). It has been suggested that it may be more practical to understand Foucault's interpretation of biopolitics and biopower as it functions together with Foucault's other concepts related to power, such as disciplinary power and governmentality (Adams, 2017).

Foucault (2003) maintains that biopolitics ensures, sustains, and multiplies life, putting life in order. Biopolitics involves examining and monitoring populations through the deployment of regulatory systems of power and knowledge. According to Foucault, biopolitics refers to the specific techniques and knowledge by which one aims to produce the biological, in this case, the human body, in a specific form (Foucault, 2003).

Biopower is considered by Foucault (2003) to be the way biopolitics is employed in society and involves, what Foucault describes, as a profound transformation of mechanisms of power which relate to "... achieving the subjugations of bodies and the control of populations" (Foucault, 1978, p. 143). Biopower refers to the control of human bodies through practices of regulatory mechanisms such as public health and risk regulation initiatives. Thus, biopower is a technology of power for managing humans in large groups with the distinctive quality of being able to control entire populations.

Emergence of medico-scientific gaze – the individual as an object

For many, Foucault has significantly influenced the construction of the term examining gaze or medical gaze. As Sim, (2001) suggests "... whenever the term "discourse" is mentioned, whenever a reference is made to "the body" as an object of control or coercion, we find Foucault's ghostly presence" (p. 245). Foucault, in his work, reveals how the emergence of disciplinary power brought about the constant surveillance of the body (Wilkinson, 2007). He

introduces the term gaze in his original 1963 work *The Birth of the Clinic*, and explains it can mean a glance, a gaze, or a look (Foucault, 2003). Foucault suggests that it is not just an object of knowledge which is constructed, but also the power relations involved in transforming the subject into an object.

In *The Birth of the Clinic* (1963), Foucault focuses on changes that occurred in medicine in the late 18th and early 19th centuries and suggests that the clinical gaze was, in fact, the technique by which medicine and science came to understand the body. This technique, Foucault claims, built on knowledge based on scientific assumptions that came about as a result of the Enlightenment (Foucault, 2003). Foucault suggests that a metanarrative of empirical discourse resulted, holding many, including medical doctors, as intellectuals who would in time eradicate sickness, displacing the discredited medieval church healers (Foucault, 2003).

As Foucault (2003) suggests, the accelerated growth of institutions such as teaching hospitals, legitimised medicine's social power to view the body in a different light and from a biomedical perspective. The phrase medical gaze was created by Foucault to signify the separation of a patient's body from their identity and raises the concern that through employing such a medico-scientific gaze, individual emotion or cultural variation is subjugated. Foucault alluded to the clinical or medical gaze as a particular way of seeing, a distancing gaze applied by doctors that separates the body of the patient from the individual.

Foucault suggests that the medical gaze involves the doctor observing the patient's body through conversation, observation, and a physical exam to formulate an outcome or diagnosis and also involves encouraging the patient to reveal all to the doctor. Foucault (2003) proposes that medical discourse and practice generates an illness story, and once created, enables the physician to justify the ensuing medical interventions. Consequently, the gaze holds substantial power in creating truth and medical knowledge that becomes authoritative truth.

According to Foucault (2003), the construction of this new power relationship between doctor and patient dismisses a patient's claim to authenticity in the face of expert knowledge, which subsequently overrides the patient's experience of embodiment. Foucault suggests that the

institutionalisation of the clinic and the hospital serve to exert power over people and their compliant, docile bodies. Foucault uses this concept of medical gaze as a metaphor for a clinical form of panopticism, viewing it as a type of laboratory where behaviour can be modified. In his work *Discipline and Punish: The Birth of the Prison* (1975), Foucault describes Bentham's panopticon, an architectural design that enables 360-degree visibility to see everyone always present in a prison, as a panoptic eye or examining gaze. Foucault uses the panopticon as a concept to assist in the understanding of how surveillance, or the gaze, is central to the operation of power.

In *Discipline and Punish: The Birth of the Prison* (1975), Foucault asserts that the person who is subject to the gaze will demonstrate appropriate behaviour to satisfy their observer just in case they are being observed, even though they are unaware if they are being observed or not (Foucault, 1979). Foucault suggests that the subjects internalise this and once they understand that they may be observed at any time, begin to self-regulate and observe themselves, thus becoming a docile body. An increase in surveillance, therefore, increases disciplinary power, and according to Foucault (1979) without surveillance or gaze, disciplinary power cannot exist. Disciplinary power, as Foucault proposes, aims to construct submissive bodies that are both useful and productive and comprises three techniques: discipline, surveillance, and punishment (Foucault, 1979). Foucault, in his work *Birth of a Clinic: An Archaeology of Medical Perception* articulates how the patient body is produced as an object under the medical gaze through a range of practices and discourses.

We see this objectification within a biomedical paradigm, although now in the healthcare education setting many academics advocate and promote, and quite vociferously, notions of the patient as more than just a body. This concept of lack of embodiment has applicability to students working within the simulated environment, especially to those working with computerised manikins. Foster and Hawkins (2005) raise the issue of an overemphasis on technology and its influence on the nursing student's ability to engage therapeutically with patients. The lack of humanness is highlighted by the use of computerised manikins and the

intentional and unintentional learning that may result when using manikins' in-lieu of a real patient. Such a view is discussed in more depth in chapter eight.

Foucault's historical perspective

Foucault came to formulate his historical perspective as a history of the present, in other words one can undertake a historical analysis to examine what is happening now. This enables an examination of how current discourses work to maintain specific power relations through institutions and various social interactions and networks. The idea is to bring to the surface how relations of power operate and to determine which realities are acceptable or unacceptable.

Both Foucault's genealogical and archaeological approach offer ways to examine taken-for-granted assumptions that underpin the field of simulation as produced through societal and institutional discourses. As Hinkle (1986) suggests "... what a genealogy does is to entertain the claims of attention of local, discontinuous, disqualified, illegitimate knowledge against the claims of a unitary body of theory which would filter, hierarchise and order them in the name of true knowledge..." (p. 46). In place of the traditional approach of historians to search for origins, Foucault's genealogy recognises the partiality that underlies what we come to accept as knowledge. This thesis is informed by examining the professional and institutional forces that have subjected HFS as a particular site of knowledge production. In this study, my intention is to provide an overview of simulation history in nursing education and historical analysis to contextualise how HFS has surfaced in nursing education. However, a genealogical approach is being adopted to provide a history of the present, a history of events as disparate, random "... material conjunctions of things or processes" (Grosz, 1994, p. 45). Foucault's methodological principles of archaeology and genealogy are elaborated on in chapter three.

Theoretical principles of disciplinary technologies and subjectivities

Many researchers have used Foucault's theoretical concept of disciplinary technologies, subjectivity, and governmentality (Fadyl, 2013; Nicholls, 2008; Payne & Nicholls, 2010). A key focus of inquiry for Foucault is on how practice professions and their institutions, such as

schools and hospitals, exercise their power. Foucault focuses on how disciplinary power requires the co-operation of the subject and how this co-operation is acquired and gained. Foucault's notion of disciplinary technologies refers to the complicated relationship of strategies, beliefs, and knowledge through which authorities, such as educational institutions, have sought to organise subjects or bodies.

Foucault's viewpoint of disciplinary technologies is found in his work *The Birth of the Clinic* (1963) and *Discipline and Punish: The Birth of the Prison* (1975). In this body of work, Foucault describes disciplinary technologies within such institutions as schools, prisons and hospitals. I argue that disciplinary technologies, or as Foucault describes them, a multitude of strategies designed to control the population (Foucault 1979), are a significant influence in the make-up of particular ways of knowing, and indeed in the context of this study, nursing knowledge and practice. Foucault suggests that it is historical conditions that make such technologies possible, and that disciplinary technologies encompass the authorities who are positioned to organise such strategies, relations of power and the machinery of government, which Foucault terms governmentality.

Foucault views power as producing right down to the individuals themselves, with individual identity being the product of power. Subjectivity is a philosophical term that describes a possibility for lived experience within a broader historical and political context. According to Foucault, the subject is not merely a substitute for a person but is a term which encapsulates the possibility of being a certain kind of person. For Foucault, the subject is philosophically significant. In his works *Discipline and Punish: the birth of the prison* (1975) and *The History of Sexuality, Volume I* (1976) we see Foucault develop his elucidation of the emergence of the modern body or subject in the context of what he labels disciplinary power.

Of interest in this thesis is the way in which disciplinary technologies have situated the use of HFS as an education modality concerning pre-registration nursing student knowledge and practice. I argue that analysing such disciplinary technologies is very important in defining aspects of nursing students' subjectivity. Foucault focuses on many disciplinary strategies,

including surveillance or systematic observation and normalisation, both of which I have discussed in previous sections. Of interest in this study is the use of surveillance and its contribution to constructing the subjectivities of pre-registration nursing students.

Summary

In this chapter, I have presented the philosophical position from which I conduct my research and the theoretical concepts that are key to my argument. The epistemological position of social constructionism and the philosophical position of postmodernism are discussed. Foucault is a complex and heterogeneous thinker who draws from multiple sources such as social constructionism and postmodernism while aligning himself with no single philosophical position (Best & Kellner, 1991). While Foucault's work is complex engendering diverse interpretations, his central tenets of power, knowledge, and the subject provide useful tools that can be applied to a multitude of considerations. Such an approach allows the interrogation of institutional development and management of subjects as a discursive product that has been contained and governed.

Two aims of this study are "to interrogate the discourses that influence the use of HFS in pre-registration nursing education in Aotearoa New Zealand and "to investigate troubling phenomena or potential tensions that exist within discourses, including how other ways of knowing have been marginalised". Foucault's philosophical position enables me to interrogate the unquestioned use of HFS and the various assumptions about its advantages.

I argue that using Foucauldian theoretical techniques allow for the critical interrogation of assumptions about discursive practices influencing HFS and thinking around HFS from multiple perspectives and worldviews. Using Foucault's approach facilitates insights into the use of HFS in pre-registration nursing education. A Foucauldian analysis is useful for theoretically problematising the knowledge formations of the past. Using such methodology enables an investigation of how knowledge and power constructs and sustains certain subject positions or discourses, and how these may shape nursing students' subjectivity and, ultimately, nursing practice. In the next chapter, I present my interpretation of Foucault's principles of archaeology,

genealogy, and Foucauldian discourse analysis and how they might be applied to the research question.

Chapter 3: Foucault's principles of archaeology and genealogy and approach to discourse analysis

Introduction

In the previous chapter I provided a synopsis of the epistemological and theoretical position of this study, including an overview of Michel Foucault's philosophical and theoretical position. For this study, I sought a methodological approach that would allow me to interrogate the disciplinary technologies and practices in the discursive construction of high-fidelity simulation (HFS) as an educational modality. As discussed in chapter two, social constructionist and postmodernist approaches offer ways to engage in questioning, disrupting, and exposing established truth claims, and assumptions of certainties concerning the use of such an educational modality like HFS. Foucault provides methodological guidelines and tools to enable such an interrogative position. In this chapter I discuss Foucault's concepts of archaeology and genealogy as approaches to interpreting and analysing text, and how these concepts are used to explicate relationships between meaning, power, and social behaviour within social orders. I then turn my focus to the use of Foucauldian discourse analysis.

Foucault's work and his focus and attention to history offers new ways of thinking about history. Much of Foucault's work is imbued within a historical context with what Foucault terms as the archaeology or genealogy of knowledge production (Best & Kellner, 1991). Using Foucault's archaeological and genealogical guidelines allows for analysis of text to be situated historically, while at the same time mapping the shifting discourses, noting how they came to be and how they are sustained (Foucault, 1972). These principles enable the researcher to use investigative methods to gain a historical perspective, and through that provide an intrinsic critique of the present or, as Foucault describes it, a "history of the present" (Foucault, 1979). This interrogation of power and knowledge relationships, ruptures and tensions allow new thinking and new ways of speaking to evolve and, in turn, become normalised.

Interrogating the function, processes, and features of discourses

As Crotty (1998) and Cresswell (2003) advocate, when approaching a qualitative research process the researcher needs to make conjectures regarding research methods based on methodological theories. Crotty (1998) explains that methodology is "... the strategy or plan of action which lies behind the choice and use of particular methods" (p. 3). In much of his research Foucault employs two approaches, archaeology and genealogy. Foucault calls his earlier work archaeology and his subsequent work genealogies. He does not see these approaches as distinct or discrete but rather linked to each other, one building on the other (Fadyl, 2013). For Foucault, these approaches can be used to historically position and make visible the elements of a discourse. It also enables for the interrogation of how discourse is constructed, sustained, and regulated through relationships between power and discursive practices (Foucault, 1972).

In his two major works from the 1960s, *The Order of Things* and *The Archaeology of Knowledge* (L'Archéologie du Savoir, 1969), Foucault explores and provides tools for approaching the archaeology of language, and the history of thought. In *Archaeology of Knowledge*, Foucault presents his archaeology as the study of practices, strategies and a priori knowledge associated with the formation of discourses and concepts within a historical context (Foucault, 1972). A little later in *Discipline and Punish* and *History of Sexuality* he explores the genealogy of power relations. Foucault then develops this approach to encompass the study of practices and the strategies transforming and modifying such practices which he terms genealogy.

Foucault, through his archaeologies, explores the ways power shapes discourse into systems of knowledge, and the discursive conditions shaping their existence (Foucault, 1972). Nicholls (2008), however, suggests, this exploration is better characterised as genealogy. Foucault (1972) explains that the principle of archaeology is to "... define discourses in their specificity; to show in what way the set of rules that they put into operation is irreducible to any other; to follow them the whole length of their exterior ridges, in order to underline them the better" (p. 142). In

the following sections I discuss the tools that Foucault provides to surface and interrogate discourses.

Applying concepts of statement to the text

My interpretation of Foucault's concept of archaeology is that he focuses on discourse and an analysis of what he calls the statement. A starting point for researchers using Foucault's archaeological principles and tools, is to analyse the diverse selection of texts, or statements (Foucault, 1972). These texts are not necessarily confined to any particular document but include all of the communication that plays a role in forming what can be thought, said or done at any one time (Nicholls, 2008). For Foucault then, these texts or statements are '... those utterances ... which make some form of truth-claim ... and which are ratified by knowledge' (Mills, 2006, p.61). According to Nicholls (2008) "... statements form the basic unit of analysis in archaeological enquiry because they make objects, subject positions, strategies, and tactics visible, and consequently they become amenable to analysis" (p. 3). For Foucault, too, (1972), a statement operates more as a function, rather than an expression, and which "... enables rules or forms to become manifest" (Foucault, 1972, p. 92).

From a Foucauldian perspective, a discourse is the relations among signs that communicate meaning and reality between and amongst objects, subjects, and statements. Foucault (2002) states that discourse is "... constituted by a group of sequences of signs, in so far as they are statements, that is, in so far as they can be assigned particular modalities of existence" (p. 110), and he describes a group of such statements within discourse as a discursive formation (Foucault, 1972). Nicholls (2008) asserts that whilst we interrogate statements, we also learn about the ways in which those statements have surfaced and have become visible, including the processes and power relationships which have structured certain forms of knowledge as convincing and authoritative, and other forms of knowledge to be dominated and subjugated. I therefore use Foucault's concepts of statement and text to approach my topics of inquiry.

As mentioned previously, Foucault talks of rules which govern the interplay between discourse and statements, the visibility of the statements and their subsequent effect on the construction

and maintenance of a discourse. Thus, a statement is dependent on the conditions within which it surfaces and is sustained within a field of discourse. Central to understanding discursive formation, is Foucault's definition of a statement as a group of signs that require four functions to operate, those being:

A referential (which is not exactly a fact, a state of things, or even an object, but a principle of differentiation); a subject (not the speaking consciousness, not the author of the formulation, but a position that may be filled in specific conditions by various individuals); an associated field (which is not the real context of the formulation, the situation in which it was articulated, but a domain of coexistence for other statements); a materiality (which is not only the substance or support of the articulation but a status, rules of transcription, possibilities of use and re-use). (Foucault, 1972, p. 118)

From this reality of statements, systems are created which establish these statements as events.

Foucault defines these systems as an archive (Foucault, 1972). An archive represents a set of collected texts from a given period that governs the emergence of statements as unique events and is a set of relations that enables statements to continue to exist. These statements are organised as interrelated sets of statements that are related to a particular field of truth and knowledge.

As Foucault (1972) proposes, these systems of statements must be understood in the context of the historical conditions from which the discourse as a field of knowledge, and a system of rules, strategies and practices emerges. Foucault (1972), in his work *Archaeology of Knowledge*, argues that such rules are responsible for formatting the ways of speaking and representing ways of thinking, or the object. He uses his archaeological analysis to examine and compare discursive formations over time (Foucault, 1972).

Consequently, a text which contains statements can come in many forms, and it is through the application of Foucauldian archaeological principles that text is made visible for analysis and historicised. It is in his works *The Order of Things*, *History of Madness*, and *The Birth of the Clinic* that Foucault demonstrates the application of these principles. As proposed by Watterson (2019), in *The Archaeology of Knowledge*, Foucault removes the individual subject as the primary creator of discourse. This is borne out by Foucault's suggestion that meaning is constructed through language, and representations of belief and behaviour within specific

historical situations (Foucault, 1972). Using Foucault's principles around the formation of statements and discursive formation allows us to elucidate statements in a field of relations from both written text and other forms of text, such as that generated from interviews.

Surfacing the discourse

In chapter two, I introduced the concept of Foucault's rules of discursive formation in constructing discourse. In his work *Archaeology of Knowledge*, Foucault proposes that for a discourse to materialise, it is constructed and organised by formation rules that have four key characteristics (Foucault, 1972). These four characteristics focus on statements that (1) refer to the same object, (2) that are spoken in the same way, or enunciated, (3) have similar subjects and (4) share a common system of explanation or theory (Foucault, 1972). For discourse to be examined more closely, Foucault asserts that the researcher should explore the surfacing of the discursive object and that the object should be further analysed to uncover the authorities that gave weight to these discursive constructions (authorities of delimitation) and the ways these objects were classified or organised (grids of specification) (Foucault, 1972). However, Foucault also suggests that the relations between these elements should be analysed to see how objects have been constructed, and to provide researchers with two further rules, discursive correlation and discursive transformation (Nicholls, 2008).

According to Nicholls (2008), discursive correlation emphasises the interrelationship between discursive formations and how discourses overlap and compete with one another at a "... microscopic level (between subjects, objects, strategies, and concepts), and at a macroscopic level (between discursive formations, competing knowledges and power effects)" (Nicholls, 2008, p. 33). Both allow for the "... exploration of relational qualities of discursive formations" (Nicholls, 2008, p. 33). For example, in this study by exploring the relations between discourses and discursive formations across periods allows for an analysis of the changing contexts in which pre-registration nursing education has operated over some time and the competing knowledge and power effects that have impacted it.

In his works *The Archaeology of Knowledge* and *The Order of Things* Foucault uses the term episteme to convey the notion of assembling various dispersed discursive formations which mutate, change and shift. As Foucault states (1972), an episteme is:

A constantly moving set of articulations, shifts, and coincidences that are established, only to give rise to others ... The episteme makes it possible to grasp the set of constraints and limitations which, at a given moment, are imposed on discourse ... in the enigma of scientific discourse, what the analysis of the episteme questions is not its right to be a science, but the fact that it exists. (p. 194-195)

Discursive transformation focuses on the exploration of how discourse shifts over time, where those shifts occur and their effect on other discursive formations (Nicholls, 2008; Olssen, 2014). Collectively these rules enable the visibility of statements and analysis of the subsequent effect those statements have on the construction of discourses. For example, in this thesis, the interrogation of discursive formations over time can reveal the establishment of High-Fidelity Simulation (HFS) as a discursive object, including certain discourses of legitimacy, and the formation of specific statements about its effect on the subject, for example, the nursing student, and their practice and subjectivities.

Why use Foucault's archaeological principles?

As discussed in chapter two, Foucault suggests that discourses construct ways of knowing which are related to a broader construction of knowledge within the socio-historical context and conditions within which they arise. Foucault's archaeology then interrogates the socio-historical development of discourse and the essential elements formed by discourse and how these elements interconnect to discursively shape and form objects, subjects, perceptions, and practices. Foucault's archaeological tools establish the rules of formation of discourses and discursive practices through asking "... how is it that a particular statement appeared and not another" (Foucault, 1972, p. 30), in other words, the focus is on what is being said as well as what is not said.

Kreoner and Beedholm, (2019) propose that using Foucault's archaeological tools offers "... an opportunity to look at the text more deeply, interrogating the layers in order to explore the

patterns and regularities within the text" (Kreoner & Beedholm, 2019, p. 3). This position is one that is adopted by researchers who attempt to unravel how discourse manifests as power and knowledge relations in society (Fadyl, 2013; Neville, 2005; Nicholls, 2008; Watterson, 2019; Wilkinson, 2007). However, it is conceded, other researchers find using Foucault's archaeological methodology limiting.

Gutting and Oksala (2019) contend that such an analysis focuses on the comparison of different discursive formations at different socio-historic periods, suggesting that a certain reality, or way of thinking, is only possible because historically there was a different way of thinking, at a specific moment in time. Such an analysis does not consider the reasons for the shift from one way of thinking to another and how new positions have evolved and have been sustained (Gutting & Oksala, 2019). To alleviate this limitation, Foucault introduced his genealogy principle in *Discipline and Punish* (1975). As Crowley (2009) explains, it is in this work and in *The History of Sexuality* (1976) that Foucault reviews his analytical method, shifting from "... an attempt to develop a theory of rule-governed systems of discourse to a more explicit focus on power, knowledge, and the body" (Crowley, 2009, p. 4).

Applying Foucault's principles of archaeology enables the researcher to make more visible the elements of discourse and discursive formations, as well as how they are constructed and controlled. Foucault outlines additional principles and tools that can be applied once discourses and discursive formations are made more visible (Foucault, 1972). He also discusses the principle of reversal and the procedures of exclusion, limitation, and rules and restrictions of the speaking subjects. These principles and my interpretation of them are discussed in the following section.

Interrogating the discourse and the methodological principle of reversal

The fundamental tenet of Foucault's principle of reversibility is to trouble and disrupt how discourse shapes our knowledge and the methods used to sustain and organise such discourse in a particular society or culture. Reversal disrupts the usual relationship we have with discourse

and thus allows interrogation and analysis of discursive control, by questioning what is influencing the discourse (Hook, 2001).

Reversal allows for the interrogation of discourse beyond its tacit sense of truth, and allows for discourse to be understood, not only from the perspective of power relations but also from a perspective of resistance and the existence of alternative truths (Hook, 2001). Foucault (1972) prompts us to search for not only what the discourse conveys, but also for what it excludes. As Hook (2001) explains, reversal is not to contest truth claims, but to make transparent how such truth claims are dependent on voices of authority establishing specific rules, and legitimising and constraining which knowledge is authorised, when and where.

Systems of exclusion

Foucault refers to the first procedure within the principle of reversal as systems of exclusion and relates this to the investigation of methods and processes by which a discourse seeks to control thought, through relations of power (Fadyl, 2013; Nicholls, 2008). Foucault further separates the system of exclusion into three exclusionary categories: the social procedures of prohibition, the division and rejection in the form of opposition between madness and reason and the opposition between true and false (Foucault, 1972). By prohibition, Foucault means protection and sustaining of practices and objects within the conditions in which they are situated, as well as the authority to speak on a particular subject (Foucault, 1972). Consequently, as Foucault suggests, even within what can be said, we should question the limitations or conditions within which something can be said, and who has the authority to speak on a topic and who does not (Foucault, 1972).

The division and rejection of reason and what he terms madness prompts analysts also to consider what is mad, or unreasonable (Foucault, 1972). Foucault (1972) claims that the speech of the mad is still 'a noise to discourse' that retains a capacity to the truth. He proposes that discourse and the sustainment of such discourse and discursive formations are linked to the historical institutions and practices that support it. Support or not of such truth and knowledge gives it a voice or silences it. As a result, it is the discourse itself that validates and configures

the institution, and which subsequently shapes the subject. The institution itself, according to Foucault (1979), is therefore responsible for actualising these discourses.

Foucault's third mechanism in his rule of exclusion focuses on the contention between true and false. Foucault (1972) uses the word episteme to define the conditions of possibility of all knowledge and its discourses within a particular period and suggests that such truth shifts through various epistemes throughout history. According to Foucault (1972), an episteme is not a form of knowledge, but refers to relations that come together at a given moment, or periods of time uniting discursive practices "... it is the totality of relations that can be discovered for a given period, between the sciences when one analyses them at the level of discursive regularities" (Foucault, 1972, p. 191).

Foucault asks researchers to consider upon what truths each statement and each discourse relies, and what renders it false or invalid (Fadyl et al., 2013). Foucault suggests that truth is itself embedded within a given power structure and that much of the power, and what is considered as the truth is constructed from what is said by proficient speakers (Foucault, 1972). Foucault proposes that the sustainment of truth rests on institutional support (Foucault, 1982). An example of this sort of support would be that of professional bodies within medicine and nursing. Procedures for exclusion, therefore, interrogate how discourses and statements rely on knowledge and truth, what renders knowledge and truth invalid and what institutions, and practices maintain them (Foucault, 1972).

As a methodological tool, the system of exclusion has important implications for this study as it enables me to explore how certain knowledges about HFS circulated, while others were excluded. By exposing these systems to scrutiny, they are problematised, and then one can see how they constrain the way pre-registration nursing students think and act. It also allows for the exploration of forms of knowledge around HFS as an educational modality and how that knowledge has become validated whilst other knowledge may have been marginalised.

Procedures of limitation

Foucault (1972) explains that there are several techniques or rules of limitation which work internally to discourse and control what is likely to be said (Foucault, 1972). Foucault identifies three procedures of limitation, each contributing to this control, commentary, the author, and disciplines (Fadyl, 2013; Fadyl et al., 2013; Hook, 2001). According to Hook (2001) "... each of these allows the generation of new discourses virtually ad infinitum - although within certain limits of constraint" (p. 9).

Foucault (1972) maintains that to ensure and secure the legitimacy of truth in society we must allow statements to continually endorse the meaning authorised by the discourse. Foucault calls this commentary and explains that it is required to reproduce such "truthful" texts or statements (Foucault, 1972). In *Discipline and Punish* (1975) Foucault promotes this as a cyclical process, an interrogation of such texts to explore the conditions that sustain the importance of, and the normalising of the discourse as well the subjectivities of those it dominates.

When exploring how these texts are reproduced, Foucault distinguishes between the actual author who writes the text and the individuals credited with being the source of truth statements and proposes that there are powers at play to limit and contain such truth by individuals or groups (Foucault, 1972). He refers to these individuals, or groups, as authors (Foucault, 1972). Here Foucault focuses on the function of the author and how they are used to sustain discourse. Foucault further suggests this role needs to be interrogated to explore impact on the text and statements, as there is the possibility that specific knowledge and truth can become inferior to the ideas of the author, and so subjugated (Foucault, 1972). The final technique of limitation comes into play where the text is associated with a discipline. As suggested by Fadyl, (2013), Foucault maintains that in this context it is vital to interrogate how the discipline influences what can be said because the discipline itself constrains discourse by providing criteria that the text must meet for inclusion.

Roles and restrictions

The final procedure of the principle of reversal is the setting of roles and restrictions. This encapsulates what Foucault explains is the exploration of factors that give the speaking subject the authority and legitimacy to speak on the topic. (Foucault, 1972). It also involves interrogating the boundaries and limitations that have been put into place around what is said and by whom, and in what ways others who are speaking on the topic, whether qualified or not, have adopted the discourse (Foucault, 1981).

Genealogy-analysing relations of power, knowledge, and effects

My chosen methodological approach allows me to interrogate the historical and cultural conditions of possibility in the construction and sustainment of discourse shaping the use of HFS in pre-registration nursing education. In conjunction with this, I explore the effect on the subject and relations of power as well as the disciplinary technologies and subjectivities at play in the discursive construction of the relevant discourses. Foucault's genealogy traces the processes by which such discourses are established and maintained as truth. It is in Foucault's later writing that the principles of genealogy emerge, particularly in his work *The Order of Discourse* (1981) where we see a greater focus given to the analysis of the power and knowledge relations involved in construction and sustainment of the discourses that make up our reality. As suggested by Olssen (2014), this is Foucault's attempt to politicise the analysis of discourse, such a shift sees Foucault interrogating the institutional production of discourse and tracing the emergence of forms of knowledge and techniques of government that contribute to shaping society. Those researchers, Olssen (2014) included, who have explored this shift, do not view it as Foucault abandoning his earlier archaeological position, but rather see it as Foucault implementing a change of emphasis. For researchers Fadyl (2013) and Nicholls (2008), Foucault's genealogy does not leave behind the methodology of archaeology, it enhances it.

In his 1975 work *Discipline and Punish: The Birth of the Prison*, genealogy is considered by Foucault to be a methodological conduit exposing the historical conditions which sustain the existence of a discourse and its effect to produce knowledge (Foucault, 1979). This genealogy

reveals that a given system of thought, which has been uncovered through archaeological analysis, is dependent upon specific historical contexts and events, and not the outcome of logical, inevitable trends (Foucault, 1981). Foucault takes the position that actions and meaning are the result of powerful discourses and discursive practices constructing our reality (Foucault, 1972). The genealogical approach examines the historical processes through which ways of thinking emerges and maps the power relations and interconnections of knowledge and power (Foucault, 1981). The discourse is therefore only sustained and is dependent on the conditions prevailing when and where it was clearly articulated or, in Foucault's terminology, when it was enunciated. In his archaeology, Foucault takes the subject out of the equation and illustrates that power is an entity in itself. In his genealogy, Foucault explains that the subject is a product of discourse, formed discursively through both discursive formations and social processes. As Fathallah (2017) suggests "... genealogy is a technique of tracing discourse backward to their unstable and fragmenting origins, thus unsettling assumptions" (p. 34).

Proponents of a genealogical perspective consider that to provide a clear picture of discourse, one must be able to identify the objects that have shaped discourses, discursive practices, and subject positions (Crowe, 2005). According to Foucault (1981), to understand how the present has been made possible, it is essential to examine the historical situations that have enabled the emergence and sustainability of discourses or, in other words, to locate historical conditions that have contributed to such epistemes. Locating historical conditions is described as uncovering a history of the present (Garland, 2014), and for Foucault, his genealogy is an opportunity to problematise the present by historicising ways of thinking. Through its focus on power, genealogy aims to document how culture attempts to normalise individuals through increasingly rationalised means and, in turn, transforms them into meaningful subjects and docile objects. Power relations are thus crucial, as genealogy shifts the model for historical understanding from Marxist science and ideology to a Nietzschean-inspired analysis of strategies and tactics in history (Garland, 2014).

One of the aims of this study is to consider how discourses constructing simulation shape nursing students' subjectivity and, ultimately, nursing practice, particularly in the absence of real

patients. A key focus of the inquiry is to interrogate the role of HFS in the construction of nursing students' subjectivities with a secondary focus on what Foucault calls disciplinary technologies. This latter focus enables the interrogation of how nursing students' practice is shaped or governed in the use of HFS. These theoretical concepts have been presented in chapter two. Within this study, I focus on Foucault's theoretical concepts of both disciplinary technologies and subjectivity. This is not implying that I consider the theoretical concept of governmentality unimportant or irrelevant, but by focusing on disciplinary technologies and subjectivity enables me to interrogate data to meet the aims of the research. It is these methodological principles and rules, and my interpretation of them, that guide me in the analysis of discourses.

Principles of genealogy

In his writings *The Order of Discourse* (1981), Foucault outlines his methodological principles which he describes as rules of genealogical analysis, ideal building-blocks to analyse discourse. As Nicholls (2008) explains, these guidelines include the historical context within which the study is situated when the researcher interrogates social, historical, and political conditions under which statements come to count as true or false. Nicholls (2008) contends that researchers need to "... move in and out of the text using the extra-discursive" (p. 34), thus allowing the analysis of the discursive to be driven by the extra discursive, which, according to Nicholls (2008), are the "... material practices and actions that result from the formation, correlation and transformation of discourses" (p. 34). Olssen (2014) proposes that the extra discursive is a concept employed by Foucault to establish that truth lies beyond the bounds of discourse and discursive formations. Even though I acknowledge the usefulness of many of Foucault's methodological principles the main methodological principles I have chosen to use in this study are discontinuity, specificity, and exteriority.

Principle of discontinuity

Central to Foucault's genealogy is the interrogation of the topic at different historical moments. Such an approach to interrogation enables the researcher to explain present-day discourses and

discursive practices by examining their past presentation (Foucault, 1981). As Fadyl et al. (2013) suggest, Foucault's notion of discourse is that "... there is no grand discourse that is currently silent, hidden from discovery by the procedures described above, that lies underneath and is intertwined with everything" (p. 487) and, "... discourses must be treated as discontinuous practices, which cross each other, are sometimes juxtaposed with one another, but can just as well exclude or be unaware of each other" (Foucault, 1981, p.67).

Foucault (1981) stresses that our present reality and truths are mere replication and restatement of truths and not representative of superior knowledge, and that history can give us clues as to how this particular reiteration has come about. Discourse, then, is not consistent with itself, but is discontinuous, with discourses co-existing during a particular period and shifting over time (Foucault, 1981). Text from various sources is located to address the principle of discontinuity and to interrogate the effects of discursive formations in this study. This strategy is based on Foucault's approach to historical text and using it as a resource to interrogate relations between current and past discourse, discursive practices, truths, and knowledge.

Principle of specificity

Foucault describes specificity as a way of addressing the formations of discourses and paying attention to the features that distinguish one discourse from another (Hook, 2001). Foucault rejects the notion that discourse is a result of one's perception of reality, rather he contends that material effects of discourse are as a result of social practice. It is therefore arguable that everything is a product of discourse. Using Foucault's principle of specificity ensures that the interrogation isolates how discourses are activated, resisted, or transformed by local and specific practices.

Specificity encourages the researcher to focus on sourcing texts from locations where the material effects of the discourse under interrogation are transparent (Fadyl, 2013; Nicholls, 2008). It also prompts the researcher to locate the text "... where thought and practices and their effects appear, as taken-for-granted truths" (Fadyl, 2013, p. 38). In this study I have focused on

the text that related to the actual practice of using HFS in pre-registration nursing education and text that showed the practice to be the most approved of, or true.

Principle of exteriority

Exteriority focuses the interrogation on the external conditions it opens up and makes possible. As Hook (2001) suggests, interrogating discourse, the analysis should not be directed towards what the discourse hides within itself. The principle of exteriority can, therefore, be interpreted as an analysis of what discourse does, a shift away from what discourse says (Hook, 2001).

Using Foucault's methodological toolbox

Despite Foucault highlighting the connection between discourse, power, and knowledge from a philosophical stance, for many researchers who draw from Foucauldian ideas, including Fadyl (2013); Neville (2005); Nicholls (2008) and Wilkinson (2007), Foucault's methodology can be challenging to define with clarity. In part, this is because Foucault continued to develop his theories and some of the developments could be construed as contradictory with earlier theories (Fadyl, 2013). The difficulty here is that no model is specific to Foucault. The closest he comes to articulating a framework for identifying discourses is via his *a priori* rules for locating discursive formation (Foucault, 1972), discussed in chapter two.

Throughout his writings, Foucault is critical of those methods of scholarship that promote and define particular and formulaic methods of enquiry for students to follow and of methods that lend truth status to knowledge. Foucault himself was opposed to using a prescribed method in his work because he understood single methods produce truths that are of a similar nature (Hook, 2007). As a result, and as identified by Fadyl (2013), Neville (2005), Nicholls (2008) and Wilkinson (2007), Foucault presents his methodological principles as tools. However, perhaps in keeping with his account of truth and science, Foucault provides few, if any, guidelines for their use. Indeed, Graham (2005) states, if "... Foucault had 'prescribed' (as in systemised) a way in which one must go about doing genealogy for it to be authentic ... this would-be hypocrisy of the highest form" (p. 5). Subsequently, it is not surprising that Foucault promoted the idea that his works should be used as a 'toolbox' from which researchers can draw

upon to inform their analysis rather than a structured, systematic model. As the statement below suggests, Foucault himself alluded to the many facets to his approach its broad utility and that not all his principles needed to be adopted:

All my books are little toolboxes if people want to open them, to use this sentence or that idea as a screwdriver or spanner to short-circuit, discredit or smash systems of power, including eventually those from which my books have emerged ... so much the better. (Foucault, as cited in Patton, 1979, p. 115)

Foucault's approach can provide a framework of guiding principles with which data can be viewed and interrogated in a range of ways and in various disciplines, for example, education and nursing (Traynor, 2006). Foucault, it seems, intended to provide broad rules and perspectives that others can use and draw from rather than a prescribed approach. These broad rules with their inherent ambiguity allow for multiple interpretations and, perhaps, a degree of freedom in terms of their application by researchers. Adopting this postmodernist position allows for an interpretive orientation and avoids the more positivist, modernist position of formulating the research method (Graham, 2005). For others, this ambiguity leaves the researcher in an uncertain position. However, as Graham (2005) alludes to, the ambiguity of Foucault's methods may lead researchers using them to become open to interpretation and challenges. According to McLaren (2009) "... the best we can do, as researchers, is to draw on his theories and to use them however it best suits our own thematic research schema, or our own theoretical perspectives" (p.1).

A key concept of postmodernism is that there is no single theoretical discourse that explains all forms of social experience and relations, or every mode of political practice (Lyotard, 1979). From a postmodernist position, Foucault's rejection of grand narratives, which serve to legitimise the modernist values of order and rationality, enables the surfacing of stories or mini narratives allowing for multiple viewpoints rather than large-scale universal or global concepts. This of course aligns with Foucault's approach that there is no precise and formulaic method to the inquiry.

Foucauldian discourse analysis

According to Wetherell et al., (2001) discourse analysis can be defined in general terms as “... the study of language in use” (p. 3) and adopts a social constructionist view of language as context-bound, functional and constructive (Wetherell et al., 2001). Discourse analysis is based on the premise that language constructs how we perceive ourselves and our relationships with others and how these phenomena emerge as patterns in language (Denzin & Lincoln, 2011). Discourse analysis is concerned with how an individual’s experience is socially and historically constructed by language and, as Crowe (2005) explains, it places the social and historical context, central to the inquiry process. As discussed in chapter two, Foucault moved away from the linguistic concept of discourse. His approach to discourse analysis is centred on examining the relations between power, knowledge, and the body, and thereby carrying out a form of social critique that seeks to determine possible social change and transformation (Denzin & Lincoln, 2011).

In this study, Foucauldian discourse analysis is used to expose conditions of power, to interrogate how these conditions create and shape particular nursing knowledge and practice and potentially to provide nursing health professionals and others with the truth about nursing practice. While this truth may be accepted by some as undisputable, utilising Foucauldian principles to analyse discourse enables the researcher to expose the political and social situations that make such truth and knowledge historically possible. The resulting truths can be intrinsically linked to those who legitimise them, and whose interests may be served by them. In this thesis, I am questioning how, in the context of HFS use in nursing education, ideas, knowledge and actions came into being, and how dominant discourses sustain them. Critiquing the discourses and discursive practices in this way can ultimately support academic nursing educators in commenting on, questioning and creating their subject position as to how simulation, as an educational modality, shapes nursing knowledge and subjectivities.

Bearing in mind Foucault's ideas, this perspective allows for the interrogation of the rules, patterns and systems of thought that constitute nursing knowledge and subjectivity. Two key

aims of this study are to interrogate the discourses that influence the use of HFS in pre-registration nursing education in Aotearoa New Zealand, and to explore how the prominence of HFS as a teaching modality emerged and which discourses shaped its pedagogical dominance. What I want to know is how the use of HFS in pre-registration nursing education develops and regulates student learning, nursing knowledge and the practice of employing specific techniques and practices. The aim of my inquiry is to investigate the reasoning behind our way of speaking about HFS and its effectiveness in this arena. Taking a Foucauldian perspective challenges the notion that HFS can be understood as a fixed entity. It is certainly arguable that there is a constant state of flux as a result of the intermeshing of knowledge, power and disciplinary methods and technologies that make up HFS use at any point in time. Utilising Foucault's archaeological and genealogical guidelines allows for this multi-faceted interrogation.

Summary

A key focus of the research inquiry is to interrogate the discourses and discursive practices at play in the use of HFS as an education modality and the discursive construction of nursing knowledge in pre-registration nursing education. In this chapter I have provided a synopsis and my interpretation of Foucault's methodological principles of genealogy and archaeology which underpin this study. Foucault's archaeological and genealogical principles will facilitate an interrogation of the power relations at play in HFS discourse. At the same time, these principles enable the author to consider how particular discourses compete to construct knowledge and truth around nursing practice and how nursing students' knowledge and the truth is shaped.

Using Foucauldian discourse analysis provides the means to delve into the multiple discourses that complement and compete in the multiple contexts of simulation discourse. It provides a means to question how individuals and organisations are involved in shaping the use of HFS as a teaching modality and permits the surfacing of systems and discursive practices concerned with structuring, ordering, verifying, applying, and sustaining such discourse. As a methodology for inquiry, Foucauldian discourse analysis provides the means to understand how pre-registration nursing students and nurse academics engage with social constructions of nursing

knowledge through participation in discursive practices. The research methods used in this study are presented in the following chapter.

Chapter 4: Research methods

Introduction

In the previous three chapters, I have provided the context and philosophical and methodological frameworks that have been applied to my research question: *What are the discourses and discursive practices that influence the use of high-fidelity simulation as an approach to intentional and unintentional teaching and learning in pre-registration nursing education in Aotearoa New Zealand?* In this chapter, I outline the details of the research methods used.

As I explored text on simulation, I was acutely aware of my exposure to simulation discourse because of my involvement in simulation-based education (SBE) in my professional capacity. Perhaps because of this, I became immersed in a journey of inquiry as to how to approach the research design, particularly during the analytical stage. I sought direction and inspiration from my extensive reading of theses and dissertations of researchers who have drawn from Foucault's thinking. Ultimately, I focused on the work of several researchers, including Fadyl (2013), Nicholls (2008), Neville (2005), Foster (2020) and Wilkinson (2007).

This chapter describes the processes I undertook to collect appropriate data for analysis and how that data was subsequently interrogated. I also describe the analytical tools used to surface and interrogate dominant discourses. To ensure rigour in this study, I also address the concepts of research reliability, drawing on the notions of reflexivity and transparency. Reflexivity is central to a postmodernist approach to research (Freshwater & Rolfe, 2001; Neville 2005), and serves to maintain rigour and credibility for the reader. The following sections present the operational aspects of the research process.

Selection of appropriate text

Many researchers refer to a collection of text as a corpus or body of text. Foucault, (1972) however, uses the term archive, holding the view that a quantity of text is not just a collection of documents, but a body of text comprising sets of rules that alter discursive statements. These

sets of rules reveal conditions, roles and relationships enabling shifts in knowledge, ruptures, and tensions to be historically situated. Utilising Foucault's first principle in his approach to discourse analysis, that of utilising a plurality of texts, enables the researcher to use a wide range of texts from a variety of sources that are made up of different textual materials (Nicholls, 2008, p. 57). As Nicholls (2008) asserts, this allows the researcher to focus on the influences that bring about new knowledge, using archaeological principles to interrogate emerging discourses at a greater depth, and genealogical principles to explore the form of such knowledge and locate its transformation and ruptures (Foucault, 1972).

Examining a variety of texts central to the research inquiry, as well as the discourses that inform these texts, enables the interrogation of how discourses maintain their authority and allows for interrogation into how some voices are heard whilst others are silenced, who benefits and how. This in turn raises questions about issues of power, empowerment, and disempowerment, all fundamental to Foucauldian discourse analysis. The starting point then is that the researched phenomenon may have different meanings for people in diverse situations. A discursive approach to the interrogation reveals how these meanings have been constructed. It is, therefore, essential that data is sourced from a variety of locations.

Generating and collecting data: the phases of data collection.

Initial review

From my earlier readings around SBE and my more recent integrative review of HFS use in Australian and Aotearoa New Zealand pre-registration nursing education (Bowen-Withington et al., 2020), I was cognisant that there was a significant body of literature available from a global perspective. I therefore had to repeatedly ask the question as to whether data was useful as contextual information, or as data to be interrogated more fully, and indeed if it related to the focus of inquiry. It is acknowledged that there is a degree of subjectivity here as I am aware that what counts as data could be very much influenced by my assumptions and positions around simulation. It was therefore imperative that I located data appropriately. It was also during this

initial review phase that it became apparent there is a paucity of scholarly text related to HFS in pre-registration nursing education within an Aotearoa New Zealand context.

Literature search process

The sheer volume of nursing and medical literature on the use of HFS was daunting. I was concerned there was an unmanageable volume of textual data. This dilemma was resolved through the application of inclusion criteria to ensure that only data that was relevant to the focus of inquiry was selected. Using such a strategy emphasises the importance of establishing the context of what is going to be interrogated, a significant consideration when using Foucauldian discourse analysis. Initially my intention was to conduct a comparative analysis of changes over time, as undertaken by Foucault in his work *Discipline and Punish: The Birth of the Prison* (1975), however, it soon became apparent that the investigation needed to be limited to a particular time frame and to focus on a specific discursive field.

A narrower scope of the inquiry would keep the research process manageable. Subsequently, the focus of inquiry concentrated on HFS using computerised manikins, specifically in pre-registration nursing education, within an Aotearoa New Zealand context. One search obstacle identified from my previous integrative literature review was that there was very little literature published within an Aotearoa New Zealand context. Australian literature was therefore also sourced. It was at that point I decided that although the focus of analysis of the literature would be specific to an Aotearoa New Zealand pre-registration nursing education context, Australian and international textual data would augment and support critique.

The search for both nursing and medical simulation literature was undertaken, employing selected keywords and search terms. A range of electronic databases and search engines were accessed including EBSCOhost, Research Gate and Scopus. Google Scholar search engine was utilised too. These databases were accessed through online repositories and university and polytechnic libraries. Dissertations, theses, and textual data generated through grey literature related to the research focus, such as news media and conferences, were also accessed. The literature search centred on systematic reviews, focused studies, meta-analyses, integrative

reviews, and expert opinions from the fields of nursing and medical research related to the study focus.

In search of scholarly literature, it was noted that several authors commented on the work of Nehring et al. (2009), who, at the time of their writing, drew attention the fact that only 26 articles had been published in English, since 2001, about the use of high-fidelity patient simulation (HFPS) in pre-registration nursing education, with fewer prior to this date. Previous researchers who have used discourse analysis suggest using defined search parameters to facilitate the collection of the broad range of text needed (Watterson, 2019). Influenced by this thinking and by the findings of Nehring et al. (2009), search parameters for this thesis included research publications and journals printed from the year 2000 from which time we see an increase in the volume of the scholarly literature related to HFS in pre-registration nursing education emerging through to the present day.

There are no measurable guidelines in qualitative methods to determine how much is enough data. Watterson (2019) suggests if a study is being approached using a Foucauldian position, much of the analysis would need to be "... conducted on large bodies of text" (Watterson, 2019, p. 80). What was also critical was that there was enough data to interpret the power/knowledge of discourse and illustrate how discourse constituted nursing students' subjectivities.

Discourse analysis is an iterative and reflexive process that begins as data are being collected rather than after data collection has ceased. Based on this notion, data was collected until there was sufficient to support arguments and provide a clear picture of how HFS discourse shapes pre-registration nursing education. Through writing an integrative literature review around scholarly literature focusing on HFS use in pre-registration education in Australia and Aotearoa New Zealand enabled the author to source relevant literature that could be used to inform this thesis.

Naturally occurring text

Naturally occurring texts are various written texts not generated by the researcher, such as manuals, professional policies, legal documents, and webpages (Silverman, 2013). Corporate publications, including simulation manuals for manikins, the Nursing Council of New Zealand (NCNZ) education programme policy documents (2020, 2021), public websites, conference synopses, and artefacts such as advertisements, photographs, and posters were also sourced. The decision to include advertising material was based on Vahid's (2012), view that it is a "... mirroring of society and vice versa, it's transmitting of meaning and message, and its social significance have led people to consider it as a discourse type" (p. 37). As Vahid (2012) suggests, the rationale for the inclusion of data such as posters, advertisements, and product promotion, is that they enable the researcher to examine how texts are influenced by, and in turn, influence discourses.

In this study, Aotearoa New Zealand and international scholarly literature and other textual sources, including documents, interviews and reflections ranging over more than 18 years of HFS use in both nursing and medical education were utilised. The documents traverse historical records, publicity materials, and professional guidelines which all contribute to mapping several critical events in the history of HFS in pre-registration nursing education and represent what might be called ruptures or tensions on the surface of simulation knowledge.

Interviews

This study involved interviews in the form of one-to-one dialogue and focus groups. Interviewing is a method often employed in qualitative inquiry to help understand how people construct meaning from their experiences and social encounters (Fadyl & Nicholls, 2013). A common way of enhancing textual data is through interviews with people who can participate and contribute their interpretations of a phenomenon, whilst allowing for active interactions between two or more people, leading to data that are both mutually negotiated and contextual. Foucault (1972) suggests that dominant discourses and discursive practices lead us to move, speak, and think about ourselves in specific ways and construct our reality, suggesting that the

subject is, therefore, a product of discourse. Interviews can be an important textual data source, very much enriching the archive. Fadyl and Nicholls (2013) explain that from a Foucauldian perspective, using an interview is a social practice with the interviewee and interviewer participating in the reinforcement of the discourse that can, in turn, contribute to the archive of text for analysis.

For this study, a mix of individual and focus groups have been employed from a range of sources including Bachelor of Nursing (BN) students, academic nurse educators (educators), a simulation business representative and a representative from the NCNZ. Collecting textual data from interviews with both BN nursing students and nursing academics captured a range of views from people immersed in HFS as part of their learning and teaching respectively. These interviews allowed access, through dialogue, to an individual's interpretation of his or her experience, providing a platform for the construction of knowledge and adding to the archive of data.

From a postmodernist position, researchers adopt a less structured interview to allow more freedom for the participants' voices, in contrast to a modernist structured interview in which responses may be inadvertently shaped by the interviewer (Gubrium, & Holstein, 2003). In this study, a polyphonic interviewing technique, a postmodern interviewing practice involving recording respondents' voices with minimal input from the interviewer, was utilised. Other postmodernist researchers, such as Neville (2005), have used this method. The result of such interviewing is a narrative that is co-constructed between the participant and the researcher, one that acknowledges and values the participant's knowledge (Fontana & Prokos, 2007). The participants in this study were thereby provided with an opportunity to have a voice and be involved in a research study contributing to the development of disciplinary knowledge within nursing. Subsequently, through these subjective narratives, data can emerge.

As suggested by Stinson and Bullock (2015), "... interviewing from a critical postmodern perspective not only maintains the elements of loose structure and the co-constructed narrative but also disrupts the notion of the researcher as the centre of data collection" (p. 12). With the

researcher no longer at the centre of the data collection process, a space for new and different data is provided (Gubrium, & Holstein, 2003; Ustick, n.d). From a discursive viewpoint, the researcher in discourse-analytical studies needs to acknowledge their own experiences and subjectivities, as well as their influence in the research process (Nicholls, 2008; Neville, 2005; Wilkinson, 2007). Indeed, interviewing entails relationships of power with the researcher playing a central role in the construction of data (Ustick, n.d). Thus, a significant point of reflection must focus on the experiences and epistemological situatedness of the researcher and how this impact the production and interpretation of interview data (Ustick, n.d). The role of the researcher is discussed further, later in this chapter.

Focus groups were utilised for interviewing the Bachelor of Nursing (BN) students and BN nursing academics. According to Jayasekara (2012), the use of focus groups is a useful qualitative method because it provides an opportunity for respondents to be more open in a group setting. Jayasekara (2012) proposes that focus groups are a useful mechanism in which groups jointly construct meaning around a topic. As Liamputtong (2011) proposes, focus groups "... allow group dynamics and help the researcher capture shared lived experiences, accessing elements that other methods may not be able to reach. Focus groups permit researchers to uncover aspects of understanding that often remain hidden in the more conventional in-depth interviewing method" (p. 5). Using such a method allows the researcher to obtain data on how participants construct particular subject positions and display discursive practices, rather than simply eliciting information about an individual's experiences. An interview protocol was developed, and questions pilot tested by academic nurse educator colleagues not involved in the study before the actual data collection. According to Chenail (2011), the advantages of conducting a pilot study are that it enables the researcher to gauge if the questions asked will produce sufficient data. It also assists in addressing instrumentation and bias issues as it provides the researcher with an opportunity to administer the questions in the same way as in the main study and ask the subjects for feedback to identify ambiguities (Chenail, 2011, p.257).

Intended sample and recruitment for interviews

This study used purposive sampling as a participant sampling technique. Purposeful sampling is widely used in qualitative research for the selection of information-rich cases related to the phenomenon of interest. To provide in-depth and detailed information about the phenomenon under investigation, participants are recruited through using the purposeful sampling technique (Patton, 2002). The sample is determined by the researcher who generates the qualifying criteria each participant must meet to be considered for the research study, making this recruitment process highly subjective (Patton, 2002). Also known as selective sampling, purposive sampling is a non-probability sample that is selected based on characteristics of a population, and the objective of the study (Liamputtong, 2013). An example in this study would be a BN nursing student involved in simulation-based education activities. Participants for this study were recruited using purposeful sampling, enabling the researcher to seek out individuals, groups, and settings where the phenomenon being studied was most likely to occur. Prospective participants were invited to participate in the research study from a variety of backgrounds including Bachelor of Nursing (BN) students and academic nurse educators working within Aotearoa New Zealand BN programmes, and key players in HFS including the Nursing Council of New Zealand and simulation business representative. There was no age criterion for participants.

Bachelor of Nursing (BN) student participants were recruited from two Schools of Nursing in Aotearoa New Zealand offering a BN Programme leading to registration as a Registered Nurse. There was a representation of nursing students from each of the three years of the programmes currently participating in simulation activities. The researcher approached Heads of Nursing to invite interested nursing students from across the BN programme to participate in the study. To be included in the study, participants were required to be currently involved in SBE or have experienced simulation activities within the BN programme. Purposeful sampling was also used to recruit nursing academics to participate. The researcher approached Heads of Nursing via email to invite interested nurse academics working within pre-registration nurse education and involved in simulation to participate in the study. Academic nurse educator participants were

also required to be currently involved in SBE or have experienced simulation activities within the BN programme.

In all, there were three focus group interviews with BN students comprising a total of eleven participants. There was one focus group and four individual interviews with nurse academics, with a total of eight participants. Availability constraints at both Departments of Nursing resulted in two ethics amendments (See Appendix A). In all, 19 participants were recruited from academic nurse educators and BN nursing students.

A representative of a simulation business was invited to participate in the interview process to provide a business perspective, and subsequently did attend an interview with the primary researcher. A representative from the Nursing Council of New Zealand (NCNZ) was also included in the interview process to provide a perspective from the Aotearoa New Zealand nursing regulatory body. Both these prospective participants were approached by the researcher directly by email, explaining the purpose of the study and providing them with information on the study. All participants had an interest in the use of HFS in Aotearoa New Zealand pre-registration nursing. Each participant is identified in the data analysis chapters by a role nomenclature, for example, nursing student, or organisation description such as NCNZ. A total of twenty-one participants were recruited for this study. In consultation with my primary supervisor, I was confident that this sample number was appropriate for gaining data to complement data from other sources.

Recorded audio interviews

The participant interviews occurred over two years. Initially, I was not able to interview some BN students, despite many attempts, due to scheduling and coordinating difficulties. I realised that when it came to organising interviews, one needs to accept limitations regarding the availability of academic nurse educator staff and nursing students. Before and after each interview, I discussed my motivations for doing the research and offered a complete explanation of my study. The duration of the interviews ranged from 30 minutes to one hour. For each interview, a list of prompts was created to ensure critical areas of discussion were forefront

when the respondent answered the research question. The prompts focused on the following broad areas of inquiry (a more detailed overview of the questions is provided in Appendix B):

- The experiences/perceptions of what simulation means to them
- How simulation shapes learning to be a nurse; and
- Feelings about using the manikin in the simulation scenario

The prompts varied for different participants, as not all questions were relevant to all participants. For example, the following prompt was asked of a nursing student but was not put to the key business player, NCNZ representative or nurse academic: "Can you tell me about what it is like practising on manikins compared to real people?". Using communication strategies, such as reflective and active listening skills, enabled me to both reflect the participants' thoughts back to them and show recognition of their thoughts. Other strategies used included redirection and probing to guide conversations and time was also given for silent periods. This structure allowed nursing students to bring to the surface their thoughts and feelings on their experiences and, effectively, gave them a voice.

As mentioned earlier in this thesis, Foucault did not provide explicit guidelines for much of his approach to discourse analysis. Several researchers, including Fairclough (1993), have noted this includes a lack of guidelines for interview transcription too. In fact, Oliver et al. (2015) comment that Foucault never addressed the point of transcription in any of his work. Nevertheless, as Fairclough (1993) confirms, real texts need to be analysed to examine real practices, thus ensuring that the understandings of power relationships, captured during interviews, are collected in the transcript.

For the researcher's convenience, in this study, interviews were transcribed by a contracted transcriber. In discourse analysis it is crucial to pay careful attention when transcribing spoken language through written texts to ensure no relevant material is excluded. In fact, many postmodern researchers transcribe their own interviews so as not to avoid this. Researchers such

as Neville and Wilkinson transcribed their own interviews and both claimed that this exercise enabled them to "... become immersed in the texts generated" (Neville, 2005, p. 54).

The contracted transcriber in this study completed a confidentiality contract and was instructed to ensure the transcript was verbatim and all-inclusive, capturing incomplete phrases, interruptions, and silences or, in other words, the complete response of the person speaking. Such an approach mirrors that used by Braun and Clarke (2013). Following review of transcripts, and for the purposes of inclusion in this study, the full and accurate examples of personal narratives have been formalised and edited for readability and clarity omitting "ums" and pauses, and correcting grammar. Familiarity with data was facilitated through an initial reading of the transcripts, as well as through listening to the recordings prior to transcription. Because this process was dynamic, the interviews were re-listened to, to refresh memories of the interview and gain a more critical sense of how participants talked about their experiences and the nuances that each brought to the interview.

The participants were not invited to view their transcripts. This decision was based on the postmodernist belief that the discursive meanings in participants' recorded stories are contingent on how they were represented and positioned in those moments (Gubriun & Holstein, 2003). Such a view is supported by Neville (2005), who maintains that providing an opportunity for participants to verify the transcription, and make changes, buys into the modernist thinking. From a modernist perspective, the account presented by the participant at the time must be measured against an assumed pre-existing metanarrative. It was anticipated that raw data from the participants would be of a quality that would enable the researcher to obtain a more in-depth explanation of ideas and opinions adding to the corpus of data. The interview participants were given a voice and the opportunity to be involved in the research, thus contributing to the development of disciplinary knowledge within nursing.

Other textual data

Data were also located in my scribbles and self-memos. Initially, most of these scribbles were in a journal, however, I found myself scribbling in margins and on post-it[®] notes writing down

my thoughts and feelings I experienced while listening, reading, and reviewing materials. Many researchers have used blogs to electronically document such thoughts, and this was initially considered, however, I found that scribbling in notebooks and on documents suited my style of learning and the interplay of thinking and creativity. I have always favoured brainstorming ideas, and I found that through scribbles, I was able to brainstorm and generate ideas, piecing together patterns amongst ideas. I also scribbled away during conversations with PhD supervisors and in work meetings as ideas came into my head. These scribbles were integral to organising my thinking and focus and enabled me to record and connect my many ideas which surfaced as I was interrogating data. This method supported me in processing ideas and thoughts, and interpreting the relevancy of what I read, heard, and saw concerning my research questions and purpose. It also enabled me to document emerging issues that may have required further exploration and develop an audit trail of thoughts.

Data collection and generation were active processes. Once immersed in the data collection process, moving between locating data and generating data in different textual media, I found myself identifying important textual data embedded in both conversations and documents. Over time I began to change the way I was viewing and processing what I was hearing and seeing, and I found that scribbling down crucial points or sayings that I thought were significant to my writing was an invaluable practice.

Textual data were sourced from the scholarly text, both historical and current, interview transcripts, media, and reflections. Surveying such a wide range of text identified times and situations where there was a divergence from what had become an established way of thinking about, or doing, simulation. This process aligned with Foucault's notion of discourses appearing at different times, and the surfacing of discontinuities and ruptures. From this initial review of HFS literature, historical moments, where there were notable shifts in the way that simulation was thought about and practised in Aotearoa New Zealand and internationally, were pinpointed.

Ethical considerations

In this section, I discuss the ethical considerations and ethical principles that must be applied when undertaking research. These ethical principles are based on the premise to do good, which is referred to as beneficence, and do no harm, non-maleficence. Researchers are responsible for ensuring that participants are well informed about the purpose of the research that they are being asked to participate in and that three key issues are addressed. These are: protecting the participants from harm, maintaining the confidentiality of research data and, whenever possible, ensuring that deception of the subject does not occur (Fraenkel, Wallen, & Hyun, 2012). Issues of confidentiality, anonymity, and risk of harm, therefore, were addressed within this study.

Ethics approval was granted from the Auckland University of Technology Ethics Committee (AUTEK), AUTEK Reference number 17/238, on the 24th of July 2017 (Appendix A). Ethics approval was also granted from the ethics committees located at Otago Polytechnic and Massey University. Heads of Departments of Nursing participating in the study were contacted for permission to access students and academics to invite participation on to the study. Assurance was given that findings would be used and disseminated appropriately.

Texts were generated from interviews undertaken with pre-registration nursing students and academic nurse educators working within Aotearoa New Zealand BN programmes and others including NCNZ and a simulation business representative. The interview process involved interactions with individual participants and collecting narratives from them as they respond to questions from the researcher. Given the nature of the inquiry, the intention of the researcher must be made transparent. As Willig (2014) suggests:

One could question the acceptability of analysing research participants' accounts through a discursive lens when their accounts were provided in good faith with the participants assuming that the interviewer was genuinely interested in their experiences rather than in how they deployed discursive resources. (p. 345)

Participation was voluntary, no one was coerced into participating in this research. Purposive sampling methods have been used to approach study participants from Schools of Nursing, Nursing Council of New Zealand, and a simulation business representative. Prospective

research participants were fully informed about the procedure and risks involved in research through an information sheet (Appendix B).

Participants in the research were provided with precise, non-technical information and clear common language explanations regarding the research proposal (Appendix B) to ensure their consent was informed. Participants were reassured that confidentiality would be maintained and that an opportunity to review the outcomes of the research would be provided. Participants were invited to read the information sheet and discuss with the researcher any concerns regarding the study, either by phone or email, before the face-to-face interview. This provided potential participants with an opportunity question the research objectives and methods, and to assess whether they would consent to participate in the study. While some demographic data were requested from the participants, no actual names were collected or other identifying information, only chronological age, ethnicity, and length of time in the pre-registration nursing programme (See Appendix B). These details were included to enrich the data collected through focus groups. Participants were encouraged to always use pseudonyms.

Real or potential risk

Given the nature of the research activity, it was believed there were negligible to no real or potential risks to the participants of this study. Nevertheless, all care was taken to be explicit and transparent when explanations about the study were provided, and informed consent sought. All participants had the option of withdrawing from the project if they believed they were becoming compromised in any way. There appeared to be no identified legal risks associated with any aspect of the research, from participation in the research, the aims and nature of the research, research methodology and procedures, through to outcomes of the research, that required specific consideration. Participants could give the researcher permission to email them with advice about when and how they could access the final thesis via the Auckland University of Technology (AUT) library.

Confidentiality

Any participant who is providing information to the researcher, may reasonably expect that the information they have provided will be treated confidentially. The researcher must be continually vigilant about any potential breaches of trust and issues of power imbalance. In this study, where the researcher holds a dual role of both researcher and an academic nurse educator, there was a genuine concern that students might perceive themselves as being vulnerable. Fostering a relationship of trust is, therefore, essential in this relationship between researcher and participant. Ensuring confidentiality and anonymity of participants is crucial to promoting trust in the researcher, and to safeguarding the data provided by participants is separate from any identifiable information. The use of pseudonyms strengthened this.

Participants in this study were reassured that no identifying information linked to a particular participant was to be published in any research dissemination such as articles arising from this research or conference presentations. Focus group participants were similarly assured that data collected would be confidential with individual identity anonymous and findings reported on a group basis.

Informed Consent

An information sheet was provided for interested students and nurse educators to read and discuss prior to obtaining consent (Appendix B). The information sheet and consent form were sent to the potential participants via email during the recruitment phase. The information sheet made the aim and nature of the study clear to the participants and explicitly stated the participant's potential role, the identity of the researcher, and how the results were to be published and used. Only when it was confirmed verbally with the potential participant that they understood the intent of the research study, the participant was asked to sign the consent form. The completed consent form was stored in a secured location.

Anonymity

Participants were asked to provide some demographic data on chronological age, ethnicity, and length of time in the pre-registration BN nursing programme. No actual names were collected nor any other identifying information, to guarantee anonymity. Rigour was applied to the data collection processes to ensure that the data collected remained confidential to the research supervisors and the researcher. Pseudonyms were used for the names of individuals and places. Advice was sought from the AUT ethics committee chair regarding the naming of the key business players in the collection of data. It was agreed that using the job title only of the representatives would provide adequate protection. The nursing students were not known to the researcher as the researcher is not involved in teaching at either of the sites subject to the investigation.

Storage and Dissemination of information

Storage of research data is according to AUTECH Guidelines and Procedures (2016). The transcribed interview records are stored electronically on a password protected computer and USB, containing no identifying information of the participant. Following interviews, recordings were erased from the recorder once transcribing was completed. Access to these notes was limited to myself and my primary supervisor. Signed consent forms were stored in a locked cabinet in my office at my place of employment. After a period of six years all electronic data kept on my password protected computer will be deleted, and paper-based data collected will be shredded and recycled. All data is stored in a secure location to which only the researcher has access, with data stored in a separate location from the consent forms to ensure safekeeping and confidentiality.

All information collected has been utilised for the writing and submission of a thesis for the degree of Doctor of Philosophy. The thesis from this research will be placed on record, and papers related to this research will be presented at national and international simulation conferences and disseminated in national and international nursing journals.

Approach to data analysis

In this section I discuss the approaches I used to undertake Foucauldian discourse analysis. As discussed in chapter three, Foucault did not set out any order or structure to undertake discourse analysis that aligns with postmodernism, but his methodological principles and tools facilitate the surfacing and interrogation of discourses and discursive practices which I believe to be the very essence of a postmodernist inquiry.

Sorting textual data.

It was imperative that I organise my data, given the lack of specific guidance by Foucault, I relied heavily on my readings from other researchers to assist me with my approach to the data, as well as how to utilise Foucault principles of archaeology and genealogy. According to many Foucauldian and qualitative researchers, including Fadyl (2013), Neville (2005), Nicholls (2008) and Wilkinson (2007), researchers must immerse themselves with the data to familiarise themselves with the depth and breadth of the content. Reading the data over and over and actively searching for meanings and patterns was the only way to become fully immersed. Braun and Clarke (2013) recommend that researchers read through the entire data set in order to become more and more familiar with every aspect of their data, and only then can they legitimately generate ideas and identify possible emerging patterns.

To assist me in organising data, and in applying Foucault's principles, I created templates and lists with which to navigate and organise the textual data. Through this process I examined connections and commonalities of ideas and insights. I needed a system in which I could organise data into something visual, a system that would allow me to cross-reference ideas such as power, knowledge, and truth, as well as enable me to track where these were located, how and for what they were used, and how they were redistributed to make meaning of data. Along with scholarly literature and interview data, key documents and texts pertinent to the research inquiry, which provided supporting information and useful context for critique, were included. This system enabled me to organise statements and events of discourse in such a way that discursive concepts, ruptures and tensions and even the context within which they occurred

could surface. A more in-depth analysis followed using the discourse sketches discussed later in this chapter.

The complexities in “doing” discourse analysis using Foucault.

A discursive approach to analysis was needed to explore both the organisational structures shaping the use of HFS and, ultimately, nursing student practice along with discourses concerning the operation of power within a nursing education context. The starting point for me undertaking this research was the utilisation of a discourse analysis approach underpinned by Foucauldian methodological principles.

Discourse analysis is based on the premise that language constructs how we perceive ourselves and our relationships with others and that these phenomena emerge as patterns in language. It is also concerned with how an individual's experience is socially and historically constructed by language and, as Crowe (2005) contends, discourse analysis places the social and historical context central to the inquiry process. Discourse can be perceived as a variety of knowledge that regulates our thinking, including the unconscious ways by which we process text and talk. This creates patterns of contextualised experiences or phenomena which can contribute to how we understand and shape practices and events. As discussed in chapter three, Foucault's approach to discourse analysis moved away from the linguistic concept of discourse to one centred on examining the relations between power, knowledge, and the body, considering it instead to be a form of social critique that seeks to determine possible social change and transformation (Denzin & Lincoln, 2011).

I have learned from the readings, that while there are various ways to approach a Foucauldian-style discourse analysis, each method has at its core the interrogation and identification of instability and the multiplicity of truth and knowledge claims. There are many examples of how researchers using Foucault have developed ways of analysing discourse. As Willig (2014) describes, “... discourse analysis is not so much a recipe as a perspective from which to approach text” (p. 344). Other researchers in the field of Foucauldian discourse analysis would

concur with Willig (Fadyl, 2013; Neville, 2005; Nicholls, 2008; Shaw & Bailey, 2009; Whitehead et al., 2014; Wilkinson, 2007, Watterson, 2019).

Many researchers who have applied Foucault's writings have approached analysis using Foucault's notions of subjectivity, disciplinary technologies, and governmentality (Wilkinson, 2007; Watterson, 2019). In the context of this thesis, I have applied Foucault's theoretical notions of subjectivities and disciplinary technologies to the analysis of the text. As suggested by Denzin and Lincoln (2013) the Foucauldian approach to the analysis of texts "... focuses on tracing the interrelatedness of knowledge and power in studying historical processes through which certain human practices, objects and ways of thinking have emerged" (p. 531). Thus, to understand present discourse, one must examine how historical conditions have enabled current discourses to be constructed through textual and other practices.

As discussed in chapter three, Foucault, despite providing many methodological tools does not provide specific guidelines on how to undertake discourse analysis, including data collection. Notwithstanding this, Foucault does talk about some considerations regarding framing the way text should be read, and the researcher's choice of text (Nicholls, 2008). It is imperative the researcher selects text directly related to the topic under interrogation. In this study, texts that deal directly with high-fidelity simulation (HFS) use in pre-registration nursing education were included.

The analysis involved looking at the text itself to gain insight about how meaning is established through discourse. As Nowell, Norris, White and Moules (2017) suggest "... each qualitative research approach has specific techniques for conducting, documenting, and evaluating data analysis processes, but it is the individual researcher's responsibility to assure rigour and trustworthiness" (p. 2). Despite there being no set processes to follow when applying a Foucauldian discourse analysis, there are several principles to consider which I have set out in chapter three. Foucault articulates principles of discursive formation, correlation, and transformation to facilitate the surfacing of discourses, and the methodological rules of reversal discontinuity, specificity, and exteriority by which to analyse such discourses.

Several approaches can be applied to discourse analysis, however intrinsic to all discourse analysis is "... the analysis of language in use" (Smith & Bell, 2007, p. 84). As Smith and Bell (2007) explain, the deconstruction of language uncovers the strategies that produce social and cultural processes, values and norms allowing the interrogation of the operation of power in the construction of meaning (Smith & Bell, 2007). So, the focus of a Foucauldian discourse analysis, is not only on the meaning of discourses but also the ascription of such meaning, such as the effect of that discourse on power relations. As suggested by Given (2008), these relationships are expressed through language and behaviour. Using discourse analysis, therefore, enables the researcher to explore how various sources of power affect meaning within society as expressed through language (Given, 2008). This position aligns with social constructionism, with the researcher endeavouring to understand how our society is constructed by language, and how this language reflects existing power relationships.

Levels of discourse analysis

In this study, I have used a broad meso and macro-level method which aligns with a Foucauldian approach to discourse analysis. As Watterson (2019) proposes, regardless of there being a variety of approaches to discourse analysis, discourse analysts, including Foucault, consider that discourse operates at multiple levels within society, and subsequently discourse is often interrogated at multiple levels. For discourse analysis, three levels are identified: the micro-level analysis which involves an individual or small group setting, meso-level analysis which involves related groups or institutional settings, and macro-level analysis which examines broader society-wide, national, or global settings (Watterson, 2019, p. 38). Power is central to all levels of discourse analysis. Discourse analysis may be positioned within differing epistemological frameworks, resulting in different accounts of the same data, depending on the research focus. For example, discourse analysis may be contextualised in one setting or in multiple settings.

When using a micro-level approach to analysis, the researcher considers various interactions between individuals, such as conversation, focusing on a linguistics analysis. Examining the use

of metaphor is an example of a micro or linguistic analysis whereas the exploration of social practices and processes is a much larger scale macro level analysis (Fairclough, 1995). Some researchers, such as Wilkinson (2007), use both approaches when analysing data. As Foucault (1972) explains, discourses are "... practices that systematically form the objects of which they speak" (Foucault, 1972, p. 52), however, discourses are social practices and more than just linguistics regulating how people think and behave (Foucault, 2002).

The first step I took in analysing each of the texts was to write a commentary of my initial impressions of the text. I then re-read the texts from an analytical viewpoint, utilising Foucault's methodological tools discussed in chapter three, to interrogate how the objects appeared, and identifying which social practices and processes supported them.

Approach to data analysis in this thesis

A crucial aspect of the analysis used in this study was to understand the context of the focus of inquiry and map the discursive field. Keeping in mind that Foucault did not set out any prescriptive method for data analysis, drew on both his archaeological and genealogical methodological tools, utilising his suggestions about which methods or tools a researcher might employ. Repeated reading was key as I looked for connections between factors in the discursive field. As Kendall and Wickham (1999) suggest, the first step to discourse analysis is to identify discourses as a corpus or, as Foucault would describe it, an archive of statements that are organised regularly and systematically. As noted previously, Foucault notes that discourses are not solely ways of speaking or written in texts, but they are also connected to institutions (Foucault, 1979). The application of Foucault's rules of discursive formation, correlation, and transformation, to surface discourse in the text, enabled me to begin to identify features, discourses and discursive practices within the data.

From my readings of other researchers who had utilised Foucault's concepts (Fadyl, 2013; Greenhalgh et al., 2012; Neville, 2005; Shaw & Bailey, 2009; Willig, 2014; Whitehead et al., 2014; Wilkinson, 2007), and the five steps outlined by Kendall and Wickham (1999), the

following questions were formulated to direct my reading of the textual data and to help me apply Foucault's principle of discursive formation.

Phase one- construction of the discursive object

- The identification of rules governing the production of statements. How are those statements created or produced? What knowledge is constructed? What is happening here?
- The identification of rules that delimit what is capable of being said. What can be said (written) and what cannot? What is being said, and by whom?
- The identification of rules that create the spaces in which new statements can be created. What inventive new statements are being made?
- The identification of rules that ensure that a practice is material and discursive at the same time. Are discourses connected to settings and places in which they are produced?

This phase involved an immersive reading of the texts, jotting down notes and ideas, to familiarise myself with the data. As analysis progressed, I traced the relationship between the words spoken and the objects of which they spoke, for example, HFS as a teaching modality and nursing student knowledge. Utilising guidelines in Foucault's work, I looked for statements in the data which could be a "a series of signs". As Foucault (1972) states, discourse is "... constituted by a group of sequences of signs, in so far as they are statements, that is, in so far as they can be assigned particular modalities of existence" (p. 110). A group of these statements within discourse is, according to Foucault, a discursive formation.

An interpretive approach was adopted as I read through the interview data, gaining first impressions of people who had experience with HFS. It was important, during this initial reading of the text, to identify the discursive formations that played central roles in how statements or objects were made. This interpretive approach gave me deeper understanding of

the social construction and interpretation of HFS but not necessarily the social, political, cultural, or historical structures influencing HFS. A much more in-depth analysis of the data was required for those constructs to be surfaced.

Phase two- identifying subject positions made available by discourse

With the emergence of critical discursive influences germane to my study, I applied Foucault's rules of discursive formation, correlation, and transformation, and explored and compared each of the discursive formations. The next phase involved looking at the data in more depth, looking at the commonalities and differences within the data and further interrogation of identified discursive practices and discourses associated with HFS.

In chapter three, I discussed Foucault's principles of reversal, discontinuity, specificity, and exteriority. Utilising these principles enables the researcher to recognise and reveal how truth claims and discourses are legitimised by authorised knowledge. Foucault's *a priori* rules of author credentials and epistemological enforcers augment this, explaining the dictates of what can be said and heard. These principles informed the examination of how the power and knowledge of discourse take effect and are legitimised. After reading Wilkinson's PhD thesis (2007), discourse sketches seemed a logical way of documenting my thinking around the discourses framed by the questions below. The sketches enabled me to not only record my initial thinking, but to analyse the data far more deeply (Appendix B). To focus on the main discourses and the power and knowledge relationships at play, the following questions, adapted from Neville (2005, p. 58) and Limoges, (2009, p. 59) are used to guide analysis of the data.

- How are the objects and subjects of simulation represented in the text?
- How is power exercised and by whom?
- How are institutional practices supported or modified by the discourses?
- How do dominant discourses come to occupy such a privileged position concerning the use of simulation at the expense of subjugated discourses?

- Where does mainstream biomedical and industrial discourse enter the use of simulation?
- How do these discourses perpetuate power relations, which could limit nurses' autonomy or the development of professional knowledge and nurses' potential for contribution to patient care?

At this point, I began to explore the forms of knowledge that these statements were seeking to normalise, and the power relations that made this possible. Having sketched preliminary discursive ideas, I returned to the text generated from the scholarly literature to locate examples from other researchers' work that would challenge or align my emerging ideas, for example, Limoges (2009). As I have discussed previously there is limited literature of a discursive nature on HFS use, however, within the literature there was knowledge constructed around nursing practice and nursing knowledge with respect to nursing and medical discourse of HFS as an educational tool. The process of comparing, refining, and documenting emergent discursive ideas continued until a structure began to emerge that suggested some semblance of a framework with which I could report my findings. As I have mentioned before, the process from text generation through to reporting was a reiterative process. In fact, I constantly revised the generated text until I felt that I had sufficient to develop my argument.

In chapter three, the strategies deployed by researchers using Foucault to conduct discourse analysis are discussed, and in particular, his archaeological and genealogical analysis. Throughout my immersive reading of the text, I retained these principles at the forefront of my mind to remain faithful to Foucault's theoretical and methodological imperatives. This exercise revealed discourses that spanned historical moments in the text along with related responses to certain events occurring in nursing education and the health arena, resulting in significant implications for nursing education.

It was in following the immersive reading of the text that I realised I needed to explore the emergence of HFS discourse to understand more fully the present discourses at play. For Foucault (1972), a historical perspective is an important tool to examine how historical

conditions have enabled current discourses to be constructed through textual and other practices. Using the guiding questions, and applying Foucauldian archaeological and genealogical principles, the text is explored from a historical viewpoint to identify circumstances, ruptures and tensions that influenced discourses or the formation of new discourses and discursive practices over time. This involved a process of many cycles, from identifying the discursive formation to constructing and applying questions, underpinned by Foucauldian theory, and revisiting the text. An archaeological analysis of HFS's use in pre-registration nursing education is presented in chapter five. Undertaking this historical and genealogical analysis allowed me to explore the discursive conditions that, over time, have possibly supported of current discourses for the present-day use of HFS in pre-registration nursing.

Maintaining rigour

To ensure rigour in this study the concepts of reflexivity, trustworthiness, crystallisation, and auditable trail were used. These concepts are discussed in more detail in the following sections. Reliability and validity are two critical aspects of all research, including qualitative research which requires rigour to ensure findings are trustworthy and valid (Cypress, 2017). However, from a Foucauldian and postmodern perspective, where there is no objective reality awaiting discovery, validity criteria are by and large dismissed. Subsequently, Foucauldian, and qualitative researchers working within postmodern contexts of multiplicity and ambiguity are challenged by this rigour requirement. Fejes (2008) believes that "... the validity and quality of a discourse analysis is judged on the narrative it represents" (p. 6). As there is no set method to measure rigour in qualitative research, this can leave the researcher vulnerable and open to critique (Neville, 2005; Nicholls, 2008).

Myself as a postmodernist Foucauldian researcher and self-reflexivity

In chapter one I identified the various social positions I occupy and introduced myself as a reflexive researcher. Because of my beliefs and assumptions and my postmodernist stance, it was important that I maintained a reflexive process throughout the interviews and subsequent analysis. Reflexivity provides insight into how knowledge may be constructed and is an

approach widely accepted in qualitative research (Lambert, Jomeen, & McSherry, 2010).

Ortlipp (2008) discusses how keeping a self-reflexive journal throughout the research process is a strategy that can facilitate reflexivity and establish transparency of the researcher's experiences, values, and assumptions for the reader. Thus, using a stand of self-reflexivity, I questioned my relationship to truth claims located in the data but avoided making truth claims myself, especially given my position as an academic nurse educator immersed in HFS. Therefore, self-reflexivity was critical to ensure and the requisite rigour when coming to conclusions in the analysis.

As the researcher, I must be alert to the potential for breach of trust and issues of power imbalance, especially in my dual role as a researcher and academic nursing educator immersed in simulation and in delivering education to pre-registration nursing students. There can be ethical implications if there are unequal power relationships and or coercion. As I have already explained, I was not directly involved in the teaching or delivery of nursing education or simulation-based education to the BN pre-registration programmes at any of the research sites. This reduced the risk of any academic nurse educator or the nursing student feeling they were coerced to be involved in the study, which mitigated the risk of conflict of interest.

Preserving research rigour includes maintaining clarity about who I am and what I do as a researcher, but ethically I must be open about my biases and preconceived notions. As the researcher, I constantly questioned my insights and interpretations of participants' realities to avoid reinventing or simply replacing already established truth claims or seeing things strictly from my position. The role of the researcher in this study was explained clearly to the participants in the information sheet sent with the consent (Appendix B). To further ensure rigour, I undertook writing a critical reflexive journal throughout the research process which enabled me to be transparent in my intentions and to be reflexive about discursive positions and power relations. It is acknowledged that a researcher's background and position affect the choice of methodology, as well as the framing and communication of results and recommendations. Reflexivity is therefore crucial if the researcher is to be self-aware and provide ongoing critique and critical reflection of their own biases.

Trustworthiness

Trustworthiness is an essential concept because it provides the researcher with the opportunity to describe the research evidence in the qualitative terms of transferability, credibility, dependability, and confirmability (Loh, 2013). According to Langtree et al., (2019), in qualitative research, "... rigour is synonymous with quality and is demonstrated by evidencing the trustworthiness of the research findings to others" (p. 1).

Crystallisation

Along with reflexivity, the concept of crystallisation is also used in qualitative research to ensure rigour. Ellingson (2009), suggests that crystallisation offers a useful approach to describing our findings as we "... encounter and make sense of data through more than one way of knowing" (p. 11). Crystallisation rejects the notion of positivist ideologies of objectivity and truth and fits within social constructionist and critical paradigms (Ellingson, 2009, p.4).

Crystallisation is used by postmodernist researchers, including Neville, (2005) and Wilkinson, (2007) to ensure rigour. It is based on the notion of seeing a rigid two-dimensional object shift towards a concept of a crystal, which allows for an infinite variety of shape (Tobin, 2004). This notion of shifting reality, or fluidity, aligns with postmodernist thinking.

Crystallisation also refers to the practice of validating results by using multiple data sources. It suggests that the researcher use data gathered from different forms of inquiry, and considers it from various angles, to explore different meanings and subjugated truths. In the context of this study, several sources of data were utilised including national and international scholarly literature, text generated by interviews, and grey literature, including NCNZ documents, theses and dissertations, websites, and blogs.

Auditable trail

Reflexivity is central to the audit trail. According to Koch (1994), an audit trail provides readers with evidence of the decisions and choices made by the researcher, and the rationale for those decisions, regarding theoretical and methodological issues that arose throughout the study.

Using a reflective research journal and other textual practices, such as my scribbling, ensured rigour by helping me to organise and reflect on the emerging views and experiences during the research process. Through these recordings I was able to discern competing and conflicting discourses and provide a clear description of the research steps taken from the beginning of my research project to the reporting of findings. Ultimately, these records that can be stored, retrieved, and reviewed as evidence of what was done in the research project (Loh, 2013).

Summary

This chapter described details of the research methods deployed in this study which are imbued with Foucauldian theory and principles of archaeological and genealogical analysis. Data collection, sampling technique for the interviews and the justification of the size of the research sample have been provided, as have been the data recruitment and collection phases. Ethical considerations have been described, including informed consent, maintenance of confidentiality and mitigation of risk. Data analysis methods are also discussed in some detail. The concepts of research trustworthiness and the audit trail are also addressed, to make sure that there is rigour in the study. The following four chapters focus on the findings from the analysis of data. The next chapter presents a Foucauldian archaeological approach to the analysis of texts and focuses on tracing the development and surfacing of HFS discourses, historical processes and the interrelatedness of knowledge and power shaping social practices and ways of thinking.

Chapter Five: The emergence of high-fidelity simulation as an object–history of the present

Introduction

The historical mapping of events around a specific field of inquiry is a central component of any study employing Foucauldian discourse analysis. Foucault (1972) claims that discourses cannot be treated as independent constructs or isolated from the social context in which they sit, but that they emerge from certain material conditions that exist politically, socially, and historically. In the context of this study, such a historical mapping allows the researcher to understand the emergence of HFS as a stable entity within the field of pre-registration nursing education, as well as the discourses facilitating the formation and sustaining of HFS as a discursive object. The purpose of this chapter is to discuss the surfacing of discourse within a historical context utilising Foucault's tool of archaeology, and to make visible the elements of discourse that shape the use of high-fidelity simulation (HFS) as a teaching modality in pre-registration nursing education. Throughout this chapter, I draw on Foucault's methodological tools, including his rules of formation. This chapter addresses the research aim: *To explore how the prominence of HFS as a teaching modality eventuated and the discourses shaping this pedagogical dominance.*

Using Foucault's principles of discursive formation, correlation and transformation, the analysis of the text explicates a historicised tracing of events, presented as a series of contradictory discourses and discursive formations, emerging from, and sustained in, earlier nurse and medical training, and more recent tertiary-based pre-registration nursing education. As discussed in chapter four, text from published nursing and medical literature along with relevant government and professional body texts have been analysed. Observing Foucault's (1972) rules of formation, I continued to identify key political and social events that led to the emergence of HFS as an object of discourse and then adopted a more critical stance, focusing on the problematisation and analysis of the socio-historical conditions which have provided the possible impetus for further construction and sustainment of dominant nursing and medical

discourse. Through this process I discovered discourses nested within the dominant discourse which I have named sub-discourses.

Applying Foucault's archaeological tools of analysis

A fundamental tenet of Foucauldian discourse analysis is to establish the context, or social setting, in which the focus of the inquiry sits (Fadyl et al., 2013). Foucault describes this as a discursive formation or field where knowledge and ways of thinking are ordered by rules (Foucault 1972). When applying archaeological tools of analysis Foucault (1972) suggests the rules of formation will ascertain "...what has ruled their existence as objects of discourse" (p. 41). The first rule is to map the surfaces of emergence (Foucault, 1972), in the context of this study, the places and events where HFS as a teaching modality has become visible and identified as an object of discourse.

As discussed in chapter three, discursive formations are identified in the text and play a role in the formation of statements which, in turn, support the construction of the discourse and the object. Both the initial and repeated readings of the literature enabled the formation of an archive of statements. A closer interrogation of the statements, revealed certain circumstances, ruptures and tensions that have shaped the formation of HFS as a discursive object influenced by dominant discourse and discursive practices. These are discussed in the following sections.

In an archaeological analysis, one should seek to reconstitute the phenomena of rupture and discontinuities rather than examining discourse over extensive periods. Foucault (2002) looks at the continuities and discontinuities between epistemes, or the knowledge systems that have informed the thinking during specific periods of history, and the social context in which certain knowledge and practices have emerged, been legitimised, and become sustained. These Foucauldian principles shape the surfacing of discourse within this chapter.

Foucault talks of discursive fields and explains they are not limited or fixed structures, but overlapping discourses and practices, shaped by institutions and disciplines, that slowly change over time (Foucault 1972). Discursive fields can be seen in specific disciplines, or domains, such as

nursing and medicine, with discourses operating within aspects of these contexts. For example, language and processes within a simulation scenario or setting define what is acceptable or not, who can or cannot do something and what specific roles subjects play, such as the nursing student, academic nurse educator or computerised manikin as the patient. Discursive fields contribute to the construction of meaning, and these meanings formulate truths. Therefore, to understand the forces at play in the construction of meaning, discursive fields must be investigated.

As suggested by Denzin and Lincoln (2011), the "... Foucauldian approach to the analysis of texts focuses on tracing the interrelatedness of knowledge and power in studying historical processes through which certain human practices, objects and ways of thinking have emerged" (p. 531). Thus, to understand present discourses, history becomes an important tool to examine how historical conditions have enabled current discourses to be constructed through textual and other practices. In this study, the analysis of historical data provides the conditions that likely impacted the contemporary construction of HFS as a teaching modality. Such analysis of data becomes a surface of emergence.

Historicising the surfacing of high-fidelity simulation as discursive object.

Concomitant with technological advances in healthcare, the use of HFS has experienced augmented growth over the past four decades in healthcare education, primarily in medicine, but closely followed by nursing (Abersold, 2018; Underman, 2015). According to Sherwin (2012), simulation "... permeates almost every aspect of modern healthcare" (p. 254), including clinical teaching. What we witness today in HFS usage is very much a reflection of contemporary notions of professionalism, patient safety and accountability (Weller, et al., 2012), but its use is also driven by the simulation industry and educational imperatives in the delivery of pre-registration nursing education. The phenomenal uptake of HFS to replicate the clinical world, and its virtually unchallenged incorporation into many levels of health education, is an example of present-day discourse and grand narratives that produce and sustain HFS as a necessary technology in healthcare education.

To explore the surfacing of the use of HFS as a discursive object, one needs to explore the historical changes that have occurred in both nursing and medical education, including nursing pre-registration education. The mapping of historical events and conditions in healthcare education that have contributed to this emergence will elucidate its present position and influences and will assist in delineating its future in pre- registration nursing education.

Historicising the use of HFS in health education.

Foucault (1972) suggests that the first rule is to map the surfaces of emergence which, in the context of this study, are the places and events where HFS became visible and identifiable as an object of discourse. When examining the historical materialisation of HFS in nursing, and nursing pre-registration education, it is appropriate to draw an analogy with the significant emergence of HFS in medical education because nursing and medicine are intrinsically linked. However, nursing is not medicine and medicine is not nursing. While both undoubtedly focus on healthcare and positive patient outcomes, each profession holds an independent body of knowledge based on different principles and practices.

Medical simulation has roots in the fields of aeronautics, military, and industrial design (Bradley, 2006; Rosen, 2008). For many years, these industries have used computerised simulation to train pilots and personnel in both skills and safety-related behaviours, for example, communication and teamwork (Aebersold, 2018). The first documented use of higher-level simulators was the Blue Box pilot trainer introduced during World War 2 flight training (Sanford, 2010). In the 1960s, technology changed the way high-risk flight training was taught, with more advanced computer-based simulation training gaining favour. This use of simulation was associated with emerging technologies and the introduction of more advanced task trainers and resulted in an unprecedented increase in the use of simulation and more technologically driven manikins, in both military and medical fields. Subsequently, HFS has become a popular technique for training teamwork skills in high-risk industries such as aviation, healthcare, and the military.

In the 1960s, these advances are also evident in healthcare education, with the introduction of more sophisticated task trainers or simulators (Lapkin & Levett-Jones, 2011). These task-specific simulators came to be known as human patient simulators, the label confounding understanding about the differences between the word's human and patient. This labelling raises the notion that human patient simulation is an effective method to teach an introduction to the physical diagnosis of patients (Weller, 2012), thus paving the way to replacing patients with manikins in healthcare education.

The 1960s was a time when there was considerable confidence in the power of science, medicine, and the increased use of technology. There was a surge in life-sustaining technologies, for example, the technology that, in 1967, enabled Christiaan Barnard to complete the first successful heart transplant. This rapid advancement drove a need to upskill multiple health professionals to keep pace, with the preferred educational modality being simulation-based medical training programmes (Peteani, 2004). It was also during this period that part-task trainers emerged in resuscitation training, both in medicine and nursing. Designed by Asmund Laerdal in the 1960s, a part-task trainer was invented for mouth-to-mouth resuscitation training. This early simulator became known as Resusci-Anne and is widely used today for cardiopulmonary resuscitation (CPR) training in nursing and medicine.

The 1980s saw an augmentation of technology in simulation and the growing use of simulators in healthcare driven by an "... increased focus on patient safety, the call for a new training model not based solely on apprenticeship, a desire for standardised educational opportunities that are available on-demand, and a need to practice and hone skills in a controlled environment" (Motola et al., 2013, p. 1511). David Gaba, a leading American anaesthetist, along with others, developed and implemented the use of computerised manikins for anaesthesiology trainees. According to Gaba (2004), these techniques provide opportunities for repeated practise in a safe, pedagogically sound environment which facilitate effective teamwork and communication. Safety in this context means providing a safe learning environment for the learner (Fanning & Gaba, 2007; Gaba, 2004).

David Gaba's work has been highly influential in the development of HFS as he is one of the first researchers to engage in the interplay between simulated patients, student learning, technology and measurement of learning outcomes through assessing the effect of simulation on student learning. This time also saw the simulated educational platform as one which could enhance effective teamwork and communication amongst health professionals and so reduce the risk of harm to the patient. This, I suggest, marks the emergence of patient safety discourse.

In the late 1990s we witnessed nursing and medical education providers move from the classroom to fit-for-purpose skills laboratories and, ultimately, fit-for-purpose simulation suites. The health equipment industry responded by developing and marketing an ever-widening range of simulation related products. Indeed, the exponential growth of the simulation industry and its rapid development of inextricable links to medical education achieved a status previously only held by pharmaceutical companies. In the 1990s competition between companies marketing manikin technology came to dominate the medical simulation field and, to a small extent, the educational agenda.

Companies, such as Laerdal™ and Medical Education Technologies, Inc. (METI), did not develop a high-fidelity manikin until the mid-1990s when encouraged to do so by the medical profession. They developed what was then considered affordable, high-fidelity simulators based on the earlier pioneering work of David Gaba and others (Gaba, 2004). Both Laerdal™ and other companies such as Gaumard Medical™ are now major producers of high-fidelity simulators worldwide. When observing the healthcare global simulation market, the growth of the market continues to be driven by developments in technology, providing healthcare professionals with numerous simulation products and service choice. Simulation businesses continue to launch new simulation products and to retain and grow their market share (VynZ Research, 2019).

This increased use of simulation technology in healthcare education establishes HFS as a legitimate way to educate health professionals, particularly in areas of skill development and teamwork (Lewis et al., 2012). However, in the latter part of the 20th century, medicine's focus

on professionalism, due to an increased global societal demand for accountability from the healthcare industry, also explains the increase. As a result, HFS has now become integral in preparing healthcare students in the real world of professional practice.

According to Underman (2015), the ethical shifts that have occurred in medical training in the last few decades have also played a part in the increased use of HFS. As Owen et al. (2001) found, the more traditional medical learning at the bedside was becoming insupportable due to the increased potential risk to patients. The search for innovative education and training methods, therefore, became crucial. These shifts are mirrored in pre-registration nursing education and resulted in a change in practice with nursing students rarely using real patients to rehearse their skills, and increasingly using varying levels of simulation, including HFS, to replace real patients (Campbell & Daley, 2009; Durham & Alden, 2008; Jeffries, 2007; Owen et al., 2012). The literature reveals that the movement from a nursing apprenticeship hospital training model with high levels of clinical exposure into the tertiary education sector has brought with it a dilution of clinical placements and access to actual clinical experiences (Connor, 2016).

Driven by these shifts and the need to redefine responsibilities, competency as a critical construct emerges within the medical discourse. Organised statements occur in the medical simulation literature which support the concept that HFS provides students with an opportunity to enhance their clinical skill acquisition, practise clinical decision making, and develop reflective practice through effective debriefing (Oberleitner et al., 2011; Sanford, 2010). The literature cites numerous advantages of simulation for learning, including the benefit of enabling the repeated practise of technical and non-technical skills in preparation for clinical practice (Motola et al., 2013). Consequently, we see the emergence of dominant medical discourse sustaining the use of HFS as an educational tool that promotes a safe learning environment to enable students to increase their knowledge and skills. Gaba (2004) recognises the power and potential of HFS and anticipates various driving forces and implementation mechanisms will propel simulation forward, including professional bodies, liability insurers, health insurance companies and, ultimately, the public. As Gaba (2004) states:

The fate of simulation as a means to a revolutionary change in healthcare is approaching a “tipping point” that will resolve itself strongly in the direction of one of these alternate histories over the next 10 years, although it will then take another decade to evolve fully. (p. 9)

There is no doubt that from a pedagogical perspective simulation is well enmeshed in medical education, and that HFS has a particular purpose within that realm. Benefits of HFS are increasingly reported in the literature, adding further validity to its use in healthcare education (Issenberg et al., 2005; McGaghie et al., 2010). However, it should be noted that HFS is still a relatively new educational strategy in healthcare education, and so the evidence base supporting its use is evolving. As suggested by Issenberg (2005), the effectiveness of simulation depends on how well it is used. In healthcare education, the aim is to provide the best opportunity for learning using HFS (replicating reality) as a method of teaching. What needs to be considered here is that as the healthcare education landscape changes, so too does the position of HFS, as the two are intrinsically linked, particularly within medical education.

Historicising the use of HFS in pre-registration nursing education.

In this section I discuss the historical materialisation of HFS in pre- registration nursing education, including the places and events where HFS became visible. Simulation encompasses a range of delivery methods and modes, including basic simulators such as a simulated wound site, computerised interactive manikins with life-like qualities, silicone patients and virtual online environments (Moule, 2011). What all these methods take place in is a replicated, artificial situation, designed to prepare the student to provide safe practice in the clinical setting when working with real patients.

As discussed in chapter two, the revival of scientific enquiry and learning in Europe during the Enlightenment aligned with the rise in status of the medical profession in the late 1800s and subsequent increase of hospital institutions. Coinciding, with the accelerated growth of the medical profession and health institutions, was the establishment of the first formally trained nurses (the mid-1800s saw the beginning of a process of reform which established nurse training with the founding of the Nightingale school). Not only was this a watershed moment

for opening support for skilled occupations for women, but it also raised the status of female occupations such as nursing and teaching (Hallam, 2000).

Florence Nightingale opened the first nursing school, the Nightingale School for Nurses, at St. Thomas' Hospital in London, in 1860. The Nightingale school offered the first official training program for nurses, based on the tenet that nurses could work in hospitals, help the poor, and teach others. Florence Nightingale is recognised for establishing the modern practice of nursing and wrote *Notes on Nursing* in 1859 that served as the foundation of the curriculum at the Nightingale School and other nursing schools (Lister, 1997). Nursing education based on Nightingale's philosophy of nursing focused on providing care to the physical needs of the patient and maintaining a hygienic environment. These changes in nursing education marked the beginning of professional nursing education and training, charting a course away from the traditional intuitive role of the nurse towards a more educated role. The term modern nursing was first used to describe this type of nursing in the 19th century, exemplified by innovations in conceptualisation and practice attributed to Florence Nightingale (Lister, 1997).

From the establishment of Nightingale's training school to the late 20th century, nursing education was primarily hospital-based. Before nursing students were allowed to perform nursing duties in the wards of the hospital, they practised basic techniques in the classroom. Without real live patients, students practised procedures and treatments on each other. Today, this would be considered a form of simulation and is a teaching strategy that continues in the present day in tertiary colleges or universities.

In early 2000, there is an upsurge of American nursing published literature that talks of using HFS as a teaching modality which reflects the emergence of HFS as a conduit to provide a replicated clinical environment in medical education. However, most of this American research focuses on HFS use within nursing education and simulation in practice, not within the field of pre-registration nursing education. The key foci are on learning outcomes such as competence and confidence and include the evaluation of comprehensive frameworks for the implementation of simulation activities. Lewis et al. (2012) found in their systematic review of articles published between 2000-2011, that the use of an innovative educational technology like

HFS provides an educational strategy to acquire and maintain essential knowledge for both nurses and midwives. In addition, it assists in developing other skills, values and behaviours essential for safe and effective patient care. Lewis et al. (2012) found that participants in HFS are also able to rehearse the clinical management of rare, complex or crisis situations in a valid representation of clinical practice before practising on patients.

Academic nurse educators are encouraged to assess students' learning styles and preferences and to develop appropriate learning experiences that will facilitate critical thinking which is also a key outcome of simulation pedagogy (Tutticci et al., 2016a). What also surfaces in nursing text over time is a shift in thinking as to how learners engage with learning. There is discourse about the need for learning to be engaging and interactive in order to appropriately prepare twenty-first-century nursing graduates and this of course further positions and sustains the use of technology as an educational modality. As Erlam et al. (2018) propose, with the advancing use of technology, millennials within the educational setting are keen for such technology to be utilised. High-fidelity simulation, with its technological focus, is one such interactive teaching strategy (Erlam et al., 2018; Jeffries, 2007; Nehring & Lashley, 2010; Tutticci et al., 2016a).

The use of HFS in pre-registration nursing education within an Aotearoa New Zealand context

As Hopwood et al. (2016) suggest, many forces have driven the growth in HFS. These include concerns regarding the readiness of nursing graduates to be workforce ready and the dilution of actual clinical experiences for students because of workplace constraints. This is so for many countries worldwide including Australia and Aotearoa New Zealand (Bogossian et al., 2018; Spence et al., 2019). While there is a substantial body of research providing empirical evidence of the benefits of utilising HFS in medical education, there is very little research focusing on the use of HFS in pre-registration nursing education. There continues to be a degree of hesitancy in the uptake of HFS by academic nurse educators working in both Australia and Aotearoa New Zealand (Bogossian et al., 2018). Bogossian et al. (2018) found that almost all respondent tertiary nursing education providers within Australia and Aotearoa New Zealand identified that

simulation, at some level of fidelity, had been embedded into nursing curricula, but very few utilised HFS.

The Nursing Council of New Zealand (NCNZ), which regulates nursing in Aotearoa New Zealand including educational programmes leading to registration as a registered nurse, recognises the use of simulation as being an integral part of pre-registration nursing education throughout the tertiary sector (Bogossian et al., 2018; Edgecombe et al., 2013; Wordsworth et al., 2014; NCNZ, 2020). The NCNZ (2020) concedes that simulation in pre-registration education assists students with clinical preparation and helps maintain safety standards, requiring that all pre-registration nursing students have access to simulation learning resources "... to prepare them appropriately for clinical experiences to ensure the safety of health consumers, students and staff " (NCNZ, 2020, p. 65). However, the NCNZ does not prescribe the level of fidelity used for the simulation activities. Currently, the NCNZ does not consider that hours spent in simulation activities are equivalent to clinical experience hours for pre-registration programmes. Simulation is, however, being used for competency review processes for registered nurses in two assessment centres in Aotearoa New Zealand and for education programmes for the Enrolled Nurse scope of practice (NCNZ, 2010).

What surfaces here, as HFS gains status through nursing and medical discourse, is the influence of nursing discourse on nursing professional bodies. Subsequently, HFS becomes a homogenised object within professionalising discourse. This illustrates Foucault's concept of disciplinary technologies of power. For Foucault, power is exercised with intention, and works through people rather than being overtly imposed on them. Foucault claims that belief systems, define their figures of authority and, as more people come to accept the views associated with that belief system, these views are accepted as common knowledge. So, what is seen here is simulation is accepted as an integral part of pre-registration nursing education throughout the tertiary sector, however any commitment to the type of simulation is not overt.

We see discourse around HFS as a replacement for actual clinical experiences emerging, which raises concerns that experiences with simulated bodies are moving ever closer to being

interchangeable with embodied patient experiences. In national and international literature, more contemporary discussions on simulation replacing actual clinical experiences. An example of this is the USA National Council of State Boards of Nursing's (NCSBN) National Simulation Study (Hayden et al., 2014). The findings support the replacement of clinical experience hours with up to 50% of simulation, with results showing there was no difference in learning outcomes at the end of program for students who had either 25% or 50% of their hours replaced with HFS when compared with students who had more hours in actual clinical experience.

Despite the significance of this study and the ensuing debate within tertiary nursing education, there is still a relatively low saturation of HFS within the entire market of pre-registration nursing education, particularly within Australia and Aotearoa New Zealand. Bogossian et al. (2018) found that most nursing tertiary institutions use low to medium-fidelity simulation, with respondents preferring to have between a quarter to a half of their clinical experiences replaced with simulation, including HFS. Are there budgetary restraints at play, or is there active resistance against the use of HFS within the field of pre-registration nursing education? Despite the uptake in simulation use in general, Bogossian et al. (2018) found HFS has not been widely adopted.

With a degree of acceptance in the use of HFS in pre-registration nursing education in many countries, I contend that HFS has by and large become normalised as an educational modality. Foucault sees normalisation as the ultimate effect of disciplinary technologies in the production of useful subjects through a refashioning of minds and bodies. What we observe from historicising the emergence of HFS, is HFS becoming a discursive object that is modifiable through interplays of technology, pedagogy and practices that intrinsically produce subjects that can be controlled and shaped. The following section traces more closely how simulation discourse has emerged, and the material conditions that have established simulation as a stable entity in the health education arena.

Emergence of high-fidelity simulation as a stable identity and material conditions facilitating such emergence

In chapter three, I discussed Foucault's examination of the ways discourses develop. He proposes that discourses emerge and transform according to a vast yet intricate set of discursive and institutional relationships, which are defined as much by breaks and ruptures as by unified themes (Foucault, 1972). Foucault describes this archive as not simply as a body of the text, but a set of relations and institutions that enable statements to continue as part of the archive. Such an archive informs how rules and procedures emerge, enabling knowledge to be organised, controlled, and redirected. Contemporaneous with the materialisation of the object, is the unequivocal production of particular knowledge, discursive practices and sets of conditions. An example of this is the setting of research agendas and priorities which enable truths to be constructed and, in the context of this study, how truth claims around HFS have materialised.

What is being discussed in the following sections are the social and cultural positions that have allowed HFS as an educational modality to grow over several decades, principally in the teaching of pre-registration healthcare students, including nursing students. Foucault suggests that discourse systematically forms the objects of which it speaks (Foucault, 1972). I contend that HFS is such an object. That is to say that the acceptance of HFS is derived from what is spoken about HFS and from the practices in which it is engaged. Taking a Foucauldian approach to analysis explains that discursive practices associated with HFS have developed strategically in response to educational needs and changing ideas about the importance of patient-centred care and patient safety.

Earlier nursing literature talks of the effectiveness of HFS on the learning outcomes of competence and confidence (Cant, & Cooper, 2010; Lapkin et al., 2010). With the shift to a focus on patient safety, healthcare educators are increasingly looking for innovative and technology-based ways to provide curriculum content (Levett-Jones, 2014; Seaton et al., 2019). As Motola et al. (2013) suggest "... a confluence of recent events has led to increased growth in the use of clinical simulation across the healthcare education continuum. These factors include an increased focus on patient safety" (p. 1511). Discourse surfaces around HFS, with its

immersive, technology-based, problem-solving and team-orientated characteristics, proclaiming it as a proven effective teaching modality to improve clinical reasoning in critical patient situations in a manner which has the potential to improve patient safety and outcomes (Erlam et al., 2018; Motola et al., 2013).

Both nursing and medical research explore the practices of simulation, including its use in professional education, as an assessment tool, and as a practice that avoids harm and ensures patient safety. Seaton et al. (2019) explore how healthcare education has addressed and implemented practices to align with contemporary patient safety priorities. Seaton et al. (2019) in their systematic search of literature between 2007–2016, found that the lack of evidence from the Australian and New Zealand context suggests that the outcomes of simulation, including HFS, in this region do not yet warrant the significant financial investments that have been made. This discussion demonstrates a shift in discourse, as discourses overlap and compete

Research into HFS as a teaching modality has been entrenched within a modernist position, and there is now a significant archive of perceived legitimacy that reinforces the research and practice. This body of literature has grown, and continues to grow, and seeks to discover the best use of HFS in healthcare education. Researchers are mindful of the educational principles that lead to effective learning, the need for feedback and debriefing, deliberate practice, and curriculum integration, all central to the efficacy of HFS. HFS use in healthcare has evolved and is now a recognised field with its own literature and traditions, indeed, healthcare simulation has established an identity.

Material conditions enabling medical discourse and the discursive object of HFS

McNaughton (2012) suggests that simulation use in medical education has been shaped by medicine's focus, in the latter part of the 20th century, on professionalism and on responding to an increased societal demand for accountability. As McNaughton (2012) explains, "... a medical professionalism internally focused on defending its privilege of self-regulation in the face of increasing societal dissatisfaction has redefined itself along the lines of competencies and roles" (p.109). It is important to stress here that the medical profession's concern with

proficiency and competence, and ultimately patient safety, is shared by the nursing profession. This focus on proficiency and competence also emerges in nursing simulation literature intrinsically linked with patient safety (Usher et al., 2016).

The evidence base relating to the effectiveness of HFS is stronger concerning some aspects of use than others. It is appropriate, at this juncture, to question the assumptions upon which the promised usefulness of HFS is positioned. Further discourse may reveal that simulation has the potential to be used in innumerable ways in addition to facilitating competency and safe practice. More recently, in response to concerns regarding increasing medical errors and calls to mitigate risk, HFS has become lexically associated with patient safety discourse. HFS has received strong support from governments in both Australia and Aotearoa New Zealand. In 2013, the Australian Federal Government invested \$94 million in healthcare simulated learning environments across Australia. The funding was to be utilised to establish 200 simulation centres across Australia and to enhance and sustain infrastructure, equipment and capital works, (Australian Government Department of Health & Health Workforce Australia, 2015). In Aotearoa New Zealand, simulation centres have been established, in some areas, often co-located with District Health Boards and education providers, with funding from government (Seaton et al., 2019).

One example is the Manawa Simulation Centre in Christchurch. While there is currently no formal Aotearoa New Zealand Government mandate regarding the use of HFS in healthcare education in May 2018 the government-funded Accident Compensation Corporation (ACC) committed an additional \$4.8 million to the already ACC funded surgical simulation-training programme NetworkZ (formally known as the Multidisciplinary Operating Room Simulation initiative [MORSim]) to ensure implementation in all District Health Boards (DHBs) by 2021. The intention of the NetworkZ intervention programme is to improve the safety and efficiency of care for patients through fostering teamwork and communication in multidisciplinary healthcare teams. This initiative is also supported by the Aotearoa New Zealand Health Quality and Safety Commission. This government support for and financial backing of HFS use as a

vehicle to address patient safety further sustains the medical discourse and HFS's credibility as a discursive object.

I argue that the increasing politics around patient safety along with economic rationalisation have become the central tenets in the use of simulation. The case being made is that the costs involved in using highly technical simulation equipment can be justified by the need to provide safe healthcare and reduce iatrogenic conditions. From a Foucauldian perspective, these truth claims, ordered by *a priori* rules or conditions, enable the authorisation and legitimisation of HFS as a key tool to address patient safety. The conceptual arguments for patient safety are compelling and these, together with empirical evidence, support the use of HFS in learning before a student works directly with patients. At this point, I feel that it is essential in my writing to introduce the concept the medicalisation and my interpretation of its links to patient safety and HFS.

Has patient safety been medicalised?

A leading sociological advocate Peter Conrad defined medicalisation as "... a process by which non-medical problems are defined and treated as medical problems" (1992, p.209). That is to say, a process through which aspects of life previously outside the jurisdiction of medicine come to be construed as a medical problem. Historically the key elements inherent in medicalisation and biomedicine are founded in Enlightenment principles and modernist thinking, which are presented in chapter two of this thesis. Mechanisms that encouraged or surfaced medicalisation included societal and cultural factors such as the diminished importance and undermining of the authority of the monarch and church resulting in an enduring faith in the scientific method, reductionism and rationality. This philosophical shift led to an increase in prestige and power of the medical profession.

Medicalisation is created by a specific set of cultural and social conditions and can be driven by forces in and outside of medicine (Conrad, 2005). Conceptual, institutional, and interactional medicalisation are terms used by Conrad (2007) to explain the use of terms by the medical profession that enhance its power, the way non-medical personnel in health institutions are

organised, and how the physician redefines a social problem into a medical one. This professional dominance by medicine over other health occupations, the content of work, clients, and the terms and conditions of work is identified and discussed by Eliot Friedson (Conrad, 2007).

Patient safety, once considered a social issue, has been redefined as a medical issue, one that is to be studied and organised by the medical profession. Patient safety has been presented as an increasing concern across, and, about the health profession. As a result, much effort has been put into developing practice competencies that are standardised and that have an interprofessional safety focus, with a particular focus on interprofessional education and systems improvement. Deployment of strategies and techniques associated with this medical discourse has contributed to viewing HFS as platform for interprofessional education addressing patient safety mitigating the risk of medical errors.

The redefining of patient safety has enabled medicine to create complex sets of institutional practices as products of discourse, including the use of HFS as a means of monitoring and assessing professional practice. Foucault would consider this as a mechanism of power using surveillance. Patient safety discourse sustains the use of HFS as a discursive practice, thus embodying ways to organise and control behaviour, knowledge, and clinical practice in health professional practice. That is not to say that this is a negative development. Indeed, certain medicalising of situations has had tremendous benefits for the health of society and, in the context of HFS, such strategies further legitimise HFS as an educational modality in educating health professionals in mitigating risks to patients.

The claim by Devita (2009) that to improve patient safety there needs to be an integration of "... simulation methodology into core education for all healthcare professionals at all levels and in all fields" (p. 47). Such a truth claim illustrates how the discourse of patient safety has become entwined with HFS discourse. Devita (2009), suggests that education within nursing and medical schools should be "fundamentally based on simulation methodology instead of an image of the blackboard, book, PowerPoint, or teaching rounds" (p. 47), with simulation being central to the educational process and the utilisation of technology to create consistent

simulation experiences. Claims that simulation is "... measurable, focused, reproducible, mass-producible, and importantly, very memorable" (Devita, 2009, p.46) have resulted in this educational approach becoming more utilised in healthcare education programmes and, in particular, medical education (Cant & Cooper, 2017; McGaghie et al., 2010).

Devita (2009) suggests that health professionals have a responsibility to improve patient safety and to enable this do this need to be mindful of where simulation fits into the education, patient safety, and the cultural framework of the organisation. The ultimate purpose, and key driver, is to improve the quality and safety of healthcare provision together with interprofessional communication and education (Agency for Healthcare Research & Quality, 2012). And as Banerjee et al. (2016) claim, teamwork and interpersonal communication failures are often factors jeopardising patient safety especially in an arena where interdisciplinary and interprofessional teams are increasingly providing healthcare.

What is seen here is a shift in discourse over time and its effect on other discursive formations, with an evolving focus on the effectiveness of HFS in improving interdisciplinary and interprofessional communication and teamwork. Lewis, Strachan, and McKenzie Smith (2012) found HFS is positively associated with significantly improved interpersonal communication skills at patient handover, and it has been clearly shown to improve team behaviours of clinical personnel in a wide variety of clinical contexts including in the management of crises. Utilising HFS to mitigate risk to patients is further supported by government and professional bodies which endorse HFS as a solution to address the need to improve interdisciplinary and interprofessional communication and teamwork. As articulated by Berry (2018):

using simulation as a tool to advance these ideas is both creative and logical. There is overwhelming support that simulation allows us to practise communication and teamwork skills away from the workplace and patients – where we can make mistakes and improve performance at very low risk. (p.1)

The above statement is made in the context of the adoption of the World Health Organisation's (WHO) surgical safety checklist into Aotearoa New Zealand operating theatres to improve surgical care. The WHO checklist established the critical role of teamwork and communication in providing high-quality, safe care. HFS, is recognised as a profound marker in the increase of

patient safety initiatives. However, although there is support for simulation, including HFS, to be utilised to address interprofessional communication, according to Banerjee et al. (2016), the specific knowledge, skills, attitudes, and behaviours required to function effectively as part of a team, are often overlooked in both nursing and medical curricula. The question is, does HFS use HFS improve teamwork and interprofessional communication?

The surfacing of patient safety discourse medical discourse concerned with providing truths about HFS as an education modality have contributed to HFS's emergence as a stable entity. The increase in published literature pertaining to HFS and patient safety in medical education not only provides material conditions to sustain and legitimise such discourse, but also provides a means to enable the tracking and surveillance of HFS in healthcare education. Subsequently, the use of HFS has become a seemingly endless source of research opportunities for both industry and academics.

Material conditions enabling nursing discourse and the discursive object of HFS.

In response to both nursing and medical research, there has been a proliferation of sophisticated technology and funding initiatives to support simulation use in education and as well nursing discourse around HFS use as a pedagogical tool in pre-registration nursing education. Academic nurse educators and pre-registration nursing students are all part of an educational setting that, along with nursing and medical professional bodies and health institutions, makes up a complex network of power relationships which can be contextualised as a discursive field. As mentioned previously, Foucault's concept of the discursive field is explained as a series of discrete but overlapping discourses and practice, shaped by institutions and disciplines, and which slowly change over time.

Inquiry into HFS materialised in published international nursing literature in the late 1990s and early 2000s. However, published literature at this time focused on predominantly postgraduate nurse education. Research from this period indicates that the application of HFS was used primarily in advanced postgraduate clinical training such as critical and emergency care and was very much focused on skill and knowledge acquisition and competency. Ravert's (2002) early

2000 integrative literature review of computer-based simulation found nine quantitative studies on the effect of simulation on skill and knowledge acquisition. Of these, only four studies were with graduate-level nursing students or nurses already registered, with the remainder of studies involving medical students. Again, the clinical emphasis is on advanced critical or emergency skills, with a research focus of increasing learner competence and confidence from the simulation experience. The evidence supports that HFS can provide participants with a safe and controlled learning environment, and with an opportunity to repeatedly practise selected procedures and non-technical skills, thus mitigating risk to patients (Erlam et al., 2016; Gillan et al., 2013; Kunst, Henderson & Johnston, 2018). Competency discourse, which is positioned in much of the earlier nursing literature, has gradually been surpassed by other competing discourses, including realism and the substitution of clinical experiences.

Despite the abundance of international simulation scholarship, and a moderate body of Australian and Aotearoa New Zealand research, there is comparatively little Australasian nursing literature on the use of computerised manikins in pre-registration nursing. Australian and Aotearoa New Zealand simulation literature, particularly around HFS, did not surface until the mid-2000s. Acceleration in nursing HFS research within an Australian context coincides with funding poured into the simulation learning environment programme by the Australian Federal Government through Workforce Australia. Within Aotearoa New Zealand, the Performance-Based Research Fund (PBRF) system and academics' endeavours to produce research outputs have contributed to the exponential growth in research in this field. Academics are judged on research outputs, and the field of high-fidelity simulation provides an abundance of research opportunities.

Simulation has become somewhat integral to pre-registration nursing education in Australia and Aotearoa New Zealand. Bogossian et al. (2018) found that 96% of participants reported that simulation was embedded in their pre-registration nursing programmes. Kunst, Henderson and Johnston, (2018) found simulation to be used in varying forms of fidelity, including technology-based simulators such as computerised manikins or standardised patient simulators, silicone patient simulator, and, more recently, virtual simulation. However, Bogossian et al. (2018)

found that three-quarters of participants used low-fidelity simulation and that high-fidelity simulation was rarely used. The following sections provide a brief overview of the emergence of other discourses and material conditions constructing the object of HFS.

Material conditions enabling the emergence of other sub-discourses

High-fidelity simulation has developed over many decades in response to social and cultural influences in the field of medical education. How such a teaching modality has become manifested and organised has varied across time and location, with the position of HFS continuing to change alongside advances in healthcare education and technology itself. Such a manifestation is explained to some extent by the dominant nursing, and medical discourse that have emerged

The purpose of this study was to interrogate discourses and discursive practices that surface from a range of data utilising Foucault's philosophical concepts and methodological tools. Foucault's position is that discourse is productive and so any discourse analysis that claims to take a Foucauldian perspective should acknowledge not just what the discourse articulates, but what the effects of that discourse are, namely what the discourse produces, whether actions, structures or social conditions (Hook, 2001). As previously discussed, such discourses provide nursing students and academic nurse educators with ways of understanding and talking about HFS.

While analysing the various historical and contemporary texts using Foucault's methodological tools I observed the emergence of three other discourses distinct from the dominant nursing and medical discourse. These were: (a) HFS pedagogy, (b) replacement of clinical experiences and (c) realism. These discourses, I argue, can be used to challenge dominant nursing and medical discourse. As Foucault suggests, alternative discourse, albeit potentially marginalised, also contributes to discourse statements creating the object, and potentially offers sites where dominant practices can be contested, challenged and resisted (Foucault, 1972). I refer to these three alternative discourses as sub-discourses, a term utilised by researchers such as Neville (2005), Foster (2020) & Wilkinson, (2007).

Pre-registration nursing students and academic nurse educators may draw from these discourses when they position themselves in relation to others in the use of HFS. Proponents of HFS similarly use discourses to write about HFS as an educational modality positioning themselves as experts and drawing from discourses when they provide advice and information about how one should view and manage pre-registration nursing and medical education. The surfacing of nursing and medical discourse and the elucidation of statements about HFS have informed the shape and possibilities for simulation practice, becoming key drivers in how HFS is utilised in healthcare education.

The sub-discourse of simulation pedagogy

Concurrent with the accelerated use of simulation are multiple narratives of what simulation involves, how it should be used and its standing in healthcare education. As mentioned previously, from a Foucauldian perspective, what people say and write are manifestations of discourses, with their origins not in the attitudes or opinions of the speaker, but the discursive culture in which they are situated (Burr, 2015). These are the discursive practices and conditions that have made discourses possible. As suggested by Harder (2009) "... the evolution of simulation use in nursing and healthcare education is a relatively short but a deeply rich one" (p.169).

In earlier text, we see the focus on learning outcomes utilising technology to create a simulated clinical environment related to competence and confidence of learners. These outcomes have subsequently shaped HFS activities and pedagogy and are thus an approach, and means, to produce a genre of graduate with certain qualities. This can be perceived in both a positive and negative light, some may perceive that HFS use is a technique of control, whereby the educator regulates the qualities deemed necessary for future practice. From a Foucauldian perspective, HFS is then an approach that can maintain power in sustaining the nursing practice of future nurses and, subsequently, certain practices within the clinical environment. Disciplinary and bio-power create a discursive practice, or a body of knowledge and behaviour that defines what

is normal or acceptable, but it is a discursive practice that is nonetheless in constant flux (Foucault, 1979).

Emerging contemporaneously with the increase in simulation technology and its use in nursing education, are discussions concerning the limited pedagogical theory underpinning HFS, and questioning if, in fact, HFS is itself a pedagogy (Erlam, 2015). Academic nurse educators voice concerns that HFS activities are focused on learning outcomes such as competence and confidence but fail to address the actual impact of HFS on student learning (Arthur et al., 2011; Levett-Jones et al., 2011a; Erlam, 2015; Mould et al., 2011). More recent discourse illuminates the concerns of academic nurse educators who advocate for an interrogation of the impact of HFS experiences on learning and the transfer of skills into the clinical environment (Kunst et al., 2018; Tutticci et al., 2016; Bogossian et al., 2018; Rooney et al., 2015). This discourse on the impact of HFS on learners competes with both nursing and medical discourse around the effectiveness of HFS as a teaching modality, with increasing conversations proposing that those discourses “...lack the rigor and generalizability to provide the evidence needed to make policy decisions” (Hayden et al., 2014, p. S3).

Other material condition that we see emerging in early nursing literature is the discourse around the need for best practice guidelines for simulation to be effective, regardless of the level of technology. Discussions within both nursing and medical text surface the importance of using guidelines and scaffolding to structure design and delivery of simulation within pre-registration nursing curricula. From this base, we see the development and endorsement of guidelines and frameworks specific to simulation and HFS. Pamela Jeffries developed the National League of Nurses (NLN) Jeffries Simulation Framework (2005, 2007, and 2012) in collaboration with the NLN and Laerdal. This framework is now referred to as the NLN Jeffries Simulation Theory (2015). We also see emerging in 2011 the development of the first edition of the International Nursing Association for Clinical Simulation and Learning (INACSL): Standards of Best Practice: SimulationSM (INACSL, 2021), which again structure the design and delivery of simulation activities. The INACSL standards were further revised in 2013, 2015 and 2016 to

include terminology and strategies to guide facilitators when undertaking Simulation Enhanced Interprofessional Education (INACSL, 2021).

The INACSL is a community of practice involved in the science and practice of simulation, and its standards incorporate, what are regarded by advocates of simulation, as best practices from adult learning, education, instructional design, clinical standards of care, evaluation and simulation as a teaching modality. Both these frameworks/standards are endorsed by the National League of Nurses and are widely used within many nursing simulation research activities to standardise simulation design and provide a framework for developing effective simulation-based experiences (Campbell & Daley, 2018). Surprisingly, despite INACSL being recognised as a leader in best practice (Campbell & Daley, 2018), Bogossian et al. (2018) found in their study of Australian and Aotearoa New Zealand tertiary providers of pre-registration nursing education that only some participants indicated compliance with established simulation best practice standards, such as the INACSL Standards of Best Practice: SimulationSM.

Pressure on tertiary institutions to produce work-ready nurse graduates, who are confident, competent and prepared for the complexities of the healthcare environment, is a key driver in the expansion of simulation use, including HFS (Kunst et al., 2018). As with medical education, patient safety has become a discourse within nursing pre-registration education and is a core principle of health professional practice. However, very little research explores how core value is taught within Australian or Aotearoa New Zealand pre-registration nursing curricula. Usher et al. (2018) found that although there is consensus concerning the importance of patient safety across universities, and a similarity in views about which knowledge, skills and attitudes should be taught, there was little indication of any systematic approach to learning.

In terms of the impact of embedding simulation activities into nursing curricula, Bogossian et al. (2018) found that lead academic nurse educators in Australia and Aotearoa New Zealand were almost exclusively positive towards the utilisation of simulation activities of varying levels of fidelity. Participants in the survey valued simulation as an adjunct to clinical placements, indicating it served to prepare students better by enhancing their learning within the clinical

placement setting as well as improving clinical competence. Bogossian et al. (2018) found that despite the adoption of simulation-based education activities by many academic nurse educators, the adoption of HFS remained less, with many educators opting for lower or medium fidelity.

Academic nurse educators have a large toolbox from which to design simulation activities, including HFS. It is widely documented that the simulation tools selected, including the level of fidelity, should be determined by the educational objectives, learner needs and patient safety concerns, in addition to the availability of resources. For a proportion of academic nurse educators, HFS may not always be the best choice.

The sub-discourse of replacing clinical experiences with high-fidelity simulation

As our experience in the practice of simulation learning and delivery matures, questions are repeatedly raised by academic nurse educators about the possibility of replacing a portion of clinical experience with some form of simulation, including HFS. One driver for this is the immense pressure on hospitals and facilities to provide clinical experiences for increasing numbers of students (Spence et al., 2019) and, to some extent, by technological advances as well as global policy change. For example, the United Kingdom Central Council, 1999 *Fitness for Practice* document was part of the policy reform influencing simulation development in the UK (Moule, 2011). This approach to policy change emphasised the need for nurses to be fit for purpose and recognised the importance of preparation for practice. In 2007, the UK Nursing and Midwifery Council (NMC) released a council paper setting out processes for using simulated learning for practice hours, including HFS. This regulated agreement reflected the outcomes of a range of preliminary studies and consultations that suggested simulated practice can support effective evidence-based learning in a safe environment through mimicking real-life patient scenarios.

Following these changes, a 300-hour limit on simulation hours replacing clinical hours in nursing pre-registration education was implemented. More recently, as part of significant changes to nurse education in the UK, the NMC proposed to remove its 300-hour limit on

simulation hours and replace it with a maximum of 1,150 hours. Half of the 2,300 hours students must spend in practice during their degrees (Merrifield, 2018). However, as Merrifield (2018) suggests, early findings from the consultative process suggested there was a widely held belief that simulation should not be seen as a substitute for clinical practice hours. In a more recent paper, the NMC (2018) recognised the growing role and importance of simulated learning, including HFS, and subsequently provided universities with a degree of flexibility in determining how simulation was to be used for learning and assessment as long as the number of requisite practice hours was not diminished.

The landmark research undertaken by the National Council of State Boards of Nursing (NCSBN), National Simulation study (2014), established foundations for the emergence of HFS as a stable entity. This research is heralded as being a catalyst to launching the concept of simulation, including HFS, as a replacement for clinical experience hours. One of the key aims of the study was to provide evidence to the United States Boards of Nursing on the use of simulation as a replacement for traditional clinical experiences in pre-registration nursing education. This study measured the effect of simulation as a replacement for either 25% or 50% of each school's total clinical hours. The pre-Registration programs under inquiry were instructed to use requirements for simulation like those for the clinical setting. Simulation scenarios followed the NLN/Jeffries Simulation Framework and involved medium or high-fidelity manikins, standardised patients, role-playing, skills stations, and computer-based critical thinking simulations.

The researchers found that there was no difference in educational outcomes at the end of the program for students who had either 25% or 50% of their clinical hours replaced with simulation compared with students who had more hours in actual clinical experience. The NCSBN study claimed to provide substantial evidence that up to 50% simulation can be effectively substituted for traditional clinical experience in all pre-registration courses under conditions comparable to those described in the study. It must be noted that in the NCSBN study, all programs shared the same simulation model prescribing the way simulation activities would be run (Rutherford-Hemming et al., 2016). Elements within the programs were

standardised and controlled at all sites with academics trained in simulation using best-known practices to provide the same level of simulation. The researchers of the NCSBN National Simulation Study were aware of the importance of careful, criteria-based selection of both simulation experiences and study sites (Hayden et al. 2014). These requirements would contribute to ensuring participants were exposed to only high-quality HFS experiences as a substitute for clinical hours. Unfortunately, barriers to the utilisation of simulation activities in pre-registration nursing education, including access to resources such as computerised manikins, continue to exist (Al-Ghareeb & Cooper, 2016). It is these barriers that prevent many pre-registration programmes from being able to replicate the NCSBN study.

With the sub-discourse around the substitution of HFS for clinical hours comes a conundrum that academic nurse educators face, and that is, that there is presently limited standards or research evidence to guide what constitutes effective use of HFS and simulation activities versus clinical experience, particularly within Australia or Aotearoa New Zealand (Bogossian et al., 2018). In much of the sub-discourse on substitution of clinical hours, there is prevailing dialogue that any substitution needs to be of the same quality and have the authenticity of the meaningful learning experienced in actual clinical settings (Bogossian et al., 2018). As Bogossian et al. (2018) suggest in their survey of simulation use in Australia and Aotearoa New Zealand pre-registration nursing education, the majority (80%) of participants indicated that up to 25% replacement of clinical experiences would be reasonable, with 12% of participants indicating up to 50% provided it was adequately resourced, which is in keeping with Hayden et al. (2014).

Currently 800 hours of supervised clinical experience placements are required in Australia with 1100 hrs required in Aotearoa New Zealand in order to qualify as a registered nurse. Based on the current total hours of actual clinical experiences required for registration, 25% of clinical hours in Australia would equate to 200 simulation hours and 50%, 400 simulated hours. In Aotearoa New Zealand 25% of clinical hours would equate to 275 simulation hours, and 50%, 550 simulation hours.

Making it real - the sub-discourse of realism

Historically, proponents of early healthcare simulation associate HFS with highly sophisticated computerised manikins to replicate real patients. Indeed, Schiavento (2009) suggests that high-fidelity has become synonymous with simulation. However, it is essential to recognise that fidelity can refer to more than just realism or the ability to replicate the real world. This notion of fidelity is often challenged within the text, many researchers claiming that in-fact realism can just as equally be achieved using low technology. Simulated or standardised patients are now almost ubiquitous in modern healthcare education programs (Cant & Cooper, 2017; Kunst et al., 2018) with standardised patients, such as actors, making real bodies available.

More recently, for many proponents of simulation-based education, the term fidelity involves a variety of dimensions. Lopreiato et al. (2016) discuss the level of fidelity being determined by the environment, the tools and resources used, and other factors associated with the participants. As a result, fidelity can encompass conceptual, physical, environmental, and psychological factors. This is frequently stated in nursing and medical literature, sustaining discourse that fidelity extends beyond the technology of the manikin itself to include other factors that make the simulation experience as real as possible (Campbell & Daly, 2018; Lapkin & Levett-Jones, 2011; Muckler, 2017; Weller, 2012). Such a notion allows realism to move beyond the technology, subsequently creating new forms of emotional experience for the learner.

One could argue that the complexity and diversity of fidelity contribute to the tensions at play regarding its position. In particular, the way language is utilised by users of simulation, consumers of simulation and within the simulation arena creates a simulation language, simulation rules and knowledge. As illustrated by Tun, Aliner, Tang and Kneebone (2015):

... fidelity is an intrinsic property of simulation and can be defined as the degree of accuracy to which a simulation, whether it is physical, mental, or both, represents a given frame of reality in terms of cues and stimuli, and permissible interactions. (p. 164)

The term fidelity is value-laden and is commonly used in discussion to mean different things. The use of a term like this can result in assumptions being made on the worthiness or, indeed, the limitations of the modality used in the simulation. Even the terms high and low fidelity

convey notions of power trustworthiness and credibility which then makes it difficult to question the modality. In fact, the linguistic labels 'high' and 'low' should not be used loosely as they are linked to both monetary value and perceived credibility. This demonstrates how power is embedded in the way we describe objects and activities. Language is inherently political; as includes, as well as excludes possible actions, positions of authority and access to resources. Subsequently truth claims are supported by the language used in simulation discourse. To name and label is a modernist pursuit, legitimising what counts as simulation and thereby de-legitimising what does not count.

Simulation has often been described as including a variety of methods, spanning high to low technology options and encompassing different levels of fidelity. Confusion around what fidelity implies and the problematisation of that has led to the development of standards used to facilitate simulation design (Tun et al., 2015). Consequently, a healthcare simulation dictionary has been developed and is recommended to be used by all simulation users (Lopreiato et al., 2016). Of interest here are the assumptions made of the terminology used in these documents. Facilitators of simulation experience the empowerment of being able to speak this language and in this way, simulation is made real and legitimate.

As mentioned previously, the pervasive use of the term simulation in healthcare education text and its association with high-fidelity, suggest that high-fidelity has become synonymous with simulation. Consequently, with HFS framed within a specialist language, the terms used attract considerable interest and have quickly entered into everyday discussions at multiple institutional and social sites. Being positioned with its own terminology, HFS provides key influential concepts for understanding, evaluating, and classifying teaching and learning and is an example of what Foucault would consider micro-capillaries of power.

We see emerging ongoing contestations about the validity and value of the varying degrees of high and low-fidelity simulation. Schiavenato (2009) proposes that many supporters of simulation-based activities consider the use of high-fidelity manikins to be the most effective modality. However, Tun et al. (2015) do not support this viewpoint and submit that research

comparing different levels of fidelity is unequivocal. In their study, Tun et al. (2015) found support for high-fidelity simulation mixed, with some studies instead advancing support for low to medium fidelity modalities.

With articulations that HFS provides students learning opportunities for perfecting skills, attaining knowledge, critical thinking and building self-confidence HFS is seen as promoting student learning in the cognitive, psychomotor, and affective domains. Absent, however, from such statements is how HFS can provide learning opportunities around caring. Teaching and learning human caring and empathy are integral parts of the affective domain in nursing education. Academic nurse educators see the challenges students face learning caring behaviours, including empathy, when situated in a simulated clinical environment with a simulated patient (Dean, Williams & Balnaves, 2017).

The rise of simulation technology within healthcare education has led to specific notions about how HFS can be used in pre-registration nursing education by replicating the real patient to assist students to practise skills and learn in a safe environment. However, there is ongoing debate as to whether increased realism of the manikin in HFS leads to a general improvement in the learner's confidence and competence. As Massoth et al. (2019) suggest there are few data on whether increasing the degree of realism and range of features on the computerised manikins is associated with an increase in participants' personal confidence and self-assessment.

There is no doubt that HFS has been subsumed into both nursing and medical discourse. High-fidelity simulation is firmly established and there is widespread evidence demonstrating its effectiveness, particularly in terms of student competence and confidence levels (Cant & Cooper, 2017). The majority of nursing simulation research has focused on areas such as measures of learner satisfaction, attitudes, confidence, and knowledge acquisition (Seaton et al. (2019). However, discourse surfaces as to how simulation, including HFS, addresses higher level learning outcomes. Subsequently, much of the evidenced-based literature has positioned HFS as innovative technology, and as a means to direct nursing education curricula, creating a bridge between pre-registration nursing education and professional practice. However, we are on liminal territory here as there is more at play than just evidence within the literature

supporting its effectiveness. Taking a Foucauldian perspective involves interrogating the creation of systems of discourses and practices that form part of the increasing surveillance, regulation and control of individuals, not merely the formation of new knowledge. The emergence of such discourse of simulation technology and realism does not only create new opportunities for academic nurse educators, but also exposes the conundrum of the not so real, human less manikin, and the production of certain subject positions that are discussed further in chapter eight.

Summary

Drawing on Foucault's methodological tools, this chapter sought to surface and make visible discourses that contribute to the emergence and construction of HFS as a discursive object. Within this chapter, I have provided an overview of HFS and a sketch of socio-historical conditions which have contributed to the surfacing of HFS as a discursive object. Analysis of historical and contemporary text identifies discursive formations that play central roles in the way that statements and arguments are formed and elucidated, and how the discursive object of HFS has emerged and has been supported through nursing and medical discourse.

Changes in rules and practices in response to social and cultural conditions have been identified, including the historical circumstances surrounding the different discourses and accompanying changes in HFS practice. These conditions include research initiatives and agendas that have developed, and subsequently shaped, HFS as a state-of-the-art teaching modality. I have examined how both nursing and medical research agendas have developed and shaped HFS over time. The use of HFS in the medical arena has come about in response to social and cultural influences supportive of the legitimising field of medical education, particularly within the area of patient safety. An example of this is the rise of a performance discourse in medicine beginning in the 1960s and leading to specific notions about a health professional's level of competence (Gaba, 2004). Nursing education has mirrored these shifts in medical education, as evidenced by increasing research outputs in HFS inquiry.

I contend that this archive of discourse has enabled, and continues to enable, HFS to be central to discursive practices used to order and manage constructs of nursing practice including nursing knowledge, deliberate practice (clinical skills) and professional practices (how to be a nurse) within pre-registration nursing education. I argue that the emergence of dominant HFS nursing and medical discourse and the sub-discourses of simulation pedagogy, clinical hour replacement and realism have enabled discursive practices to order and manage constructs of nursing practice including nursing knowledge, deliberate practice, and professional practices within pre-registration nursing education. The following chapter extends this discussion by examining textual data gathered from more recent texts from nursing and medical journals concerning HFS use in Aotearoa New Zealand pre-registration nursing education illuminating how HFS has been constructed as a teaching modality.

Chapter 6: Textual representation of discursive practices shaping HFS in pre-registration nursing education.

Introduction

In the previous chapter I traced the history of HFS and its use in pre-registration nursing education, documenting how HFS became discursively constructed as an object of discourse in healthcare education and the wider socio-cultural and political field. The chapter analysed the factors that likely led to the utilisation of HFS as a teaching modality in pre-registration nursing education. The purpose of this chapter is to interrogate text collected from more contemporary literature and to expose how that text speaks about high-fidelity simulation (HFS) and, how as a discursive object, HFS is constructed both within and out of the text. The chapter will address how, through discourses associated with HFS, subject positions are made available to the student nurse and academic nurse educator.

According to Foucault (1980), discourses are sustained through specialised knowledge, acquired under certain conditions, and discursive practices. In the previous chapter, Foucault's methodological tools were used to trace the emergence and surfacing of dominant nursing and medical discourse, and three sub-discourses: HFS pedagogy, replacement of clinical hours and realism. The focus of this chapter addresses the research aim: *to interrogate the discourse that influences the use of HFS in pre-registration nursing education in Aotearoa New Zealand.*

In this chapter, Foucault's methodological tools of discontinuity, specificity and exteriority are used to interrogate and provide critical analysis of nursing and medical discourse and sub-discourses as they appear in the text. The chapter begins with an overview of the approach adopted to analyse the text followed by a presentation of the setting within which the texts are situated. I focus on challenges within pre-registration nursing education and the responses to those challenges, including the segmented use of technology in healthcare education. Nursing and medical constructs such as patient safety and clinical competence are woven through the analytical discussion. These constructs have also shaped the responses and discursive practices

through interactions between the healthcare industries, nursing regulatory bodies and academic nurse educators.

Approach to the analysis of the text from published literature

As Foucault suggests, truth induces regular effects of power (Neville, 2007) and, subsequently, the fixing of truths about HFS is reflected in the published medical and nursing literature. A critical interrogation of the text is therefore essential. This exploration of the text is by no means an exhaustive one, but it interrogates the social, historical, and political conditions under which true or false statements have surfaced and maintained discursive practices, in turn shaping the use of HFS in pre-registration nursing education in Aotearoa New Zealand.

It is helpful at this juncture, to return to the meaning of 'text' for the purposes of discourse analysis. From a Foucauldian perspective, the statement is the essential element in the discourse, and a 'text' is comprised of statements (Foucault 1972). Utilising Foucault's rules of discursive formation, discourses have been identified, and questioned, for similarities and grouped for questioning, a process similar to thematic analysis. As discussed in chapter four, discourses examined within the texts have been subjected to a series of questions from a Foucauldian theoretical standpoint.

In the context of this study, utilising Foucault's methodological tools enables the interrogation of discourse and discursive practices within pre-registration nursing education, including the locations these occupy, what their effects are, and ways in which they might be re-considered. Using Foucault's methodological tools of discontinuity, specificity, and exteriority reveals how discourse has taken effect and has been legitimised. As previously discussed, due to the paucity of Australian and Aotearoa New Zealand literature, pertinent and significant international published literature, such as research undertaken by Hayden et al. (2014) is utilised in this study.

Once the discourses were identified from the first phase of my analysis, I was able to consider the subject positions that these discourses produced for the student nurse and the academic

nurse educators involved in HFS in pre-registration nursing education. In the second phase of my analysis, I explored and questioned the power/knowledge effects that these discourses and discursive practices had on constructing HFS as an educational modality and in constructing nursing student knowledge. As previously discussed in chapter four, I utilised a system of discourse sketches that enabled me to analyse the data at a deeper level. To focus on the main discourses and the power and knowledge relationships at play, the questions, outlined in section 4.6.2 are used to guide analysis of the data.

Are there problems within pre-registration nursing education? The positioning of high-fidelity simulation as a solution

So, what is problematic here? As discussed in previous chapters, educating nurses to provide competent care in today's healthcare environment is persistently challenging due to the increasingly complex needs of patients in equally complex care environments. In addition to this, as Spence et al. (2019) contend, the shortages in the clinical nursing workforce, and education faculty, also influence how pre-registration nursing education is delivered. Furthermore, as Erlam et al. (2018), Spence et al. (2019) and Tutticci et al. (2016a) suggest, there is a need to reform nursing pedagogy to accommodate the current generation of millennial learners. A millennial student is considered to be born between 1982 and 2002 (Tutticci et al., 2016) and, as advanced by Erlam et al. (2018) "... in the educational setting are keen that technology be woven seamlessly into educational platforms" (p.140). And as Tutticci et al. (2016) explain, the entry of those millennial students into higher education has brought about a pedagogical response of adopting active learning pedagogies. Millennial students "... are familiar with the technology, predisposing them to comfort with the HFS experience" (p. 512). In the 2020 NCNZ Nursing Cohort Report (2021), 42.5% of new entry to practice graduates were under the age of 25 years, further reinforcing that that the majority of New Zealand nursing graduates are considered to be from the millennial generation.

The critical discussions and debates taking primacy in contemporary healthcare education, including pre-registration nursing, have been focused on the inclusion, and revisiting, of core

principles of professionalism in practice, including patient safety, person-centred care, teamwork, collaborative practice, and the concept of caring (Feo et al., 2018; Levett-Jones, 2014). As discussed in chapter five, the position of patient-centred care and patient safety in healthcare delivery has had a significant influence on healthcare education. As suggested by Seaton et al. (2019) much of the impetus behind this focus is associated with the Institute of Medicine 2000 report *To Err is Human: Building a Safer Health System* (Kohn et al., 2000).

Within the report *To Err is Human: Building a Safer Health System* (Kohn et al., 2000), simulation is recommended as an example of a teaching modality that has the potential to contribute to increased patient safety, reduction in patient injury, and to mitigate the risk of health-related errors. In its summary of recommendations, the report explicitly mentions simulation as a possible remedy, stating in recommendation 8.1 that patient safety programmes should: "... establish interdisciplinary team training programs, such as simulation, that incorporate proven methods of team management." (Kohn et al., 2000, p. 14). The report also states that "... it will be a great challenge to develop simulation technology and simulators that will allow full, interdisciplinary teams to practise interpersonal and technical skills in a non-jeopardy environment where they can receive meaningful feedback and reinforcement" (Kohn et al., 2000, p. 177). What surfaces in this text is discourse about HFS improving systems, teamwork and communication, the soft or non-technical skills. Foucault talks of discontinuities, ruptures and changes that disrupt the current narrative (Foucault, 1972). Here we see a change in the narrative - a shift in discourse from a position where HFS impacts individual skill development to HFS being used to improve teamwork and communication. Does this discontinuity invite users of HFS to adopt a new construction of HFS as an educational modality, one that acknowledges the role of HFS as a conduit to address effective teamwork, communication, and patient safety?

That simulation-based team training is beneficial to a team's knowledge and attitudes toward non-technical skills is borne out in the medical discourse (Weile, et al. 2021) and similar statements are also found in nursing text (Cant et al., 2020; Seaton et al., 2019) resulting in the legitimisation of patient safety as a key construct in the healthcare arena, heavily enmeshed with

the provision of safe healthcare by a safe practising health workforce. Patient safety emerges as a major influence and appears to be relatively uncontested and so does a recognition that patient safety is contingent on a people working as a team.

Relating patient safety to the provision of safer healthcare further constructs and activates nursing discourse and debate around the challenges in the preparation of pre-registration nurses as both a nursing education and clinical experience problem. Indeed, technical, and non-technical skills competency has become a fundamental construct associated with patient safety (Adams, 2018; Oldland et al. 2020). What is seen here is how nursing educational practices, including curriculum development and pedagogy, are influenced by patient safety discourse. In addition to such discourse is the support in the literature for innovative educational modalities, such as HFS, to provide nursing students with opportunities to enhance technical/clinical skills and non-technical skills. Therefore, HFS facilitates not only skill attainment, but provides a safe environment in which to practise clinical decision making with minimal risk to the patient. Such a discussion is supported by Fero et al., (2009), who found new graduates struggled with the ability to make, and implement, independent nursing interventions, highlighting the need for innovative educational strategies to be utilised. This discourse is further reinforced by Currie, et al. (2019), who found in their review of literature a definite shift towards using innovative methods in learning delivery, with the most common approach being blended learning, namely a combination of lectures, online resources and practical activities including HFS.

The text that has been reviewed surfaces a shift in educational practices, from utilising HFS as an educational modality to increase confidence and competence in technical clinical skills to utilising HFS as means to focus on non-technical skills such as teamwork and communication. The underlying rationale being patient safety, reflecting the increased societal demand for accountability. For example, Guze (2015) suggests that "... changes in societal expectations put patient safety in the forefront and raises the ethical issues of learning interactions and procedures on live patients, with the long-standing teaching method of "see one, do one, teach one" no longer acceptable" (p. 260). This is not just relevant to the teaching and learning of clinical skills but also the skills which enable healthcare students, including nursing students, to

provide clinically competent care in the practice setting (Fero et al., 2009). This discourse is further sustained in text produced by professional body documents, modifying institutional practices such as pre-registration nursing curricula content and delivery. In the NCNZ Handbook for Pre-registration Nursing Programme (2020) the focus is on academic nurse educators preparing nursing graduates to have skills and abilities in critical thinking, clinical decision-making, nursing inquiry, communication, and teamwork, while equipping them with knowledge and comprehensive nursing assessment skills.

A new wave of nursing discourse emerges from early 2000, with restatements about the gap between clinical practice and theory, which many early proponents of simulation believe can be bridged using HFS (Aliner, 2006; Jeffries, 2007; Nehering et al., 2009). Academic nurse educators recognise this gap between theory and practice exists and continue to voice concerns about the need to find solutions to the dilemma. The solutions appear to remain limited despite the growing evidence that the consequences of the theory-practice gap impact on the quality and safety of patient care (Salifu et al., 2018). As suggested by Aliner, (2006); Jeffries, (2007) and Nehering et al. (2009), HFS is a teaching modality that can offer a solution to bridging the theory-practice gap by providing opportunities for students to engage in learning that requires the making of independent clinical decisions and realising the results of their responses in a safe, controlled environment.

Here we witness what Foucault would consider as power constituted through accepted forms of knowledge, scientific understanding and truth, a product of society's (nursing) regimes of truth. Such discourse interweaves throughout the text, raising the tension and urgently calling for a response by academic nurse educators. As a result, nursing institutions increasingly turn to innovative teaching and learning modalities, such as HFS, for skill preparation of nursing students (Fisher & King, 2013), thus demonstrating how HFS becomes enmeshed in practice, education, research, and industry.

Also surfacing in the text, is the opinion that inadequate preparation of newly graduated nurses has led to tensions between the clinical workforce and providers of nursing education (Forber et

al., 2015). As Forber et al. (2015) suggest, this tension has resulted in a progressive disconnect between the workforce and nursing education with many in the workforce adopting the opinion that educational institutions are not adequately preparing students for professional practice, with a theory-practice gap still very much evident (Currie et al., 2019; Clendon, 2011). As Currie et al. (2019) proffer, “common to the reviews were discussions of the theory-practice gap and how to best achieve engagement from students and enable them to apply learning to clinical practice” (p. 21). It is useful to mention here that, as found by El Haddad et al. (2017), when it comes to the notion of practice readiness, there is no shared understanding, with the term practice readiness meaning different things to different people, resulting in “... nurses in education and practice sectors inhabiting disparate realities” (El Haddad et al., 2017, p. 395). These disparities tend to contribute to the tension between educational institutions and the practice sector.

Myriad forces are changing the face of contemporary healthcare, and nothing has transformed the way nursing and medicine are practised more than advances in technology across the healthcare spectrum (Bogossian et al., 2018; Brown et al., 2012; Kelly & Jeffries, 2012; Kunst et al., 2018). There is no doubt that innovative teaching strategies are continually emerging and at the same time advances in equipment technology, for example, computerised manikins, have propelled simulation technology in general into higher education and hospital arenas. In addition, technological advances have contributed to an increase in virtual, augmented reality and mixed reality platforms, such as HoloLens and HoloPatient. Indeed, these advances have been the catalyst for the shift to endorsing simulation technology, including HFS, as a mainstream element of most healthcare curricula.

Is technology a driver in the use of simulation as a teaching modality?

Simulation technology has given rise to a powerful, persuasive and controlling enterprise around HFS, based on the assumption that technology is required to address the educational and clinical challenges that can be overcome through creating a simulated, safe clinical environment for teaching-learning (Gaba, 2004; Jeffries, 2005, 2007; World Health Organisation [WHO], 2013, 2018). A strong argument from the medical profession, government and professional

regulatory bodies, is that simulation technology is an essential component of healthcare education (World Health Organisation [WHO], 2013, 2018).

The following statement in the document *Transforming and scaling up health professionals' education and training* (WHO, 2013) reflects the WHO's position on the use of HFS in healthcare education: "...health professionals' education and training institutions should use simulation methods (high-fidelity methods in settings with appropriate resources and lower fidelity methods in resource-limited settings) of contextually appropriate fidelity levels in the education of health professionals" (WHO, 2013, p. 13). This is further supported by WHO in the later document *Simulation in nursing and midwifery education* (2018) suggesting that:

Simulation as an active pedagogical strategy helps students to consolidate and value knowledge, develop technical and relational skills and create rules and habits for thinking, reflection, thereby contributing to the training of competent professionals. (WHO, 2018, p. 1)

With the emphasis placed on simulation technology and its role in healthcare education, academic nurse educators face challenges as they instruct students to meet required learning outcomes in an increasingly technology-driven environment (Al- Ghareeb & Cooper, 2016). As previously discussed, a key driver is patient safety discourse, with international bodies such as WHO advocating the use of HFS in the learning environment. Aligned with this, is discourse regarding the need for improved teamwork and communication as recommended in the text *To Err is Human: Building a Safer Health System* (Kohn et al., 2000). The impetus for this educational focus has been the internationally recognised need to improve the quality of hospital care and to reduce adverse events.

Juxtaposed with the discourse around mitigating the risk of health-related errors is a surfacing of the ethical issues surrounding the use of real patients in student learning activities. The premise for this being that HFS offers a suitable alternative to allow student learning in a patient-free environment (Pinar & Peksoy, 2016; WHO, 2018). These assertions about utilising simulation technology to reduce risk to patients and create a safe learning environment deploy discourses and discursive practices as a means of managing healthcare education. The call to mitigate health-related errors is certainly not an invalid one. However, questions need to be

asked as to why technology has such a hold on healthcare education, including pre-registration nursing education and begs the question: is it a question of technology for technology's sake driving the use of HFS in nursing education?

This debate, which has surfaced in more recent literature, presents new challenges to nursing curriculum planners, and demonstrates how the discourse of HFS pedagogy has shifted to focusing on patient safety utilising more innovative educational methods including technologies. Erlam et al. (2018), Rooney et al. (2015) and Tutticci et al. (2016a) discuss how the changes, not only in healthcare, but also changes in the profile of the learner, create the impetus for change in education practices and curricula design. Along with this is the need to embrace innovative teaching modalities to meet demands for improving learner outcomes (Kunst et al., 2018; Rooney et al., 2015).

As discussed previously in chapter five, concurrent with the increase in the utilisation of HFS is the increase in the number of publications appearing in nursing and medical literature, particularly medicine. These external conditions, bolstered by nursing and medical discourse, further sustains HFS to improving competence, confidence and subsequent performance. Nursing discourse too begins to call for educational and pedagogical improvement and rationale for the expense and proliferation of all the different levels of fidelity used in simulation, including HFS (Lapkin & Levett-Jones, 2011). As Lapkin and Levett-Jones (2011) suggest, there is continuing pressure from simulation equipment suppliers, healthcare systems and regulatory bodies for nursing education institutions to consider providing state-of-the-art simulation, including HFS (Lapkin & Levett-Jones, 2011). Contemporaneous with the increased adoption of HFS is the promotion of compatible computerised programs, endorsed widely by manufacturers of high-fidelity human patient simulators, and marketed as augmenting the functionality of the computerised manikin.

Within nursing research, it is frequently stated that HFS provides students with opportunities to practise skills, make decisions, communicate, work in a team, and manage the care of a patient. As Power et al. (2016) found, using HFS combined with vignettes, is a valuable teaching

modality as it exposes students to complex sets of physiological symptoms enabling them to think critically. However, whilst these positions of academic nurse educators provide evidence supporting and informing the use of HFS in healthcare education, many academic nurse educators remain sceptical about the reliability of such statements. A recurring statement in the nursing education literature is one about the lack of rigorous experimental evidence to provide definitive evidence of the impact of HFS (Cant & Cooper, 2017; Kunst et al., 2018).

Subsequently, academic nurse educators remain hesitant in embracing this new education modality.

Kardong-Edgren et al. (2008) suggest that the actual uptake and incorporation of HFS into nursing curricula is mixed. This is supported by findings of a later study undertaken by Bogossian et al. (2018), who saw no increased use in HFS in the 2017 study compared with a national Australian 2010 study. Bogossian et al. (2018) found that simulation is generally viewed in a positive light by academic nurse educators working in Australian and Aotearoa New Zealand pre-registration programmes. However, Bogossian et al. (2018) also found that low-fidelity and medium-fidelity simulation are more widely used compared with HFS within Australian and Aotearoa New Zealand pre-registration nursing programmes. In addition to this, the challenges and barriers to delivering HFS, voiced by participants in their 2018 study, are consistent with earlier studies undertaken by Lapkin and Levett-Jones (2011).

Simulation technology, then, becomes a powerful driver in regulating and standardising simulation experiences. The use of computerised manikins in place of real patients in simulation clinical environments, provides a means for the surveillance of the nursing student's behaviour through both observation and the ability to manipulate the simulation experience. High-fidelity simulation use in healthcare education is therefore driven by industry and regulatory bodies, further sanctioning its use as a conduit to facilitate student competence and confidence in skill acquisition as well as fostering the refinement and application of skills. The HFS platform provides facilitators with a vehicle to monitor, survey and support learner assessment. However, as simulation technology advances, there is, increasing in the discourse, a call for caution when using such technology as part of a coordinated curriculum, to ensure the emphasis is on learning

outcomes and application to practice, not merely the use of technology for its own sake (Rooney et al., 2015; Tutticci et al., 2016).

The cost of technology - how HFS has come to be a practice whereby cost has been normalised.

Cant and Cooper (2010), in their review of the use of simulation in nursing education, reported that all 12 quantitative studies in their review reported statistical improvements in knowledge, skill, critical thinking ability and confidence after medium and HFS activities. A further review found that medium and HFS simulation have become well-accepted methods of learning by nursing students, enabling them to merge theory with practice, with research findings also demonstrating the positive impact of simulation on knowledge acquisition, psychomotor skills, self-efficacy, satisfaction, confidence and critical thinking skills (Cant & Cooper, 2017).

However, there is a degree of resistance challenging the cost and value of using HFS as a modality in the published nursing literature (Al-Ghareeb & Cooper, 2018; Lapkin & Levett-Jones, 2011). The debate is most concerned with the return on investment when using computerised manikins compared with the use of less technological simulation modalities, such as role-play or standardised patients (actors). Lapkin and Levett-Jones (2011) advocate that the limitations of and obstacles to using HFS in nursing education include the high cost of both simulation equipment and other resources, including initial and ongoing human resources such as staff training. Al-Ghareeb and Cooper (2016) and Bogossian et al. (2018) support this discourse. There is a shift in the discussion towards questions around how best the educational modality can be embedded, supported, and funded (Lapkin. & Levett-Jones, 2011).

Seemingly, the cost of simulation equipment can be related to the level of technology being employed. For example, utilising HFS, the costs include not only the acquisition costs of the computerised manikin but also acquisition of the optional equipment and software to operate the simulator. These purchase costs create a significant cost burden for the educational institution. While many programs invest large sums on HFS simulation equipment, a good number remain undecided, with some nursing institutions never utilising HFS to its full potential (Bogossian et

al., 2018; Lapkin & Levett-Jones, 2011). From my own experiences as an academic nurse educator, I have heard the term ‘manikin graveyard’ used when referring to under-utilised, stored computerised and non-computerised manikins. Such a statement suggests the short-term usefulness of very expensive equipment that quickly becomes outdated.

High-fidelity simulation was initially adopted enthusiastically by academic nurse educators who enjoyed working with the technology and computerised manikins (Abersold, 2018). However, despite this uptake to engage students in learning and to meet other instructional goals (Oermann, 2015), there appears to be a hiatus in the use of HFS. Such a lull could possibly be associated with resource issues, such as funding and the fact that the technological literacy of some academic nurse educators has not matched the acceleration of technology use. As Abersold (2018) suggests, those responsible for nursing programmes realise that with the fiscal implications of embedding HFS into nursing curricula they cannot afford to consider simulation as merely an add-on.

The use of promotional material deployed to endorse certain levels of fidelity for specific functions further discursively legitimates that one type of simulation fidelity is best suited for a particular area of teaching. For example, low-fidelity manikins are best employed for essential skill acquisition, whilst sophisticated HFS are heralded as more appropriate for complex, advanced practice (Laerdal, 2020). Thus, the simulation industry has managed to become enmeshed in health education in a similar way to the commercial ties between pharmaceutical companies and healthcare providers. In Foucauldian terms this could be interpreted as an example of capture, where education providers are being “sold” the merits of technology by the suppliers of simulation technology.

Both nursing and medical literature suggest that commercial developments in healthcare simulation technology have resulted in competition between companies in the marketing of such computerised programmes (Massoth, 2019). Technological developments do not arise in isolation but take place within the context of socio-political influences and subsequent tensions arising from costs and competition. Tensions around costs and competition in the HFS field and

the ensuing involvement of simulation suppliers in education echo the ethically charged relationships in play between pharmaceutical companies and physicians.

Therefore, a crucial question to be asked is: to what extent is the exponential increase in use of simulation technology, including HFS, the result of increasing corporate ownership and control of healthcare professional training? Have the benefits of the capital investment in HFS and simulation physical resources been realised? Medical education attracts significantly more funding than does nurse education so the high cost of HFS is a significant barrier for most nurse education organisations, particularly when factoring in the total cost including equipment, training, maintenance, and specialised facilities (Bogossian et al., 2018; Lapkin & Levett-Jones, 2011). What we see here is a significant shift in legitimising HFS use, as Foucault's capillaries of power circulate and become reinforced by levels of production and consumption. These are the workings of power, as they infiltrate and control so that the relationship between healthcare education and technology becomes unquestioned.

Whilst HFS resources have been acquired in both Australia and Aotearoa New Zealand through various funding including, in Australia, the Australian Health Workforce Australia (HWA) programme, human resources continue to be under-resourced (Bogossian et al., 2018).

Bogossian et al. (2018) recommend investment in staff training if the physical resources are to be utilised to their full educational benefit. Such discourse is not new, replicating previous statements on the consideration of costs associated with not only the price of the computerised manikin but also ongoing costs including staff development, resources, and curriculum design (Arthur et al., 2011; Bogossian et al., 2018; Lapkin & Levett-Jones, 2011). Although there is limited empirical evidence that explores the cost benefits of HFS and low or medium fidelity, the re-surfacing of this discourse raises several questions for academics and providers of pre-registration nursing education. There is a growing body of research supporting the position that more expensive simulators are not necessarily better, including a study undertaken by Lapkin and Levett-Jones (2011). Within this work, Lapkin and Levett-Jones (2011) illustrate that medium-fidelity, low-cost training models can yield outcomes equal to much more expensive simulators.

The cost benefit analysis of using HFS compared with other teaching strategies must persist. Kneebone (2005), in an earlier work also held this view, stating, "... the relationship between simulator fidelity and educational outcomes is still open for discussion, however, and lower levels of fidelity may reduce technological limitations and cost without compromising outcomes" (p. 551–552). Kunst et al. (2018) assert that HFS is the most reported type of simulation used in Australian pre-registration nursing education activities, however, Bogossian et al. (2018) found it to be the least utilised amongst Australian and Aotearoa, New Zealand pre-registration nursing programmes in their survey.

An analysis of the reviewed text identifies that discourse about HFS use has rationalised and sustained for it a privileged position at the expense of other teaching modalities. The positioning of HFS in this way further legitimates the role of HFS and its attendant benefits, somewhat marginalising other teaching modalities such as low and medium fidelity. For example, discursive practices which construct HFS as an essential constituent of the simulation environment compete with discourse on the use of less technological simulation modalities, such as standardised patients. Discourse of standardised patients, such as actors being able to produce a realistic simulated clinical experience, continues to be talked of as a viable option to meet learning outcomes in nursing discourse (Bogossian et al., 2018; Lapkin & Levett-Jones, 2011; Rooney et al., 2015).

A further implication is that in an environment where financial resources are often limited, the ever-growing stockpile of assets associated with simulation makes it difficult for people within organisations to question whether the financial expenditure on simulation, is, a worthwhile investment. Several publications identify that those institutions embedding HFS into pre-registration nursing curricula, incur a considerably high financial cost, coupled with ongoing costs to enable the sustainability of simulation activities (Bogossian et al., 2018; Lapkin & Levett-Jones, 2011). However, as Spence et al. (2019) indicate, "... with access to more affordable low to high fidelity simulation and virtual media, many education providers are utilising these technologies to supplement clinical learning experiences for students" (p. 464). Ultimately, the question that surfaces is whether HFS is worth the cost.

The discursive field of simulation technology has given rise to a robust and persuasive enterprise around HFS. Despite the high costs involved, and HFS being aggressively marketed by simulation industry providers, many maintain it is not always necessary or justified (Lapkin & Levett-Jones, 2011; Levett-Jones, 2011b). Selecting the simulator is only a small step in the implementation of HFS, and it is usually not the first or most important decision made.

Research identifies that successful HFS implementation requires carefully selected and sequenced instructional experiences surrounding the simulated task. These events require not only a structured simulation experience, but also appropriate faculty development and institutional commitment, often omitted due to resource constraints (Bogossian et al., 2018).

Discourse concerning nursing pre-registration education being slow in adopting simulation technology is evident. Wordsworth et al. (2014) and Bogossian et al. (2018) suggest the lack of utilisation implies that academic nurse educators remain reluctant to adopt HFS into their educational practice. Is this simply reluctance or do academic nurse educators view HFS as impractical and resource intensive and indeed, not the only mode of learning that can be utilised.

The drive to increase the utilisation of technology within pre-registration nursing programmes raises not only resource concerns but can be perceived as one that is especially advantageous for the industry. Certainly, recent dialogue challenges the notion that simulation, and HFS, is essential in the provision of pre-registration nursing education (Rooney et al., 2015). However, competing with this discourse is the dominant discourse that simulation technology is an essential conduit to address the challenges of healthcare education, in particular, issues of patient safety. This dominant discourse further sustains the deployment of the construct of simulation technology, including HFS.

Academic nurse educators recommend that we question the value of HFS - does its cost and effectiveness justify its use as an education modality within a nursing curriculum? Using a Foucauldian lens, questioning of the value of HFS is a form of resistance. Foucault proposes that where power exists, there is always resistance and that discourses can be either an effect or

instrument of power, but also a point of resistance (Foucault, 1984). As Foucault (1978) states "... discourse transmits and produces power; it reinforces it, but also undermines and exposes it, renders it fragile and makes it possible to thwart" (p. 104). As a result, academic nurse educators can be part of this resistance when they make decisions about the value of HFS and the investment to be made.

In the following sections I discuss interrelated discussions on the discursive practices used as a means to manage the use of HFS in pre-registration nursing, and subsequent nursing knowledge and subjectivities, and well as how institutional practices are supported or modified by the sub-discourses of HFS pedagogy, replacement of clinical hours and realism. I then discuss how each sub-discourse has come to occupy such a privileged position in relation to the use of simulation at the expense of other teaching modalities.

The sub-discourse of HFS pedagogy, discursive field of simulation technology and further legitimisation of HFS as an object

In this section, I look at how HFS becomes a legitimised education modality embedded in healthcare education, including nursing curricula, as a response to the challenges faced in pre-registration nursing education. As discussed previously, several authors present the notion of increasing pressure on nursing education providers to produce workforce-ready graduates (Forber et al., 2015; Spence et al., 2019). A confluence of occurrences has placed nurses and other health professionals under mounting scrutiny to provide safe and effective patient care and, contemporaneous with this is an increased need to graduate well-educated, critical thinking, and competent registered nurses.

During the first decade of the 21st century, an increasing acceptance of technology is evident on a global level, including HFS being enmeshed in medical pre-registration education. As a result of this proliferation in uptake, HFS pedagogy evolves as a construct along with subsequent discourse and increasing commentary of the benefits of using HFS. The resulting proliferation of published literature shows a higher degree of success in terms of students meeting learning objectives, such as the development of psychomotor and cognitive skills, when using HFS. This

discourse is also found in published nursing literature, for example the research findings of Cant and Cooper, (2010) and Currie et al. (2019) in their respective reviews of nursing literature. Currie et al. (2019) talk of conflicting evidence regarding the optimal simulation approach, although several studies indicated that high to medium fidelity simulation was amongst the most effective.

Subsequently, in early 2000, many nursing programmes began to integrate HFS into curricula for a variety of reasons, mirroring the rationale in medical education and acknowledging the need for nursing graduates to be able to provide safe patient care and be confident and competent in their practice (Durham & Alden, 2008; Kunst et al., 2018; Jeffries, 2007; Reilly & Spratt, 2007). At the same time, there is an assumption that HFS can be effortlessly integrated into nursing curricula, becoming the essence of nursing education and a conduit between higher education and professional practice, addressing any theory-practice gap (Newton & Krebs, 2020).

Despite the relative rise in HFS use, the lack of strong experimental evidence of the effect of HFS on learning raises cause for concern for many academic nurse educators (Cant & Cooper, 2010; Cant & Cooper 2017; Doolen et al., 2016). A recurrent statement is that despite evidence of its impact on learners' confidence, competence and knowledge, an understanding of how and why simulation works, and its impact on learning remains poor (Tutticci et al., 2016). In addition, academic nurse educators question the misleading conclusion that activities using HFS lead to learning (Rooney et al., 2015). To enhance understanding of related pedagogic practices, Schiavento (2009) calls for the need to move away from a fixation on technology. Similarly, Kaakinen and Arwood (2009) advocate for the need to balance teaching-focused with learning-focused theoretical work. This shift in discourse and resulting interrogative position of academic nurse educators show further resistance to the taken-for-granted adoption of HFS.

Professional and regulatory nursing discourse is closely linked to the continuing challenges faced by nursing education. As mentioned previously, the notion that HFS's primary purpose is to produce practice capable graduates who can perform specific tasks, has shifted to dialogue

around using HFS to develop meaningful learning experiences and produce what many academic nurse educators describe as agile practitioners (Tutticci et al., 2016; Rooney et al., 2015). As Tutticci et al. (2016) suggest, academic nurse educators also "... have a responsibility to model this agility in how they employ teaching and learning strategies in simulation" (p. 512).

These discursive practices and the discourse continue to sustain HFS's position as a useful educational tool, however, many academic nurse educators voice concerns regarding the discourse around the perceived effectiveness of HFS. Academic nurse educators do not accept such practices as a *fait accompli*. As Dreyfus and Rabinow (2013) suggest, Foucault argues that "... power is exercised only over free subjects ... By this we mean individual or collective subjects who are faced with a field of possibilities in which several ways of behaving, several reactions and diverse comportments may be realised" (p. 221). Academic nurse educators are similarly free to question the legitimacy of HFS and there is scope for them to take up action within the domain of power relations.

Erlam (2015), Kunst et al. (2018) and Tutticci et al. (2016), articulate that despite some nursing education programmes embracing HFS, there is an apparent lack of evidence exploring links between HFS, educational philosophy and nursing pedagogy. As suggested by Erlam (2015), the integration of technology-based educational tools into nursing curricula raises concerns that simulation technology, rather than sound philosophically based pedagogy, is informing nursing education. Even though pedagogy and education are so interwoven, the paucity of discussion on this is alarming. What we do see, absent this pedagogical research, is the simulation community and proponents of HFS continuing to promote for the structured implementation of simulation programmes, and the development of HFS in pre-registration nursing programmes (Clendon, 2011; NCNZ, 2020; National League of Nursing [NLN, 2015; Jeffries, 2015; WHO, 2018).

Providers of simulation equipment also support the discourse on the use of technology as is illustrated in the Laerdal Medical™ Simulation Education Solutions for Nursing document (2015). In said document, the focus is on engagement with nursing education providers and

structured integration of simulation, including HFS, into nursing curricula. Together with this, is the close working relationship between Laerdal and the American National League of Nursing [NLN] to provide, what are termed, consulting solutions to educational institutions. Such discourse has the potential to subjugate other discourse for example discourse on the need to generate learning and pedagogical theory to aid in the integration of HFS into pre-registration nursing curricula. By using a Foucauldian lens, we can observe the power of nursing and medical discourse around technology and its influence over the ways we teach using HFS. This is an illustration of the production of interlinked systems of power subsequently producing and sustaining the discourse.

Discursive practices associated with the sub-discourse of HFS pedagogy

Management of HFS

Concurrent with the emergence of HFS as a conduit to provide a replicated clinical environment is the development and embedding of rules about HFS use. These implementation guidelines, standards and regulations further control and order simulation experiences and support the development and integration of HFS in nursing curricula (Tutticci et al., 2016). Indeed, Nehring and Lashley (2009) suggest in their examination of the use of simulation in nursing education and practice, that the increase in HFS is a paradigm shift in nursing education. In a more recent review of the literature, Kunst et al. (2018) concur with Nehring and Lashley's findings. This shift is reflected in the increased uptake of HFS occurring within the United States and the United Kingdom in early 2000 and the nascence of Australian and Aotearoa New Zealand nursing research on HFS use in pre-registration nursing education.

It follows then that research agendas construct discourse which informs HFS, prompting a significant shift of its use in nursing curricula (Tutticci et al., 2016). Both nursing and medical simulation research, imbued in simulation technology, establish that HFS is a legitimate education modality built on tenets of measurement such as self-reported confidence and competence. These tenets have seemingly dominated healthcare education with an increasing

focus on regulating HFS activities. Competing with this discourse is the concern that these self-reported measurements should be regarded with caution (Cant & Cooper, 2017)

An outcome of the increasing research agenda sees the emergence of widely used routines and protocols shaping HFS use, such as debriefing tools and simulation design frameworks. It is in the mid-2000s that we start to see the surfacing of discursive practices on the use of specific instructional designs within HFS delivery and development. This control of learning enables the construction of nursing behaviour and actions, ultimately enabling objects to become useful and productive nursing professionals. Such discursive practices also continue to activate HFS pedagogy, transforming it into a means of constructing professional practice, for example, the guidelines developed by the National League of Nursing (NLN) and the International Nursing Association for Clinical Simulation and Learning (INACLS). The development and embedding these sorts of rules and guidelines, or strands of connection, to order the use of simulation legitimise still further HFS use in the provision of healthcare education.

The use of specific instructional design features to specify the conditions under which students can learn to perform particular functions could be regarded as positive. Using such a construction of knowledge can be perceived as facilitating the process of deliberate practice, a practice that is purposeful and systematic, with the specific goal of improving performance. It can also be viewed as a way of regulating a nursing student's subjectivities.

Nursing and medical discourse speak of elements such as manikin fidelity, place or simulation setting, and proclaim their effectiveness in the acquisition of knowledge, competence and confidence (Jeffries, 2007). Academic nurse educators also enunciate that HFS experiences should follow accepted best practice guidelines and that the efficacy of simulation experiences should be robustly evaluated (Weller et al., 2012). This discourse coincides with the development of the Jeffries and NLN, *Framework for Designing, Implementing, and Evaluating Simulations Used as Teaching Strategies in Nursing* (2005, 2007).

The emergence of the NLN / Jeffries Nursing Education Simulation Framework (2005) promulgated the need to organise and structure simulation activities and academic discourse on

the effective use of simulation. Simulation principles advocated by academic nurse educators such as Jeffries and the NLN include situating the simulation experience in a safe environment and the use of well-designed instructional simulation scenarios based on learning outcomes. Jeffries (2005) emphasised the importance of using an organised guide, including components on best practices in education, student factors, teacher factors, simulation design characteristics and outcomes with structured debriefing, when designing and evaluating simulation for use in teaching in nursing education. (Jeffries, 2005, 2007).

Many academic nurse educators readily utilise this framework for both the design of simulation activities and research studies (Arthur et al., 2011; Arthur et al., 2013; Jeffries & Rizzolo, 2006, Kardong-Edgren et al., 2008). Additional support to the framework was provided by the Jeffries' Simulation Theory (2015). In the updated framework there is a shift in focus based on discussions among simulation researchers and leaders at the time, resulting in the National League of Nursing, publishing the second edition of *Simulation in Nursing Education: From Conceptualisation to Evaluation* (2012). Such an endorsement by a nursing regulatory body further legitimises the discourse and provides an example of Foucault's notion of power and its relational nature.

Rather than view knowledge as separate to power, Foucault intimately links the two constructs, arguing that power and knowledge are interdependent. Power registers, institutionalises and rewards truth claims (Fejes, 2006). According to Danaher et al. (2000), knowledge "... authorises and legitimates the exercising of power relations" (, p. 26). Working from this power/knowledge premise and using Foucault's "... three modes of objectification which transform individuals into subjects" (Foucault, 1982, p. 777), what can be seen here is the subjectification of academic nurse educators and nursing students through regulation of simulation practice. Foucault suggests the three modes of objectification are common to regulatory principles and practices. For Foucault (1982), the first mode of objectification is the practice determined by experts, for example, nursing regulatory bodies regulating nursing curricula for quality. The second mode of objectification is the scientific mode of inquiry or, what Foucault suggests, is discourse given the status of science (Foucault, 1982), for example,

nursing and medical research sustaining HFS pedagogy. The third mode is the way individuals turn themselves into subjects, for example, academic nurse educators and nursing students internalise knowledge truths and accordingly regulate their behaviour in accordance with these truths.

From this perspective, the academic nurse educator' and nursing student's knowledge is constituted through dominant discourses which purport to communicate knowledge truths about HFS, regulation and professionalism. Academic nurse educators may or may not experience this regulation or control as constraining. They may internalise knowledge truths that claim that the utilisation of such frameworks is effectively implementing professional practices and complying with regulatory responsibilities, for example, NCNZ competencies. When viewed in a constraining way, regulation can be construed as a tool of governmentality which constitutes individuals as subjects and designates the field of approved actions.

An example of further reinforcement through the use of structured guidelines is found in the development of *The INACSL Standards of Best Practice: Simulation*[®]. The first standards of best practice for simulation were developed in 2010 (Sando, Faragher, Boese, & Decker, 2011). *The INACSL Standards of Best Practice: Simulation*[®] (2016) document is recognised as a principal document within the nursing simulation community. Standards set by the INACSL (2016) are designed to provide evidence-based guidelines for simulation implementation and training and are consistent with quality indicators previously developed by Arthurs et al. (2011). Rochester et al. (2012) found that through employing these quality indicators, including alignment with curriculum pedagogy and course learning goals, a degree of quality was maintained. Both of those indicators have been identified in nursing research as crucial to a successful simulation experience, further sustaining discursive practices around the regulation of simulations using guidelines, and frameworks. Interestingly, Bogossian et al. (2018) found, 67% of pre-registration nursing programmes used the INACSL Standards of Best Practice: Simulation[®] (2016) whereas Kunst et al. (2018) found a majority of programmes were not using standardised guidelines at all.

The regulation and management of HFS activities further sustains HFS and, as a result, a form of disciplinary power materialises. For Foucault, technology is the actual practice of power which includes the government of individuals. In this instance the power is exercised as a disciplinary technology through normalising techniques of regulation and surveillance. As discussed in chapter three, such techniques are designed to observe, regulate, and control individual behaviour so that subjects become "'docile" bodies' (Foucault, 1979). As Issenberg et al. (2005) explain, the features of the simulation design itself contribute to the conditions under which students learn to perform particular actions, practices and behaviours which will be required of them in their future work as a registered nurse.

Practising skills and patient safety

Dominant nursing and medical discourse elucidate the extent to which HFS is useful in ensuring safe practice in real clinical settings. Dominant nursing discourse talks of pre-registration nursing students attaining adequate knowledge and learning the professional attributes of critical thinking and clinical reasoning, in order to provide safe clinical practice in clinical environments (Arthur et al., 2013; Cant & Cooper, 2010; Lapkin & Levett-Jones, 2010; Levett - Jones et al., 2018; Luctkar-Flude et al., 2012; Prion, 2008).

The development of HFS scenarios creates opportunities for docile student bodies to learn how to be a professional nurse in both a clinical and social environment, albeit simulated. This requires the student nurses to use their bodies as future professional selves, in other words perceive themselves as a member of the nursing profession. As Hopwood et al. (2016) suggest "... performances and experiences are all being simulated through emergent, multiple, bundles of practices with the materiality's of the simulation classroom." (p. 170). The creation of the simulated clinical environment, therefore, presents increased opportunities for students to engage in deliberate practice, including nursing professionalism.

In chapter three, I presented Foucault's concept of surveillance. The concept of surveillance is underpinned by Foucault's notion of observing, regulating, and controlling individual behaviour. Surveillance, therefore, holds substantial power as it has the potential to produce and

sustain knowledge through practical observations of students by academic nurse educators. In the context of the regulatory environment of HFS, observing nursing students whilst immersed in the simulation activity illustrates discursive practices maximising learner compliance. This tactic then further propagates discourse that positions HFS as legitimate and capable of regulating the pre-registration nursing student's knowledge and practice.

Applying Foucault's notion of power/knowledge, one posits the subject as socially and historically constituted (Foucault, 1972). In this context the nursing student becomes the subject, constituted through dominant discourses which purport knowledge truths about nursing, patient safety, and professionalism. As knowledge is socially constructed through the shared experiences within the HFS activity, new information can be incorporated into that frame of experience. Also, at play here are notions such as how we position the actual patient in HFS and how that impacts knowledge truths. With the use of HFS in pre-registration nursing education, the different types of bodies with which nursing students interact during their training are more varied than ever, and the meanings attached to these bodies can be radically different.

The nursing discourse sustains HFS's impact on safer practice in clinical settings, as well as the perceived notion that we should look to it to produce practitioners capable of undertaking pre-specified tasks and roles. Such a position leads to an environment of learning that is imbued with a set of rules creating discursive practices, which subsequently shape nursing students' subjectivities. This is not necessarily negative.

What is challenging though, is that the discursive practices surfacing from this discourse seem to be incongruous with current nursing practice, that is, the requirement that nursing graduates be flexible, critical thinkers. Rooney et al. (2015) argue that the policies and practices underpinning the use of HFS generally need to be reconceptualised, so that the focus moves away from practising pre-specified tasks and roles, to utilising its capacity to produce agile learners and agile practitioners. This notion of agile learners and practitioners is supported in the work of Tutticci et al. (2016) who suggest that to develop agile practitioners, "... nurse

educators have a responsibility to model this agility in how they employ teaching and learning strategies” (p. 512) in developing and delivering HFS activities.

The requirement for nursing students to successfully transition to graduate nurse underscores the need for a pedagogy that enhances the process of critical thinking and clinical judgement. Academic nurse educators are challenged to teach students to think critically, to go beyond merely knowing and to synthesis and apply knowledge, as they assess, plan, implement and evaluate nursing care (Durham & Alden, 2008). In clinical practice, the balancing act between the delivery of technical and non-technical skills is challenging.

Consumers of healthcare have high expectations of nurses’ standards of practice. Therefore, the educational preparation of nurses must be rigorous, evidence-based, and relevant to current and future health systems. Nursing research activities remain inconclusive about the value of HFS on the decision-making process of nursing students, particularly once they graduate. Regardless of the apparent lack of methodological rigour and robust evidence as to how HFS as an educational tool helps in developing critical decision-making, HFS in pre-registration nursing education continues to attract attention.

Professional attributes of competency, critical thinking and clinical reasoning dominate health care education. Such tenets of professional practice are closely interwoven with concepts of patient safety, adding to the layers in the discursive construction of HFS as a teaching-learning modality and one that provides the potential to amplify key learning necessary for developing competency in healthcare contexts (Brown et al., 2012). High-fidelity simulation is attractive to academic nurse educators as it is heralded as supporting a learner-centred, active learning educational experience, whilst enabling learners to perform, and learn from, errors safely. More recently, the focus has shifted to one of using HFS for learning foci such as interprofessional communication and effective teamwork (Horsley et al., 2018).

In regard to patient safety, nursing and medical discourse have discursively constituted HFS as the ideal platform to address this weighty healthcare issue, primarily by managing the increasing number of adverse events (Erlam, 2015; Durham & Alden, 2008; Jeffries, 2007;

Lewis, et al., 2012; McNamara et al., 2014; Nehering et al., 2013; Sherwin 2012; Wordsworth et al., 2014). Alongside this is the increasing search for education methods that do not expose the patient to potential risks (Lewis et al., 2012). Healthcare researchers have progressively framed the nature of patient safety as something to be recognised and identified, an object that can be tamed, and predicated. What has resulted is the augmented integration of HFS, as an innovative educational technology, into many nursing and other health curricula internationally to address the ethical dilemma that arises when practising on real patients within a culture that prioritises patient safety (Dieckman & Krage, 2013), and includes the emergence of interprofessional education and collaborative practice discourse.

Discourse on the benefits of using HFS is fuelled by research with a strong focus on HFS outcomes including assessment of student performance, confidence, knowledge acquisition, critical thinking and clinical decision-making. Whilst research in using HFS pedagogy in pre-registration nursing education is increasing, there remains limited research about an educational theory as to how students learn with simulation. Academic nurse educators call for a robust pool of evidence that can establish a cause-and-effect relationship between HFS and learning in pre-registration nursing education (Cant & Cooper, 2017; Kunst et al., 2018; Fisher & King, 2013; Foronda et al., 2013; Yuan et al., 2012).

Discursive practices associated with the sub-discourse of replacing clinical experiences

Nursing education in Aotearoa New Zealand, as in many other countries, is challenged as it attempts to meet workforce demands (Spence et al., 2019; Wordsworth et al., 2014). Several critics, including Brown et al. (2012); Erlam, (2015); Forber et al. (2015); Hayden et al. (2014) and Spence et al. (2019), support the view that contemporary challenges, such as the increased complexity of patient acuity and a burgeoning ageing workforce, contribute to an increasingly demanding work environment.

Hayden et al. (2014) question whether these workforce challenges have diluted clinical learning experiences for nursing students, whilst Brown et al. (2012) maintain that there is convincing support in the literature to indicate that using a simulated clinical setting can offer a more

controlled learning environment, thus enhancing student engagement. Brown et al. (2012) articulates very valid concerns, including the fear that poorly supervised, uncontrolled clinical learning in placement cannot guarantee positive learning outcomes. For some advocates, HFS can standardise learning content and counter the variances often found in the clinical placement experience (Erlam, 2015; Weller, 2012).

Traditionally, nursing education has assumed that experience in real clinical settings is the gold standard for students learning nursing practice and that, by default, any substitution is a threat to the quality of graduates' practice and the safety of the public. Currie et al. (2019) talk of clinical placements as being a fundamental component of pre-registration nursing programmes.

However, the increase in student numbers and the limited availability of clinical placements appear to have refocused nursing research activities to examining the possibility of replacing a portion of clinical experience with simulation (Bogossian et al., 2019).

In Australia and Aotearoa New Zealand, schools of nursing continue to develop a variety of simulation experiences, with varying levels of fidelity, to give students better access to innovative and engaging learning (Bogossian et al., 2018). As found by Bogossian et al. (2018), many schools of nursing are using simulation as an adjunct to support the learning required for students to complete a clinical placement, albeit with a preference for low fidelity over high-fidelity. As identified by Kunst et al. (2018), a diverse range of simulation modalities are utilised in Australian pre-registration nursing education including HFS, masked simulation (MaskEd™), role play, scenario-based simulation, actors, static manikins, skill stations, video, and auditory simulation.

Bogossian et al. (2018) in their cross-sectional survey of simulation use in Australia and Aotearoa New Zealand found that many responders viewed simulation, including HFS, as an opportunity to replace a proportion of clinical experience hours, although the suggested proportion of replacement hours varied. As Bogossian et al. (2018) assert, this viewpoint may, in part, be due to the differences in clinical hours and pressure on clinical places across Australia and Aotearoa New Zealand. There are also different Council regulations and

programme standards. Bogossian et al. (2018) found that most participants indicated a ratio of simulated hours to clinical hours would be preferable, an approach in keeping with reported substitution ratios in the United States (Hayden et al., 2014). According to Bogossian et al. (2018) this substitution ratio included absolute equivalence as well as extremes, from the view that simulation can provide either double, or is half of, the learning experience of clinical practice.

Within Aotearoa New Zealand, students currently enrolled in a Bachelor of Nursing (BN) programme are required to have 1100-1500 hours of direct patient care clinical hours (NCNZ, 2020). Direct patient care excludes the use of simulation, including HFS, to meet that numerical mandate. Many nursing programmes within Aotearoa New Zealand use HFS as a component of their delivery of pre-registration nursing education, with these simulation hours being in addition to, rather than replacement of, clinical hours. A more recent NCNZ review, *Feedback from Workshops on future education in New Zealand* (2019) for the project *Reviewing nursing education to ensure that registered nurse graduates are well prepared to meet future health need* (2020) reinforces the need for nursing education to "... increase simulated practise and practical skill learning opportunities" (p. 7). At the time of writing, the review process of the NCNZ education programme standards have taken place and there are no changes to the number of direct patient care clinical hours or simulation hours within Aotearoa New Zealand pre-registration programmes.

The discursive field of HFS has given rise to persuasive dialogue around the use of HFS as a substitute for clinical experiences. Mirroring this is a rise in research interest, further augmenting the idea of an effective substitution and demonstrating how research outcomes have the power to shape new directions and policy. An example of this is the longitudinal, multi-institutional National Council of State Boards of Nursing (NCSBN) National Simulation Study (Hayden et al., 2014). The NCSBN National Simulation Study found no difference in the clinical competence of nursing graduates trained traditionally and graduates trained with up to 50% of traditional clinical placement time replaced with simulation hours, including HFS (Hayden et al., 2014). The authors interpreted the evidence as significant, providing "...

substantial evidence that substituting high-quality simulation experiences for up to half of traditional clinical hours produces comparable end-of-program educational outcomes and new graduates that are ready for clinical practice" (Hayden et al., 2014, p. s3).

Authors of the NCSBN National Simulation Study talk of the importance of a careful criteria-based selection of both simulation experiences and study sites (Kardong-Edgren, 2015). These requirements would contribute to the success of the intervention by ensuring participants are exposed to high-quality simulation experiences as a substitute for clinical hours. In November 2015, Jeffries presented the study findings at the Simulation Summit in Banff, Canada and noted that many American states were taking steps to adopt these guidelines as a policy for pre-registration nursing training. Subsequently, discourse emerges promoting HFS as having the potential to substitute for clinical experience placements (Bogossian et al., 2018; Bogossian et al., 2019; Dean et al., 2015; Gillan et al., 2013; Rochester et al., 2012; Spence et al., 2019). However, as Bogossian et al. (2018) found, within academic leadership, there are conflicting recommendations regarding the use of HFS in pre-registration nursing programmes, particularly regarding how many hours of simulation should replace actual clinical experiences.

Emerging from the nursing discourse are concerns regarding any mandatory replacement of a prescribed number of clinical practice hours with simulation (Dean et al., 2015; Rochester et al., 2012). This dialogue is likely linked to the Australian 2010 HWA report which looked at the suitability of the simulated environment to replace clinical placements. However, the report concluded that, despite simulated learning environments enhancing skill development, the notion of HFS replacing clinical placements was contentious. The final report revealed a consensus that simulation should be an adjunct to clinical placements, not a replacement for clinical experience and this is further supported by the findings of Bogossian et al. (2018). The Australian HWA report highlights that effective use of SBE in nursing education requires a whole of curriculum approach and although substituting HFS for clinical placement experiences will likely feature in future nursing education, it is not without controversy (Kardong-Edgren et al., 2012; Norman, 2012).

With discourse around the substitution of clinical hours comes the conundrum facing academic nurse educators about what constitutes effective HFS to replace clinical experience, particularly within Australia or Aotearoa New Zealand where there is limited research and guidelines. Bogossian et al. (2018) and Bogossian et al. (2019) found that most nursing programmes supported the replacement of some clinical hours with simulation, but there were concerns raised regarding discrepancies around the proportion of any replacement. In the review undertaken by Bogossian et al. (2019), the authors concluded that "...overall, a stronger evidence base is necessary to inform future curricula and policy development, to strengthen clinical practice in health" (Bogossian et al., 2019, p. 3759).

Nursing research activities generate new knowledge, adding to the corpus of knowledge. This research can also potentially shape and regulate nursing education curricula, healthcare systems, and healthcare policy. We can see here that while the 2014 NCSBN study provides discourse on the best ways to prepare healthcare students for professional practice, within the text is the call for academic nurse educators to continue to conduct additional studies to produce further evidence, to judge the quality of evidence as it accumulates, and resolve implementation issues. This illustrates a clear association between nursing research, professional practice and professional bodies, such as the NCNZ. Such discourse surfacing in nursing research has the power to influence others' opinions concerning the relationship between HFS and student learning, with nursing education programmes regulated and under constant surveillance of a disciplinary power. However, it is also acknowledged that we need to consider that power is not necessarily negative, as suggested by Foucault (1979):

...We must cease once and for all to describe the effects of power in negative terms: it 'excludes', it 'represses', it 'censors', it 'abstracts', it 'masks', it 'conceals'. Power produces; it produces reality; it produces domains of objects and rituals of truth. The individual and the knowledge that may be gained of him belong to this production. (p. 208)

Foucault's notion of power, including disciplinary power, shifts our thinking, and applying his genealogical analytical tools enables the surfacing of other multiple, intertwining relations, for example, relations within an education setting, relations amongst academic staff, between academic staff and student, as well as relations beyond the education environment, such as

between academic staff and representatives from regulatory bodies or simulation industry. All these power relations can have a bearing on how regulation is experienced. The outcome of this myriad of power relations may be that academic nurse educators experience regulation as constraining, but this should not be taken as given, nor should it preclude teachers from simultaneously experiencing regulation in other, seemingly contradictory, ways. As Foucault (1978) states "... Where there is power, there is resistance" (p. 98).

Processes by which sub-discourse of realism is established

As discussed in chapter five, the sub-discourse of realism surfaces and is intermeshed with technology and fidelity. High-fidelity simulation is promoted as replicating as closely as possible, the technical and social practices of an existing clinical world, with a strong focus on clinical procedural skills (Bland, Topping & Tobel, 2014). Notwithstanding this, as pre-registration nursing education programmes continue to adopt the notion that the utilisation of HFS offers a feasible way of representing authentic simulated clinical experiences, there is increasing discourse understanding around a better understanding of the term's fidelity and authenticity (Bland et al., 2014). High-fidelity simulation is rapidly penetrating the terrain of healthcare education as an adjunct to clinical practice and in nursing students' transition to the reality of the nursing experience (Bogossian et al., 2014; Bogossian et al., 2018; Kelly et al., 2016; Kunst et al., 2018; NCNZ, 2015; Roberts et al., 2019). This narrative has led to a shift in the discourse with nursing educators focusing on realism and replication of the clinical world and being drawn to the possibilities HFS and high-fidelity manikins offer.

The pursuit of realism is at the forefront of manikin design. Over time manikins have transformed to resemble, both physically and functionally, real patients. What emerges are high-fidelity manikins made available in a range of patient ages, designed to replicate real personalities, with augmented reality additions such as eyes that blink and skin that sweats (Swamy et al., 2014). Many manikins are realistic; they breathe and talk, and their physiological responses can be measured in real-time. As suggested by Weller et al. (2012), computerised manikins are intended to be physical representations of patients. A manikin's "... complexity

varies from being merely the physical shape of a patient to incorporating complex electronic equipment for generating physiological responses”.

This discourse suggests that fidelity is at the heart of realism construction, which increasingly relies on technology to further legitimise its role in creating realistic simulated clinical experiences. Realism discourse production is brought about through the power of material conditions such as fidelity construction. Conversely, Bland et al. (2014) argue that authenticity or realism is often considered as an effect of the type of simulator or manikin used, and they maintain that by increasing fidelity through technology does not necessarily increase authenticity.

Various meanings are attributed to fidelity in different contexts. As a result, there is a degree of incongruity between the definitions of fidelity, authenticity, and realism. Meakin et al. (2011) explain that the category of simulation fidelity is determined by the degree of realism of the simulation, with HFS using manikins, actors, and standardised patients, providing the most realistic simulation (Meakin et al., 2011). According to Lapkin and Levett-Jones (2011), fidelity refers to how authentic or life-like the manikin or simulation experience is. Weller (2012) states, “... fidelity describes the extent to which a simulation represents reality. It also refers to the psychological effect of “immersion” in the situation, or “being there” and the extent to which the clinical environment is accurately represented” (p. 2). This view is further supported by Muckler (2017) who proposes “... the degree of realism is optimised by the physical, functional and psychological fidelity of the simulation” (p. 3). These interpretations of fidelity are sustained by the 2018 World Health Organisation document (WHO) *Simulation in Nursing and Midwifery*, which states that fidelity is the “... degree in which simulated clinical experiences approaches reality, determined by the environment, materials and equipment used and factors associated with the student” (WHO, 2018, p. 4).

In Chapter Five, I presented the emergence of HFS as a stable educational entity and the surfacing of material conditions which sustain nursing and medical discourse and the discursive object of HFS. What also surfaces are sub-discourses, including the sub-discourse of realism

intermeshed with fidelity and embodiment discourse. Within the literature, HFS is promoted as replicating, as closely as possible, the technical and social practices of an existing clinical world, with a focus on creating the real world and a strong focus on clinical procedural skills (Bland et al., 2014). Despite the broad acceptance of HFS in healthcare education, the findings of Bogossian et al. (2018) suggest that its use as an educational modality has not significantly increased within Australian and Aotearoa New Zealand tertiary pre-registration nursing programmes. Notwithstanding this, as pre-registration nursing education programmes continue to adopt the notion that the utilisation of HFS offers the possibility of representing authentic, real-world situations, there is increasing discourse on to understand better the terms fidelity and authenticity (Bland et al., 2014). An analysis of the sub-discourse of realism is discussed further in chapter eight.

Summary

In this chapter, Foucault's tools are used to interrogate how the text talks about HFS as an object and how the discourses influence the use of HFS in pre-registration nursing education. Teaching practices using HFS have developed over the last 20-30 years in response to social and cultural influences supported by the legitimised field of medical education. The ways in which HFS has been taken up have varied across time and location as discursive practices, such as advances in simulation technology, dominant nursing and medical discourses, and sub-discourses including HFS pedagogy, realism and replacement of actual clinical experiences legitimise and sustain it.

The analysis presented in this chapter shows that in the early 21st century, to meet the challenge of preparing competent nursing graduates for an increasingly complex workforce, academic nurse educators have had to adopt teaching approaches that are relevant and practical. These involve providing teaching practices that encourage active engagement of students and opportunities to learn through doing reflective practice. The influence of simulation technology has been pivotal in establishing HFS as an educational modality. Biomedical empirical research has focussed on constructing HFS as a stable and legitimate learning-teaching modality.

Subsequently, this has influenced the promotion of HFS as a legitimate solution to a problem facing all healthcare education, despite the many significant barriers to resourcing HFS. HFS was initially used as a legitimate platform to enhance skill development prior to a student's interaction with patients, an example being CPR. However, the more contemporary view that patient safety is everyone's business has left HFS proponents trying to justify its use for this wider safety agenda.

The following chapter focuses on the analysis of personal accounts of people involved in HFS. Such personal narratives of academic nurse educators and BN nursing students, along with a representative from the NCNZ and simulation industry, enable alternative discourses to be voiced offering alternative subject positions. The analysis of personal narrative discourse further problematises the disciplinary practices central in the discourse of HFS as a teaching-learning modality.

Chapter 7: Normalising and professionalising discourses of HFS and how other ways of knowing have been marginalised.

Introduction

In the previous chapter I used Foucault's tools to interrogate how the text talks about HFS as an object, and the discourses that influence the use of HFS in pre-registration nursing education. I also presented an analysis of the emerging discourse which constructs HFS as a legitimate education modality, and the subject positions made available through such discourse. The focus of this chapter is to present an analysis of the personal narratives of people experiencing HFS, including academic nurse educators, Bachelor of Nursing (BN) students, and other users of HFS.

Interrogating such data enables an examination of how users of HFS construct meaning. It also enables an exploration of how nursing discourse, and sub-discourses, surfaced from the text, were taken up and further sustained, or resisted, by subject positions. Sustainability and resistance are more apparent when we juxtapose discourse from narratives with discourse surfaced in the literature. The focus of this chapter addresses the research aim: *to investigate troubling phenomena or potential tensions that exist within discourses for HFS, including how other ways of knowing have been marginalised.*

Central to my argument are the constructs and discursive practices that provide not only sustainability but also resistance. Identifiable tensions have emerged from the discourse that has constructed HFS as a taken-for-granted educational modality and these tensions are challenging the approaches that won HFS its legitimacy. Much of the resistance is tied to the influence of nursing and medical discourse, including the sub-discourses of HFS pedagogy and the replacement of clinical experiences with HFS. The sub-discourse of realism is addressed in more depth in chapter eight, further utilising personal narratives from participants as text.

Why use narratives as text data?

In chapter five, I applied Foucault's rules of formation to text generated by the literature and, in so doing, I was able to trace the surfaces of emergence of nursing and medical discourse. These were the places where HFS as a teaching modality became an object of discourse. Foucault's methodical tools of archaeology and genealogy allowed me to surface the discourses, discursive practices and disciplinary technologies that had the power to define how HFS might be utilised as a teaching modality. As Foucault suggests:

The analysis of the discursive field is orientated in quite a different way; we must grasp the statement in the exact specificity of its occurrence; determine its conditions of existence, fix at least its limits, establish its correlations with other statements that may be connected with it and show what other forms of statements it excludes. (Foucault, 1972, p. 31)

According to Foucault (2003), subjects are themselves a product of discourse with narratives gained from interviews an important textual data source, enriching the archive. In the context of this study, subjects include academic nurse educators, Bachelor of Nursing (BN) students and others involved in HFS. Foucault suggests that the subject's experiences are discursive effects or, in other words, products of the discourse itself. Several researchers promote research interviews, in some form, as a method of generating texts for analysis (Neville, 2005; Wilkinson, 2007; Willig, 2001; Watterson, 2019), with the premise that these interviews provide text-containing statements that, while present in the discourse, may be hidden or unarticulated in other available texts (Neville, 2005). As suggested by Neville (2005), "... the privileging of personal narratives that frame the experiences of people who have been ... has the potential to expose marginalised and repressed discourses, such a personal discourse ... making available alternative subject positions other than those constructed by others" (p. 108). In this study, the narratives from the interviews undertaken with academic nurse educators, BN students and others, contribute to the archive of text for analysis, and the interview process provided a vehicle to bring to the surface the voices of nursing students that had previously been marginalised.

Fadyl and Nichols (2013) doubt the utility of interviews as a primary source of data in Foucauldian discourse analysis based on the premise when data is interrogated, the Foucauldian analysis should not be directed towards what the discourse hides within itself, but rather it should look at the external conditions it opens up and makes possible. Fadyl and Nicholls (2013) suggest, it is not only what is articulated, but actual material practices that show us what the discourse says and does. They propose that text for analysis should not be derived from interview narratives alone. In their view, the analyst should be looking at the exterior boundaries of the discourse, focusing on its exteriority to locate the discourse as both an instrument, and an effect, of power. The questions used in this study were designed to interrogate the text generated by the interview narratives, with some linking to the text generated from literature, and to address Foucault's principle of exteriority to map when and how HFS became a significant object. The questions are:

- How are institutional practices supported or modified by the discourses?
- How do dominant discourses come to occupy such a privileged position concerning the use of HFS at the expense of subjugated discourses?
- Where does mainstream biomedical and industrial discourse enter in the use of HFS?

Discourse and sub-discourse surfaced from the literature

As previously discussed in chapters five and six, nursing and medical discourse talks of HFS as an innovative strategy which, as promoted by some educationalists, matches the technological ability and interest of many millennial pre-registration nursing students (Erlam, 2015; Erlam et al., 2016; Erlam et al., 2018; Tutticci et al, 2016). Tutticci et al. (2016) suggest that "... HFS is an intuitive approach for abstract learning for the millennial generation. Millennial students may be able to apply theory learned to the HFS scenario more effortlessly than other generations, enabling a more rapid integration of theory to practice" (p. 519).

Earlier discourse around HFS and its effectiveness on competence, skill and knowledge acquisition found that student nurses' skills and knowledge improved following simulation activities involving HFS juxtaposed with activities not using such technology (Cant & Cooper,

2009; Jeffries, 2005, 2007; Reilly & Spratt, 2007). However, what was not said in the literature was how HFS impacts the transferability of those skills through to clinical practice. Further interrogation of text surfaced sub-discourses that sustain and legitimise HFS use. These included HFS pedagogy which is concerned with the complexities involved in integrating simulation activities into curricula. The sub-discourse of simulation as a substitution for clinical placement experiences also emerged. Whilst HFS continues to be acknowledged as being an effective educational modality, the narrative around using HFS in pre-registration nursing education and its ability to produce skills that readily transfer to clinical practice is much more distinct, as is the call for an increased focus on interprofessional education (IPE) and patient safety. What also surfaced within the text is the sub-discourse of realism, intermeshed with fidelity and embodiment discourse. The sub-discourse of realism is discussed in greater depth in chapter eight.

The following sections present the analysis of the data derived from personal narratives of people experiencing HFS, with a view to examining the discourses and discursive practices and how they construct meaning concerning HFS. Those interviewed include academic nurse educators, Bachelor of Nursing (BN) students, and others including NCNZ and simulation business representatives. Close attention is paid to the way in which the users of HFS speak about its material practices as an educational modality and the analysis of text explores how the nursing discourse and sub-discourses surfacing from the text are taken up and further sustained, or resisted, by subject positions.

The construction of professionalising discourse and HFS.

Personal narratives and the demographic data of participants interviewed for this research reflect a variety of individual and collective experiences. This section endeavours to provide a background of participants and some of their experiences of working with HFS. All interviewed participants had some experience in using HFS, however, their roles and their current and prior experiences of HFS use varied considerably. Three BN students had a minimal level of exposure to HFS, which was limited entirely to the clinical practice units within their School of Nursing. The remaining eight students were further along in their BN

programme and had experienced significant exposure to HFS in the simulation suite, or clinical practise units, as well as having undergone actual clinical experiences in placement. All the pre-registration nursing students were within the age range 20-27 years. Previous experiences of using HFS amongst the academic nurse educators are mixed, with the majority having used HFS for 11-15 years, whilst others having relatively little exposure in using HFS.

All participants were asked an opening question about the historical context from which they came. The historical aspects of experiences as an academic nurse educator were also included in some of the participants' responses. The text revealed an intense desire on the part of these participants to contextualise themselves within the world of tertiary nursing education, to assert their identity and affirm their professional experience. This was particularly evident among those who may not have had extensive experience in the use of HFS.

For example, academic nurse educators were asked what they initially understood HFS to be and how their experience, as an educator, with HFS had developed over time. The following personal narratives from academic nurse educators, Beth, and Sally, illustrates how their approach to HFS has changed as they have become more exposed to HFS in their teaching practice:

So, the focus when I first started was trying to understand the context of the scenario. You know, trying to understand what the information is that students have come into the scenario, but my focus, ... has really switched and the research, ... I am really interested in how we unpack the situation and how we learn from the scenario. So, what is the scenario that we're providing for the student and what are the learning outcomes that we're trying to build from this? But then actually, have we aligned that well, and what is our debriefing, not necessarily models, but how we kind of create the student-centred learning approach so that we are using simulation effectively. It's not about the delivery of the scenario, it's about the learning outcomes. (Beth, Academic nurse educator, 2018, p. 2)

Beth's comments elucidate how her approach to HFS has changed over a period of time as she has used HFS more in her teaching practice. This view is also voiced by academic nurse educator Sally, who talks about the importance of the pre-brief and debriefing.

So, I think my initial thoughts of simulation have always been that it's sort of an educational modality; it forms part of a wider picture about supporting students to consolidate knowledge and skill in a supported learning environment. I guess that is my sort of my beginning take ... so I guess my interpretation of simulation has developed more broadly to appreciate that even within the simulation, there comes anxiety and how we allow for that, and the importance of setting the scene and introducing the types of high-fidelity sort of simulators that we use, and probably more importantly, how vital the debrief component of simulation is, which I probably, if I'm honest, in my earlier kind of practice, underestimated. (Sally, Academic nurse educator, 2018, p. 1)

What both Beth and Sally reveal in this personal narrative is how they link their initial approach to HFS to their present approach. This reflection enables both Beth and Sally to consider the components that are needed for HFS to be successful, including pedagogical considerations of HFS and the significance of an effective debriefing. In the following statement, academic nurse educator Martha reinforces the importance of considering these components by commenting on the significance of underpinning pedagogical considerations

So, I suppose for me, I just remember when it first arrived and how initially in those simulations, we set out to trick students, in a way. So, we would not necessarily tell them the scenario, completely, and then we would expect them to respond and then not necessarily give them much information and then sometimes play tricks on them while they are in there. So, there was not much pedagogy around it and it wasn't very robust and sometimes it didn't feel good at all. (Martha, Academic nurse educator, 2017, p. 1)

In her statement "it didn't feel good at all", Martha recognises the discomfort that she experienced when working initially with students in HFS activities. Martha particularly comments on the deception involved, highlighting the importance of transparency and a sound pedagogical base when working with HFS scenarios.

Pre-registration nursing students' responses to simulation, particularly in the use of HFS, are useful in highlighting the anticipation and somewhat ingenuousness of students in using such technology in-lieu of real patients. The following excerpts from interviews present examples of BN students' responses to being asked their understanding of HFS and how their experiences with HFS had developed over time. BN student Anne commented:

I felt neutral towards it, not interested, at first. I just thought really that it would not be an electronic one, so I felt like we would be playing the role of a nurse rather than learning. But I'm really impressed, and I highly recommend them now that I've actually done it. (Anne, BN student, 2018, p. 1-2)

Anne's comment above draws on the notion that using HFS is an effective teaching and education learning modality. Anne infers that more learning takes place when

utilising a computerised manikin, and that she was not so interested when the manikin was non computerised. Anne extends this personal narrative further by stating:

I was excited, to be honest. I thought it was going to be interesting to see what the simulation was. I think, as well, nursing is a very hands-on career to go into. It's really cool to see that you've actually really thought about that and want us to get the 'hands-on knowledge' before going into placements as well. (Anne, BN student, 2018, p. 1-2)

Anne in the above excerpt deploys a personal narrative reflecting on HFS as a teaching modality, demonstrating how she values HFS, and that she can see the learning translating from plastic to real bodies. Anne links her initial excitement about working with computerised manikins at the beginning of her BN programme to the benefits of such a hands-on experience in preparing her for clinical placement. For Anne, the excitement came with the experience of working with the computerised manikin which, again, validates HFS as a learning approach to prepare students for actual clinical experiences.

The following responses of Caramello and Koala also illuminate how experiences over time have enriched their learning:

It's built up our confidence as year two students as well. Like from year one students when we went to hospital placement, obviously there was so much we couldn't do as year one students, but even just with things like taking vital signs, in my placement this year, I was able to just take a machine and go and do manual pulse and everything like that. And it was just, I felt a lot more confident after having practised on a manikin". (Caramello, BN student, 2019, p. 4-5)

The manikin that we used this year I think was really a step up from the one we used last year. Because the ones we used last year didn't really – they didn't have that monitor that they could change. (Koala, BN student, 2019, p. 4-5)

What the above narratives of Anne, Koala and Caramello elucidate is that over time their approach to HFS and working with computerised manikins has developed, and they recognise the value of practising skills. Like Anne, Caramello illuminates how important it is to students that they can practise on manikins before embarking on actual clinical placement, further reinforcing discourse of HFS as a valuable teaching strategy through which students gain confidence in skill acquisition and by practising those skills. These narratives sustain the nursing discourse found in nursing research which recognises HFS activities as valuable

preparation for clinical practice including learning about how to prioritise skills (Reilly & Spratt, 2007; Rochester et al., 2012; Tutticci et al., 2016). Rochester et al. (2012) and Wotton et al. (2010) found that the HFS experiences helped nursing students to understand the expectations of the clinical area.

In stark contrast is the following response from BN student Georgia, which illustrates how HFS experiences have become detrimental to Georgia's learning over time. She comments when asked if she still felt anxious in HFS: "... I think just the same ... I get a big sweat on ... I personally do not like sims because we're under that much pressure. So, I didn't like it at all" (Georgia, BN student, 2018, p. 4). Georgia's response highlights the issue of student anxiety and negativity around participating in HFS experiences, with such resistance raising inevitable tensions, particularly concerning student performance whilst participating in HFS.

Nursing students repeatedly discuss being watched during HFS activities and the impact of that on their learning. Student anxiety is frequently found in HFS research activities undertaken with undergraduate nursing students. Mills et al. (2017) found anxiety was reported amongst final year BN student participants who associated its effects with their performance in HFS based scenarios. This discourse is further reinforced by Al-Ghareeb et al. (2019) who found HFS can provoke a psychological and physiological response in pre-registration nursing students, especially when they are involved in managing simulated emergencies. Al-Ghareeb et al. (2019) found optimal performance apparent when anxiety levels were low.

What is being said by whom in the narratives?

This section presents an analysis of the dominant nursing and medical discourses and sub-discourses as they surface in narratives collected from the interview process. The analysis reveals how discourses shape and produce meaning that, in turn, gains the status, or currency, of truth, along with discursive practices around the use of HFS as a teaching-learning modality. Such discourse and discursive practices play a major role in not only sustaining but also marginalising or subjugating other nursing discourse.

The sub-discourse of HFS as a pedagogy and contested legitimacy

In chapter six, I discussed the forms of knowledge about HFS arising from nursing and medical discourse that surfaced in the literature. As a sub-discourse, HFS pedagogy talks of the importance of organised HFS scenarios, the use of debriefing, the establishment of a safe learning environment and adoption of a pedagogical approach. What is located, and strongly supported, in nursing literature is the discourse around how HFS as an active learning educational experience is learner-centred, enabling learners to practise safely and learn from errors. This discourse subsequently shapes the academic nurse educator's system of knowledge and belief about student learning and becomes part of the discursive practices surrounding HFS.

The narratives of the academic nurse educators mirror this with their references to the sources of that knowledge to support statements, or to explain how decisions are made in the organisation of HFS. In this study, several academic nurse educators talk of professional development as being influential in providing new knowledge or reinforcing knowledge and influencing their practice. Such a domino effect is seen from the following quotes from academic nurse educators Beth and Anna, both of whom attended formal and informal professional development on HFS.

Beth commented:

I went to a simulation conference, and there was that opportunity to see and hear the different ways that simulation was used in education, and I think that enhanced the thought process of, now that I know this, what does that mean for our School of Nursing? What does that mean for our learners? And what does that mean for learning in the future? You know, how much of this can be connected to online models and how much of this can be, changing and reshaping curriculum, what is it? and is this of benefit? I think I have become more critical (Beth, Academic nurse educator, 2018, p. 3)

Beth identifies that, through attending the simulation conference, her thought processes were enhanced, opening up her thinking about how HFS can be utilised in the curriculum. What is also surfacing in Beth's narrative is some questioning and tension around its use and how that might impact on student learning. Foucault

strongly promotes criticism, or critical thought. It is in this way that individuals expose, problematise and transform their subjectification (Foucault, 1982). Criticism is an exercising of freedom that may provide the impetus for resistance. Beth's narrative provides an example of critical thought, not just taking HFS for granted as a teaching modality.

Another reading of the excerpt reveals a socio-cultural construction of the academic nurse educator's knowledge shaped by the everyday mechanics of professional development, with the construction of knowledge surfacing through the social practices of HFS pedagogy. The provision of professional development for health professionals is a disciplinary response to the need to upskill and manage the healthcare workforce and so that provision becomes a discursive practice. This discursive practice highlights how institutional practices, such as the use of HFS in healthcare education, are supported and modified. As Foucault explains, discursive practices shape and create knowledge and meaning and, consequently, dominate the organisation of subjects, both in themselves and in their social world.

Academic nurse educator, John, questions what he perceives to be the automatic acceptance of HFS as a pedagogy, and which is enunciated within HFS research literature and the professional development arena. John commented:

... and then to go, oh, we'd better go to some sessions and learn more about it. But for me it was interesting because you go to some of these training things and they are all health professionals learning about doing the simulation with other health professionals, and it's quite a different thing to be working with students from year one who are going, 'I do not even know what it is to be a nurse' and even in the literature around that. I think sometimes things are misused because they relate to one context and not necessarily to working with undergrad students. (John, Academic nurse educator, 2017, p. 3)

In the response above, John identifies the challenges faced by undergraduate teaching staff when working with novice nursing students. He highlights the dilemma for academic nurse educators about the source of their nursing knowledge as an educator. John also suggests that HFS professional development offered to academic nurse educators and clinical nurse educators often tends to have a bias towards how to facilitate HFS scenarios with other qualified health

professionals. Subsequently, such professional development is often unsuccessful when translated into pre-registration nursing student education.

In the early days of HFS, enthusiasts were self-taught or learned from others in this new field. It is now more common to hear of clinicians and educators undertaking formalised simulation training and education offered through designated simulation experts, simulation industry providers and established forums for education and networking of professionals interested in healthcare simulation, for example, the New Zealand Association of Simulation in Healthcare (NZASH). The discursive practices of formalised training further activate and transform discourse around HFS pedagogy, shaping and creating systems of meaning and legitimising knowledge.

The exposure to knowledge around HFS and its use within healthcare education, predominantly the medical profession with its bias towards a more acute biomedical focus, constructs a particular subject position for academic nurse educators as they gain knowledge on how to use HFS. In addition to this is the drive from HFS businesses. Here we witness Foucault's concept of power being productive and capillary, operating in the everyday social practices of healthcare education, including pre-registration nursing education. It is the interconnection of these practices, processes, and operations that, as Foucault explains, constitutes knowledge and the power relations which exist within it (Yazdannick et al., 2017).

A further representation of this power/knowledge relation is the discourse of HFS as an immersive teaching/learning platform, and functioning system or process. The elements that make up a flexible and collaborative student-teacher environment which is conducive to optimising learning is part of this process. In chapter six I discussed how literature talks of the importance of incorporating these elements to ensure the HFS experience improves nursing student learning (Briscoe, Mackay & Harding, 2017). Another key element in the process is the debriefing, which gives students the opportunity to conceptualise how the learning from HFS can be applied to future clinical situations.

The debriefing element itself becomes a construct as we see the various notions of what it involves. For many, debriefing is considered as important as the HFS case scenario itself and, indeed, is the critical moment where key learning occurs. As Tutticci et al. (2018) allude to "... debriefing after high-fidelity simulation (HFS) is a critical element of the reflective process of simulation" (p. 1654). So, where, during the phases of the HFS activity does the critical learning occur? Academic nurse educator Sally had the following to say when she was asked about HFS:

And probably more importantly, how vital the debrief component of simulation is ... I think if a simulation isn't co-ordinated well by people who hold that kind of knowledge, i.e., if we wing it, and that setting of the scene and the limitations or what the manikin or the technology is capable of isn't set well from the beginning. I think that it is that fear of the unknown component, which I've probably come to appreciate more than probably, ... I spend more time now, probably, pre-briefing and debriefing that I ever had before. (Sally, Academic nurse educator, 2018, p. 1-2)

In the above narrative, Sally highlights the significance of the facilitator of the simulation "holding that kind of knowledge". What emerges here are the discursive practices of simulation design and facilitation further sustaining nursing discourse and its relations with power and knowledge. In the above narrative, Sally not only comments on the importance of debriefing but also stresses the importance of the facilitation of the simulation experience and responding to learners' needs. These same constructs emerge in nursing literature. Tutticci et al. (2016) suggest that:

HFS as a teaching and learning approach, suits most students' preferred learning styles and characteristics, balanced with a note of caution. All students' learning styles and characteristics need to be accommodated. Nurse educators have to be agile and simulation pedagogy responsive to individual learning needs. (p. 519)

Kable et al. (2013) found that many students consider that the debriefing allows the "... opportunity to discuss and evaluate non-technical skills, such as communication, clinical reasoning, leadership, and teamwork" (p. 240–241). Tutticci et al. (2018) too highlighted the importance of utilising reflective frameworks in the debriefing process. They observed that when nursing students used open and critical reflection, they were able to translate and reconstruct their HFS experience into actionable knowledge. The importance of debriefing is further reinforced in the following statement by academic nurse educator Rachel:

I think it started off as one of those things where it was going to do so many things and it was, it was going to be the new and the better and the best and all that sort of thing. Then I - for me the most important thing is the facilitation, the pre-briefing through the whole thing, debrief, and the learning I think happens ... I don't think it *matters* about the simulation. I think it *matters* about who's facilitating it and that the learners get to participate. And I am not sure how many people do it. (Rachel, Academic nurse educator, 2017, p. 25)

For several of the academic nurse educators, including Rachel, debriefing is the most crucial phase of the HFS process. Discourse also surfaces in nursing literature that debriefing is where the learning happens. Nash and Harvey (2017) found that third year BN students asked for more simulation with a focus on debriefing because debriefing enabled them to contextualise their learning. In constructing debriefing as a practice supporting student learning, academic nurse educators position themselves so that they can investigate a participant's knowledge, skills, and attitudes.

The following personal narrative of academic nurse educator Beth reveals pervasive discursive practices around the use of HFS as a teaching-learning modality that not only sustain but also undermine relevant nursing discourse. As academic nurse educator Beth states:

You know, you are really directed into something initially because you only see what you know and then the more, I have looked at simulation and really explored the student outcomes and explored, you know, the debriefing or how effective was that and really looked at how we're stair casing simulation and what is the benefit from the student here? And what is the motivation of some of the lecturing staff because some of our, staff will go in very much wanting specific outcomes from a scenario, whereas others are looking at a different direction. (Beth, Academic nurse educator, 2018, p. 2)

What we see in Rachel's and Beth's narratives are some commonalities of statements, and differences, that are also found in other text. The above excerpts show how the regulation of HFS, such as the prescribed ways in which HFS should be delivered, can subjectify academic nurse educators, and can influence them to conform to the methods of delivery of HFS experts. Regulation, therefore, can lead to academic nurse educators engaging in practices which result in the construction of professionalism. In the above excerpts though, we see the two academic nurse educators confronted by differing practices. Threatened by the disciplinary technology of regulation, Rachel questions the need for a structured HFS scenario when undertaking HFS activities, identifying the debriefing and dynamic

facilitation of the HFS activity itself as the key factors in successful student learning. What surfaces here is some doubt as to whether the simulation scenario is important. Perhaps, too, high technology or HFS is not essential.

For Beth, the hegemony of the academic nurse educators over the HFS scenario questions the purpose of utilising HFS. The resistance from Rachel and Beth to conform to recommended practice shows us that regulation can be used as a tool by which the powerful (HFS experts) affect the actions of the powerless (academic nurse educators). As obedient subjects, academic nurse educators orientate their practices towards disciplinary technologies such as complying with HFS frameworks and guidelines, even if these practices conflict with their professional judgement as academic nurse educators.

Such legitimisation of the discourse around HFS allows its use to grow exponentially and spawn more and more essential components, such as debriefing, or the use of specific frameworks. In turn, the inclusion of these essential components adds to teaching and resourcing challenges. There is ever increasing specialisation and construction of experts in various nuanced areas of HFS, for example, expert debriefers. Once a pedagogy gains this sort of foothold other discourses critiquing the place of HFS are marginalised as less professional or not keeping up.

The influence of resources on the use of HFS as an education modality

When asked what had specifically influenced their use of HFS as a teaching modality, academic nurse educators' narratives revealed several barriers to delivering HFS that are ubiquitous within nursing literature. As previously surfaced, the use of HFS is considered essential by many academic nurse educators. I maintain that once HFS is considered essential, resource issues arise. This notion is exemplified in the following narrative of academic nurse educator Jane:

There are probably three things that mostly influence mine. That is where I've come from and so, I certainly do run very structured approaches to the simulation that I work with. But I've got six rooms all running the same thing over three days and lots of people going through ... and the resources that are available to us here and the length of time it takes to get resources and then figure out which ones are going to be

of the most benefit. And the other thing is timetabling and access to the equipment. (Jane, Academic nurse educator, 2017, p. 5)

Jane's comments underline the commonly held concerns regarding external and internal resources influencing the delivery of HFS, reaffirming the findings of Al-Ghareeb and Cooper (2016) and Bogossian et al. (2018). Rachel's comment below further illustrates Jane's point about the conundrum academic nurse educators face when delivering HFS the prioritisations they make between technological and environmental resources, the importance of underpinning pedagogy, and identifying the actual learning that takes place. Rachel positions herself from a pedagogical viewpoint, questioning the value of using such technology. As academic nurse educator Rachel states:

... actually, being able to get into the rooms to run the simulation. So, we are competing with lots of different ... different health professionals to get in there. There are just many, many, many limitations around that. More for me, is thinking about pedagogy and observing students' reactions to maybe how we were doing it, whether that was the best way for, for learning. (Rachel, Academic nurse educator, 2017, p. 5).

Rachel's concerns reflect some of the findings of Bogossian et al. (2018) from their cross-sectional survey of simulation in Australian and Aotearoa New Zealand pre-registration programmes. They found the most commonly reported challenges to be adequate time to develop HFS experiences, adequate staff development, sufficient technical staff support and sufficient academic staff support. However, in the above responses by academic nurse educators, appropriate and sufficient equipment and access to dedicated simulated learning environments are considered significant barriers in delivering HFS, both less frequently reported in Bogossian et al.'s (2018) study.

Equally, academic nurse educators are sceptical about the effectiveness of HFS with its associated human and financial resource implications. In the responses from academic nurse educators in this study, other resource implications were identified, including the confidence of academic nurse educators in utilising HFS. For example, one academic nurse educator with years of academic experience made the following comment:

So, trying to learn about what simulation might be and what it could be and then how to physically do that has been quite a challenge, coming into different ways of being, learning different available equipment and finding out what equipment is available, so navigating that world as someone new to this environment. Because simulation for us, was very different when I was doing my training. (Jane, Academic nurse educator, 2017, p. 4)

I use the above comment by Jane to draw attention to the impact the educator's level of confidence and competence in utilising HFS has on the experience. This viewpoint is raised further by Anna:

I haven't - taught a class and I haven't had any training on how to get it rolling, and it still looks a little bit complicated to me. I'd rather it was a bit simpler... and I think that what we have done here is, we've made them untouchable, the manikins, and so they're a bit scared of them and ... we're a bit scared of the technology because one person has had the control of it. (Anna, Academic Nurse Educator, 2018, p. 6)

Both accounts refer to educators' hesitation when using the technology and are in keeping with the findings of Al-Ghareeb and Cooper, (2016). Availability of human resources is equally as important as financial resources. Al Ghareeb and Cooper (2016) found that the characteristics of the instructor, having a dedicated HFS coordinator, and ready availability of technological and administrative support enable the implementation of HFS activities in Australian pre-registration nursing curricula. Al Ghareeb and Cooper (2016) established that the integration of HFS is enhanced through faculty training, including workshops, conferences, hands-on practice, and mentor feedback, all of which is consistent with later findings of Bogossian et al. (2018).

One reading of the text shows the pervasive discourse on the use of technology, and in particular, the fidelity of the simulation experience. As mentioned previously, medical and nursing discourse supports HFS as a tool, perhaps the panacea, with which we can address so many of the issues that are facing nursing and healthcare education. In the following responses from academic nurse educators, we see the surfacing of resistance to such discourse and reservations about the use of technology, with academic nurse educators providing alternatives to HFS. Academic nurse educator Beth commented:

... last year when I went to the conference, there was that opportunity to kind of see and hear the different ways that simulation was used in education, and I think that

really enhanced the thought process ... what does that mean for our School of Nursing? What does that mean for our learners? And what does that mean for learning in the future? You know, how much of this can be connected to online models and how much of this can be, yeah, changing and reshaping curriculum, what is it? ... So yeah, I think I have become more critical, ... I can see what it is looking at broader perspectives and now I'm probably at that stage where I'm, you know, a bit more of a critical lens and they're going, 'oh is it really important?' ... we have these other models; we're providing brilliant learning – do we need this financial thing too? (Beth, Academic nurse educator, 2018, p. 3)

Beth's comments underline the persuasiveness of discourse around the use of HFS and its benefits within pre-registration nursing education, yet her account also refers to alternatives to highly technological expensive modalities. This is supported by comments made by both Sally and the NCNZ representative. Academic nurse educator Sally commented:

The simulation does not just happen in the simulation lab with the all-singing, all-dancing kind of highest-end technology. It happens more than we probably acknowledge it does. (Sally, Academic nurse educator, 2018, p. 5)

What Sally is reinforcing here is that SBE can take place in any environment, not always using computerised manikin technology, with an emphasis on HFS. This discourse is supported by the NCNZ representative who voices caution about HFS use as a teaching modality and national standards in all nursing programmes recognising that, if HFS is to be used, resources must be consistent and available to everyone. The NCNZ representative states:

There has been a level of caution, I think. Because simulation does cover so many things and, spare parts are very expensive, that if we were to make standards around simulation, they would have to be based on the lowest common denominator in terms of what schools of nursing have access too, what their budgets allow them too. So, while some places have lots of students that are well resourced so they can have manikins with all the whistles and bells, other places have very basic equipment. ... so, I think some of it is about how skilled the staff are and, and if you have technicians and that, how skilled *they* are at, at *using* the resources you have, the manikins and that, to their full ability. And that the scenarios that you're developing up actually do that because why have a \$100,000 one when a \$10,000 would do what you want in terms of the level of the students and what you're teaching. (NCNZ representative, 2017, p. 1)

I use the above accounts of Beth, Sally and the NCNZ representative to highlight the notion that HFS as an education modality needs to be revisited as an educational resource. What is being intimated here is that when designing effective simulation experiences an appropriate level of technology needs to be used, and the higher the level of technology does not

necessarily produce effective learning. What is also evident, is that simulation design must be appropriate for the level of learner. It would seem then, that significant learning experiences are not dependent on high levels of technology. Indeed, HFS may not be necessary at a pre-registration level of nursing education and may not be a resource individual providers of nursing education can afford financially. What surfaces in the above narratives aligns with discourse in more contemporary literature on HFS use, particularly in pre-registration nursing education. As the simulation business representative comments:

You don't always need the fanciest simulator. Sometimes you can do a lot more with a lot less, and I think if you give people those options, you treat them with respect, and, and, at times, talk them out of products ... because why do you want this? What are you going to do with it? What do you need a manikin for? You are not ever going to use 70% of the functionality. Just because it's fancy and it blinks and it, is that right thing to do? (Simulation business representative, 2018, p. 9)

In line with the narratives of the academic nurse educators, the above narrative by the simulation business representative surfaces the notion that an appropriate level of fidelity needs to be used when designing SBE activities as a significant number of learning experiences are not dependent on high levels of technology. Each of the narratives presented in this section suggests that those working with HFS in pre-registration nursing education continue to question and critique the benefits of using HFS, particularly with such resourcing constraints.

The benefits of using technology and the benefit for whom?

Millennials, or generation Y (GenY) students, are very comfortable using technology and expect their learning to be more interactive, and that they will actively participate and engage in their learning experience (Tutticci et al., 2017). They also expect technology to be utilised in their learning experiences (Erlam, Smythe & Wright, 2016). Millennials bring these traits to the educational environment, traits which challenge academic nurse educators to create and enhance teaching and learning strategies that appeal to and engage this newer generation of pre-registration nursing students. On the other hand, not all millennial nursing students embrace technology in the same manner. The data collected from participants in this study show that responses about HFS use are diverse, for example as BN student Georgia commented, "... sometimes I feel uncomfortable. Because if I get it wrong, I feel awkward,

because I know that everyone has seen. It's more like it doesn't feel as natural' (Georgia, BN student, 2018).

As Briscoe et al. (2017) found, some students initially feel nervous about being involved in HFS, with this decreasing as they are more exposed to the modality. Other students comment on the advantages of using HFS when making mistakes. As BN student Lara stated, "... so if you get it wrong, it's okay, you can try again" (2018, p. 3). What is revealed in the text generated by the nursing student narratives, is important to them that they are told whether their answer or what they did is right or wrong. In the following selection of responses, nursing students explain how the HFS experience enables them to practise their skills without harming the patient, which was of importance to them. As BN student Ruth suggested:

I was a bit apprehensive around, well, if this is responding to things that I'm doing and I understand that somebody is in behind the wall making those responses happen if I have done something that's incorrect and there's a response there's apprehension around, you could kill the manikin in hypothetically by doing something wrong. Thank goodness it's a manikin, but that what that means is that that response has happened because you've done something wrong. So, there's accountability there, huge accountability around the manikin and it's a direct response of something you've done, good or bad, so it's a bit like taking those consequences good and bad. (Ruth, BN student, 2018, p. 3)

Ruth's comment focuses on the consequences of making decisions. In Foucauldian terms the scrutiny of students is panoptic, and students engage in disciplinary processes to align themselves with this high level of scrutiny. From a Foucauldian perspective, the "somebody behind the wall", observing Ruth while she participates in the HFS activity, exerts a degree of power, and the manikin's responses to Ruth's actions are a mode of control. This is a means of disciplinary control by the academic nurse educators to correct what has not been done.

Ruth's statements, the manikin is controlled "behind the wall", and "thank goodness it's a manikin" reveal the benefit to her of learning on the manikin, as it reduces the risk to real patients. This personal narrative aligns with nursing and medical discourse around patient safety and mitigating risk to patients. I argue that proponents of HFS tap into centuries-old professional ethical discourse of "first do no harm". The following responses from BN nursing students Lara and Louise reflect this:

I feel like it is a lot easier to work with a manikin, because when I came in, I was like, oh, are we going to try it on each other? There is no stress to it. It's a manikin, so if you get it wrong, it's okay you can try again. Whereas if it's with a real human being that could be the critical error that will stop someone from living... It is a lot safer. You do not have to worry about their health because they are just electronic. They can be fixed later. Whereas people are completely different (Lara, BN student, 2018, p. 3)

I think so. I think it's totally safe. Yes, the consequences are there that you could kill the dummy but, but the fact is you're not actually doing that to a real person. So, you're there to learn and, and gain valuable experience good or bad from that and you want to have that as much experience as you can on something life-like before you get out in the real world and do it. (Louise, BN student, 2018, p. 3)

What surfaces in the above narratives by BN students Lara and Louise is that although there is tension about the level of scrutiny of their practice, there is considerable comfort in working on fake bodies. The excerpts from Lara and Louise also reflect what they consider to be important to them as learners, further reinforcing nursing discourse around the importance of learning in a safe environment. This discourse of learning in a safe environment is threaded through many of the nursing students' narratives, including BN student Koala's statement around how a practice partner in the skills lab was not comfortable with students practising on her. As Koala, BN student comments:

Last year, instead of using manikins, we had partners. So, my partner last year wasn't comfortable with me practising stuff on her, and at the end of the year we had to do the practical assessments and I struggled with it because I never really had the chance to practise it. But here ... everyone takes turns, and we all get to participate basically. (Koala, BN student, 2019, p. 4-5)

In the narrative above, Koala perceives greater learning from the plastic manikin compared with practising on her peer. This discursive practice of creating a safe learning environment for the learner is further supported by the simulation business representative who states:

Manikins and simulators are a great place to make some mistakes. I think you learn from your mistakes. I do, personally. I am not perfect. What a great environment to be able to do that and, where you're not harming a patient. (Simulation business representative, 2018, p. 1)

What is highlighted in the above excerpt is discourse about using manikins to provide a safe environment in which to make mistakes without harming the patient. The discourse around creating a safe learning environment also emerges in text generated by the literature. Many proponents of HFS consider that creating a safe learning environment is crucial to facilitating

positive learning. Both Louise and Lara found HFS created such an environment, and BN student Freddo concurs:

Like I said before, it was – it is safe. It is a safe place to practise and learn and make mistakes so that when we go into hospital, we're confident that we are doing things right when it comes to a real person. (Freddo, BN nursing student, p. 6)

The narrative above by Freddo clearly supports discourse about practising on manikins prior to going into actual clinical experiences. Findings from nursing research literature sustain this discourse of increased nursing student confidence and competence in skills. Both Mould et al. (2011) and Reilly and Spratt (2007) found that HFS has the potential to develop clinical competence and confidence prior to clinical practice in pre-registration nursing students.

The above responses by nursing students reflect statements that surface from the written text around the importance of a safe learning environment for learners participating in HFS activities. Using personal narratives of nursing students gives these students a voice. Their responses contrast with what is found in much of literature, where the student voice is often silenced and subjugated. From a student perspective, environmental safety and its importance to learning is often hidden or unarticulated in the available written texts, with nursing students experiences often not explored.

Foucault focuses on how discourses shape and create systems of meaning that gain the status or currency of truth, whilst other discourses are marginalised and subjugated. Students' reflections on their learning experiences can provide valuable insights for academic nurse educators. Student voices give legitimacy and currency to students' knowledge, these voices have the potential to challenge how students learn, and even the meaning of learning. For example, in the context of this study, the use of HFS a teaching modality.

The Foucauldian concept of surveillance and its impact on student learning

The development of HFS scenarios has provided pre-registration nursing students with opportunities to learn how to be a professional nurse in both a clinical and social environment, albeit simulated (Aebersold, 2018; Durham & Alden, 2008; Hopwood et al., 2016; Rooney et al., 2015), with these simulated activities requiring nursing students to act as their future

professional selves. In chapter six, I discussed the discursive field of HFS and the notion of surveillance as a primary discursive practice associated with HFS. Discursive practices of surveillance, therefore, create HFS as an object, with varying degrees of power and, in turn, that gives meaning and organisation to processes, thus sustaining discourse of HFS as a teaching modality and influencing, establishing, and sustaining nursing knowledge.

The following examples of responses by academic nurse educators Beth and Anna provide a glimpse of their view's student learning is controlled, and the concerns and tension for some academics around observing students undertaking HFS activities:

... and what is the motivation of some of the lecturing staff because some of our, our staff will go in very much wanting specific outcomes from a scenario, whereas others are looking at a different direction. (Beth, Academic nurse educator, p. 2)

Simulation, for me, is an environment which is controlled for learning. It's an environment where educators control the scenario for students to act on a particular scene, scenario or clinical case, where they can, use their critical thinking. Of course, some people don't mind that but we have lots of different learners who learn differently and for some people it just paralyses them. That feeling that they're being watched. You cannot get away from them feeling like they're being examined or watched when you've got them in a small room, behind glass. (Anna, Academic nurse educator, p. 1)

What both Anna and Beth talk of is the power or control that the academic nurse educator holds about what is learnt by students participating in the HFS activity. Within the discursive field of HFS, each of the above narratives shows the power/knowledge effect of the discursive practice of surveillance on constructing nursing knowledge. According to Foucault, power is a major source of social discipline (Foucault, 1979). Both above narratives provide an example of the disciplinary power, in this case surveillance, by which the academic nurse educators ensure skills are learnt and completed to a certain standard. The student nurse is being disciplined to become an appropriate type of nurse. Discursive practices such as surveillance and the use of a simulated body become essential facets of the operation of power - the manikin, for the student, is the perfect vehicle on which to practise nursing skills, in lieu of a real body. By using the manikin in this way prioritises certain nursing skills over others such as communication, empathy and caring. The concern here is that the control and discipline is not exercised by a real

patient body but there is some degree of disciplinary regulation, such as monitoring and surveillance by the academic nurse educator.

From pre-registration nursing students' personal narratives in this study, responses about how students feel when they are observed during HFS activities are diverse. As BN nursing student Georgia commented, "... sometimes I feel uncomfortable. Because if I get it wrong, I feel awkward, because I know that everyone has seen. It's more like – it doesn't feel as natural' (Georgia, BN student, 2018). For Georgia, the fear of being watched when making a mistake on a manikin is detrimental to her learning. Such a response that she feels nervous because she is being observed and judged by lecturers and peers aligns with what is said in the literature. (Briscoe et al., 2017; Mills et al., 2016)

Academic nurse educators Anna, Jane and Sally contributed another understanding of the effect of surveillance on nursing students when asked how they found students work when being observed through one-way mirrors:

... I think it's invasive and I think it's for some students, it's a huge barrier to their learning, because they feel like they're being assessed, although they're not ... I mean, of course, some people don't mind that, but we have lots of different learners who learn differently and for some people, it just paralyses them, that feeling that they're being watched. You cannot get away from them feeling like they are being examined, or watched, when you've got them in a small room, behind glass. (Anna, Academic nurse educator, 2018, p. 1)

Yeah, so for me it has all been about learning and so now I work in the beginning of year two and we've moved totally away from we never use the one-way glass. We never run a manikin from behind the scenes because it didn't seem to add anything. Except terrify them. And, and so we use it – I don't even know how we use it, but it's really, it's not testing them. (Jane, Academic nurse educator, 2017, p. 5)

I tell you, probably the way in which our simulation lab is set up, when they see the two-sided glass, that feeling of being watched, I think, is more so than the actual use of the technology. And that could be in different high-fidelity simulations we've been engaged in; it could be the use of a camera or ... I think it's that added pressure, which is different from a clinical laboratory, where they've got the ability to close a curtain and that kind of assumed sort of, yeah, control of what's happening, without that feeling of being directly observed (Sally, Academic nurse educator, 2018, p. 9)

In the above excerpts, Anna, Jane and Sally are drawing on nursing and medical discourse that positions HFS as a suitable teaching modality for pre-registration nursing student learning. As Anna indicates, learners have differing styles of learning. However, what is being challenged here is the use of one-way mirrors and control booths in the HFS setting which engenders a fear

of being watched in the nursing students. What also emerges from the above statements is nursing discourse on the importance of nursing student's psychological safety within the HFS activity. Academic nurse educator participants identify alternative ways of teaching, to ensure that nursing students feel safe in a simulation learning environment, and to provide the appropriate setting in which to develop skills.

As with the narratives produced by academic nurse educators working with BN students during HFS activities, the following excerpts from BN nursing students interviews surface similar discourse threads:

Yeah, for the simulation we know what's going to happen in the simulation. But we're anticipating it and then ... sometimes it feels all a bit forced ... but it doesn't. Just cos, I don't know, just cos we know what's going to happen and [whispers] they're watching. People are watching. (Georgia, BN student, 2018, p. 1)

Even if they weren't there and we'd done it and then it got recorded and then we watched it later altogether, it'd still be better. Because then we can all observe. Whereas they're watching us and we're on the spot, so we're under pressure and we muck up because we're scared of getting it wrong. And the lecturers are watching to give you feedback and to help you learn. And there is a right and wrong, but there is – you don't get in trouble really. (Amy, BN student, 2018, p. 2)

In the above excerpts, pre-registration nursing student participants acknowledged HFS as a location in which the student is watched and reflected on feelings of discomfort, fear, and heightened levels of anxiety. In the above examples, a technology of power operated so that the nursing students were anxious about continually being watched and judged. We can see connections between the production of knowledge, the fear of being watched and the realism of the HFS experience itself. Similarly, the above excerpts contribute to a deeper understanding of the value nursing students place on being watched from behind a mirror during HFS. BN student participants describe the pressure they feel when being watched and its impact on learning. In addition, we see that the student knows what will happen, which, as discussed previously, is contrary to the development of critical thinking, often lauded as a key learning objective of the HFS experience.

The gaze, in this case the observation of students by academic nurse educators, which exerts power over nursing students and their compliant, docile bodies within the HFS arena has the potential to produce and sustain knowledge. Foucault (1979) uses the example of Bentham's

Panopticon to analyse how a regulatory gaze transformed prisoners into docile bodies. Foucault talks of docile bodies as individuals who are under constant surveillance and regulation in ways that are often subtle and seemingly invisible, leading to normalisation and acceptance of such systems (Foucault, 1979). Foucault explained "... a body is docile that may be subjected, used, transformed and improved" (p. 142). In the HFS situation, both the patient, represented by the manikin, and the nursing student, become docile bodies.

As obedient subjects, pre-registration nursing students orientate their practices towards disciplinary technologies such as complying with the appropriate practices and behaviours that are expected of registered nurses. This form of regulation can lead to pre-registration nursing students engaging in dominant constructions of professionalism. These constructions are discussed in greater depth in chapter eight.

The sub-discourse of HFS and clinical experience equivalence

As discussed in chapter six, nursing discourse emerging from text generated by scholarly literature, maintains that contextualised HFS allows for the repetitive delivery of standardised and validated programmes that offer consistency and focus on predetermined outcomes. Equally, there is an alternative discourse supporting the notion that HFS has the potential to address gaps in pre-registration nursing students' actual clinical experiences and prepare students to be workforce ready. This ongoing discourse, not only within nursing literature but also from academic nurse educators' narratives, is persuasive in promoting an environment from which to exert influence. Accordingly, there is also compelling discourse that an investment in HFS can provide significant returns if strategies are employed to address all aspects of the education requirements (Carey & Rossler, 2021).

Such strategies include robust, appropriate, and consistent conceptual frameworks guiding the design, delivery, and evaluation of HFS activities. This is echoed in the following response from both a simulation business representative and the NCNZ representative. When asked about their overall thoughts around the use of HFS in pre-registration nursing education, the simulation business representative stated:

With the simulation ... it's a great environment to practise on a simulated manikin that you can repeat. You can create low frequency, high-risk events that you can repeat over-and-over again, something that you may rarely see. Those core scenarios that you'll see within the hospital, you can build on those and utilise them with the nursing students. So, I think it's a great tool - in my opinion, obviously, very medical, but I think they're wonderful tools to add that sense of realism and make learners familiar with what they're going to see in the real world and also be able to repeat it on a consistent basis and make it consistent for each learner who's ever taking a part in the simulation. (Simulation business representative, 2018, p. 1)

What we see here is a marketer using a discourse of standardisation to give legitimacy to the manikin. In the following quote by the NCNZ representative we see nursing leaders taking up this discourse:

... but I think that would be the real value of, of simulation, is it would provide a standardised checklist if you like, of key things that everybody would want to cover. I think that is what I was talking about – that while people say you can't replace clinical experience and that hands-on, out there doing, is the most important, some people will go through nursing programmes they will never see a cardiac arrest or never, never see certain things. And I think that, that that's where the real value is, it being standardised. (NCNZ representative, 2017, p 2)

From the above excerpts from both the NCNZ and simulation business representatives, we see discourses of safety and standardisation being used to legitimise the simulation industry. In addition, there is discourse constructing HFS as a platform to address gaps in pre-registration nursing students' actual clinical experiences, with a call for core scenarios within the nursing curricula, particularly during the final or transition years of the pre-registration programme. The above excerpts highlight the emphasis academic nurse educators place on transferring scenarios commonly arising in the real clinical environment into a simulated clinical environment, so that students can practise repetitively in a safe learning environment.

The comment made by the NCNZ representative regarding the standardisation of scenarios and "... a standardised checklist if you like of, of key things that everybody would want to cover" (2018, p. 2) warrants further unpacking. The NCNZ statement provides an example of disciplinary power, in the form of standardised scenarios, ensuring skills are learnt and completed to a certain standard. As Foucault (1979) suggests power is not discipline, but power can be exercised through disciplinary means to give meaning to and organise social institutions and processes. From the text generated from the narrative of the NCNZ

representative, there is persuasive discourse that this standardisation would not only ensure that nursing students are exposed to commonly arising nursing situations, but also the acquisition of the knowledge and practice required to meet NCNZ competencies. In addition is the construction of discourse that HFS can provide a consistent or standardised learning experience while real clinical experiences cannot.

Reinforcing and normalising this discourse is the text generated from nursing scholarly literature. Bogossian et al. (2018) found in their survey of Australian and Aotearoa New Zealand pre-registration nursing programs that, "... most programs included mandatory simulation experiences and the majority of these related to critical patient scenarios" (p. 332). Within Aotearoa New Zealand pre-registration nursing programmes, provision of simulation learning is a requirement. What the findings of Bogossian et al. (2018) suggest, is that the core scenario should have an acute care focus and be standardised, thus ensuring consistency. Such a notion reinforces findings in previous studies undertaken by Power et al. (2016) and Brown et al. (2012).

When asked what they thought of HFS as a substitute for real care or clinical hours, academic nurse educator John stated:

And yet they're completely different things happening. In talking to a nurse this morning, who's precepting a new staff member ... this person came with some skills but they're learning some of the multitasking that needs to happen to function in this ICU', and how do you simulate some of those things? ... So, I don't think that simulation *should* ever count one-for-one for clinical. (John, Academic nurse educator, p. 24)

John is identifying that unpredictability is in fact a positive experience for nursing students learning in the real world of nursing, particularly in specialised areas such as ICU, and is something that HFS may not be able to replicate. John's statement reveals the realism faced by academic nurse educators around HFS replacing actual clinical experiences. Such a position is also highlighted by the NCNZ representative when asked if there are influences from elsewhere that pre-registration nursing programmes should be using HFS or using more HFS:

Oh, I think the American research and the American work is quite influencing. I do think that America and Canada, in terms of the Council and the relationships we have,

and then Australia only has 800 hours of clinical experience, and they've had a lot of government money, state and federal money, around simulation. So, I think while we are looking at those places and looking at what they are doing, that has to be tempered with the fact that the fiscal environment in New Zealand in education and health is, is such that, that we are not going to have our wish list of everything we want. (NCNZ representative, 2017, p. 7)

The narrative of the NCNZ representative not only presents an example of the funding and resource disparities between countries, but also the dilemma for those with a vested interest in nursing education around the discourse of substituting HFS for actual clinical experiences.

Academic nurse educator John contributed another understanding of the replacement of clinical hours with simulation:

It is hard, though, like because, council counts an hour in clinical placement as an hour of substance... that one student is getting gold and the other student is failing. And yet Council determines that both those hours are the same... The student that stands in the corner and the student that's got their sleeves rolled up and just wants to have a go at everything; those numerically are spending the same amount of time. Yet they are completely different things happening ... That's, great, our students have done 1,200 hours, quite a variety and they are not equal. So, if this is to be looked at, I think that it needs to be considered around the quality of learning, not just about the fact that I have a tick box (John, Academic nurse educator, 2017, p. 24-25).

What John raises in the above text is the incongruence of what constitutes a clinical experience hour in a clinical placement, with considerable diversity within the experiences themselves.

Within the Nursing Council New Zealand (2020) document, *RN Education programme standards*, there is no clear direction of what constitutes a clinical hour, nor is there any discussion of the quality of learning expected in each of the clinical hours. However, NCNZ describes in their education programme document *RN Programme education standards* (2021) that clinical experiences must have well-formulated learning outcomes that demonstrate the expected progression towards meeting NCNZ competencies. What NCNZ suggests is that these "... experiences occur in a range of health consumer settings across the lifespan, including te ao Māori, community health, acute care, aged care, mental health, and disability (NCNZ, 2021, p. 13).

The disparity of experience and learning is also reflected in the literature, with no articulated definition of the quantity and quality of simulated hours surfacing the challenges and discontinuities when mapping the emergence of such discourse. As Bogossian et al. (2018)

found, 51.6% of institutions in their study responded and reported a wide variation in the allocation of program hours to clinical and simulation learning. These findings are echoed by Roberts, Kaak and Rolley (2019), who found that, "... the number of hours that simulation replaces has not been well defined in the literature" (p. 10-11). What is also suggested is that guidelines, too, must be well defined around how many hours of simulation compared with clinical practice is sufficient to attain and maintain proficiency of students, how the simulation modality is used, and how the assessment or measurement tool is used to ensure quality.

Summary

This chapter presents an analysis of the narratives generated by academic nurse educators and BN students and others, including an NCNZ and simulation business representative. From the textual analysis, various subject positions are identified which mirror those emerging from nursing and medical discourse, and the sub-discourses, surfaced in text generated by published literature. What is also presented are the different ways people talk about HFS and how they use it. The Foucauldian concept of surveillance is used to analyse the impact of HFS on student learning. The association of discourses within the narrative and those surfacing within nursing literature demonstrates how influential these discourses are on pre- registration learning and knowledge. As suggested by Foucault (1972), discourse creates identities or subject positions, frames the way we talk about objects or concepts, and provides strategic options for action and change, with various discourses competing to be recognised as the normal or legitimate way of understanding the world.

Attention has been drawn to the student perspective that working with computerised manikins adds value in preparing them for clinical practice in the real world. However, what is also surfaced is anxiety around participating in HFS activities and being observed by academic nurse educators. As mentioned previously, the student voice needs to be heard rather than subjugated. BN students voice that they continue to feel nervous about being involved in HFS because they feel they are being observed and often judged by lecturers, and that this impacts adversely on their learning. Conversely, students indicate that the more

HFS they are involved in, the less nervous they become and that practising on manikins enables them to develop skills in preparation for the real clinical world in a safe learning environment. This discourse reinforces the nursing and medical discourse around the use of HFS for skill acquisition, but shows that, when critical thinking or unpredictability is part of the scenario, the HFS activity becomes scary.

Central to my argument is that academic nurse educators are beginning to resist many of the discourses that have constructed HFS as a taken-for-granted educational modality and to challenge approaches that have supported its legitimacy. This is particularly so in the area of HFS replacing actual clinical experiences. The following chapter analyses the sub-discourse of realism and its association with HFS, and its impact on the learning and nursing practices that BN students and academic nurse educators experience.

Chapter 8: Knowing how to nurse - how real is the simulated clinical environment?

Introduction

As discussed in chapters five and six, the emergence of realism as a sub-discourse and the discursive practices around the development and facilitation of HFS scenarios by the academic nurse educator have not only created new opportunities for academic nurse educators but have also revealed tensions around issues of realism and the lack of humanness of the manikin. The focus of this chapter is on the sub-discourse of realism and the surreptitious and apparent influences of that discourse on the subject positions made available to BN students and academic nurse educators by their association with the object of HFS.

The data utilised in this chapter draws on texts generated by personal narratives and literature to interrogate the sub-discourse of realism as a means to construct subject positions to which discourses speak. The intention is to compare the sub-discourse of realism in the literature with sub-discourse produced by the text from the narratives. The chapter explores these various subject positions, the different ways people talk about HFS, how such discourse influences what can, and what cannot, be said, and participants' experiences of carrying out such discursive practices.

Foucault speaks of the formation of subject positions as a way to explore how discourses and discursive practices privilege certain subject positions, whilst marginalising others (Foucault, 1982). Nursing students may occupy different subject positions vis a vis HFS as an object. One of the analytical focal points in this study is to interrogate the discursive practices constructing nursing students' subjectivities, utilising Foucault's methodological tools. This approach informs us about who is speaking, whose authority carries legitimacy, who is authorised to provide commentary on particular objects, and is an effective way to address the research aim: *to consider how discourses constructing high-fidelity simulation shape nursing students' subjectivity and ultimately nursing practice, particularly in the absence of embodiment of real patients,*

Overview of the sub-discourse of realism

In previous chapters I have argued that, through an interrogation of text from both literature and narratives, certain discursive formations have, over time, established HFS as a discursive object. I have also discussed how through the deployment of discursive practice realism discourse is sustained as essential in creating physical representations of bodies. In addition, the interrogation has identified the formation of certain discursive practices and their effect on the subject, for example, in the context of this study, the nursing student, their practice and subjectivities. As a result, academic nurse educators have started to think about what HFS and high-fidelity manikins can offer given the shift in the discourse to a focus on realism and more authentic replication of the clinical world. When the simulation business representative was asked how they thought using a computerised manikin helped with learning, particularly with undergraduates, as opposed to a non-computerised manikin, the response was as follows:

You choose the right simulator for your needs. The advantages of a computerised manikin in different levels and iterations of them is the ability to recreate heart and lung sounds consistent, ...you can make cases progressively more challenging based upon the year or the ability of the learner, as well. So, you can really tailor it and make adjustments easily versus a non-electronic manikin if you will. It just adds more, for lack of a better term, a higher fidelity to the simulation, it makes it more realistic. (Simulation business representative, 2019, p. 5)

The above text reinforces the notion that fidelity is related to the level of technology, subsequently positioning the level of fidelity as an essential component of a realistic simulation experience, as well as a controlled one. As previously discussed, fidelity, as a concept, is presented in various contexts, with apparent inconsistency in meaning, resulting in a degree of incongruity between definitions of fidelity, authenticity, and realism.

As Foucault (1981) stresses, our present reality and truths are replication and restatement of truths and not representative of exemplary knowledge. Chapter five addresses how by applying Foucault's analytical tools of archaeology, we uncover alternative discourses of fidelity and realism operating within the dominant nursing and medical discourse, and somewhat marginalised at times. This suggests that the discourse is not consistent, but is in fact discontinuous, with discourses co-existing during a particular period and shifting over time

(Foucault, 1981). Subsequently, "... discourses must be treated as discontinuous practices, which cross each other, are sometimes juxtaposed with one another, but can just as well exclude or be unaware of each other" (Foucault, 1981, p.67). Similarly, the co-existence of fidelity and realism discourse has, over time, led to the sustainment of HFS and its association with technology.

The simulated patient, simulated environment, and suspension of disbelief—the subject position of thinking like a nurse and making it real

As a result of technological advancements, we now have, in the biomedical arena, "humanised" high-fidelity interactive manikins which are designed to engage students' senses (Aebersold, 2018; Howard, 2018). Many modern-day manikins look human and respond to interventions via their ever-increasing degree of technology. Current computerised manikins no longer function as single task trainers. They provide a holistic educational experience by presenting the user with complex and immersive scenarios and by providing seemingly realistic feedback. However, whether this increased realism leads to a general improvement in the learner's outcomes remains contentious with few data on the effects of high-fidelity manikins on participants' more in-depth learning.

As discussed in chapter five, a positive correlation between the degree of realism of a computerised manikin and the positive effect on the learner is somewhat assumed. However, it is clear that while certain behaviours can be learned through the use of a computerised manikin, students find it difficult to think of the manikin as authentic. Technical issues, lack of emotion or facial expressions, and the amount of make believe that is often required within a simulation scenario are factors that need to be considered.

Making it real for BN students

Singer (2013) acknowledges that in an endeavour to humanise manikins, simulation businesses are moving towards developing multiple standard subtypes to represent differing populations, for example, skin colour, body mass and facial characteristics. As stated by the simulation business representative:

You can simulate different cultures and respect of cultural needs with a simulator. You can just replicate that on, on a manikin. I mean you can even get down to the point where you've culturally you could have different ethnic skin tones on simulators to make it more realistic. (Simulation business representative, 2018, p. 7)

The above excerpt from a simulation business representative highlights the focus now placed on humanising manikins. Simulation equipment providers stress the importance of realism in healthcare simulation, with simulation businesses striving to create manikins that are reflective and representative of the population for which healthcare providers and educators care for. For years, the computerised and non-computerised manikins used within clinical education facilities have been seemingly homogenous, with no correlation to the dynamic demographic of the patient population. In the following personal narrative, the simulation business representative acknowledges the need for manikins to be representative of a greater cross section of patients in our ethnically and culturally diverse world. The simulation business representative states:

You can get most of our manikins with different skin tones. And then, I think it comes down to the percentages that people tend to go with a specific skin type. I think in the future we will evolve to the point where you would be able to, for lack of a better term, just have skins that you can zip on and zip off, which I think is a much more economical way to go. I think you'll evolve to the point where we have a geriatric patient that you could just zip them on and zip them off, along the face ... yeah. I think we're, we're getting there, and that's, that's the discussion that we're having. Can you have your 86-year-old male and then unzip like a body skin ... that's more realistic and it makes it more immersive with the learners as well, when you walk in and you see you're, instead of seeing Nursing Anne© every single day, your SimMan 3G every single day, you're seeing different patients. You can follow somebody along for two or three years, right? (Simulation business representative, 2018, p. 8)

The above narrative speaks of a constant progression in the simulation industry, and the many ways ethnic, cultural and age differences can be manifested, perhaps even by unzipping and zipping up a skin. What it also suggests is that ethnicity, gender, age and physical attributes are seemingly, in this context, only "skin deep". Blanford (2016) identifies the need to address more culturally inclusive healthcare simulation training and questions whether healthcare simulation can be real to the learner if manikins do not realistically represent the spectrum of potential patients in a real multi-cultural world. Because patients differ in terms of ethnicity, gender, age and physical attributes, training on simulated patients that are not reflective of these attributes may lead to a negative learning transfer.

Through the deployment of differing levels of fidelity and degrees of technology, the body is replicated and represented within a simulated clinical environment. Subsequently, the image created through technology is favoured over the actual body and its experience. The patient disappears behind the duplicate computer-generated patient. According to French sociologist Jean Baudrillard (1981), that movement into the high technological postmodern world means that imaging and visualisation become dominant. What eventuates within the discursive field of HFS then is that simulation constitutes reality. Most importantly, the patient as a person is often overlooked and is replaced in HFS by the depersonalised patient as the body. As BN Student, Ebony comments:

I'd say anatomically it's similar. The simulation manikin has pulses in different places. You can take pedal pulses, you can do lots of different stuff like that, but from maybe from an ethical or holistic view, it doesn't really embody what people do, if you know what I mean. (Ebony, BN student, 2018, p. 9)

What Ebony talks of in the above excerpt is that despite the computerised manikin's realistic physiological responses, it does not represent the real body or the many communicative responses of a real patient. Ebony identifies a disembodiment of the manikin, which means that she is unable to fully embody the body-management practices she would perform if the manikin were a real person. Ebony acknowledges that if the patient as a person is overlooked in the HFS experience it raises ethical concerns. From this narrative emerges discourse of cultural representation. The nursing students in this study have talked previously about the importance of practising skills on manikins to maintain patient safety, but what Ebony is alluding to here is that it is not only nursing skills that she needs to practise but also skills around communication and relational practice which can be missed when working with a manikin.

The body becomes more and more elusive behind multiple images, and is, at the same time, endlessly expanded through a chain of images or significations. Baudrillard (1981) called this phenomenon the "precession of simulacra", that is, the representation which precedes and determines the reality. Consequently, as Baudrillard (1981) alludes to, there is no longer any distinction between reality and its representation; there is only the simulacrum, arbitrary images representing things to which they have no relationship.

Johnson (2005) explores the validity of a manikin as a replication of the human body and the impact this has on the experiences of the learner and suggests that the patient-body is represented differently through the differing levels of manikins and according to medical practice. The people using the manikins, therefore, reconstruct these representations, with they themselves potentially actors, acting out a role. These notions of patient representation and nursing practice being manipulated or reconstructed, highlight ways in which regulation of a nursing students' behaviour or experience can be sustained. As discussed in chapter seven, both nursing students and academic nurse educators voice how the replication of technical and social practices in a simulated clinical environment enables academic nurse educators to control what and how the learner learns and who, ultimately, shapes nursing knowledge and professional practice.

The following responses are from a BN student when asked about the realism of the computerised manikin. Bachelor of Nursing student Ruth stated "... it has no energy. It has no wairua. There's no spiritual element there. So really in regard to it being holistic, it can't be, it's not able to be" (Ruth, BN student, 2018, p. 9). For Ruth, she did not feel the manikin was real to life as, for her, only a holistic approach to patient care is appropriate and she felt this could not be achieved through interacting with a computerised manikin. Ruth's concerns illustrate the tension in nursing and medical discourse that positions HFS as a teaching modality with little regard to its lack of realism. She sees this impacting on how students interact with the manikin that is not authentic enough to develop the skills required for a positive interpersonal nurse-patient relationship (Dean et al., 2016; Power et al., 2016).

This view is shared by BN students Louise and Ebony, who also voiced concern that they were unable to suspend disbelief that the HFS manikin would be able to replace a patient for whom they were providing care. Louise states:

There's no ability to practise your nursing and I don't mean to say this blandly, but your nursing poker face. There's no, interaction that you can have ... there's not a potential to be able to have an interaction that's going to surprise you where you need to sit on your surprise and portray a different kind of emotion. You want to have the 'I know what I'm doing' and 'we're going to sort this out' face on. But as far as the therapeutic relationship goes and looking at people's ethnic diversities and cultural diversities, that's not

something that's facilitated through this type of learning. That's really on the job, isn't it? (Louise, BN student, 2018, p. 11).

In the above quote, Louise highlights that there are relational aspects of learning unavailable to her within a simulated patient manikin environment. Ebony, too, voiced concern over the way the manikin looked:

Well, they definitely don't look the same. I don't know if they look really human ... and then the manikin's just not just there unless someone is behind the screen talking to you through it. But then it's still not there because it's not alive. (Ebony, BN student, 2018, p. 11)

What both Louise and Ebony are seeing is that their soft skills, establishing engagement with patients and learning how to develop therapeutic relationships, may be compromised through working with a simulated patient. Both statements highlight the inability of the manikin to represent a real body, one with emotions and, as Ruth states, “wairua” or the spirit of the person and so provides students with no opportunity to establish a nurse-patient relationship. When the BN students recognise and affirm the multiple aspects of being human in a real patient, it highlights for them what is missing in the non-human computerised manikin. Such learning is unintentional learning in the sense students recognise what they need to acknowledge when nursing real patients by identifying the lack of embodiment of the manikin or what is missing when they work with fake patients.

An analysis of the above narratives by BN students surfaces that while students are unable to suspend disbelief, they acknowledge the gaps in fidelity and realism and take some learning away. Bachelor of Nursing student Louise's statement, "... you want to have the 'I know what I'm doing' and 'we're going to sort this out' face on" (2018, p.11) suggests that HFS activities limit the students' to practise how to respond to patients, and how to manage the complexity of the unpredictability of real patient responses. Implicit in the above nursing students' narratives is an acknowledgement that the lack of authenticity of the manikin is a barrier to developing skills necessary for a positive nurse-patient relationship.

What is also raised in the narratives of the BN students is how culture is represented in HFS. Ruth talks of the need to interact with the real body in order to provide holistic care, including spiritual and cultural care. She did not feel the manikin was real to life, lacking emotions and

energy along with wairua. Both Ruth's and Louise's comments demonstrate how the notion of providing holistic nursing care draws on what is real, such as wairua which, despite the manikin's ability to change skin tone and produce a voice, is missing for these students.

Juxtaposed with the above narratives by BN nursing students are the statements made by the simulation industry representative, who believes skin-deep physiological authenticity will go some way to addressing the diversity within ethnicity and culture. For the simulation business representative (2018), "... you can even get down to the point where culturally you could have different ethnic skin tones on simulators to make it more realistic" (p. 7). There is here a tacit assumption that cultural representation can be achieved through the physiological authenticity of the manikin, for example the manikin's skin colour, and that the learning to be gained around holistic nursing care, including spiritual and cultural care is not privileged.

Recognising how important the realness of the manikin is to those using it aligns with the work of Johnson (2016) who maintains that most manikins present as single-sex models (usually a male body with detachable female parts, and who questions the notion that manikins do represent real bodies. Johnson (2016) intimates that the manikin's validity or fidelity is predominantly based on anatomical correctness and seldom represents the experienced body or a true patient-body. Another significant way in which computerised manikins differ from a human body is that they are most often found in clinical settings without genitals, although attachable generically structured penises and vaginas are available. This additional lack of humanness can engender in students a sense of ridicule towards the genderless, and cultureless, manikin. As Foucault (1972) suggests, over time there will be overlaps, breaks and discontinuities as society reconfigures the discourse to match the new environment. In fact, an analysis of text from published literature reveals discourses are rapidly changing and breaking down gender identities, even challenging that genitalia determine gender identity.

Although HFS may be advancing exponentially in terms of physiological fidelity, there is considerable lag in terms of how bodies are shaped discursively. When asked how they felt about gender and ethnicity when using the manikins, BN student Caramello stated:

There are certain ethnicities that have body parts that, is very inappropriate for you to touch or some body parts that they don't want exposed for you to assess. And meanwhile in the simulation lab, we'll just go out, play a role and be like, hey can I take this part out? And our lecturer just says, 'Yeah, sure, go on,' but say if this is a Māori person, would you be able to do that? Go up, touch, pat their heads, or 'can I look at your tummy' or something like that? You really can't do that in a hospital setting and they don't really prepare you much for that in the simulation labs (Caramello, BN student, 2019, p. 8-9)

The above quote from Caramello further strengthens discourse on the lack of humanness, highlighting the challenges around intentional and unintentional learning when using computerised manikins in-lieu of a real patient. What is also raised by Caramello is the question about cultural representation and does treating a manikin in the HFS experience in any way resemble how a real patient would be treated in actual clinical experience? For Caramello, this lack of cultural representation in the HFS experience limits its ability to prepare students for working with actual patients. What is seen in the above narratives of BN students is that higher fidelity isn't necessarily linked to greater learning. What also challenges nursing and medical discourse is alternate discourse on the limits of HFS in fostering professional practice attributes such as relational skills and cultural safety.

High-fidelity simulation activities involve using a computerised manikin to represent the patient, as a body which behaves and responds. Mankins are controlled by academic nurse educators or technicians who simulate a typical patient response to the actions of the nursing student. The manikin thus takes on the role of a patient, controlled and managed through practices such as the construction of pre-determined simulation scenarios, surveillance, and level of fidelity. What also emerges are socially constructing relationships between the nursing student and patient, and the nursing student and other health professionals within the simulation scenarios.

These discursive practices transform discourse around HFS as a teaching modality, shaping and creating meaning systems and legitimising knowledge. However, there are power relations which inhere in such knowledge, for example the manipulation and control of the manikin to "teach" nursing students what a real patient body may act like in a specific clinical environment. The focus is on the task at hand and the contrived responses, not the responses and behaviour of a real patient body. What occurs is subjugation of the real patient body.

The effectiveness of the HFS experience, or bringing together reality and its representation, hinges on the ability of the learner to suspend disbelief. The objective of successful simulation is to have a desirable degree of realism to allow behavioural, emotional, and cognitive engagement. It is only then that desirable clinical performance and effective participation and learning are facilitated. The term "suspension of disbelief", when the learner accepts the unrealistic aspects of clinical simulation, is widely advocated by simulation users (Muckler, 2017). However, not all participants can believe or act in the simulation experience. It seems that aspects of suspension of disbelief may overlap with aspects of fidelity. When asked if there were any other aspects of the experience that they found quite difficult to transfer over to practice, BN students Freddo and Koala stated:

There are other things, like the manikin is not what a person is going to be like. It is not too realistic of a presentation of a person. So, when in saying that, you will find different vitals everywhere. So, they built the manikins in a way so that you'll get vitals in a specific spot. So, blood pressure, you'll feel that pulse appear, but on the manikin, you'll feel on the side and for other patients and it's in different areas. But because it's built-in, in a specific area, it can't be applied for everyone that you encounter. (Freddo, BN student, 2019, p. 6)

Freddo identifies the difficulty in translating working with manikins to working with real bodies. Manikins all present in the same way and do not authentically represent the differences and diversities of real bodies. Koala, too, raises this lack of authenticity when working with manikins in the following statement:

Very different, in the sense that when you go out on placement ... because the manikins, they're all built almost the same. So, there's not too much adipose tissues. Whereas if you go out into placement you get skinny people, and then you get people with a lot of adipose tissues around their entire body and then ... It helps in a way... you know what to do. But having to go out on placement and figure out how to apply that into this certain body type can be challenging in a way. I'm not saying it's a problem, but it's a challenge that you face, because not everyone that turns up at the hospital has the same build as the manikin that you practise with" (Koala, BN student, 2019, p. 8)

The above narrative by Koala gives an example of how the manikin does not allow for the diversity within body types of real patients. The statement also suggests the challenges she faces, as a student in applying skills practising on a static homogenous manikin, compared to the real patient. Such a lack of humanness has the potential to contribute to the lack of realism for the student. What the nursing students' narratives support is the importance users place on

the manikin's appearance and capabilities if they are going to be able to effectively interact with the manikin as a real patient. The above excerpts are indicative of the simulation industry's position of presenting manikins as real bodies, endeavouring to make them real enough in order that they may replace real bodies.

Advances in technology have certainly led to more realistic manikins, however students require that the simulation experience and the manikin are realistic in ways that will assist them in clinical preparedness (Rochester et al., 2012). The authenticity of the simulation experience is considered important to Freddo and Koala to contribute to their ability to suspend disbelief. As suggested by Muckler (2017) factors such as authenticity, emotional buy-in and psychological fidelity play a big part in learners assigning meaning to the experience (Muckler, 2017).

Making it real for academic nurse educators and student learning

From a pedagogical position, we require HFS experiences that are as realistic as possible, meaningful, and practical to facilitate student learning. There is an understanding that the student will have to have a degree of suspended belief if technology is used. However, why use HFS if we cannot make it real and why require students to pretend when we want them to learn how to be a nurse in the real world? From the personal narratives of nursing students in this study, students find the lack of realism frustrating, but at the same time are reassured by the fact the HFS simulation activity does not involve a real person. Academic nurse educators, however, question just what kind of nurse we are producing with simulated learning. As academic nurse educator John comments:

... yeah, it is interesting isn't it, because the ability to suspend belief is not a requirement to be a nurse. So, you're asking students or we're asking students to act as though something is real that isn't. And no matter how high-fidelity we go, it will still be plastic. (John, Academic nurse educator, 2017, p. 19)

What John is highlighting here is that the students are being asked to suspend disbelief or act as if something is real when it is not. This is, of course, not something they would put into practise in the clinical environment. Subsequently there is potential for an inability to suspend disbelief

can contribute to a learner finding the experience implausible thus negatively impacting the nursing student's learning.

We also need to be wary of the unintentional learning that can take place if the design of the manikin or scenario is inadequate. For example, if certain physiological signs are missing, such as changes in skin colour, students may start to consider them unimportant when nursing a real patient. As Weller et al. (2012) suggest, this inability to suspend belief may lead to habitual unsafe behaviours and can potentially create barriers impacting the ability of the nursing student to think like a nurse when interacting with patients and a student's cognitive and behavioural abilities, such as critical thinking. As suggested by Muckler, (2017), suspension of disbelief is a prerequisite of simulation, and one that many simulation experts believe is affected by fidelity.

Further commentary from academic nurse educator John illustrates how there needs to be almost some kind of professional obligation towards the knowledge gained from HFS activities, particularly concerning the language we use as academic nurse educators:

And, and because language matters, I think we talk about simulated learning, which seems ironic to me, because it should be real learning, not pretend learning. But when we use that kind of language for students, I think it sometimes get confusing as well, so what is real and if it is not real, does it matter? (John, Academic nurse educator, 2017, p. 3)

The statement above recognises that the language used in HFS activities, and the disparity between what is real learning and what is pretend confuse students. Nursing and medical discourse recognises the need for well-designed HFS activities and, in line with this, academic nurse educators are encouraged to create an environment where the student can suspend disbelief so that the student can believe that they are in the actual healthcare environment and perform accordingly. Reflecting on this, it would seem, we are designing HFS to make participants forget they are in the simulated environment. However, there is a counter or resistant discourse also present that urges us to be as transparent as possible about the level of realism to maintain a relationship of trust between the educator and learner.

Another consideration is who, and what, decides and controls the level of fidelity and use of technology for the simulation experience. I contend that it is not solely the educator but the

financial restraints of the educational institution and the academic nurse educator's available resources. As suggested by the NCNZ representative (2018) "... so while some places have lots of students that are well-resourced so they can have the manikins with all the whistles and bells, other places have very basic equipment" (p. 1). But as Weller et al. (2012) suggest, "... too much realism and complexity can distract students, especially novices, from learning basic skills" (p. 2), advancing the notion that the degree of realism and choice of fidelity needs to be carefully matched with the educational level of the learner (Weller, et al., 2012). In addition to this, there is potential for the educator to assume what the learner will perceive as real. However, it cannot be automatically assumed that students will experience the environment designed by the educator as an authentic one. What is also brought into play here is that the educator knows the environment is make-believe but expects the student to pretend it is real. Students may disbelieve as they are aware that the educator has created the environment. From a Foucauldian perspective, these discursive practices bring hegemonic norms into being with power and knowledge relations at play.

Bachelor of Nursing students Ebony, Ruth and Louise provide their understanding of the impact of realism and authenticity on them as learners. They know the voice behind the manikin is the academic nurse educator when they comment:

Because even though it's through the manikin, the person that's talking is an actual human and they can, they've seen these situations that they're putting through scenarios (Ebony, BN student, 2018, p. 8-9)

It's that manipulation, isn't it? So, the fact that the manikin can be manipulated to respond in ways that are actual responses that you would see in the field, so to speak (Louise, BN student, 2018, p. 8-9)

With, the computerised, like the simulation manikin it's coming from someone else, so it's not based on what we would hope would happen it's based on the reality of what could happen (Louise, BN student, 2018, p. 8-9)

And just not based on our knowledge either. So, it's based on a higher level of knowledge, with the computerised, than it is with the manikin. We are taking into it our values and beliefs and everything and what we think we know and what our base of nursing knowledge is. Whereas when you're dealing with the manikin, you're dealing with the lecturer's nursing knowledge. (Ruth, BN student, 2018, p. 8-9).

On one level, the above excerpts identify that nursing students' value the higher level of knowledge of the "voice" behind the manikin. For the nursing students, that voice or academic

nurse educator brings the reality of clinical practice to the scenario because of that higher knowledge and experience. What this also suggests is that students' value and rate guidance from an experienced clinician during the simulations, which accords with findings by Kelly et al. (2014). Conversely, that authenticity can potentially be lost if a simulation technician is the voice of the manikin.

The above narrative by students suggests that when the manikin has the academic nurse educator's voice, they are aware they are engaging with an experienced academic nurse educator and that, as a result, they are exposed to a higher level of knowledge and nursing practice. Such engagement reassures them that the responses to their simulation activities are valid, thus legitimatising the knowledge they are gaining. For these students this legitimisation makes the experience more real.

Discursive practices around controlling the learning environment through utilising HFS present an opportunity for academic nurse educators to determine the nursing knowledge and behaviours that will be communicated within the simulation experience. This enables nursing students to engage in deliberate practice, including nursing professionalism. Through such discursive practices, knowledge and truths are constructed and sustained. It is here that we see the production of docile bodies (nursing students) through the propagation of power. As suggested by Issenberg et al. (2005), the features of the HFS design contribute to academic nurse educators being able to specify the conditions under which students best learn to perform practices and behaviours which will be required of them in their future and, in the context of nursing students, we are concerned with the behaviours and practices that are required of them as future registered nurses.

In the following statement, BN student Ebony suggests that, for her, having the clinical lecturer as the voice behind the manikin made the situation more realistic. As Ebony states:

... like obviously it's coming through the manikin, but the person behind the scenario was generally one of the clinical lecturers in the room behind us. So, they can they've put everything into what they're doing. So, they can make up any scenario and be completely committed to being able to show us the different things that can go on in the different scenario, even though it's through the manikin, the person that's talking is an

actual human and they can, they've seen these situations that they're putting through scenarios. (Ebony, BN student, 2018, p. 7)

What we see in the excerpt above is how important the academic nurse educator's voice is in enabling the student to relate and feel more connected to the manikin. Such a view aligns with Power et al. (2016) who found that student nurses reported increased engagement when there was increased responsiveness from the manikin in the form of speech. However, Ebony's narrative extends this discussion on the voice of the manikin. There is the voice, and then there is the academic nurse educator's voice, and it is that voice that appears to have the most impact on authenticity and learning because the students make the connection that the academic nurse educator knows how to make the manikin respond based on real experiences.

When BN student Caramello was asked: How does the fact it is your lecturer who is the voice behind the manikin impact your learning, she responded:

Well, our lecturer was doing the voiceover. But I think there was no seriousness in it because we were just having fun and he was like doing it in his own voice, which didn't really sound like a sick person who was deteriorating. It's just his normal voice, which didn't really match the symptoms that the manikin was displaying. I'm sure maybe there could be more into the labs and do it in a real sick person's voice or maybe built it. I think it makes a huge difference because if the lecturer's the one voicing over, he sounds healthy. But when you're in the real clinical setting and if someone is deteriorating, you'll notice that they're completely breathless to the point where they can't speak. So, I feel like that hinders the reality of what you face. So ... it makes it more difficult for your learning, kind of, because it doesn't give you a variability. It just gives you one setting that has a little tweak to it, but it's not real. Yeah. Also, if he's portraying a female character, it makes it hard. (Caramello, BN student, 2019, p. 11)

Conversely, what the above narrative shows is that for some students if there is no buy-in from the academic nurse educators when they voice the manikin, it makes it difficult for the student to suspend disbelief. This view reinforces discourse on the importance of authenticity, for example voice quality, and how it can influence the learning that is taking place. As academic nurse educator John stated:

Sometimes your strongest students resent it because you feel like they have to act in response to male manikin with a nursing tutor's, lecturer's voice, who happens to be female, and so there's cognitive dissonance going on and then they get – they know they're being observed, so there's some surveillance and they're going so, I must act or pretend that I'm taking this seriously when I can't, because it doesn't match. (John, Academic nurse educator, 2017, p. 3)

In the above excerpt, John reaffirms the vital role the voice of the manikin plays in making the simulation experience authentic. It is questionable whether authenticity automatically follows fidelity. Educators of nursing students should not assume that by embracing the latest technology-based educational tools they will necessarily provide a learning environment that the learner perceives as authentic. Discourse about whether authenticity does automatically follow fidelity emerges in the following statement by the simulation business representative when asked, how they thought using a computerised mannequin helped with the learning - particularly with undergraduates, as opposed to a non -computerised manikin. The simulation business representative stated:

You don't always need the fanciest simulator. Sometimes you can do a lot more with a lot less, and I think if you give people those options, you treat them with respect, and, and, at times, talk them out of products... because why do you want this? What are you going to do with it? What do you need a manikin for? You're not ever going to use 70% of the functionality. Just because it's fancy and it blinks is that right thing to do... For me, my perspective... is that you choose the right manikin for what you're looking to accomplish. On the flip side of it, not everybody needs a computerised manikin or needs the fanciest simulator or manikin out there. (Simulation business representative, 2018, p. 5)

The above narrative, by the simulation business representative, questions the need for HFS in all learning experiences. This reinforces the statement that differing levels of fidelity can be used to meet the educational outcome or effect and that low-fidelity simulation can also provide adequate realism for engagement and learning. While many of the previous narratives of BN students suggest that a level of realism is needed when striving to replicate a life experience such as clinical practice and the clinical environment, the above excerpt provides an alternative position. It proposes that authenticity and realism can be produced using other levels of technology or indeed by using no technology at all.

The subject position of knowing how to be a nurse.

There are conflicting arguments about how best to create realistic healthcare simulations to ensure particular pre-specified performance outcomes. Text speaks of contradictory levels of importance of how bodies, performances and experiences are all being simulated. Findings by Rochester et al. (2012) and Power et al. (2016) indicate that there is more authenticity and

increased student engagement when manikins talk, with students experiencing a more personal interaction with the manikin.

Dean et al. (2015) position the discourse on authenticity and student engagement quite differently. They found nursing students reported several challenges, such as the manikin's lack of emotions, when they were attempting to relate to the manikins as real people. The authors found the focus of HFS to be on honing clinical skills rather than the development of skills necessary for positive interpersonal nurse-patient relationships.

The work of Dean et al. (2015) highlights some key considerations and surfaces new understandings about nursing students' perceptions of working with computerised manikins. In particular when concerning relational nursing practice. Students realise they need to be able to understand the patients' healthcare needs, and experiences of healthcare in order to deliver appropriate nursing care. In the following statement, BN student Ruth talked of the importance of interacting with the patient in order to develop a therapeutic relationship.

And there's no ability to create an honest therapeutic relationship. I think there's an imagination side to it and that's what I was saying before that you're bringing to it your values and beliefs and your – and, to, to be able to have good nursing practice, it's not about your values and beliefs. Yes, it's about being aware of them, but it's not actually... When you're dealing with a manikin, manikin, that's all you're doing. It's just your – it's your own energy, your own state. (Ruth, BN student, 2018, p. 11)

In the narrative presented above, Ruth identifies the importance of being able to interact with the patient and to develop the skills necessary for developing a therapeutic relationship. Ruth suggests that when working with the manikin, the relationship is not an honest one. She highlights the disconnect between the manikin as a real body and, at the same time, a simulated body, and the make-believe that is demanded.

Communication is fundamental to developing a therapeutic relationship between the nurse and the patient. Notwithstanding this, we see concerns raised about the quality of nurses' communication and, in particular, the inability of nurses and other healthcare professionals to communicate empathetically with patients (Dean et al., 2015; Levett-Jones, 2014). Dean et al. (2015) found nursing students believed that a computerised manikin was not authentic enough for them to develop the skills necessary for establishing a therapeutic relationship with a patient.

Nursing students must learn the importance of social interaction with patients and their family/whānau, colleagues, and others in the context of interprofessional communication. Indeed, effective communication has become a crucial area of inquiry within healthcare education, one which is intrinsically linked to patient safety discourse.

For all these reasons, it is significant that HFS takes place without involving real patients. What then is HFS's strength as a teaching and learning platform when there is this absence of humanness, or the qualities of being human, in simulated bodies? In the absence of embodiment of real patients, how do discourses constructing HFS shape nursing students' subjectivity and, ultimately, nursing practice? One cannot interrogate text encompassing HFS without exploring the understanding of those involved around the representation of embodiment which is intrinsically linked to the realism of the simulation activity.

The lack of humanness is highlighted in the following quote by BN student Ruth. Ruth states:

I think there's one area that manikins, that situation in the simulation suite cannot replicate, and that's the impact of whānau and support people. Because it's just there on its own. So, we will be dealing with people that are unwell with their family that are concerned about them being unwell and the support people are concerned.at this stage anyway, we haven't done anything with regards to interacting with whānau support people and how to deal with that and how to deal with issues. We've talked a little bit about, around privacy and that, but I don't see that a manikin - a single individual manikin sitting in a room, can cover that kind of relationship that people in a room have in real life. (Ruth, BN student, 2018, p. 13)

Ruth talks of the inability of the simulation suite to provide or facilitate interactions with a patient's family and whānau. We also see how important it is to Ruth that she can develop the communication skills required to effectively interact in a real-life setting. Communication in nursing is often taught behaviourally, with students expected to master a set of skills which will be useful to them as practitioners. However, what also needs to be taught is an application of those skills which can only come from interactions with individual patients, family and whānau.

This is further highlighted in the following narrative when BN student Ruth was asked if the manikin, by not being real, impacted on the way that students developed relationships with real patients. Ruth stated:

I don't think that there is an opportunity to develop those skills. I think that those skills are something that you can only do with another human being. That is the, the, basically the basis of the relationship is with another functioning human being or not functioning human being as the case might be. And there's no ability to create an honest therapeutic relationship. I think there is an imagination side to it and that's what I was saying before that you're bringing to it your values and beliefs and really, in order to be able to have good nursing practice, it's not about your values and beliefs. Yes, it's about being aware of them, but it's not actually... When you're dealing with a manikin, that's all you're doing. It's just your – it's your own energy, your own state (Ruth, BN student, 2018, p. 10).

In her narrative, Ruth is challenging the dominant nursing and medical discourse of HFS as a conduit to develop communication skills. Ruth resists the discourse articulated in chapters five and six as she associates learning effective communication skills with a real person, not a computerised manikin. What also resonates with Ruth, is the significance of relational nursing practice for students, nurses and nursing. This suggests that the lack of reality and humanness of the manikin will negatively impact the nursing students' understanding of their role when dealing with patients and their family/whānau and, in turn, their ability to provide quality care. Nursing is very much about relating genuinely with people. Providing culturally safe nursing care, imbued with respect, truth, and compassion is also a professionally critical skill.

The sub-discourse of realism of HFS and substituting actual clinical experiences - knowing how to be a nurse in a simulated clinical environment

Chapters five and six analyse the emergence of discourse concerning HFS replacing clinical experiences and the discursive practices sustaining such a discourse. With the augmented practice and delivery of HFS and increasing challenges to the delivery of pre-registration nursing education, discourse regarding the possibility of replacing a portion of clinical experience with simulation is increasingly apparent. A significant challenge for some academics and clinicians is that teaching and learning in clinical settings is opportunistic and unstructured (Conn et al., 2012; Weller et al., 2012). Placing pre-registration nursing students in an unpredictable clinical environment and expecting them to attempt tasks for which they are ill-prepared can be overwhelming (McCloughen, 2020). However, as suggested by Weller et al. (2012), when writing on the use of HFS in medical education, HFS allows the student to be presented with specific scenarios and tasks appropriate for their stage of learning, thus reducing

their cognitive load. According to Weller et al. (2012), without the complexities of dealing with real patients, students can focus on mastering necessary skills and are therefore more able to apply those skills to other settings. Such discourse reinforces the subject position that HFS is a safe learning environment in which to teach students because it is an environment that can be controlled to remove any unpredictability.

Academic nurse educators when asked if they were to challenge the use of HFS as a substitute for real care or clinical hours, how would they respond, Martha responded:

I'd probably go right away from the testing skills focus and I would suggest that something to assess in a simulation that might be counted as clinical hours would be something like talking to a bereaved family or having difficult conversations or communication ... so, I wouldn't do skills (Martha, Academic nurse educator, 2017, p. 24).

Martha is suggesting that the simulation lab provides a platform to promote other nursing skills, such as communication and caring in actual nursing practice. The concept of caring is integral to nursing students' learning around relational practice and is further highlighted in the following conversation between Rachel and John:

But I've had a colleague in a meeting being quite berating of nursing students holding the hand of a \$100,000 manikin and suggesting that was a complete waste of time (John, Academic nurse educator, 2017, p. 7)

For holding the hand or the manikin? (Rachel, Academic Nurse Educator, 2017, p. 7)

The holding the hand of the manikin, but they wanted it to be used in a particular way and that was valued by that group and by, at times, by the organisation as being more significant to them – if we're honest – production of a health professional at the end than this other use (John, Academic nurse educator, 2017, p. 7)

John's and Rachel's discussion illustrates that some educators in the healthcare arena may not share the same understanding of fidelity and realism when using a computerised manikin. John suggests there is a need to carefully think about the knowledge that is included and reinforced in the simulation experience and that different health professionals may prioritise this differently. John also notes that holding the manikin's hand was important from a relational practice perspective but was criticised by others who consider the manikin is intended for practising high technical skills. Emphasising the manikin's usefulness for developing technical skills, tends to devalue caring and relational skills. The excerpt above reveals the contradictory forces at play,

including the resistance to nursing and medical discourse that positions how HFS is most effectively utilised. As highlighted by Rachel in the following quote the importance of touch and the need to model caring in the simulation experience needs to be considered.

I'm thinking of life ... with simulation and life in nursing and simulation. I'm thinking that the procedures versus the scope of practice could influence as well, because ... is very procedure-driven, with – what am I saying – standing orders: 'If this happens, you do this,' and it's really specific. And that could be an external influence as to how we use simulation versus somebody else. Whereas our scope of practice does – and this is what's spurred me off what John said, does value communication, holding hands, dignity, respect, that kind of thing. (Rachel, Academic nurse educator, 2017, p. 7)

An analysis of the above narratives reveals the importance of modelling practice, particularly within the domains of caring and professionalism. It also reveals the professional differences that occur in behaviour and practice and the importance of experienced academic nurses demonstrating to students how to interact with patients and how to apply values of dignity respect and caring in a simulation experience. There is increasing evidence that empathetic behaviours of health professionals improve the delivery of healthcare. However, Bearman, et al. (2015) argue that "... simulated empathy lacks authenticity as students learn to "act empathetic" for purposes of performance rather than establishing a genuine connection with real people" (p. 308). And de la Croix and Skelton (2013) confirm this when they suggest students play the simulation game.

When asked about simulation substituting actual clinical experiences, Amy, a BN student responded:

... in a way it prepares you. You can learn the basics, but ... There is no way you can relate it to a real person. You can do the pulse and that, but it is never the same as doing it and building the relationship with a real person. Doing your practice for the three years on a manikin and going straight into working with real people ... You'd have so much to learn ... and it's also like with a manikin we can make mistakes and it's going to be okay, where we also must learn that when we go out into the real world. We are going to make mistakes and we have to- we are going to learn from them, so we are going to have to suffer those consequences sort of thing. (Amy, BN student, 2018, p. 20)

Amy's narrative surfaces a similar view that students cannot relate to a manikin in the way they would relate to a real patient. This is further reinforced by BN nursing student Freddo in the following quote:

Where the manikin doesn't have feelings and emotions. If we stick to almost like 50/50 or predominantly simulation, I feel like that won't build character as a nurse. Like we won't be unique nurses. Everyone, we'll be robots too. We won't act with empathy or compassion because we're just thinking, oh, this is exactly like a manikin. This is exactly how a person will portray. But when you're in there, it's not and I feel like patients need a lot of support, especially if they're in the hospital. That's a very vulnerable time and if we're dealing with manikins all the time, we don't have that empathy in our heads. We do not try to understand what they are going through. We do not put them first. It is almost as if the idea of a therapeutic relationship is not there or at least that's what I believe might happen if we turn to simulation. (Freddo, BN student, 2019, p. 17)

In line with the nurse academics' narratives and the literature, the above excerpts surface similar concerns regarding the substitution of clinical experiences especially given how integral it is that students learn how to interact with real people. What BN student Freddo has constructed in the above quote is a discourse of nursing where empathy and relational practice are fundamental. This is reinforced in the following conversation between BN students Anna and Lara who raised similar concerns to Freddo:

Oh well I like it. But I don't think it should be used for most of a degree, a nursing degree. I think we should stick to the placement and keep a manikin as an idea of what someone can portray and present (Lara, BN student, 2018, p.18)

I agree. I think simulation complements clinical placement, not replace it (Anna, BN student, p.18)

It's like a really good steppingstone to actually going out to the hospital, but it shouldn't be used instead of the hospital settings, because there are certain things that you can learn out in the hospitals rather than in the simulation that's... But you will get an idea of it from the simulation labs. But you won't really experience it in there. You'll get the knowledge from the labs, but the experience and the emotions, you'll get it outside. (Lara, BN student, 2018, p.18)

This conversation between Lara and Anna emphasises the notion that simulation should complement the clinical experience, not replace it, reinforcing the position that the art of knowing how to be a nurse is difficult to replicate. Lara's and Anna's perceptions of the importance of interacting and engaging with real patients in a clinical environment, experiential learning, highlights the importance of students experiencing what nursing is. This echoes what is found in the literature. As Vallant and Neville (2006) suggest, in Bachelor of Nursing programmes courses delivered in Aotearoa New Zealand, BN students spend up to half of the programme in actual clinical experience, with an emphasis on the importance of learning in the clinical environment.

The emphasis on learning in the clinical environment is further reinforced in the following statement by Georgia who highlights the impact of substituting actual clinical experiences with HFS. As Georgia states "... I'd drop out of nursing probably ... It would be so hard to learn. Because most of my learning has been done on placement. I think that placement is where I've learnt the most" (Georgia, BN student, p. 18-19). What Georgia has constructed here is discourse of nursing where the learning in the actual clinical environment is the most significant. Such a position is reiterated in the following quote by academic nurse educator Beth:

Yeah, I don't think there is any substitute for clinical hours, to be honest. I think those learning experiences are immersive, but, you know, we've got to trust in the systems that are delivered to us, sometimes, and to know that when I look at the growth that students gain in the first year before they go out on to clinical, if we are preparing and considering what does this clinical environment look like, and what are the skills necessary, and we're encouraging students to be reflective upon their practice, and giving them lots of different contexts, then, you know, like, I think we can work with different models. I don't know how many hours you'd be able to consider they'd get, but ... I don't think there's a substitute, but if we're given it, I think, with the right planning and consideration, we can try and replicate as much as possible. (Academic nurse educator, 2018, p. 14)

The above excerpt from Beth supports the findings of Bogossian et al. (2017), who concluded that despite the broad acceptance of HFS in healthcare education, its use as an educational modality has not significantly increased within Australian and New Zealand tertiary pre-registration nursing programmes. In addition, there is surmounting dialogue that any proposed substitution, factors in the need for authentic and meaningful learning experiences in both the simulated and clinical experience environments. With today's limited clinical opportunities, and the increasing discourse on HFS as a replacement for actual clinical experiences, it is essential that academic nurse educators build partnerships with learners and HFS developers, communicating to them how crucial their input is to the overall success of the simulation experience.

Summary

The realism sub-discourse constructs the subject position of students viewing the simulated patient as representing a real person, thus legitimising the simulated clinical experience as an environment that enables the nursing student to understand the nuances of professional practice

and thinking like a nurse. In this chapter, I have focused on the influence of the realism sub-discourse and how text from the interview narratives has supported this. I have discussed how the discursive practices of fidelity and realism have created subject positions for people who use HFS, particularly nursing students as they learn how to be and think like a nurse.

The differing views as to what constitutes fidelity, authenticity and realism, and their impact on learners, are discussed. For the nursing students in this study the lack of realism and authenticity of the HFS environment, including the computerised manikin as a real body, are barriers to their learning, especially with respect to the development of communication and relationship building skills. Students voice concerns about a lack of cultural representation in the manikins and they describe the difficulties they commonly experience when attempting to suspend disbelief so that they may view the manikin as a real patient. For other students, having the academic nurse educator 'become' the voice of the manikin and guide the simulation experience provided occasions of authentic learning.

What has also been discussed in this chapter is how discourse, not only in the personal narratives but also emerging in the literature, brings about resistance. This resistance is particularly noticeable in the debate around whether simulation, including HFS, should replace actual clinical experiences. Foucault noted that power can be exercised as a form of resistance (Foucault, 1979). We see resistance on the part of the academic nurse educators who are wary about orienting teaching practices towards disciplinary technologies, for example using HFS as a teaching modality, and making assumptions that the improved realism of HFS results in a more valuable learning experience.

In the following chapter, I present my discussion on the research findings presented in this thesis, the contribution those findings will make to the existing literature and my recommendations about how the use of HFS may be reconsidered in pre-registration nursing simulation-based education within an Aotearoa New Zealand context.

Chapter 9: Discussion and conclusions

Introduction

This chapter presents my discussions on the research findings presented in this thesis, my conclusions and my recommendations as to how the use of HFS may be reconsidered in pre-registration nursing education in an Aotearoa New Zealand context. In conducting the study, my intention was to interrogate the operation of discourse in the construction of HFS, and on its legitimacy as an educational modality. A further intention was to explore how power operates within such discourse to shape and construct academic nurse educators' and nursing students' nursing knowledge and subjectivity, particularly in regard to the use of computerised manikins which lack embodiment. I also undertook an analysis of the discursive practices as effects of the discourse and how pre- registration nursing students and academic nurse educators are positioned within the discourse.

As I have previously reflected, what I am challenging in this thesis is the developments in the use of HFS as a teaching modality. By exposing the conditions that have made HFS possible, both from a historical and a contemporary position, we might see how we can use HFS in pre-registration nursing education more efficiently and resourcefully with a strong pedagogical position. Additionally, in this time of austerity, within the health education sector including tertiary institutions, seems like the ideal moment to question the utility of costly high technology simulation. By questioning in this way, and with a healthy dose of scepticism, we become open to the emergence of new opportunities and alternatives.

I begin this chapter with revisiting the research aims. This is followed by a discussion of the main findings presented in this thesis, including dominant nursing and medical discourse, and sub-discourses of simulation pedagogy, replacement of clinical experiences and realism. I then discuss the research limitations and make suggestions for future research.

Revisiting the aims of the research

The goal of my research was to interrogate the discourses and discursive practices influencing the use of HFS in pre-registration nursing programmes in Aotearoa New Zealand and how that

use is experienced and manifested by academic nurse educators and nursing students. The research has been driven by the research question: *What are the discourses and discursive practices that influence the use of high-fidelity simulation as an approach to intentional and unintentional teaching and learning in pre-registration nursing education in Aotearoa New Zealand.* From this question, I derived four research aims which are addressed in this section, and which guided my analysis.

Undertaking such an interrogation illuminates not only the operation of discourse but also how power is produced and exercised through disciplinary technologies, such as professional bodies and educational institutions, as well as through disciplinary power such as surveillance. As discussed in chapter two, Foucault's notion of disciplinary technologies, which he discusses in his work *Discipline and Punish: The Birth of the Prison* (1975), refers to the complicated relationship of strategies, beliefs, and knowledge through which authorities, such as educational institutions, have sought to organise subjects or bodies. An interrogation such as mine surfaces the construction of HFS and its legitimacy as an educational modality, together with the construction of academic nurse educators' and nursing students' subjectivity and nursing knowledge.

Postmodernism and Foucauldian discourse analysis provided the primary philosophical and theoretical bases for this investigation. Using a Foucauldian approach and situating my research within a postmodernist and social constructionist perspective enabled me, as the researcher, to trouble or unsettle the use of HFS in pre-registration nursing education and to interpret the discourse and discursive practices influencing its use. Of course, it must be acknowledged that from a Foucauldian position, such interpretation does not have the status of truth, rather critiques possible truths.

That said, Foucault offers a toolbox of philosophical concepts that can be used to question the established ways of doing and thinking. Utilising Foucault's concepts of archaeological and genealogical analysis, this study revealed a range of discourses that operate to produce HFS as a

teaching modality in a particular way in pre-registration nurse education, over and above pre-registration nursing student nursing knowledge and subjectivities.

Both from an ethical and a philosophical perspective, this thesis contains my subjective interpretations of the texts which have been generated by nursing and medical literature and the narratives generated from interviews. As discussed in chapter four, at this time in my thesis journey, I was acutely aware that as I explored text on HFS, I was already immersed in HFS discourse because of my involvement in simulation-based education (SBE) in my professional capacity as an academic nurse educator. Notwithstanding this, exploring the work of other researchers using Foucault, and applying Foucault's tools, enabled me to carry out my interrogation through a postmodern lens, in order to trouble the use of HFS as a teaching modality, and to show how the use of HFS has been informed by historical and contemporary conditions which have become interwoven with several discursive formations such as disciplinary technologies, surveillance, and resistance.

How the prominence of HFS as a teaching modality eventuated and the discourses shaping this pedagogical dominance

The first aim of this study was to interrogate the text to elucidate how the prominence of HFS as a teaching modality eventuated and to uncover the discourses that shaped its pedagogical dominance. As discussed throughout this thesis, a key driver for this research was to expose and interrogate the historical conditions that have made HFS, as it is currently used, possible.

Nursing literature speaks of the dynamic nature of contemporary healthcare that requires nurses to assume ever more complex roles and which, in turn, necessitates the acquisition of higher-level critical thinking skills. It is argued, in both nursing and medical literature, that the development of these skills enhances the practitioner's ability to address complex or unfamiliar situations, and that nurses with high-quality clinical reasoning skills will have a positive impact on patient outcomes. The increasing use of technology in healthcare along with high patient and public expectations of accountability seem to have brought about the development and use of

innovative educational methods in healthcare education, including the utilisation of HFS as a teaching modality.

The use of HFS has also been encouraged in several key documents, such as the World Health Organisation (WHO) documents *Transforming and scaling up health professionals' education and training* (2013) and *Simulation in nursing and midwifery education* (2018). In addition, the longitudinal, multi-institutional National Council of State Boards of Nursing (NCSBN) National Simulation Study, (Hayden et al., 2014) has contributed to the production of discourse on HFS as a teaching modality to replace actual clinical experiences. Currently in the United States, a large proportion of HFS hours have replaced actual clinical experiences. However, as Bradley et al. (2019) found, despite a considerable number of State Boards of Nursing reporting the percentage of traditional clinical hours that could be replaced with simulation, with some specifying an equivalent ratio of hours between simulation and clinical, regulations for prescribing such a percentage varied.

It would be very easy to dismiss simulation use, including HFS, due to the lack of firm evidence as to its effectiveness in pre-registration nursing student learning. Reviews of HFS nursing literature have found that more robust research methods are required to substantiate its effectiveness (Bogossian et al., 2019; Cant & Cooper, 2017; Cant et al., 2020).

The discursive production of HFS as a teaching modality through nursing and medical discourse

In chapters two and three, I presented my interpretation of Foucault's philosophical position including his *a priori* rule for the discursive formation of objects which he suggests are about making the object visible, and how discourses systematically constitute the objects of which they speak (Foucault, 1972). In chapter five, I set out not to write a history of HFS, but to critically scrutinise the conditions that have made HFS historically possible. Through undertaking a Foucauldian archaeological analysis, that is by tracing out the historical function of HFS as an object, influenced by both political and professional environments, the multiple relations in the discursive formation of HFS are revealed. Material conditions, such as research

initiatives and patient safety agendas that have enabled the emergence of HFS and that have shaped the discourse that legitimises its use as an educational modality, have been explored.

From my analysis, I have gained insight as to how nursing and medical discourses, as well as sub-discourses of simulation pedagogy, replacement of clinical experiences and realism, have shaped HFS use and created meaning systems that have gained the status and currency of truth within healthcare education, including pre-registration nursing education. Dominant nursing and medical discourse talk of high-fidelity simulation as an alternative method for providing direct patient-care learning experiences, and as an effective educational strategy that may be used to address the various ethical issues around practising on human patients. In addition, discourse talks of HFS as a panacea for the ongoing challenges in undergraduate healthcare education, including patient safety and dilution of actual clinical experiences.

Indeed, competency has become a key construct associated with patient safety and so supports the concept that innovative educational strategies, such as HFS, provide students with an opportunity to enhance clinical skill acquisition and practise clinical decision making in a safe environment with minimal risk to the patient. Both nursing and medical discourse talks of the use of HFS to immerse the learner in clinical situations that replicate reality. Immersion in such simulated clinical environments and effective debriefing enables the learner to make meaning of the experience. The intention, of course, is to enable the learner to acquire new knowledge and apply this knowledge to future clinical practice.

The benefits of simulation, such as the opportunity for students to practise procedures repeatedly without endangering patient safety, have led to its widespread adoption within healthcare education in many parts of the world. As discussed in chapter six, despite patient safety being recognised as a core principle of health professional practice and requiring significant attention within undergraduate curricula, there is minimal research into how this is delivered within Aotearoa New Zealand and Australian nursing curricula.

Discourses and discursive practices influencing the use of HFS in pre-registration nursing education in Aotearoa New Zealand

The study's second aim was to interrogate the discourses and discursive practices influencing the use of HFS in pre-registration nursing education in Aotearoa New Zealand, particularly focusing on power/knowledge relations. Employing a Foucauldian discourse analysis enabled me to illuminate the meanings embedded in the discourses surrounding the use of HFS and to scrutinise the conditions that have made the construction of HFS as an object and its position as a teaching modality in pre-registration nursing education possible. Surfacing discourse was made possible through the analysis of text from a variety of sources including nursing and medical research literature, government and professional body documents and text generated from interviews with academic nurse educators, BN students, and representatives from the nursing professional body NCNZ and simulation industry.

The analytical tools used in this study unearthed dominant nursing and medical discourse and sub-discourses that I have identified as significantly influencing the discursive field of HFS use. Analysis of text identified tensions, challenges, and comparable discursive formations that all played central roles in the formation of statements and arguments thus facilitating the emergence of HFS as a discursive object, supported through dominant nursing and medical discourse. Foucault suggests that discourse systematically forms the objects of which it speaks (Foucault, 1972) and I contend that HFS as a teaching modality is such an object.

In chapter five of this thesis, I have endeavoured to provide an overview of HFS and a sketch of the socio-historical conditions which contributed to the emergence and surfacing of HFS as a discursive object. I have identified the changes in rules and practices that came about in response to professional, political, and social conditions, including the historical circumstances belying shifts in discourse and attendant changes to HFS use, for example, the shift from using HFS as a conduit to acquire and maintain individual skill competency to focusing on patient safety, effective teamwork and communication. These conditions include research initiatives and agendas that have developed and subsequently shaped HFS as a contemporary teaching

modality. I have examined nursing and medical research agendas to see how they have contributed to the development and shape of HFS over time, noting that much of the research positions HFS as a contemporary teaching modality strongly linked to skill competency, workforce-ready students and patient safety.

Simulation-based education has developed over the last 50 years in response to social and cultural influences supported by the legitimised field of medical education. The different ways in which simulation, including HFS, have been taken up have made it possible for simulation to be varied across time and setting. This is explained by discursive practices legitimising different discourses including patient safety, simulation pedagogy, realism and using HFS as a replacement for actual clinical experiences. I contend that this archive of discourse has enabled, and continues to enable, HFS to be central to discursive practices used to order and manage constructs of nursing practice, including nursing knowledge, deliberate practice (clinical skills) and professional practices (how to be a nurse) within pre-registration nursing education. The following sections provide a discussion on the findings from interrogating the three key sub-discourses emerging from the textual analysis influencing the discursive construction of HFS as a teaching-learning modality.

Sub-discourse of simulation as a Pedagogy

Integral to this study, and a postmodern inquiry, was challenging why simulation technology has such a hold on pre-registration nursing education. There is no doubt that the discursive field of simulation technology has given rise to a powerful, persuasive and controlling enterprise around HFS. This position is seemingly based on the assumption that technology is required to address educational and clinical challenges that can be overcome by creating a simulated, safe clinical environment for learners.

As discussed in chapter five, in the early 21st century we witnessed exponential advancements in highly technical simulation within medical education, with a corresponding surge in simulation centres, which resulted in an increase in HFS use in healthcare education, including in pre-registration nursing education in several countries. With the increased use of HFS came

the promotion of compatible computerised programs endorsed widely by manufacturers of high-fidelity human patient simulators and marketed by them as the way to augment the functionality of the computerised manikin. As highlighted in the review of the literature undertaken by Kunst et al. (2018), advances in technology provide opportunities to recreate a simulated clinical environment within healthcare education.

Simulation technology then becomes a powerful driver in regulating and standardising HFS experiences. However, as pre-registration nursing programmes increased HFS use because of documented positive learning outcomes, such as increased competence and confidence, an alternative discourse, in which academic nurse educators raised concerns and scrutinised HFS use as an alternative learning experience, emerged. In Aotearoa New Zealand and Australian published text, it is evident, that despite the proliferation of HFS use as an educational modality in nursing and medical education, it is still not utilised widely in either country in pre-registration nursing programmes.

As simulation technology advances, there is increasing discourse on the need for a degree of caution when using such technology as part of a coordinated curriculum. There is increasingly an emphasis on learning outcomes and the application of that learning to practice, not any desire to use technology for its own sake (Rooney et al., 2015; Tutticci et al., 2016). An increasing number of publications appearing in nursing research literature call for educational and pedagogical improvement, and justification for the expense and proliferation of the many types of simulation (Bogossian, 2019). Consequently, this discourse presents new challenges to curriculum planners as it urges changes in education practices and curricula, and a need to embrace innovative teaching modalities to meet demands for improving learner outcomes (Rooney et al., 2015; Kunst et al., 2018; McAllister et al., 2013).

What also surfaces in the analysis of text is discourse around the ethical issues that arise when using real patients in student learning activities. The premise being that HFS offers a suitable alternative to allow student learning in a patient-free environment (WHO, 2018). These assertions, regarding utilising simulation technology to mitigate risk to patient safety and to

create a safe learning environment, deploy discursive practices as a means of managing healthcare education. The text reviewed in this thesis shows a shift in the discourse narrative from one promoting HFS use to increase student confidence and competence in clinical skills, to one where there is an increasing focus on patient safety and effective communication and teamwork, which both reflect the increased societal demand for accountability.

Despite high cost of high-fidelity simulators and their being aggressively marketed and thus becoming increasingly ubiquitous, there is emerging discourse, particularly from the position of academic nurse educators, that questions if it is necessary to use this modality. In chapter five I touched on the fact that HFS is not a politically neutral activity, in the sense that the more patients' safety is prioritised by government bodies, the more money is available for technological support of the simulated practice, for example, the Aotearoa New Zealand ACC funded NetworkZ programme.

Selecting the computerised manikin is only a small step in the development of HFS, and it is usually not the first or most important decision made. Research identifies that successful HFS requires carefully selected and sequenced instructional experiences surrounding the simulated task. These events require not only a structured simulation experience but appropriate development of academic teaching staff and institutional commitment, often omitted due to resource constraints (Bogossian et al., 2018).

Subsequently, this leaves academics with some space or opportunity to make well considered decisions about the value of HFS and the appropriate level of investment to be made. In chapter seven, an analysis of the narratives of the academic nurse educators and a NCNZ representative showed the value of HFS as a teaching modality, but also confirmed the challenges and barriers to its integration into nursing curricula. What is recognised by the NCNZ representative is that not all providers of pre-registration nursing programmes in New Zealand have adequate resources to sustain HFS within the pre-registration curricula. Therefore, the current call to standardise aspects of simulated clinical learning experiences raises concerns about how this can

be achieved, given the diversity in resource availability between the providers within pre-registration nursing programmes.

From a Foucauldian perspective the dominant nursing discourse has seemingly normalised HFS as an educational modality and as a replacement for the real world of nursing. As my analysis shows, certain conditions have led educators to construct or think of HFS use as a stable and legitimate learning-teaching modality. This, in turn, has influenced the promotion of HFS as a legitimate solution to a major problem facing nursing education, despite the many practical barriers to resourcing HFS.

Perhaps too, because of its close relationship with medical education, nursing has been drawn into the discourse of HFS as a state-of-the-art teaching-learning modality and a viable solution for challenges within nursing education. However, up until recently, both the need for pedagogically sound frameworks supporting its use and research focused on HFS's impact on deeper learning that is transferable to clinical practice have been largely ignored. In chapter six, I discuss how we see discussions concerning the limited pedagogical theory underpinning HFS emerging contemporaneously with the increase in technology and its use in pre-registration nursing education. There are some frameworks for implementing simulation pedagogy in pre-registration nursing programmes, but to date the roll out of such frameworks remains inconsistent.

I discovered, when interrogating the text in earlier nursing research, that academic nurse educators were already voicing concerns about the focus of simulation activities on learning outcomes such as competence and confidence, but with no understanding of the actual impact of HFS on student learning, particularly depth of learning. This discourse also emerges in more recent nursing text and speaks of the need to interrogate the impact of HFS experiences on learning and the transfer of skills into the clinical environment (Kunst et al., 2018; Tutticci et al., 2016). This discourse is mirrored in the narratives of the academic nurse educator interviewees in this study.

Sub-discourse of HFS replacing actual clinical experiences

In chapter eight, the interrogation of the sub-discourse of realism, and how the discursive practices have created subject positions for HFS is discussed. Of particular interest are the subject positions of academic nurse educators and nursing students in knowing how to be and think like a nurse when not working with real patients. Through their personal narratives of HFS, these participants reveal a resistance, especially about replacing actual clinical experiences with HFS.

In chapters five and six, I discussed the emergence of the sub-discourse concerning HFS replacing clinical experiences and the discursive practices sustaining this discourse. The sub-discourse regarding the possibility of replacing a portion of clinical experience with simulation has become increasingly apparent and is, in large part, due to the increasing challenges to the delivery of pre-registration nursing education, particularly patient safety.

Findings from the literature reveal that one driver for HFS becoming a substitution for actual clinical experiences is the continuing pressure on hospitals and facilities to provide clinical experiences for increasing numbers of students. In Australia and Aotearoa New Zealand, pre-registration nursing education providers continue to develop a variety of simulation experiences, with varying levels of fidelity, to give students better access to innovative and engaging learning to prepare them for actual clinical experience (Bogossian et al., 2018). As found by Bogossian et al. (2018), many schools of nursing in both countries use simulation as an adjunct to support the learning required for students to complete a professional experience clinical placement, albeit, as found by Bogossian et al. (2018), with a preference for low and medium fidelity over high-fidelity.

The findings from this study concur with those of Bogossian et al. (2018). The research literature speaks of HFS as a state-of-the-art teaching modality, however, what emerges from the narratives of the academic nurse educators presented in chapters seven and eight is that they understand that HFS may be a way to address many of the challenges regarding the dilution of

student placements, but they recognise providers' limited access to financial, human and operational resources is a considerable barrier to its uptake.

The dilemma about clinical experiences being replaced with simulation, which is spoken about a great deal in the literature (Bogossian et al., 2018; Bogossian, 2019; Spence et al., 2019), is echoed in the narratives of the academic nurse educators. A significant finding in this study is that despite nursing students' positivity that HFS enables them to practise nursing skills on a manikin to support their real practice in clinical placement, both nursing students and academic nurse educators feel very strongly that HFS should not replace all clinical experience hours. In this study, academic nurse educators called for partial replacement, but any prescribed number of hours remained uncertain.

The sub-discourse of realism

The sub-discourse of realism in the use of HFS in pre-registration nursing education also emerges from an interrogation of the text from research publications and the text generated by interview narratives. I discuss how discursive practices of surveillance and fidelity have created subject positions for people who use HFS and, in particular, the subject positions of nursing students in knowing how to be and think like a nurse. As Kelly (2014) suggests, simulations can enable the student to "... walk in the shoes of the Registered Nurse" (p. 81). For some of the nursing students the authenticity of the clinical situation and the real patient are the critical factors in their learning. The findings from my analysis concur with others who have explored the effect of realism, or lack of it, on nursing students in the simulated environment.

I discovered an incongruity in the varying meanings of fidelity, authenticity, and realism. Some nursing students describe difficulties in engaging with the manikin, which they found to be barriers to developing skills in communication and relationship building. For other students, having the academic nurse educators become the patient and guide the simulation provided occasions of experiential learning. My analysis locates and positions nursing students in the use of HFS or explains how, as novice nurses they construct an image of what it is to be a nurse providing patient care. Perhaps most importantly, the nursing students talk about the limited

emphasis on relational skills, including working with family and whānau when utilising HFS, and how the patient as a person is overlooked and replaced by the manikin objectified as the patient, and as the body, dehumanised. As one nursing student stated, "... it has no energy, it has no wairua, no nothing. There is no spiritual element there. So really in regard to it being holistic, it can't be" (Ruth, BN nursing student, p. 9).

How discourse constructing HFS shape nursing students' subjectivity and nursing practice, particularly in the absence of embodiment of real patients

The study's third research aim related to investigating troubling phenomena or potential tensions that exist within discourses on simulation, including how other ways of knowing have been marginalised. The fourth research aim was to illuminate how the discourses constructing HFS shape a BN student's subjectivity and, ultimately, nursing practice in the absence of embodiment of real patients. In addressing both these aims, textual data were drawn from published documents and research literature, and from narratives of those involved in HFS in pre-registration nursing education, including academic nurse educators and BN students. Text from the narratives of NCNZ and simulation business representatives were also analysed. This text enabled an exploration of the different ways HFS is talked about, and used, and the surreptitious and apparent influences that such discourse has on subject positions made available to BN students and academic nurse educators, by their association with the object, HFS. The academic nurse educators' and nursing students' discourse, drawn from transcribed interviews, was the primary focus of the analysis when addressing the fourth aim of this study, as it provided an alternative way to examine this phenomenon.

Within the field of nursing research, there is a dearth of qualitative studies conducted with students involved in simulation as part of their nursing programmes (Damewood, 2016). As Damewood (2016) suggests there should be "...more qualitative studies conducted with nursing students to determine what is working in the learning environment, what may need updating, and what may be detrimental to students' learning" (p. 89). Studies that examine the teaching and learning simulation environment from a purely quantitative scientific approach, while vital,

risk missing other equally important processes that shape the space in which students learn. Providing a platform for individuals involved in HFS to have a voice, including pre-registration nursing students, reduces the risk of specific knowledge being subjugated. A significant contribution this thesis makes is recognising the need to consider not only how academic nurse educators speak of HFS but also the BN students' views on how using technology such as HFS impacts their learning.

The students who responded were aware of the gaps in their learning when using HFS and a computerised manikin in-lieu of a real body, however recognised they could still learn something from the simulation experience despite being unable to suspend disbelief. The gaps in learning included a lack of acquisition of the crucial skills required to establish a therapeutic relationship. But by reflecting on these gaps in learning, and what the manikin could not provide, prompted students to think about what they must consider when nursing and providing spiritual and holistic care for a real patient. In addition, the student voices that claim no matter the level of realism, they still see a plastic manikin challenge the industry push for more and more realism to ensure authenticity.

The narratives of the BN students reveal that their experiences of HFS and working with manikins added some value in preparing them for clinical practice in the real world, but they felt nervous about being observed and often judged by lecturers during the experience. Conversely, students spoke of how the more simulations they were involved in, the less nervous they felt. From a Foucauldian position, what is brought to light in the students' narratives is the discursive practice of surveillance and the impact it has on student learning.

As discussed in chapter two, Foucault asserts that a person who is the subject of surveillance will demonstrate appropriate behaviour to appease their observer even though they cannot know if they are being observed or not (Foucault, 1979). An increase in surveillance, therefore, increases disciplinary power and, according to Foucault (1979), without surveillance or gaze disciplinary power cannot exist. These discursive practices of surveillance and control of the HFS scenarios are demonstrated through the narratives of the academic nurse educators, who

speaking about control of the HFS learning activity through strategies such as the utilisation of standardised guidelines and frameworks. Standardised guidelines play a central part in shaping actions within the teaching and learning space.

For the pre-registration nursing students in this study, the HFS scenario environment and the use of a manikin in-lieu of a real body are contributing factors to the authenticity of the HFS activity. Students described difficulties in engaging with the manikin which made it difficult for them to develop skills in communication and therapeutic relationship building. Notwithstanding this, the student narratives revealed that for some students this reduced authenticity, for example, a non-match with gender or level of illness, did not worry them, they were quite accepting of the limitations of the technology. For other students, having the academic nurse educators become the patient and guide the simulation, provided occasions of more realistic and validated learning. The academic nurse educator as the voice of the computerised manikin brought a higher level of knowledge and legitimacy to the exercise, compared to working on another student or a non-computerised manikin.

Many of the nursing students found that their compassionate and empathetic response to their patient was hindered by their awareness that the manikin was not a real person. They very much felt the absence of the human factors which are fundamental to building a therapeutic relationship between themselves as the nurse and the patient in HFS activities. Both the nursing students and the academic nurse educators considered this to be an essential element of nursing, and its absence contributed significantly to making HFS feel like an unreal situation.

Of course, the reality is that HFS is not a real clinical situation, and the manikin is not a real patient. However, we do see in both the literature and the text from the narratives that the academic nurse educator's role is to facilitate the simulation to ensure it is real enough so participants can effectively engage in a safe and secure learning experience. Certainly, the BN students appreciate that the simulated experience allows them to take many more risks and to feel OK about making mistakes.

Future options and implications for theory and practice

This study has exposed how HFS as a teaching modality in pre-registration nursing education was established and legitimised. Pervading healthcare education, including pre-registration nursing education, is privileged discourse proclaiming HFS as a state-of-the-art teaching modality. This discourse has constructed nursing knowledge and subjectivities, including how pre-registration nursing students learn how to be a nurse. What I have attempted to uncover is how these dominant discourses come to occupy such a privileged position concerning the use of HFS at the expense of other subjugated discourse. In chapters seven and eight, by utilising the personal narratives of those who use HFS in pre-registration nursing education identified several key issues that impact both positively and negatively on the learning of nursing students and their subsequent professional identity.

In both nursing and medical contemporary published literature, the focus is on the physical safety of the patient. What students speak of in this study is that HFS does not routinely provide them with the opportunity to practise how to ensure patients feel safe relationally and culturally. The discourse of patient safety is very much centred on the westernised view of the body-as-machine, yet the students interviewed understood that people are far more complex than that. In chapter eight I discussed the fact that both nursing students and academic nurse educators raised concerns about the lack of cultural representation when working with computerised manikins. The nursing and medical research literature talks profusely of the importance of realism and its relevance to learning, however academic nurse educators and BN students are equally vocal about the limitations of HFS in creating this authentic learning environment.

The analysis reveals how pre-registration nursing education in Australia and Aotearoa New Zealand has been influenced by both nursing and medical discourse and the subsequent push to utilise HFS as an educational tool in order to provide standardised clinical experiences, without jeopardising patient safety. Certainly, in the earlier days of HFS use in healthcare education, pre-registration nursing education conformed to medical education's and the simulation industry's assertions that HFS is a solution for the many challenges healthcare educators face in preparing healthcare students for the complex and diverse workforce. More recently, academic

nurse educators have challenged the use of HFS, preferring to utilise other more resource-effective simulation within a nursing curriculum (Bogossian et al., 2018). As a result, academic nurse educators are looking at alternative and innovative ways other than HFS to facilitate education activities.

Integral to this study is how discourses and discursive practices have constructed HFS as a teaching modality and influenced its use in pre-registration nursing education. Surfacing in chapters six and seven were commentaries from both the literature and the narratives on how HFS has been utilised as a teaching modality and the need for a closer linking of HFS to the pedagogical theory influencing the approach to learning and teaching. In most instances, text generated by interview participants and Australian and New Zealand nursing scholarly literature constructed HFS activities with reference to curricula design and standardised scenarios, particularly in the last, or transition year of the programme (Bogossian, 2019; Erlam, 2015; NCNZ representative, 2017). Nursing discourse also talks of the need for a more substantial evidence base to inform future curricula and policy development, with a call for more robust methods to evaluate simulation experiences. Only in this way can the use of HFS in pre-registration nursing education be legitimised, particularly as it might potentially replace actual clinical experiences.

As Bogossian et al. (2018) found in their survey of Australian and Aotearoa New Zealand pre-registration nursing programs "... most programs included mandatory simulation experiences and the majority of these related to critical patient scenarios" (p. 332). This is echoed in the responses from both academic nurse educators and the NCNZ and simulation industry representatives in this study. From a Foucauldian position, these discursive strategies produce and sustain discourse on how such a learning environment provides an opportunity in which pre-registration nursing students can integrate their theoretical knowledge and identify with their professional selves.

Dominant nursing discourse talks about the need for graduating nursing students to be able to practise safely and competently as they enter the workforce. Academic nurse educators

have a responsibility to ensure that nursing students are fit-for-practice and that they are suitably adept in practical as well as critical thinking skills. Fit-for-practice discourse and discourse of competence in professional nursing practice are key drivers for academic nurse educators (Harper, 2009).

To achieve this ultimate aim requires regulation and appropriate moderation mechanisms to ensure that practitioners remain competent and fit to practice. Under the Health Practitioners Competence Assurance Act 2003, the NCNZ, as a professional regulatory body, is responsible for the registration of nurses and ensuring that nurses are competent and fit to practice. The NCNZ is also required to monitor and accredit educational providers (Nursing Council of New Zealand, 2021).

What emerges in the nursing literature is that these institutional and professional regulatory bodies have the power to situate HFS as an education modality, and, more specifically, as a replacement for clinical experiences. Indeed, these professional and institutional bodies have the power to prescribe what and how nursing students learn and also that a simulated patient replaces the real body. Despite the support for HFS replacing actual clinical experiences from many quarters, including the NCSBN, there continues to be hesitancy and scepticism amongst academic nurse educators and nursing students about its benefits and its long-term impact on student learning and clinical practice. In the next section, I offer suggestions for future research and considerations in the use of HFS.

Recommendations and future research

There remains a paucity of research literature on the effectiveness of HFS, particularly research exploring the long-term benefits of HFS on pre-registration nursing students learning and the subsequent transfer of that learning into graduate clinical practice. From the analysis of published literature in this study, it is apparent that the ways of evaluating the impact of simulation are shifting beyond measuring or quantifying technical psychomotor skills, to exploring the application of higher-order thinking acquired from simulation to actual patient care settings, and subsequently supporting positive health outcomes in patients. Through a

postmodern lens, such a shift in focus demonstrates the proliferation of HFS discourse and its validation as a teaching modality and, as a result, the expansion of the simulation industry. Notwithstanding this, further research studies are required to examine skill transfer from HFS experiences into actual patient care settings, particularly within the context of newly graduated nurses.

From a global perspective, nursing professional bodies increasingly speak of the use of HFS to prepare students for clinical practice and as a platform to replace actual clinical experiences. As clinical placements and resources become increasingly limited for nursing programmes, the debate of simulation and HFS replacing traditional clinical experiences continues, with a body of literature supporting the exchange. Some countries are already using HFS hours as a replacement for actual clinical experience hours, including the UK and some States in the USA. As has been discussed, a key piece of research that is regularly used as a platform for such discourse is the NCSBN study undertaken by Hayden et al. (2014). However, in both Aotearoa New Zealand and Australia academic nurse educators continue to call for a more robust evidence base to inform such a shift, highlighting the need for more research in this area.

In the findings from this study, nursing research promoting the replacement of actual clinical hours with simulation is persuasive. However, what also manifests in the literature is that the quality of HFS delivery and facilitator expertise are critical to positive experiences and meaningful learning for students. This is evident from the call by academic nurse educators from within this study, for a consistent approach by nursing schools, based on a strong evidence base, not ad hoc delivery by individual providers. There is a substantial discourse supporting quality, consistency and transferability when developing and delivering core scenarios.

As mentioned previously, recently, the NCNZ nursing education programme document was reviewed, including the role of simulation in pre-registration nursing education. Following the review, no changes were made to the number of clinical hours required for registration as a registered nurse nor to the number of simulation hours within the curricula. Professional nursing bodies, such as the NCNZ do require that educational institutions are provided with adequate guidance to ensure that the quality of simulation experiences, including HFS, are consistent

across providers with a strong-evidence base, and that there are sufficient evaluation tools to determine student learning outcomes, particularly the application of theory to practice following graduation.

Significant research agendas see the emergence of widely used routines and protocols shaping simulation, such as debriefing tools and simulation frameworks. As suggested by Issenberg et al. (2005), instructional material about design features seeks to specify the conditions under which students can learn to perform particular tasks or skills that will be required of them in their future work. From a Foucauldian perspective, this can be viewed as a form of disciplinary power as it constructs behaviour and actions and subsequently enables objects or bodies to become useful and productive for the profession.

What appears in nursing and medical simulation literature, are numerous endorsements by academic nurse educators and medical educators who articulate that simulation experiences should follow accepted best practice guidelines for simulation and that the efficacy of simulation experiences should be robustly evaluated (Weller et al., 2012). Conversely, the research undertaken by Bogossian et al. (2018) showed that more formalised guidelines are not used extensively by Australian and Aotearoa New Zealand academic nurse educators in their simulation planning. There remains unlimited scope for research in this area of simulation, and further research is warranted in light of the debate around simulation replacing clinical experiences.

In early nursing and medical simulation publications, the discourse speaks of elements such as manikin fidelity, simulation setting, and effectiveness for effect on knowledge, competence and confidence (Jeffries, 2007). The paucity of literature which addresses the meaning of HFS as it is experienced by nursing students reflects the quantitative and scientific bias in the majority of the simulation research studies, including nursing, and highlights a need to research further nursing students' experiences of working with computerised manikins instead of real bodies. Findings from this study demonstrate the role that HFS plays in creating a learning environment in which pre-registration nursing students begin to integrate their theoretical knowledge and

identify with their professional identity. Further research into the impact a lack of embodiment has on learning when utilising the computerised manikin in simulation activities is also needed.

The BN students in this study spoke differently about culture and the relevance of realism and the limits of HFS. What surfaces in the narratives of the BN students is that regardless of the level of realism, the manikin is still not a real person - how can they develop relationships with the manikin or indeed with family or whānau? To the student this is something that only a real clinical experience can provide and is of vital importance to them as nursing students. There is a paucity of literature on cultural representation and HFS. As a nursing regulatory authority, NCNZ has made a commitment to ensuring Te Tiriti o Waitangi principles are part of the values of its organisation. With a specific focus on pre-registration nursing education programmes, more research is required to explore cultural representation and HFS, when HFS is used as a teaching modality.

Limitations

In this study, I set out to analyse the discursive construction of HFS using an approach informed by the work of Michel Foucault. Using this approach to discourse analysis proved extremely challenging, not only because of the nature of Foucault's philosophical and theoretical principles but also because of the lack of specific guidance by Foucault for such an analysis. Ultimately, this led me to make a number of practical decisions as to how I would approach the analysis.

There are three primary limitations to the study. The first pertains to the breadth of texts utilised, my selectivity in this regard and the implications for the study's generalisability. The second limitation concerns the conflation of the term's simulation and HFS. The third limitation results from my decision to exclude certain Foucauldian philosophical and theoretical constructs.

As discussed in chapter four, my readings of other researchers highlighted that data collection, when using Foucauldian discourse analysis, often involves an extensive volume of text. Because of this, the data collected for this study was limited to mostly nursing research literature, related

explicitly to HFS use in Aotearoa New Zealand pre-registration nursing education. My rationale for choosing such literature was explored at length in chapter four, but it is essential to acknowledge that this approach has limited my ability to generalise my study's findings in the use of HFS elsewhere. This limitation is further amplified by the relatively limited range of texts available about this field of study in an Aotearoa New Zealand context. Due to the paucity of literature, I had to find materials from international research literature and publications, including Australia, the UK and the USA. Notwithstanding these limitations, it is still necessary to make pragmatic choices with one's texts, and by focusing on Aotearoa New Zealand and Australian text I was able to pursue a broader interrogation of text related to the phenomenon.

A second limitation relates to the conflation between terms located in the literature. The focus of this study was on high-fidelity simulation, simulation utilising a computerised manikin in place of a real patient. In much of the simulation literature, the word simulation is somewhat generalised to include all levels of technology. Such a conflation of terms blurred what constituted simulation and HFS within the literature, with the term simulation seemingly used to denote any fidelity or level of simulation technology. It was vital for me to focus on research literature related to HFS use, as I have described it above, in pre-registration nursing education in order that I could analyse the phenomena being studied.

A third limitation of this study lies in my side-lining some aspects of Foucault's philosophical and theoretical principles. I am cognisant that I have only explored disciplinary technologies in any depth. This was the direction my study was taking with its main focus on how authorities, such as educational institutions, have sought to organise subjects or bodies through complicated relationships involving strategies, beliefs and knowledge. Other theoretical principles of Foucault, such as governmentality and technologies of self, have not been explored which is not to say these are not equally important.

Concluding statement

I set out at the start of this thesis to explore how HFS was discursively constructed as a teaching modality. The PhD journey has enabled me to take a more critical approach to the implicit

assumption that HFS is the panacea for some of the challenges faced in nursing education. My interrogation of the text revealed the dominant nursing and medical discourses that privileged the emergence and construction of HFS as an object, and surfaced three sub-discourses, HFS pedagogy, replacement of actual clinical experiences and realism. These sub-discourses legitimised certain nursing knowledge produced by the discourse and marginalised other knowledge, such as how nursing students know how to be a nurse when working with the computerised manikin and not a real body. From the outset, it was clear that there was a prolific number of simulation research studies, predominantly generated through the medical education arena, with a growing number of research activities with a nursing application.

Fundamental to this study was the need to examine the power relations and discourses brought into play that produced legitimate or truth statements about HFS for pre-registration nursing students and academic nurse educators. The interrogation of the discursive practices sustaining nursing and medical discourse, created a space for thinking about HFS in other ways. One such way was focusing on the disciplinary technologies that have been put in place by educational institutions, professional bodies, and academic nurse educators, in order to explore the effect these technologies have on constructing professional subjectivities for nursing students around the object known as HFS.

Through my analysis, I have shown that historical conditions have informed contemporary practices and that these conditions have been enmeshed within several discursive formations, including simulation technology, pedagogy and realism. Utilising an approach to discourse analysis informed by the work of Michel Foucault and others, I have focused on the disciplinary technologies that the nursing profession puts in place, and the effect these technologies have on constructing the professional subjectivities of nursing students experiencing HFS. In recent years, the emergence of practices which resist these discourses have prompted me to glimpse at the archaeological and genealogical conditions that made HFS historically possible, whilst at the same time thinking about HFS and simulation technology in a different light.

An analysis of the text reveals that HFS use in healthcare education is driven by industry and regulatory bodies, such as government and nursing regulatory bodies, effectively establishing

simulation as the ideal conduit to facilitate student competence and confidence in skill acquisition. As computerised manikins are used in place of real patients, simulation technology can be seen as a means to ensure surveillance of the nursing students' behaviour through observing and manipulating the simulation experience thus providing facilitators with a vehicle to monitor, survey and support learner assessment.

From undertaking this analysis of HFS and its use in pre-registration nursing from a Foucauldian perspective, we see an ever-increasing refinement of truth games about the significance of HFS and, seemingly, there is no longer the need to make a case for its usefulness in healthcare education. There is, however, a growing scepticism within pre-registration nursing education about the real benefits of HFS and its impact on deeper student learning, particularly in the application and transfer of learning into clinical practice areas, compared with alternative simulation options.

Such scepticism amongst academic nurse educators has given rise to a growing discourse questioning the position and use of this modality. With its close links to medical education, nursing has been drawn into deploying the discourse which positions HFS as a state-of-the-art teaching-learning modality and panacea for the many challenges within nursing education. In so doing, nursing has overlooked the need for pedagogically sound frameworks supporting HFS use and research focused on the impact HFS has on deeper learning which can be transferred through to clinical practice.

High-fidelity simulation has the potential to provide an immersive reality-based clinical learning experience that, as the scholarly literature attests, fits the preferences of the millennial nursing student. However, in this study, the nursing student interviewees did not conform to this millennial nursing student discourse. As discussed in chapter eight, the BN nursing students, although identifying a role for HFS, would prefer actual clinical experiences with patients in order to learn how to be a nurse and how to establish a therapeutic relationship with the patient, including family and whānau.

Permeating the literature and narratives analysed in this study is inconsistent discourse about the particular learning HFS produces for the nursing student. What is clear is that with the proliferation of technology in nursing education, including HFS, further research is required to provide a more substantial evidence base to inform future curricula and policy development. Particularly in the context of the continuing debate around HFS replacing actual clinical experiences.

The discourse emerging in the literature and the narratives of academic nurse educators' rates actual clinical experiences as the gold standard for achieving nursing competence. Such discourse is sustained by statements that the theory-practice gap is lessened and that the actual clinical experience is the best platform for applying concepts learned in the classroom. Conversely, proponents of HFS contest that well developed and structured simulation activities, including debriefing, can equally facilitate the application of theory to practice, albeit simulated practice. These proponents talk of the delivery of standardised core scenarios, particularly in senior or transition years, and using HFS to enable this. Others talk of standardised core scenarios being of value but suggest other modes of delivery should be considered.

The recent global coronavirus pandemic has emphasised the need to look at alternative methods of education delivery. Using a postmodernist and Foucauldian lens, Covid 19 would be seen as a rupture, or change, that has disrupted the current narrative (Foucault, 1972). Using a Foucauldian lens, such rupture or change, brings about discontinuities in discourse, with discourses overlapping and breaking as society reconfigures the discourse to match the new environment.

There has been less investigation into the utilisation of HFS to promote nursing students' deeper learning around knowledge, skill, and meaning development, particularly as they relate to future practice as a registered nurse. However, by interrogating the dominant discourses around the use of HFS enables us to reframe HFS. By acknowledging such discourses and discursive practices within which we work as academic nurse educators, we may recognise more clearly the processes by which we select what, to us, is crucial and what is not.

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Appendices

Appendix A: Ethics/Ethics Amendments



AUTEC Secretariat

Auckland University of Technology
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E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

24 July 2017

Stephen Neville
Faculty of Health and Environmental Sciences

Dear Stephen

Re Ethics Application: **17/238 Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 24 July 2020.

Standard Conditions of Approval

1. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through <http://www.aut.ac.nz/researchethics>.
2. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through <http://www.aut.ac.nz/researchethics>.
3. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form: <http://www.aut.ac.nz/researchethics>.
4. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.

Please quote the application number and title on all future correspondence related to this project.

AUTEC grants ethical approval only. If you require management approval for access for your research from another institution or organisation then you are responsible for obtaining it. You are reminded that it is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard.

For any enquiries, please contact ethics@aut.ac.nz

Yours sincerely,

Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Cc: withj@xtra.co.nz; gerlam@aut.ac.nz

AUTEC Secretariat

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27 February 2018

Stephen Neville
Faculty of Health and Environmental Sciences

Dear Stephen

Re: Ethics Application: **17/238 Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis**

Thank you for your request for approval of amendments to your ethics application.

The amendment to the data collection protocol (for the inclusion of individual interviews with nurse educators) is approved.

I remind you of the Standard Conditions of Approval.

1. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through <http://www.aut.ac.nz/researchethics>.
2. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through <http://www.aut.ac.nz/researchethics>.
3. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form: <http://www.aut.ac.nz/researchethics>.
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5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.

Please quote the application number and title on all future correspondence related to this project.

AUTEC grants ethical approval only. If you require management approval for access for your research from another institution or organisation then you are responsible for obtaining it. If the research is undertaken outside New Zealand, you need to meet all locality legal and ethical obligations and requirements.

For any enquiries please contact ethics@aut.ac.nz

Yours sincerely,



Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Cc: withj@xtra.co.nz; gerlam@aut.ac.nz



AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

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4 April 2019

Stephen Neville
Faculty of Health and Environmental Sciences

Dear Stephen

Re: Ethics Application: **17/238 Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis**

Thank you for your request for approval of an amendment to your ethics application.

I have approved a minor amendment to your ethics application allowing an additional research location.

I remind you of the **Standard Conditions of Approval**.

1. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through <http://www.aut.ac.nz/research/researchethics>.
2. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through <http://www.aut.ac.nz/research/researchethics>.
3. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form: <http://www.aut.ac.nz/research/researchethics>.
4. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.

Please quote the application number and title on all future correspondence related to this project.

AUTEC grants ethical approval only. If you require management approval for access for your research from another institution or organisation then you are responsible for obtaining it. If the research is undertaken outside New Zealand, you need to meet all locality legal and ethical obligations and requirements.

For any enquiries please contact ethics@aut.ac.nz

Yours sincerely,

Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

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Appendix B: Tools

- a) Interviews, focus group, observation guide

Protocol for Focus Group – Nursing students

1. Researcher provides introductory comments.
 - Researcher welcomes and thanks everyone for volunteering to participate.
 - Introduces self.
 - Make sure everyone has a consent form, if not hand out with information sheet.
2. Provide the participants with an overview of the process, times, fire exits etc, breaks and refreshments provided.
3. Ask the participants to review consent form, ask questions and sign.
4. Offer the participants a copy of consent form.
5. Distribute the name tags for the focus group participants, participants to be invited to choose pseudonyms (first name).
6. Distribute a sheet of paper to each participant to collect demographic data:
 - Your age.
 - Ethnicity (you may have more than one).
 - Years in undergraduate nursing programme.
 - Role /focus in undergraduate programme ie: nursing student or nursing educator.
7. Provide basic guidelines for the focus group meeting and review with the participants.
 - If you feel uncomfortable during the meeting you have the right to leave or pass on any question. You may leave the focus group at any time without being disadvantaged in any way.
 - The meeting is not a counselling or support group.
 - Keep personal stories in the room, do not share the identity of the other participants or what anyone has said outside this meeting.
 - Everyone's ideas will be respected. Do not comment on or make judgements about what others have said.
 - One person talks at a time.
 - Please help yourself to food & drink or have a break if needed.
 - Everyone has the right to talk.
 - Everyone has the right to pass on a question.
 - There are no right or wrong answers.
8. Let the participants know that the interview is being recorded, but as they are using pseudonyms no identifying information will be revealed.
9. Inform participants that data will be transcribed by a person who has signed a confidentiality agreement.
10. Give a brief overview of the goals of the focus group to set the scene.
 - What I would like to find out are your views around simulation and what it means to you. Can we start by introducing yourself using your pseudonym and what your role is in the undergraduate programme so as the so as the transcriber can recognise who is speaking?
11. Opening broad questions can be used to make the participants feel comfortable.

Opening broad questions for focus groups- Nursing Student

Simulation has been used as a teaching-learning modality in nursing education for many years, and has gained considerable acceptance internationally as a solution for some of the challenges associated with delivering nursing education. There is lots of research about the advantages of simulation but also some concerns about its limitations. I'm very keen to hear from students how they find learning through simulation and using manikins, and how much these approaches help, or not in preparing for clinical work.

- What I would like to hear from you are your thoughts around the use of simulation in undergraduate nursing education and the use of manikins in simulation?

Follow up questions

1. Can you tell me what you initially thought when you were told you would be undertaking simulation in your nursing programme?
2. Can you tell me how your experiences with simulation have developed over time?
3. Do you think simulation labs create a safe learning environment for you as a learner?
4. Tell me about what it's like transferring skills learnt in simulated learning into clinical settings.
5. Can you tell me if you have noticed gaps between simulated practice and clinical experience and give some examples?
6. Can you tell me about your experiences of working with manikins?
7. In terms of the focus on biomedical and technical skills in many simulation scenarios, for example the use of computerised manikins, can you tell me how this helps your learning and preparation for the work environment?
8. Can you tell me about what is it like practising on manikins compared to real people?
9. Can you tell me about how similar or different are manikins from real people's bodies?
10. In terms of gender and ethnicity, how similar or different are manikins from your real patient experiences?
11. Do these differences make a difference do you think?
12. Can you describe a situation with a manikin where the scenario felt very real to you?
13. Can you describe a situation where the scenario with a manikin didn't assist in your learning?
14. Has there ever been a simulation scenario where you experienced discomfort about what happened, for example, other students' interactions with manikins of simulated bodily parts? Can you tell me why this made you feel uncomfortable?
15. Do you find that issues of cultural safety can be readily addressed in simulated scenarios? Could you give an example from your experiences?
16. To what extent do you find the manikins are useful representations of bodies and people you might encounter in the clinical settings? Can you tell me how you make sense of and view a simulated body, and has this changed over time?
17. What is it about simulation that you like and makes it work well?
18. Can you tell me what you think are some of the challenges of simulation?
19. Let the participants know when you will ask the last question.
20. Ask the participants.
 - Is there anything else you would like to share about simulation that we haven't talked about?
21. Thank all for participating.

Protocol for Focus Group – Nurse Educators

1. Researcher provides introductory comments.
2. Researcher welcomes and thanks everyone for volunteering to participate.
3. Introduces self.
4. Make sure everyone has a consent form, if not hand out with information sheet.
5. Provide the participants with an overview of the process, times, fire exits etc, breaks and refreshments provided.
6. Invite the participants to review consent form, ask questions and sign.
7. Offer the participants a copy of consent form.
8. Distribute the name tags for the focus group participants, participants to be invited to choose pseudonyms (first name).
9. Distribute a sheet of paper to each participant to collect demographic data:
10. Your age.
 - Ethnicity (you may have more than one).
 - Years in undergraduate nursing programme.
 - Role /focus in undergraduate programme ie: nursing student or nursing educator.
11. Provide basic guidelines for the focus group meeting and review with the participants.
 - If you feel uncomfortable during the meeting you have the right to leave or pass on any question. You may leave the focus group at any time without being disadvantaged in any way.
 - The meeting is not a counselling or support group.
 - Keep personal stories in the room, do not share the identity of the other participants or what anyone has said outside this meeting.
 - Everyone's ideas will be respected. Do not comment on or make judgements about what others have said.
 - One person talks at a time.
 - Please help yourself to food & drink or have a break if needed.
 - Everyone has the right to talk.
 - Everyone has the right to pass on a question.
 - There are no right or wrong answers.
12. Let the participants know that the interview is being recorded, but as they are using pseudonyms no identifying information will be revealed.
13. Inform participants that data will be transcribed by a person who has signed a confidentiality agreement.
14. Give a brief overview of the goals of the focus group to set the scene.
 - What I would like to find out are your views around simulation and what it means to you. Can we start by introducing yourself using your pseudonym and what your role is in the undergraduate programme so as the so as the transcriber can recognise who is speaking?
15. Opening broad questions can be used to make the participants feel comfortable.

Opening broad questions for focus groups- Nurse educators

Simulation has been used as a teaching-learning modality in nursing education for many years, and has gained considerable acceptance internationally as a solution for some of the challenges associated with delivering nursing education. There is an abundance of literature that supports the use of simulation in healthcare education however there is a limited amount of literature that offers a critical reading of the ways of thinking, or discourses, around simulation and how these have eventuated and are sustained.

- What I would like to hear from you are your thoughts around the use of simulation in undergraduate nursing education and the use of manikins in simulation?

Follow up questions

1. Can you tell me what you initially understood to be simulation and how your experiences with simulation, as an educator, have developed over time?
2. Can you tell me what has influenced the use of simulation in your education practice?
3. Can you tell me if you have noticed gaps between simulated practice and students' clinical experience and transfer of skills? Could you give some examples?
4. What is it about simulation that you like and makes simulations work well?
5. Can you give me an example of where a manikin scenario went well? What contributed to the session going well? Can you tell me about a session that didn't go so well? What challenges occurred?
6. In terms of the focus on biomedical and technical skills in many simulation scenarios, for example the use of computerised manikins, can you tell me your thoughts on how this helps student learning and preparation for the work environment?
7. What do you notice about students settling-in process when working with manikins?
8. What do you notice your learners find uncomfortable or challenging about working with manikins?
9. How do you introduce simulation to students to enable them to 'see' the manikin as a patient?
10. Tell me about how you find students manage issues of privacy with manikins – do they treat manikins as actual bodies or what differences do you notice?
11. Do you find that issues of cultural safety can be readily addressed in simulated scenarios? Could you give an example?
12. To what extent do you find the manikins are useful representations of bodies and people students encounter in clinical settings? What steps do you take to close the gap between manikins and actual patients?
13. Has there ever been a simulation scenario where you experienced discomfort about what happened, for example, the students' interactions with manikins of simulated bodily parts?
14. How do Māori nursing students make sense of simulated bodies? Do the students continue to maintain practices of respecting what is tapu even in simulated bodies? How are these cultural aspects managed? Or not managed?
15. What measures do you take to ensure cultural competency in engaging in simulated sessions? Are manikins treated as objects without culture or are they treated as cultural beings?
16. Can you tell me if manikins are treated as 'real' beings are they primarily treated as generic Pakeha beings, as the 'norm' or is culture addressed?
17. Can you tell me when using manikins, how are bodies understood? Are they viewed as a binary gender male/female? Heterosexual?
18. You'll be aware that simulation is going to potentially increase and maybe be used to count as clinical hours. Tell me your thoughts about this substitution.
19. Do you have any reservations about the contemporary use of simulation?
20. Are there particular limitations in the use of simulation that stand out to you?
16. Let the participants know when you will ask the last question.
17. Ask the participants.
18. Is there anything else you would like to share about simulation that we haven't talked about?
19. Thank all for participating.

Protocol for individual interview with Nursing Council New Zealand representative

- 1 Researcher provides introductory comments.
- 2 Researcher thanks representative for participating.
- 3 Introduces self.
4. Make sure participant has a consent form, if not hand out with information sheet.
 - Invites the participant to review consent form, ask questions and sign.
 - Offers the participant a copy of the consent form.
 - The participant to be invited to choose pseudonyms (first name).
 - Provide basic guidelines and review with participant.
5. If you feel uncomfortable during the meeting you have the right to leave or pass on any question.
6. There are no right or wrong answers.
7. Confidentiality and anonymity maintained at all times.
 - a. Let participant know that the interview is being recorded, but as they are using pseudonyms no identifying information will be revealed.
8. Inform the participant that the data will be transcribed by a person who has signed a confidentiality agreement.
9. An opening broad question can be used to make participants feel comfortable.

Opening Broad question (setting the scene)- Nursing Council New Zealand representative

Simulation has been used as a teaching-learning modality in nursing education for many years, and has gained considerable acceptance internationally as a solution for some of the challenges associated with delivering nursing education. There is an abundance of literature that supports the use of simulation in healthcare education however there is a limited amount of literature that offers a critical reading of the ways of thinking, or discourses, around simulation and how these have eventuated and are sustained.

- What I would like to hear from you are your thoughts around the use of simulation in undergraduate nursing education and the use of manikins in simulation?

Follow up questions

1. Can you tell me what you initially understood to be simulation and how the position you take about simulation in the BN curriculum has developed over time?
2. Can you tell me what you think has influenced the use of simulation in undergraduate nursing education in New Zealand?
3. How do you think simulation contributes to New Zealand undergraduate nursing education in the 21st century?
4. Do you view simulation as a response to challenges for undergraduate nursing education? Can you give some examples?
5. Can you tell me if you think there are gaps between simulated practice and students' clinical experience? Where do you think the gaps might be?

6. In terms of the focus on biomedical and technical skills in many simulation scenarios, for example the use of computerised manikins, can you tell me your thoughts on how simulation practice helps student learning and preparation for the work environment?
 7. Do you think simulation labs create a safe learning environment for the student?
 8. Tell me your views about the relationship between simulation and development of clinical decision making?
 9. To what extent do you think that simulated experiences contribute towards practice competency?
 10. Are there experiences, do you think, can't readily be reproduced in a simulated setting?
 11. Do you have any thoughts about how cultural safety practices might be upheld or undermined through simulation? Could you give an example?
 12. You'll be aware that simulation is going to potentially increase and maybe be used to count as clinical hours. Tell me your thoughts about this substitution?
 13. Do you have any reservations about the contemporary use of simulation?
 14. What, if any, are the particular limitations in the use of simulation that stand out to you?
10. Let the participant know when you will ask the last question.
11. Ask the participant.
- Is there anything else you would like to share about simulation that we haven't talked about?
12. Thank the individual for participating.

Protocol for individual interview with simulation business representative

1. Researcher provides introductory comments.
 - Researcher thanks representative for participating.
 - Introduces self.
 - Make sure participant has a consent form, if not hand out with information sheet.
2. Invites the participant to review consent form, ask questions and sign.
3. Offers the participant a copy of the consent form.
4. The participant to be invited to choose pseudonyms (first name).
5. Provide basic guidelines and review with participant.
 - If you feel uncomfortable during the meeting you have the right to leave or pass on any question.
 - There are no right or wrong answers.
 - Confidentiality and anonymity maintained at all times.
6. Let participant know that the interview is being recorded, but as they are using pseudonyms no identifying information will be revealed.
7. Inform the participant that the data will be transcribed by a person who has signed a confidentiality agreement.
8. An opening broad question can be used to make participants feel comfortable.

Opening Broad question (setting the scene)- Key Player in simulation

You'll be aware that simulation has forged major collaborations between educational and business interests and I'm keen to explore how simulation is shaping early 21st century undergraduate nursing. I'm particularly interested in how far we've come, what's ahead and where the gaps are.

- What I would like to hear from you are your thoughts around the use of simulation in undergraduate nursing education and the use of manikins in simulation?

Follow up questions

1. Can you tell me what you initially understood to be simulation and how your experiences with simulation have developed over time?
2. Can you tell me what you think has influenced the use of simulation in undergraduate nursing education in New Zealand?
3. How do you think simulation contributes to New Zealand undergraduate nursing education in the 21st century?
4. Do you view simulation as a solution to some of the challenges for undergraduate nursing education? Can you give some examples?
5. Can you tell me if you think there are gaps between simulated practice and student's clinical experience? Where do you think the gaps might be?
6. In terms of the focus on biomedical and technical skills in many simulation scenarios, for example the use of computerised manikins, can you tell me your thoughts on how this helps student learning and preparation for the work environment?

- 7 Do you think simulation labs create a safe learning environment for the student? Why do you think this important?
- 8 What experiences do you think, can't readily be reproduced in a simulated setting?
- 9 Do you have any thoughts about how simulation accommodates teaching about the bicultural and multicultural NZ context? Could you give an example?
- 10 You'll be aware that simulation is going to potentially increase and maybe be used to count as clinical hours. Tell me your thoughts about this substitution?
- 11 Can you tell me about your perspective of the interaction, or synergy between your business model and undergraduate nursing education model?
- 12 Can you outline the benefits of this interaction? Are there any tensions?
- 13 Do you have any reservations about the contemporary use of simulation?
- 14 What, if any, are the particular limitations in the use of simulation that stand out to you?
- 15 Let the participant know when you will ask the last question.
- 16 Ask the participant.
- 17 Is there anything else you would like to share about simulation that we haven't talked about?
- 18 Thank the individual for participating.

b) Participant Information Sheets



Undergraduate nursing student participant

Date Information Sheet Produced:

18/07/2017

Project Title

Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.

An invitation to participate in the above research

My name is Julie Bowen-Withington and I am currently undertaking a Doctor of Philosophy at AUT. I am a full-time nursing lecturer at ARA Institute of Canterbury in the Bachelor of Nursing (BN) Programme. I would like to invite you to participate in this qualitative research study using Foucauldian discourse analysis methodology. This study aims to answer the question: *What are the discourses and discursive practices that influence the use of simulation as an approach to intentional and unintentional teaching and learning in undergraduate nursing education in Aotearoa New Zealand?*

As part of my thesis, I am intending to conduct focus groups with nursing students and nurse educators from two Schools of Nursing in New Zealand, Auckland University of Technology and Otago Polytechnic. I would like to invite you to consider participating in this research, whether you choose to participate or not will neither advantage nor disadvantage you.

What is the purpose of this research?

Simulation has been used in many forms, as a teaching-learning modality in nursing education for many years, and has gained considerable acceptance internationally as a solution for some of the challenges associated with delivering nursing education.

This research is motivated not only my professional interest in simulation as a nursing educator, but also my interest in exploring the emergent discourses for simulation that may be shaping the use of simulation in undergraduate nursing education. The intention of this research is to question the discourses and discursive practices that influence the use of simulation in undergraduate nursing education within a New Zealand context.

Critique of discursive practices will enable a finer reading of the intended and unintended effects of simulation use within undergraduate nursing education. Engaging with such discourses and discursive practices can ultimately support nursing educators in critiquing how simulation is constructed as a teaching- learning modality

Findings from this study will be disseminated in national and international nursing journals and shared with nursing and academic colleagues within the health arena at national and international conferences. The thesis from this research will be made available through the AUT library services.

How was I identified and why am I being invited to participate in this research?

As part of my thesis, I am intending to conduct focus groups with nursing students and nurse educators from two chosen Schools of Nursing in New Zealand. A purposeful sample of participants will be recruited from two Schools of Nursing in New Zealand offering an undergraduate nursing programme leading to registration as a Registered Nurse. The two nursing schools at Auckland University of Technology (AUT) and Otago Polytechnic will be the two sites where focus groups will be undertaken. You have been invited as a potential participant on this study on the basis of your simulation experience across the undergraduate nursing programme and your current involvement in simulation-based education.

Focus groups with undergraduate nursing students from the two chosen institutions are to be conducted. The interviews will run for approximately one to two hours. Up to twelve students in total will be potentially interviewed over both sites, up to six students at each site.

The recruitment process involves the Department of Nursing Heads of School being approached by myself, as the primary researcher, inviting nursing students from across the undergraduate nursing programme to participate in the study. Interested participants have been asked to contact me directly via email with an expression of interest. You have been invited as a potential participant on this study on the basis of your simulation experience across the undergraduate nursing programme and your current involvement in simulation-based education. Your contact details will not be given to any third party, and all contact details will be stored on a password protected computer.

Potential participants who are interested in participating in the focus group and meet initial criteria of being "...currently involved in simulation-based education or have experienced simulation activities within the BN programme", have been selected on a "first come first served" basis

How do I agree to participate in this research?

To participate in this study, you will need to complete a consent form. A consent form will be emailed to you once you have expressed interest to be involved in the study and have been invited onto the study. You will be able to bring the consent form with you to the focus group. Time will be set aside at the beginning of the focus group for you to ask any questions prior to signing the consent form.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study at any time, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

Your involvement in this study will involve meeting as a focus group of up to six nursing students. The entire interview will be approximately 1- 2 hours and will be tape recorded, however no identifying names will be recorded on this. You will be invited to use a pseudonym. A transcriber who has signed a confidentiality form will transcribe the interview data. Prior to the interview I will invite you to provide some demographic data including your chronological age, ethnicity, role and length of time in the undergraduate nursing program. At the time of the interview, I will follow a set of questions and ask questions as they are applicable to the conversation. If at any point you feel uncomfortable answering a question I will move on to the next.

What are the discomforts and risks?

No risk greater than those experienced in ordinary conversation are anticipated. Confidentiality will be ensured at all times, however is limited given the nature of using small focus groups. No identifying information linked to a particular participant will be published in any research dissemination such as articles arising from this research or

conference presentations. Collected data from focus groups will be confidential with individual identity anonymous and findings reported as a group.

If you do not wish to take part you do not have to give a reason and you will not be contacted again.

Similarly, if you do agree to participate you are free to withdraw at any time during the project if you

change your mind. If you feel at all uncomfortable during the interview you have the right not to participate in the discussion and leave the interview if you wish too.

What are the benefits?

You may find the project interesting and enjoy answering questions about simulation. Being involved in a focus group interview will provide you with an opportunity to have a voice and be involved in this research, thus contributing to the development of disciplinary knowledge within nursing.

What compensation is available for injury or negligence?

The likelihood of injury or negligence occurring is highly unlikely given the low risk of this research project.

How will my privacy be protected?

To ensure anonymity personal identification data such as name and date of birth will not be collected. You will be invited to use pseudonyms and every possible attempt will be made to ensure that data collected remains confidential to my primary research supervisor and me (as the primary researcher). Pseudonyms will be used for names of individuals, places and organisations. No identifying information linked to you will be published in any research dissemination such as articles arising from this research or conference presentations. Collected data from focus groups will be confidential with individual identity anonymous and findings reported as a group.

As the primary researcher I am not an employee of AUT and Otago Polytechnic and I am not directly involved in the teaching of nursing students at AUT or Otago Polytechnic. The nursing students will not be known to me. It is acknowledged that the Head of School at AUT is the primary supervisor for this research, however, I will take steps to minimise the risk of confidentiality breach in the following ways:

- The primary supervisor will have no involvement in the focus group process including recruitment of participants to focus groups
- The primary supervisor will have no involvement in the data collection process
- Collected data from focus groups will be confidential with individual identity anonymous and findings reported as a group.
- No identifying information linked to a particular participant will be published in any research dissemination such as articles arising from this research or conference presentations.

What are the costs of participating in this research?

There is no financial cost to participate in this focus group, cost in regards to time is approximately 1-2 hours

What opportunity do I have to consider this invitation?

You will have two weeks to consider the invitation to participate in this study from the time you are contacted by me, as the primary researcher.

Will I receive feedback on the results of this research?

A summary of findings from the focus group will be emailed to you. All information collected will be utilised initially for the writing and submitting a thesis for the degree of Doctor of Philosophy. The thesis from this research will be placed in the AUT library and it

is proposed that papers will be presented at national and international simulation conferences and disseminated in national and international nursing journals.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Stephen Neville, sneville@aut.ac.nz, 09 921 9379

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Julie Bowen-Withington
Senior Nursing Lecturer
Te Hoe Ora
Department of Nursing, Midwifery and Allied Health
PO Box 540, Christchurch 8140, New Zealand
P:03 940 8295, M:021 281 8295
Julie.bowen-withington@ara.ac.nz

Project Supervisor Contact Details:

Dr Stephen Neville
Associate Professor & Head of Nursing
School of Clinical Sciences
Auckland University of Technology
P:09 921 9379, M: 021995689
sneville@aut.ac.nz

**Approved by the Auckland University of Technology Ethics Committee on 24th July
2017, AUTEK Reference number. 17/238**

Participant Information Sheet



nursing student participant

Date Information Sheet Produced:

18/07/2017 (revised 3/4/19)

Project Title

Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.

An invitation to participate in the above research

My name is Julie Bowen-Withington and I am currently undertaking a Doctor of Philosophy at AUT. I am a full-time nursing lecturer at ARA Institute of Canterbury in the Bachelor of Nursing (BN) Programme. I would like to invite you to participate in this qualitative research study using Foucauldian discourse analysis methodology. This study aims to answer the question: *What are the discourses and discursive practices that influence the use of simulation as an approach to intentional and unintentional teaching and learning in undergraduate nursing education in Aotearoa New Zealand?*

As part of my thesis, I am intending to conduct focus groups with nursing students and nurse educators from Schools of Nursing in New Zealand. I would like to invite you to consider participating in this research, whether you choose to participate or not will neither advantage nor disadvantage you.

What is the purpose of this research?

Simulation has been used in many forms, as a teaching-learning modality in nursing education for many years, and has gained considerable acceptance internationally as a solution for some of the challenges associated with delivering nursing education.

This research is motivated not only my professional interest in simulation as a nursing educator, but also my interest in exploring the emergent discourses for simulation that may be shaping the use of simulation in undergraduate nursing education. The intention of this research is to question the discourses and discursive practices that influence the use of simulation in undergraduate nursing education within a New Zealand context.

Critique of discursive practices will enable a finer reading of the intended and unintended effects of simulation use within undergraduate nursing education. Engaging with such discourses and discursive practices can ultimately support nursing educators in critiquing how simulation is constructed as a teaching-learning modality

Findings from this study will be disseminated in national and international nursing journals and shared with nursing and academic colleagues within the health arena at national and international conferences. The thesis from this research will be made available through the AUT library services.

How was I identified and why am I being invited to participate in this research?

As part of my thesis, I am intending to conduct focus groups with nursing students and nurse educators from two chosen Schools of Nursing in New Zealand. A purposeful sample of participants will be recruited from two Schools of Nursing in New Zealand offering an undergraduate nursing programme leading to registration as a Registered Nurse. You have been invited as a potential participant on this study on the basis of your simulation experience across the undergraduate nursing programme and your current involvement in simulation-based education.

Focus groups with undergraduate nursing students from the chosen institutions are to be conducted. The interviews will run for approximately one to two hours. Up to twelve students in total will be potentially interviewed over both sites, up to six students at each site.

The recruitment process involves the Department of Nursing Heads of School being approached by myself, as the primary researcher, inviting nursing students from across the undergraduate nursing programme to participate in the study. Interested participants have been asked to contact me directly via email with an expression of interest. You have been invited as a potential participant on this study on the basis of your simulation experience across the undergraduate nursing programme and your current involvement in simulation-based education. Your contact details will not be given to any third party, and all contact details will be stored on a password protected computer.

Potential participants who are interested in participating in the focus group and meet initial criteria of being "...currently involved in simulation-based education or have experienced simulation activities within the BN programme", have been selected on a "first come first served" basis

How do I agree to participate in this research?

To participate in this study, you will need to complete a consent form. A consent form will be emailed to you once you have expressed interest to be involved in the study and have been invited onto the study. You will be able to bring the consent form with you to the focus group. Time will be set aside at the beginning of the focus group for you to ask any questions prior to signing the consent form.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study at any time, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

Your involvement in this study will involve meeting as a focus group of up to six nursing students. The entire interview will be approximately 1- 2 hours and will be tape recorded, however no identifying names will be recorded on this. You will be invited to use a pseudonym. A transcriber who has signed a confidentiality form will transcribe the interview data. Prior to the interview I will invite you to provide some demographic data including your chronological age, ethnicity, role and length of time in the undergraduate nursing program. At the time of the interview, I will follow a set of questions and ask questions as they are applicable to the conversation. If at any point you feel uncomfortable answering a question I will move on to the next.

What are the discomforts and risks?

No risk greater than those experienced in ordinary conversation are anticipated. Confidentiality will be ensured at all times, however is limited given the nature of using small focus groups. No identifying information linked to a particular participant will be

published in any research dissemination such as articles arising from this research or conference presentations. Collected data from focus groups will be confidential with individual identity anonymous and findings reported as a group.

If you do not wish to take part you do not have to give a reason and you will not be contacted again.

Similarly, if you do agree to participate you are free to withdraw at any time during the project if you

change your mind. If you feel at all uncomfortable during the interview you have the right not to participate in the discussion and leave the interview if you wish too.

What are the benefits?

You may find the project interesting and enjoy answering questions about simulation. Being involved in a focus group interview will provide you with an opportunity to have a voice and be involved in this research, thus contributing to the development of disciplinary knowledge within nursing.

What compensation is available for injury or negligence?

The likelihood of injury or negligence occurring is highly unlikely given the low risk of this research project.

How will my privacy be protected?

To ensure anonymity personal identification data such as name and date of birth will not be collected. You will be invited to use pseudonyms and every possible attempt will be made to ensure that data collected remains confidential to my primary research supervisor and me (as the primary researcher). Pseudonyms will be used for names of individuals, places and organisations. No identifying information linked to you will be published in any research dissemination such as articles arising from this research or conference presentations. Collected data from focus groups will be confidential with individual identity anonymous and findings reported as a group.

As the primary researcher I am not an employee of either of the research sites and I am not directly involved in the teaching of nursing students at either research site. The nursing students will not be known to me. It is acknowledged that the Head of School at AUT is the primary supervisor for this research, however, I will take steps to minimise the risk of confidentiality breach in the following ways:

- The primary supervisor will have no involvement in the focus group process including recruitment of participants to focus groups
- The primary supervisor will have no involvement in the data collection process
- Collected data from focus groups will be confidential with individual identity anonymous and findings reported as a group.
- No identifying information linked to a particular participant will be published in any research dissemination such as articles arising from this research or conference presentations.

What are the costs of participating in this research?

There is no financial cost to participate in this focus group, cost in regards to time is approximately 1-2 hours

What opportunity do I have to consider this invitation?

You will have two weeks to consider the invitation to participate in this study from the time you are contacted by me, as the primary researcher.

Will I receive feedback on the results of this research?

A summary of findings from the focus group will be emailed to you. All information collected will be utilised initially for the writing and submitting a thesis for the degree of Doctor of Philosophy. The thesis from this research will be placed in the AUT library and it is proposed that papers will be presented at national and international simulation conferences and disseminated in national and international nursing journals.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Stephen Neville, sneville@aut.ac.nz, 09 921 9379

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Julie Bowen-Withington
Senior Nursing Lecturer
Te Hoe Ora
Department of Nursing, Midwifery and Allied Health
PO Box 540, Christchurch 8140, New Zealand
P:03 940 8295, M:021 281 8295
Julie.bowen-withington@ara.ac.nz

Project Supervisor Contact Details:

Dr Stephen Neville
Associate Professor & Head of Nursing
School of Clinical Sciences
Auckland University of Technology
P:09 921 9379, M: 021995689
sneville@aut.ac.nz

Approved by the Auckland University of Technology Ethics Committee on 24th July 2017, AUTEK Reference number. 17/238

Participant Information Sheet



Nurse educator participant

Date Information Sheet Produced:

18/07/2017

Project Title

Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.

An invitation to participate in the above research

My name is Julie Bowen-Withington and I am currently undertaking a Doctor of Philosophy at AUT. I am a full-time nursing lecturer at ARA Institute of Canterbury in the Bachelor of Nursing (BN) Programme. I would like to invite you to participate in this qualitative research study using Foucauldian discourse analysis methodology. This study aims to answer the question *‘What are the discourses and discursive practices that influence the use of simulation as an approach to intentional and unintentional teaching and learning in undergraduate nursing education in Aotearoa New Zealand?’*

As part of my thesis, I am intending to conduct focus group interviews with nursing students and nurse educators from two Schools of Nursing in New Zealand, Auckland University of Technology and Otago Polytechnic. I would like to invite you to consider participating in this research, whether you choose to participate or not will neither advantage nor disadvantage you.

What is the purpose of this research?

Simulation has been used in many forms, as a teaching-learning modality in nursing education for many years, and has gained considerable acceptance internationally as a solution for some of the challenges associated with delivering nursing education.

This research is motivated not only my professional interest in simulation as a nursing educator, but also my interest in exploring the emergent discourses for simulation that may be shaping the use of simulation in undergraduate nursing education. The intention of this research is to question the discourses and discursive practices that influence the use of simulation in undergraduate nursing education within a New Zealand context.

Critique of discursive practices will enable a finer reading of the intended and unintended effects of simulation use within undergraduate nursing education. Engaging with such discourses and discursive practices can ultimately support nursing educators in critiquing how simulation is constructed as a teaching- learning modality

Findings from this study will be disseminated in national and international nursing journals and shared with nursing and academic colleagues within the health arena at national and international conferences. The thesis from this research will be made available through the AUT library services.

How was I identified and why am I being invited to participate in this research?

As part of my thesis, I am intending to conduct focus groups with nursing students and nurse educators from two chosen Schools of Nursing in New Zealand. A purposeful sample of

participants will be recruited from two Schools of Nursing in New Zealand offering an undergraduate nursing programme leading to registration as a Registered Nurse. The two nursing schools at Auckland University of Technology (AUT) and Otago Polytechnic will be the two sites where focus groups will be undertaken. Focus groups with nursing educators from the two chosen institutions are to be conducted. The interviews will run for approximately one to two hours.

The recruitment process involves the Department of Nursing Heads of School being approached by myself as the primary researcher, inviting nursing students and nurse educators from across the undergraduate nursing programme to participate in the study. Interested participants have been asked to contact myself as the primary researcher directly via email, with an expression of interest. You have been invited as a potential participant on this study on the basis of your simulation experience across the undergraduate nursing programme and your current involvement in simulation-based education. Your contact details will not be given to any third party, and all contact details will be stored on a password protected computer.

Potential participants who are interested in participating in the focus group and meet initial criteria of being "...currently involved in simulation-based education or have experienced simulation activities within the BN programme", have been selected on a "first come first served" basis

How do I agree to participate in this research?

To participate in this study, you will need to complete a consent form. A consent form will be emailed to you once you have expressed interest to be involved in the study and have been invited onto the study. You will be able to bring the consent form with you to the focus group. Time will be set aside at the beginning of the focus group for you to ask any questions prior to signing the consent form.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study at any time, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

Your involvement in this study will involve meeting as a focus group of up to 4 nurse educators. The entire interview will be approximately 1- 2 hours and will be tape recorded, however no identifying names will be recorded on this. You will be invited to use a pseudonym. A transcriber who has signed a confidentiality form will transcribe the interview data. Prior to the interview I will invite you to provide some demographic data including your chronological age, ethnicity, role and length of time involved in simulation- based education. At the time of the interview, I will follow a set of questions and ask questions as they are applicable to the conversation. If at any point you feel uncomfortable answering a question I will move on to the next.

What are the discomforts and risks?

No risk greater than those experienced in ordinary conversation are anticipated. Confidentiality will be ensured at all times, however is limited given the nature of using small focus groups. No identifying information linked to you will be published in any research dissemination such as articles arising from this research or conference presentations. Collected data from focus groups will be confidential with individual identity anonymous and findings reported as a group.

If you do not wish to take part you do not have to give a reason and you will not be contacted again.

Similarly, if you do agree to participate you are free to withdraw at any time during the project if you change your mind. If you feel at all uncomfortable during the interview you have the right not to participate in the discussion and leave the interview if you wish too.

What are the benefits?

Critique of discursive practices, or ways in which knowledge and power are constructed and sustain certain subject positions, will enable a finer reading of the intended and unintended effects of simulation use within undergraduate nursing education. Critiquing the use of simulation can ultimately support nursing educators in shaping and planning simulation for optimal clinical skill development

You may find the project interesting and enjoy answering questions about simulation. Being involved in a focus group interview will provide you with an opportunity to have a voice and be involved in this research, thus contributing to the development of disciplinary knowledge within nursing.

What compensation is available for injury or negligence?

The likelihood of injury or negligence occurring is highly unlikely given the low risk of this research project.

How will my privacy be protected?

To ensure anonymity personal identification data such as name and date of birth will not be collected. You will be invited to use pseudonyms and every possible attempt will be made to ensure that data collected remains confidential to my primary research supervisor and me (as the primary researcher). Pseudonyms will be used for names of individuals, places and organisations. As I am not an employee of either institutions, and not directly involved in the teaching of nursing students at AUT or Otago Polytechnic, the nursing students will not be known to me as he researcher.

There is the potential for nurse educators to be known by me as the primary researcher given my dual role as researcher and nurse educator in the tertiary sector in New Zealand. It is acknowledged that the Head of School at AUT is the primary supervisor for this research, however, I will take steps to minimise the risk of confidentiality breach in the following ways:

- The primary supervisor will have no involvement in the focus group process including recruitment of participants to the focus groups
- The primary supervisor will have no involvement in the data collection process
- Collected data from focus groups will be confidential with individual identity anonymous and findings reported as a group.
- No identifying information linked to a particular participant will be published in any research dissemination such as articles arising from this research or conference presentations.

What are the costs of participating in this research?

There is no financial cost to participate in this focus group, cost in regards to time is approximately 1-2 hours

What opportunity do I have to consider this invitation?

You will have two weeks to consider the invitation to participate in this study from the time you are contacted by me as the primary researcher.

Will I receive feedback on the results of this research?

A summary of findings from the focus group will be emailed to you. All information collected will be utilised initially for the writing and submitting a thesis for the degree of Doctor of Philosophy. The thesis from this research will be placed in the AUT library and it

is proposed that papers will be presented at national and international simulation conferences and disseminated in national and international nursing journals.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Stephen Neville, sneville@aut.ac.nz, 09 921 9379

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Julie Bowen-Withington
Senior Nursing Lecturer
Te Hoe Ora
Department of Nursing, Midwifery and Allied Health
PO Box 540, Christchurch 8140, New Zealand
P: 03 940 8295, M: 021 281 8295
Julie.bowen-withington@ara.ac.nz

Project Supervisor Contact Details:

Dr Stephen Neville
Associate Professor & Head of Nursing
School of Clinical Sciences
Auckland University of Technology
P:09 921 9379, M 021 995 689
sneville@aut.ac.nz

**Approved by the Auckland University of Technology Ethics Committee on 24th July 2017,
AUTEK Reference number. 17/238**

Participant Information Sheet



Key player in simulation representative

Date Information Sheet Produced:

18/07/2017

Project Title

Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.

An invitation to participate in the above research

My name is Julie Bowen-Withington and I am currently undertaking a Doctor of Philosophy at AUT. I am a full-time nursing lecturer at ARA Institute of Canterbury in the Bachelor of Nursing (BN) Programme. I would like to invite you to participate in this qualitative research study. This study aims to answer the question ‘*What are the discourses and discursive practices that influence the use of simulation as an approach to intentional and unintentional teaching and learning in undergraduate nursing education in Aotearoa New Zealand?*’

As part of my thesis, I am intending to conduct focus groups with nursing students and nurse educators and individual interviews with a representative from the Nursing Council New Zealand and key player in simulation. I would like to invite you to consider participating in this research, whether you choose to participate or not will neither advantage nor disadvantage you.

What is the purpose of this research?

Simulation has been used in many forms, as a teaching-learning modality in nursing education for many years, and has gained considerable acceptance internationally as a solution for some of the challenges associated with delivering nursing education.

This research is motivated by not only my professional interest in simulation as a nursing educator, but also my interest in exploring the emergent discourses for simulation that may be shaping its use in undergraduate nursing education. The intention of this research is to question the discourses and discursive practices that influence the use of simulation in undergraduate nursing education within a New Zealand context.

Critique of discursive practices will enable a finer reading of the intended and unintended effects of simulation use within undergraduate nursing education. Engaging with such discourses and discursive practices can ultimately support nursing educators in critiquing how simulation is constructed as a teaching- learning modality

Findings from this study will be disseminated in national and international nursing journals and shared with nursing and academic colleagues within the health arena at national and international conferences. The thesis from this research will be made available through the AUT library services.

How was I identified and why am I being invited to participate in this research?

As part of my thesis, I am intending to conduct an interview with a representative from the Nursing Council of New Zealand, a representative from a key player in simulation, as well as focus groups with nursing students and nurse educators from two chosen Schools of Nursing in New Zealand. The two nursing schools at Auckland University of Technology (AUT) and Otago Polytechnic will be the two sites where focus groups will be undertaken. You have

been invited as a potential participant on this study on the basis of your involvement in representing a key player in simulation. Your contact details will not be given to any third party, and all contact details will be stored on a password protected computer.

How do I agree to participate in this research?

To participate in this study, you will need to complete a consent form. A consent form will be emailed to you once you have expressed interest to be involved in the study. You will be able to bring the consent form with you to the meeting with myself as the primary researcher. Time will be set aside at the beginning of the meeting for you to ask any questions prior to signing the consent form.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study at any time, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

Your involvement in this study will involve a face-to-face meeting with me, as the primary researcher. The entire interview will be approximately 1- 2 hours and will be tape recorded, however no identifying names will be recorded on this. You will be invited to use a pseudonym. A transcriber, who has signed a confidentiality form, will transcribe the interview data. At the time of the interview, I will follow a set of questions and ask questions as they are applicable to the conversation. If at any point you feel uncomfortable answering a question I will move on to the next.

What are the discomforts and risks?

No risk greater than those experienced in ordinary conversation are anticipated. Confidentiality will be ensured at all times. No identifying information linked to you will be published in any research dissemination, such as articles arising from this research or conference presentations. Collected data from the interview will be confidential with individual identity anonymous. If you do not wish to take part you do not have to give a reason and you will not be contacted again. Similarly, if you do agree to participate, you are free to withdraw at any time during the project if you change our mind. If you feel at all uncomfortable during the interview you have the right not to participate in the discussion and leave the interview if you wish too.

What are the benefits?

Critique of discursive practices, or ways in which knowledge and power are constructed and sustain certain subject positions, will enable a finer reading of the intended and unintended effects of simulation use within undergraduate nursing education. Critiquing the use of simulation can ultimately support nursing educators in shaping and planning simulation for optimal clinical skill development.

You may find the project interesting and participating in such an interview may provide you with an opportunity to have a voice and be involved in this research, thus contributing to the development of disciplinary knowledge within nursing.

What compensation is available for injury or negligence?

The likelihood of injury or negligence occurring is highly unlikely given the low risk of this research project.

How will my privacy be protected?

To ensure anonymity personal identification data such as name and date of birth will not be collected. You will be invited to use pseudonyms and every possible attempt will be made to ensure that data collected remains confidential to my primary research supervisor and me (as

the primary researcher). Pseudonyms will be used for names of individuals, places and organisations. As I am not an employee of either institutions, and not directly involved in the teaching of nursing students at AUT or Otago Polytechnic, the nursing students will not be known to the researcher.

There is the potential for nurse educators and representative from the Nursing Council of New Zealand and key player in simulation to be known by myself given my dual role as researcher and nurse educator in the tertiary sector in New Zealand. Confidentiality will therefore be ensured at all times. No identifying information linked to you will be published in any research dissemination such as articles arising from this research or conference presentations. Collected data from interviews will be confidential with individual identity anonymous.

What are the costs of participating in this research?

There is no financial cost to you to participate in this interview, cost in regards to time is approximately 1-2 hours

What opportunity do I have to consider this invitation?

You will have two weeks to consider the invitation to participate in this study from the time you are contacted by myself as the primary researcher.

Will I receive feedback on the results of this research?

A summary of findings will be emailed to you. All information collected will be utilised initially for the writing and submitting a thesis for the degree of Doctor of Philosophy. The thesis from this research will be placed in the AUT library and it is proposed that papers will be presented at national and international simulation conferences and disseminated in national and international nursing journals.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Stephen Neville, sneville@aut.ac.nz, 09 921 9379

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, 09 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Julie Bowen-Withington
Senior Nursing Lecturer
Te Hoe Ora
Department of Nursing, Midwifery and Allied Health
PO Box 540, Christchurch 8140, New Zealand
P:03 940 8295, M: 021 281 8295
Julie.bowen-withington@ara.ac.nz

Project Supervisor Contact Details:

Dr Stephen Neville
Associate Professor & Head of Nursing
School of Clinical Sciences

Auckland University of Technology

P: 09 921 9379, M: 021 995 689

sneville@aut.ac.nz

**Approved by the Auckland University of Technology Ethics Committee on 24th July
2017, AUTEK Reference number. 17/238**

Participant Information Sheet



Nursing Council of New Zealand (NCNZ) Representative

Date Information Sheet Produced:

18/07/2017

Project Title

Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.

An invitation to participate in the above research

My name is Julie Bowen-Withington and I am currently undertaking a Doctor of Philosophy at AUT. I am a full-time nursing lecturer at ARA Institute of Canterbury in the Bachelor of Nursing (BN) Programme. I would like to invite you to participate in this qualitative research study. This study aims to answer the question *‘What are the discourses and discursive practices that influence the use of simulation as an approach to intentional and unintentional teaching and learning in undergraduate nursing education in Aotearoa New Zealand?’*

As part of my thesis, I am intending to conduct focus groups with nursing students and nurse educators and individual interviews with a representative from the Nursing Council of New Zealand and key player in simulation. I would like to invite you to consider participating in this research, whether you choose to participate or not will neither advantage nor disadvantage you.

What is the purpose of this research?

Simulation has been used in many forms, as a teaching-learning modality in nursing education for many years, and has gained considerable acceptance internationally as a solution for some of the challenges associated with delivering nursing education.

This research is motivated not only by my professional interest in simulation as a nursing educator, but also my interest in exploring the emergent discourses for simulation that may be shaping its use in undergraduate nursing education. The intention of this research is to question the discourses and discursive practices that influence the use of simulation in undergraduate nursing education within a New Zealand context.

Critique of discursive practices will enable a finer reading of the intended and unintended effects of simulation use within undergraduate nursing education. Engaging with such discourses and discursive practices can ultimately support nursing educators in critiquing how simulation is constructed as a teaching- learning modality

Findings from this study will be disseminated in national and international nursing journals and shared with nursing and academic colleagues within the health arena at national and international conferences. The thesis from this research will be made available through the AUT library services.

How was I identified and why am I being invited to participate in this research?

As part of my thesis, I am intending to conduct an interview with a representative from the Nursing Council of New Zealand as well as focus groups with nursing students and nurse educators from two chosen Schools of Nursing in New Zealand. The two nursing schools at Auckland University of Technology (AUT) and Otago Polytechnic will be the two sites where focus groups will be undertaken. You have been invited as a potential participant on

this study on the basis of your involvement in the monitoring and development of nursing education programmes in New Zealand. Your contact details will not be given to any third party, and all contact details will be stored on a password protected computer.

How do I agree to participate in this research?

To participate in this study, you will need to complete a consent form. A consent form will be emailed to you once you have expressed interest to be involved in the study and have been invited onto the study. You will be able to bring the consent form with you to the meeting. Time will be set aside at the beginning of the meeting for you to ask any questions prior to signing the consent form.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study at any time, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

Your involvement in this study will involve a face-to-face meeting with me as the primary researcher. The entire interview will be approximately 1- 2 hours and will be tape recorded, however no identifying names will be recorded on this. You will be invited to use a pseudonym. A transcriber who has signed a confidentiality form will transcribe the interview data. At the time of the interview, I will follow a set of questions and ask questions as they are applicable to the conversation. If at any point you feel uncomfortable answering a question I will move on to the next.

What are the discomforts and risks?

No risk greater than those experienced in ordinary conversation are anticipated. Confidentiality will be ensured at all times. No identifying information linked to you will be published in any research dissemination such as articles arising from this research or conference presentations. Collected data from the interview will be confidential with individual identity anonymous. If you do not wish to take part you do not have to give a reason and you will not be contacted again. Similarly, if you do agree to participate, you are free to withdraw at any time during the project if you change our mind. If you feel at all uncomfortable during the interview you have the right not to participate in the discussion and leave, the interview if you wish too.

What are the benefits?

Critique of discursive practices, or ways in which knowledge and power are constructed and sustain certain subject positions, will enable a finer reading of the intended and unintended effects of simulation use within undergraduate nursing education. Critiquing the use of simulation can ultimately support nursing educators in shaping and planning simulation for optimal clinical skill development.

You may find the project interesting and participating in such an interview may provide you with an opportunity to have a voice and be involved in this research, thus contributing to the development of disciplinary knowledge within nursing.

What compensation is available for injury or negligence?

The likelihood of injury or negligence occurring is highly unlikely given the low risk of this research project.

How will my privacy be protected?

To ensure anonymity personal identification data such as name and date of birth will not be collected. You will be invited to use pseudonyms and every possible attempt will be made to ensure that data collected remains confidential to my primary research supervisor and me (as

the primary researcher). Pseudonyms will be used for names of individuals, places and organisations. As I am not an employee of either institutions, and not directly involved in the teaching of nursing students at AUT or Otago Polytechnic, the nursing students will not be known to me as the primary researcher.

There is the potential for nurse educators and representative from the Nursing Council of New Zealand to be known by myself given the dual role I have as researcher and nurse educator in the tertiary sector in New Zealand. Confidentiality will therefore be ensured at all times. No identifying information linked to a particular participant will be published in any research dissemination such as articles arising from this research or conference presentations. Collected data from interviews will be confidential with individual identity anonymous.

What are the costs of participating in this research?

There is no financial cost to participate in this interview, cost in regards to time is approximately 1-2 hours

What opportunity do I have to consider this invitation?

You will have two weeks to consider the invitation to participate in this study from the time you are contacted by me as the primary researcher.

Will I receive feedback on the results of this research?

A summary of findings will be emailed to you. All information collected will be utilised initially for the writing and submitting a thesis for the degree of Doctor of Philosophy. The thesis from this research will be placed in the AUT library and it is proposed that papers will be presented at national and international simulation conferences and disseminated in national and international nursing journals.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Stephen Neville, sneville@aut.ac.nz, 09 921 9379

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, 09 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Julie Bowen-Withington
Senior Nursing Lecturer
Te Hoe Ora
Department of Nursing, Midwifery and Allied Health
PO Box 540, Christchurch 8140, New Zealand
P:03 940 8295, M: 021 281 8295
Julie.bowen-withington@ara.ac.nz

Project Supervisor Contact Details:

Dr Stephen Neville
Associate Professor & Head of Nursing

School of Clinical Sciences
Auckland University of Technology
P: 09 921 9379, M: 021 995 689
sneville@aut.ac.nz

**Approved by the Auckland University of Technology Ethics Committee on 24th July
2017, AUTEK Reference number. 17/238**

c) Consent form



AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKAU RAU

Consent Form

For use when interviews are involved.

Project title: *Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.*

Project Supervisor: *Associate Professor Dr Stephen Neville*

Researcher: *Julie Bowen-Withington*

- I have read and understood the information provided about this research project in the Information Sheet dated 14/02/2017
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interview and that they will also be audio-taped and transcribed.
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- I agree to take part in this research.
- I wish to receive a summary of the research findings (please tick one): Yes No

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....
.....
.....
.....

Date:

Approved by the Auckland University of Technology Ethics Committee on 24th July 2017, AUTEK Reference number. 17/238

Note: The Participant should retain a copy of this form

Consent Form

For use when focus groups are involved.

Project title: *Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.*

Project Supervisor: *Associate Professor Dr Stephen Neville*

Researcher: *Julie Bowen-Withington*

- I have read and understood the information provided about this research project in the Information Sheet dated 14/02/2017.
- I have had an opportunity to ask questions and to have them answered.
- I understand that identity of my fellow participants and our discussions in the focus group is confidential to the group and I agree to keep this information confidential.
- I understand that notes will be taken during the focus group and that it will also be audio-taped and transcribed.
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- I understand that if I withdraw from the study then, while it may not be possible to destroy all records of the focus group discussion of which I was part, I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- I agree to take part in this research.
- I wish to receive a summary of the research findings (please tick one): Yes No

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....

Date:

Approved by the Auckland University of Technology Ethics Committee on 24th July 2017, AUTEK Reference number. 17/238

Note: The Participant should retain a copy of this form.

d) Discourse sketch

Discourse Sketch: What's happening in the text?

What is the mode of existence of this discourse; where does it come from?

How is it circulated? Who controls it; what placements are determined for possible subjects?
(Foucault, 1977 p.138)

Why did I choose this?

What's happening here in the text?

What is being said by whom?

What is being left or unsaid?

What is the terrain to exert influence on?

How are objects and subjects to analyse represented in text?

What tensions does it exposed?

How is power exercised and by whom?

How are institutional practices supported or modified by the discourses?

How do dominant discourses come to occupy such a privilege position in relation to the use of simulation at the expense of subjugated discourses/

Where does mainstream biomedical and industrial ideology enter in the use of simulation?

How does it connect with other text and discourses?

E) Demographic questions

Project Title

Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.

The following questions are designed to allow the researcher to generate a profile of participants who have taken part in this research, the intention is not to use this to identify any individual participant. Your personal information will remain anonymised in any write-up which results from this study.

Demographic questions

1. Age:

<input type="radio"/> <20	<input type="radio"/> 40-44
<input type="radio"/> 20-24	<input type="radio"/> 45-49
<input type="radio"/> 25-29	<input type="radio"/> 50-54
<input type="radio"/> 30-34	<input type="radio"/> 55+
<input type="radio"/> 35-39	<input type="radio"/> Other (please specify)

2. Ethnicity:

<input type="radio"/> NZ European	<input type="radio"/> Tongan
<input type="radio"/> Maori	<input type="radio"/> Niuean
<input type="radio"/> Samoan	<input type="radio"/> Chinese
<input type="radio"/> Cook Island Maori	<input type="radio"/> Indian
	<input type="radio"/> Other (such as Dutch, Japanese, Australian etc)

3. How long have you been involved in simulation in an undergraduate nursing program

- Up to 1 year
- 1-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- More than 15 y

F) Confidentiality agreement



Confidentiality Agreement

For someone transcribing data, e.g. audio-tapes of interviews.

Project title: Emerging discourses shaping simulation as an education platform in undergraduate nursing education: A discourse analysis.

Project Supervisor: Dr Stephen Neville

Researcher: Julie Bowen-Withington

- I understand that all the material I will be asked to transcribe is confidential.
- I understand that the contents of the tapes or recordings can only be discussed with the researchers.
- I will not keep any copies of the transcripts nor allow third parties access to them.

Transcriber's signature: Melissa Khornt
Transcriber's name: Melissa Kate Harcourt (Caption Transcription)
Transcriber's Contact Details (if appropriate):
Melissa Harcourt
146 Victoria Avenue
Karori
Wellington 6012
Date: 20/10/2017

Project Supervisor's Contact Details (if appropriate):

Dr Stephen Neville
Associate Professor & Head of Nursing
School of Clinical Sciences
Auckland University of Technology
P:09 921 9879, M: 021985689
sneville@aot.ac.nz

Approved by the Auckland University of Technology Ethics Committee on 24th July 2017, AU/TEC Reference number, 17/238

Note: The Transcriber should retain a copy of this form