

**A Grounded Theory of Occupational Therapy Practice Learning to Inform
Simulation-Based Education**



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Abstract

Introduction Simulation has been gathering momentum as a healthcare pedagogy in recent years, with increased discussion regarding its potential to replace practice learning hours expedited by the Covid-19 pandemic. However, simulation within occupational therapy remains inconsistent (*Grant et al.*, 2021) with minimal research supporting its effectiveness as a placement replacement. This thesis addresses this research gap by recognising that in order to replace placement learning with simulation, it is first necessary to understand what it is that students are learning during their placement experiences.

Method Grounded theory methodology was used to develop a theory of practice learning that explains how and what occupational therapy students learn during their first practice placement at one university in the United Kingdom. 11 Pre-registration students and three Practice Educators participated in individual interviews following their first placement which were analysed using constant comparison methods.

Findings Learning during the first placement was found to occur within four distinct categories: learning about oneself as an occupational therapist, learning about the occupational therapy profession, learning about occupational therapy practices and learning about users of occupational therapy services. The inter-dependent relationships between each of these categories were further abstracted to develop the theory of occupational therapy practice learning that is characterised by the concept that a student's availability for learning is impacted by the four categories.

Conclusion Student learning on placement takes place within four categories of learning, each of which must be considered when constructing simulations intended to replace placement. The importance of learning about oneself as an occupational

therapist during the first placement and the impact of this category on students' availability for learning suggests that simulation is unsuitable for a first placement replacement but may be useful in preparing students for practice learning.

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Dedication

This and all of my work is dedicated to my Mum Jacki, whose death during my teens has shaped every aspect of my personal and professional life.

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Guide to navigating the thesis

For ease of navigation, where the reader is directed to another section of the thesis, be it chapter, sub-heading, table or figure, text is hyperlinked and clicking the hyperlink moves the cursor to the appropriate document location. Hyperlinks can be identified by *italics*. In addition, where concepts identified within the findings chapter or unique to the theory are referred to, these are identified by **bold** text. Participant quotes are identified by the suffix P[number], with the addition of 'PE' where the quote has come from a practice educator participant. Where not stated, quotes are attributed to student participants. Memos are identified by the suffix Memo D[number], where D refers to the memo on data, rather than other memos which were also kept on the research process (RP), literature review (LR) and educational theory (ET), although the latter are not referred to within the thesis.

Glossary

Acronym (where commonly used)	Full Title	Explanation
CMOP-E	Canadian Model of Occupational Performance and Engagement	A theoretical model of occupational therapy, used to guide practice.
-	Educator	Any person providing education to pre-registration occupational therapy students, both within the university setting (lecturers and tutors) and within practice (Practice Educators, or PEs).
-	Expert by experience	An individual who has experience of a health condition or use of a health or social care service and contributes to a student's learning by participating in the taught curriculum. This may include sharing personal narrative.
GTM	Grounded Theory Methodology	Research methodology developed by Glaser and Strauss (1967), characterised by the development of theory from data without reference to a <i>priori</i> knowledge.
HCPC	Health & Care Professions Council	Regulatory body for a range of health and care professionals including occupational therapists.
-	Model of practice	Theoretical construct used within occupational therapy to support professional reasoning and ensure occupational therapy interventions are occupationally focussed and individualised.
NMC	Nursing & Midwifery Council	Regulatory body for nurses and midwives.
MOHOST	Model of Human Occupation Screening Tool	Screening assessment widely used by occupational therapists when working with people with poor mental health, but also applicable for other individuals.
MoCA	Montreal Cognitive Assessment	Assessment of cognitive functioning designed to detect mild cognitive impairment. Administered by occupational therapists and other professionals.

-	Occupation	Any activity that a person needs or wants to do to bring meaning and purpose to life.
PEO	Person, Environment, Occupation model	A theoretical model of occupational therapy, used to guide practice.
-	Practice Education	The entirety of learning that takes place in practice settings. The term practice education frequently includes preparation for practice and debriefing students following a placement.
P(P)E	Practice (placement) Educator	Occupational therapist responsible for supporting and instructing students on placement, as well as signing off a student's placement hours as successful.
-	Practice Learning	The learning that takes place whilst students are in practice.
-	(Practice) Placement	The location and / or duration in which a student attends in order to undertake practice learning. The term "placement" can be used to refer to the clinical speciality, placement location or client group that the student works with.
PIVO	Private, independent, or voluntary organisation	Any non-statutory organisation offering student placement opportunities to occupational therapy students.
RCN	Royal College of Nursing	Professional body of nurses, with responsibility for maintaining standards but not registration.
RCOT	Royal College of Occupational Therapists	Professional body of occupational therapists, with responsibility for maintaining standards but not registration.
REP	Role emerging placement	A placement learning opportunity for a student occupational therapist in a setting where there are no occupational therapists currently employed.
SOAP	SOAP notes	A documentation system commonly used by therapy staff of different professions in which information is categorised as subjective, objective, analysis, plan – hence the acronym SOAP.

SU	Service User	An individual who has used the services of an occupational therapist. This includes people who are identified within NHS services as 'patients' as well as those who access occupational therapy services who do not view themselves as unwell.
-	Simulation	A learning activity in which students learn by practicing within a hypothetical situation that incorporates an authentic representation of reality.
SP	Simulated patient / standardised patient	A person who is trained to portray a patient or service user in a standardised manner.
UK	United Kingdom	
WHO	World Health Organisation	A specialised agency of the United Nations that is responsible for international public health.
WFOT	World Federation of Occupational Therapists	An international organisation that represents occupational therapists worldwide.

Chapter 1 Introduction

This study explores the learning that pre-registration occupational therapy students undertake during their first practice placement experience. It focuses upon students studying at one university within the West Midlands and seeks to understand the depth and breadth of learning that students recognise following this placement. This introductory chapter will first introduce the relevant issues surrounding placement learning within Occupational Therapy and clarifies two important pieces of terminology, 'occupation' and 'simulation' which may affect the reader's understanding. Subsequently, the setting and the researcher are introduced and the influencing factors that contributed to the conception of this study are explained.

1.1. About Occupational Therapy

Occupational therapy is a health and social care profession regulated in the United Kingdom (UK) by the Health and Care Professions Council (HCPC). The vast majority of occupational therapists in the UK work within health, social care, or education settings, although they can work wherever there are people who require support with their everyday occupations in order to lead a fulfilling life. Occupational Therapists promote engagement with individuals, groups or populations to participate in the occupations that they need, want or are expected to do (World Federation of Occupational Therapists (WFOT), 2023). Within occupational therapy, and therefore within this thesis, the term 'occupation' is used to refer to everyday activities that people do, either individually or as part of families, groups or society, which occupy time and bring meaning and purpose to life (WFOT, 2023).

To become a registered occupational therapist in the UK, a student must complete an education programme at degree level which includes a minimum of 1000 hours of

practice placement. Education programmes exist at both undergraduate and post-graduate levels, and can take place full-time, part-time or as apprenticeship learning. Occupational Therapy education is unusual in that the standard of 1000 hours of practice placement is applied worldwide, through affiliation with the World Federation of Occupational Therapists. As such, it is rigorously adhered to and recognised as a standard and expected part of education. 1000 hours of practice learning represents approximately one third of the education programme, which must include a minimum of 90 scheduled weeks of learning (Royal College of Occupational Therapists (RCOT), 2019c), making it a significant proportion of an occupational therapist's educational programme that warrants ongoing research.

Occupational therapists believe in an occupational model of health and wellbeing that encompasses physical wellbeing, mental wellbeing and social wellbeing (Wilcock and Hocking, 2015), and therefore does not naturally fit within the medical model of healthcare in which many healthcare systems, including the NHS, operate (Department of Health and Social Care, 2015, 2021). However, it aligns well with the World Health Organisation's view of health as "a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity" (WHO, 2020, p1).

As a result of this multi-faceted approach to health and wellbeing, occupational therapists in the UK are often referred to as 'dual-trained'. This phrase seeks to convey the generalised approach to healthcare by contrasting it with nurse education, in which students can choose to study either physical or mental health nursing and therefore enter the workforce qualified to work in only one of these areas. In practice, this means that occupational therapists are able to work with clients with a wide variety of needs no matter how or where they present to services.

This is important when considering the clinical skill set of the occupational therapist, and therefore what it is that students need to learn during their education.

An occupational therapist's unique core skills were identified by Turner and Alsop (2015) as a combination of a central philosophy incorporating belief in the importance of occupational engagement, reasoning skills and context-dependent practice skills. Occupational therapy reasoning skills include the identification and analysis of occupational needs, analysing and prioritising occupational needs in conjunction with service users and facilitating occupational engagement or performance. These are carried out by observation and conversation, discussion, and practically or via direction respectively (Duncan, 2021, p29). Turner and Alsop (2015) conclude that occupational therapists' unique core skills are largely hidden, and it is therefore clear to see that central to the profession is the need to be able to communicate effectively and to apply the philosophy of occupation to health and wellbeing. These core skills are supported by a variety of theoretical constructs that express ways in which occupational therapists think about the varying factors influencing a person's engagement in occupations. Relevant theory specific to the profession includes occupational therapy models of practice, which seek to define the interactions between the individual, their physical and non-physical environment, and their participation in occupations.

Occupational therapy remains a relatively young profession, having emerged in its currently recognised format in the early 20th century and been pioneered by individuals with medical, social service, nursing and arts & crafts backgrounds, (Duncan, 2021, p16). As a result, it has been suggested that the profession is in need of theory-building studies and philosophical explorations, not just outcome-

focused education studies, because research in these areas in occupational therapy remain nascent (Hooper *et al.*, 2018).

1.2. Terminology

Some of the terminology used within the occupational therapy profession can be confusing to non-occupational therapists. In addition, terms such as practice learning, practice education and placements can be used interchangeably both within the literature and by occupational therapists. Simulation itself also contains a number of terms that may not be common parlance within occupational therapy or may be interpreted differently by different professions. Such intersectionality has been reflected within this thesis and some terms may be used interchangeably. Therefore, a *Glossary* has been included to aid understanding of some terminology and commonly used acronyms that may be reflected in the thesis, and some of the key terms are further described below.

Throughout the work, the term 'occupation' is used in the manner in which it is understood by occupational therapists: to refer to any activity, including everyday activities, that people do to occupy time and bring purpose and meaning to their life (WFOT, 2018). This may differ to the understanding of non-occupational therapists, who most commonly use it to describe a person's employment.

When referring to simulation, this thesis takes the perspective described in more detail in chapter 2 of simulation being comprised of interactive simulation activities, in which students engage with simulated patients, mannequins or virtual reality systems. This perspective is supported by Bland, Topping and Wood's (2011) concept analysis in relation to simulation with undergraduate nursing students.

Outside of this chapter any reference to simulation assumes this perspective and does not include case study-based activities.

1.3. About Practice Education in Occupational Therapy

The required 1000 hours of practice education in Occupational Therapy are routinely split into a number of placements which are spread throughout the course. In the UK, most higher education institutions provide at least one placement per academic year, with between three and five placements being viewed as the norm during an undergraduate education programme. Placements are only considered to be valid and able to make up part of the 1000 hours if “successful,” according to the professional body’s learning and development standards (RCOT, 2019c), and therefore all placements are assessed against pre-determined learning outcomes which are aligned with professional standards for practice (ibid). The learning outcomes vary at each higher education institution, but frequently include the concepts of competence in professional behaviours, communication, leadership, application of the occupational therapy process and linking theory with practice.

Due to the diversity of occupational therapy practice areas, placements can occur in a wide range of settings, thus generating a variety of different learning opportunities. Whilst many students may expect to have placements in hospitals, they may also be placed in schools, prisons, clinics, and community teams. They may be placed in the NHS, or in private, independent, or voluntary organisations (PIVOs). The professional body, the Royal College of Occupational Therapists (RCOT), permits and actively promotes students experiencing learning opportunities in non-frontline settings, such as in leadership, management, and research roles, or in settings where no occupational therapists are currently employed; frequently referred to as role-emerging placements (RCOT, 2021a).

Within the literature, placements can be referred to interchangeably as 'practice placements', 'clinical placements', 'placements', 'practice learning' or 'practice education'. For the purposes of this thesis, the following distinctions will be applied: placements or practice placements may be used interchangeably to mean the location, duration or learning opportunities afforded to students within a particular workplace setting which may or may not be clinical in nature. Practice learning is used to outline the learning that students undergo during the placement experience. Practice education is used as an umbrella term to encompass both placements and the learning that occurs on these placements. Finally, students "on placement" typically refers to a time period during which the student attends placement for some or all of the week, as opposed to attending solely university lectures that week.

As a result of the longstanding agreement that 1000 hours of practice education is required worldwide, occupational therapists who qualified after 1958 will themselves have experienced practice education in the form of 1000 hours of placement (WFOT, 2016). This means that all occupational therapists currently providing practice education placements for students will themselves have been through the same number of placement hours, no matter where in the world they qualified. Therefore, those therapists supervising students bring with them views on how or what might be learned that are developed within their own education. However, individual placement duration and placement settings are arguably likely to have changed dramatically during the intervening 65 years.

Students on placement in occupational therapy receive much of their instructional input from practicing occupational therapists who take on the role of Practice Educators (PEs), sometimes referred to as Practice Placement Educators (PPEs). To fulfil this role, occupational therapists need only to attend a short unassessed

course of one or two days, designed to help them to interpret the learning outcomes and complete a university's documentation appropriately. No formal teaching qualification is required, and no additional payment is offered. The support available to practice educators may vary depending on the service in which they work, the university for whom they provide placements and their own willingness to reach out for help. Some organisations run additional training and support for practice educators, allocating internal mentors or providing service-wide student inductions, tutorials, and other activities, whereas occupational therapists who practice alone or in smaller settings may receive no additional support.

1.4. About the setting

The study detailed in this thesis took place within a relatively small but rapidly growing university in the UK's geographical West Midlands. The BSc occupational therapy programme, which was fully accredited by the Health and Care Professions Council (HCPC) and Royal College of Occupational Therapists (RCOT) had been running for only six years when the study started, and the MSc (Pre-registration) programme was added the following year. The courses offered 64 and 22 places per year respectively at the time of the study. The BSc programme was unique in its inception as the first student-funded programme in the country, not fully subsidised by NHS bursaries, although by the time this study took place this was normal practice as bursary funding had been abolished. One remaining distinctive feature of the undergraduate programme was that first- and second-year placements were studied part-time alongside on-campus lectures, rather than in full-time placement blocks. Postgraduate student placements occurred in traditional blocks familiar to other UK programmes. The courses had a small teaching team of less than six staff and thus staff and students were well-known to one another.

1.5. About the researcher

This section will be written in the first person to enable links to be made between the researcher as an individual and the study that follows. With the exception of a further section in *Chapter 3* that addresses researcher positioning and a final section in *Chapter 10* in which the doctoral process is reflected upon, the remainder of the thesis will then return to the third person and the usual academic voice.

I qualified as an occupational therapist in 1996, in the third year of the degree programme, prior to which occupational therapists in the UK studied for a diploma in Occupational Therapy known as the Dip COT (Diploma of the College of Occupational Therapists). I was part of the first generation in my family to attend university, along with cousins on both sides, and the only person in my immediate family to do so. However, as I studied at a college which had an affiliation with a university with degree-awarding powers, rather than directly at the university, this was rather lost on me at the time, and I did not really consider myself to be a university student.

Like many, my route to occupational therapy was one of fortune and happenstance rather than a direct decision to enter the profession. As a teenager I had lost my mother, and I had found my deep involvement in theatre projects during her ill health and after her death to be incredibly cathartic, providing me with what I only later recognised as a sense of purpose and self that was separate to my distressing family situation. I had travelled to the Soviet Union as part of a youth theatre exchange group and subsequently participated in a school play with an international cast that toured from Somerset to the West End of London. As I progressed through my bereavement, I began to reflect on how much I gained from being able to work through my emotions through the medium of performing arts and wanted to be able

to share this with others who were troubled. I therefore made the decision that I wanted to be a drama therapist and began to explore routes into this profession. I quickly learned that in the mid-1990s, drama therapy was a postgraduate qualification, and I could either study drama or occupational therapy prior to specialising in drama therapy. I had never heard of occupational therapy, but I was able to recognise the positive impact of some of the small adaptations we had made for Mum as her health deteriorated, so I was interested in learning more and realised that it might offer me an appropriate 'stepping-off' point, if I decided that I didn't want to study for more than three years.

In reality, I believe that occupational therapy chose me over that time and by the end of my degree I had all-but forgotten about drama therapy. I started my career with a physical health rotation before spending 18 months as a wheelchair therapist and becoming intrigued by neurology in the process. This led me to accept a senior role on a stroke rehabilitation unit which defined the remainder of my clinical career. I would go on to work in the field of stroke rehabilitation for 14 years, achieving my MSc in neurological occupational therapy and setting up a community stroke rehabilitation service prior to entering higher education as a senior lecturer. During this time, I specialised in cognition, cognitive rehabilitation and the cognitive-language interplay and was particularly interested in the neural cognitive pathways required for the learning and re-learning of physical, cognitive and language skills. This interest and knowledge made for a smooth transition into higher education, as I was able to apply concepts relevant to learning to the student population.

Once working in higher education, I quickly took on a role as the placement lead, coordinating and developing practice education opportunities and seeking ways to improve students' practice education experiences. At the time I was considering

entering further study to enhance my skills as a researcher and therefore better support my students, the professional body changed their stance on the inclusion of simulation to replace practice hours. This put me in a unique position with the opportunity to further knowledge in an area of interest at a time where I was actively seeking research opportunities. As a healthcare professional with a responsibility to engage in ongoing professional development, I took the opportunity to self-evaluate at the start of my PhD study using the RCOT's four pillars of practice (*Appendix A*), and repeated this at the end to demonstrate my development across the duration of the study (*Appendix B*).

1.6. About the study

In 2018, a team of Australian researchers developed a 40-hour simulated occupational therapy placement which was studied with a randomised controlled trial (Imms *et al.*, 2018). It had been preceded with a cost analysis (Imms *et al.*, 2017) and was swiftly followed with a conceptual framework for designing such a placement (Chu *et al.*, 2019). Randomised controlled trials in occupational therapy are not commonplace, and therefore this study quickly drew global interest. At the time, simulation was not permitted to be utilised to count towards placement hours in the UK (College of Occupational Therapists, 2014), but 40 hours of simulation were permitted within the updated learning and development standards as a direct result of the randomised controlled trial (RCOT, 2019c).

Around the same time, the Royal College of Occupational Therapists commissioned a study to review their role in supporting practice education (Beveridge and Pentland, 2020). The researcher was a participant in this study, which was first reported on at the Royal College of Occupational Therapists national conference in 2019, and asked practice educators, university tutors and students about, amongst

other things, models of delivery of practice education placements, including simulation. The report concluded that respondents were not in favour of including simulation as part of the 1000 hours of practice education, but that simulation may have a role to play in preparing students for placement (RCOT, 2019a, p9). During the conference presentation, one of the authors suggested that there was “no appetite for simulation” in the UK at this time (RCOT, 2019b), and it was this assertion that served as the catalyst for this study.

The current study was initially conceived to explore whether simulation could, in fact, be an appropriate replacement for practice education hours. The study commenced during a time of increasing student numbers both at the university and nationally, and the challenge of placing all students for the required number of hours. The occupational therapy course at the university within which the study took place has a history of innovation which led the researcher to question the collective views expressed within the Royal College’s recent review (RCOT, 2019a). The initial project proposal was to explore the implementation of simulation package(s) for 40 hours practice, with a focus on effectiveness as a replacement for placement hours as well as potential further benefits. However, through the initial stages of the study it became clear that in order to create and implement a simulation package, it was necessary to understand what that package should contain. Therefore, the focus of the study shifted towards understanding what it is that students learn during their placement so that this could be considered when developing a simulation package.

In understanding the timing of this study, it is important to consider the position of occupational therapy within the world of simulation. As discussed in detail in *Chapter 2*, the evidence base for occupational therapy lags behind that for other health care professions such as nursing and medicine (Grant *et al.*, 2021). It is possible that part

of the reason is that the unique skill set possessed by occupational therapists lies largely in listening to and understanding others' occupational needs and communicating suggestions for change, rather than in hands-on practical skills that lend themselves to some simulation methods. This will be discussed further in *Chapter 9* when considering implications for practice.

The research journey is never linear, and the resulting project appeared at times to have moved away from the concept of simulation. However, the overarching research storyline (Urquhart, 2013) helps to bring this back into focus. The study that follows begins by exploring what simulation is in relation to occupational therapy education and recognises that it may differ to some other professions. This leads to the development of the final research question "What skills, knowledge and behaviours are learned during Student Occupational Therapists' early exposure to practice in the course of their first assessed placement?" Consideration was then given as to whether these could be effectively replaced with simulated learning – however it became clear that answering this second part of the question would be outside of the scope of this doctoral research project.

The storyline of the project (*Figure 1-1 Project Storyline*) shows how different parts of the project unfolded and supports understanding of the structure of this thesis. A standard structure is followed for *Chapter 1 – Chapter 5* of introduction, initial literature review, research methodology, methods, and findings. However, the later chapters reflect the storyline and methodology in their deviation from the norm. *Chapter 6* discusses the significance of the findings in the context of existing knowledge, relating the pre-theory findings to the ongoing literature review presented in *Chapter 2*. *Chapter 7* then further abstracts the findings to develop the theory of learner availability in practice, which itself is discussed in relation to the literature

pertaining to education theory in *Chapter 8*. The traditional “discussion” chapter culminates in *Chapter 9*, when the implications of all the findings and theory developed to date are discussed in relation to practice, including the consideration of simulation as both adjunct to and replacement for practice learning hours. Recommendations for practice are included within this chapter. Finally, limitations of the study are considered and conclusions drawn in *Chapter 10*.

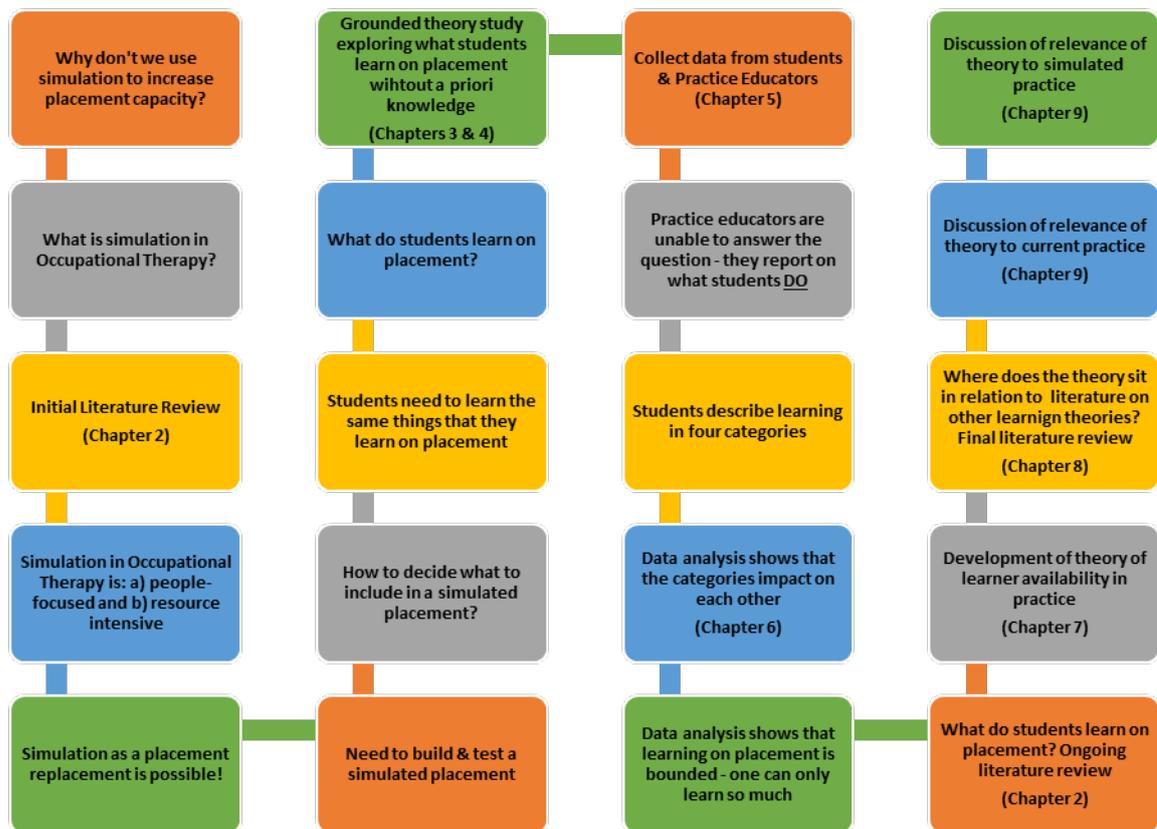


Figure 1-1 Project Storyline

Author's own creation, 2024

Chapter 2 Literature Review

This chapter explains the debate relating to the locating of the literature review within the chosen methodology of the study and justifies the presentation of literature at this stage of the work. It then presents two reviews of the literature: a scoping review which outlines the need for research in the area of occupational therapy and simulated practice, and a review of literature related to student learning during practice education. The purpose of a further literature review, found in *Chapter 6*, is also explained.

2.1. Purpose of the literature review in Grounded Theory Methodology

Whilst it may seem counter intuitive to discuss methodological consideration prior to exploring the underpinning methodology, the nature of the grounded theory methodology selected for this research influences the timing and purpose of the literature reviews. The methodology's originators eschew reliance on *a priori* knowledge (Glaser and Strauss, 1967), which some authors have interpreted to mean that literature should be avoided prior to data collection (Covan, 2007). However, others offer a more relaxed approach to timing of the literature review (Lempert, 2007) recognising that differences exist between establishing a need for research and including *a priori* knowledge in the study design. Thornberg and Dunne (2019) distinguish between different forms and phases of literature, describing these as 'initial', 'ongoing' and 'final'.

What follows constitutes a two-part review of relevant literature, undertaken at different times during the study: the 'initial' literature review, which took place early in the research process prior to data collection, and the 'ongoing' literature review relevant to the final research question which was carried out following data

collection. The ‘final’ literature review is presented in *Chapter 8*. The purpose of the initial review, presented first, is to familiarise the researcher with the concept and practice of simulation within Occupational Therapy education and begin to identify the location of the researcher within the subject. Its intention was to provide a basis for the research design and was therefore conducted before the grounded theory approach was adopted. The purpose of the ongoing review, which is presented second and was conducted after data collection in line with grounded theory convention, is to identify the specific research gap. This allowed for data to be collected and theory formulated without reliance on *a priori* knowledge (Glaser and Strauss, 1967). Consequently, presentation of themes in the ongoing literature review uses language developed during the process of data analysis. The purpose of the final review is to situate the fully developed theory in the context of the literature.

2.2. Initial Literature review

The initial literature review is reported below in the format of a publication titled: “A scoping review into the use of simulation within occupational therapy education” which was published in the Australian Occupational Therapy Journal online in March 2021 and in print in August 2021 (Grant *et al.*, 2021). The work is published with multiple authors according to contributions as defined using the CRediT taxonomy (Allen, O’Connell and Kiermer, 2019), which are laid out in the publication. The researcher carried out the review and wrote the original draft of the paper. The remaining authors, comprised of the researcher’s supervisory team, contributed to review and editing of the manuscript, supported conceptualization and provided supervision to develop methodology.

A scoping review was chosen for this paper as a suitable method to explore a topic that remains broad and for which it was necessary to include literature generated by

a range of study designs (Arksey and O'Malley, 2005). This style of review supports refining of the research question by mapping the available literature and identifying key concepts and gaps (Grimshaw, 2010), and therefore its breadth was appropriate in the early stages of the project.

The review established the current position of simulation within the profession, aiding understanding of the term “simulation” as it is applied to occupational therapy, recognising differences between individual perception and different types of simulated activity. At the time of submission of this thesis it has been cited by 21 additional texts (Google Scholar, 2023). The published text is presented on a new page, in an indented format and without indexed subheadings to denote its position as an independent piece of work. Tables and figures remain indexed for ease of navigation.

2.2.1. The use of Simulation in Occupational Therapy Education: A Scoping Review

Abstract

Introduction: Simulated learning experiences are a common feature of many health professions' pre-registration curricula. However, the use of simulation within Occupational Therapy is still largely undefined. This scoping review seeks to identify and summarise the available evidence exploring the use of simulation within Occupational Therapy pre-registration education.

Method: A search was conducted in four databases for articles published between 2009 and 2020 to identify international literature relevant to the use of simulation within occupational therapy education. Articles were evaluated using the appropriate Critical Appraisal Skills Programme (CASP) tool and key features and benefits of current simulation education were identified using thematic analysis.

Results: 32 papers were included within the review. Four themes were identified and explored: simulation methods, authenticity, global approaches to simulation and relationship to practice education.

Conclusion: Simulation is taking place in many different forms within occupational therapy internationally. It is positively

received by students and may provide an effective replacement for practice education if focused on professional standards and competencies. Further research into the potential effectiveness of simulation in relation to practice learning is indicated.

Introduction:

The importance, effectiveness and satisfaction of using simulation as an adjunct to teaching across the medical and allied health professions has been widely discussed (Hellaby, 2013). A variety of literature supports the benefits of simulation to undergraduate education in nursing, medicine and physiotherapy, among other professions (Buckley *et al.*, 2012). The links to social transaction in the formation of professional identity and situated learning, and the importance of contextual information in student learning has led nursing to consider simulation as a pedagogy in its own right (Berragan, 2011). However, it is important to recognise that different health professions require different skill sets, as evidenced by variations in the standards of proficiency set forth by professional and regulatory bodies.

Occupational therapists whose only experience of simulation is the use of mannequins for the practice of cardiopulmonary resuscitation may question relevance to the profession. Defined as a hypothetical opportunity that incorporates an authentic representation of reality, facilitates active student engagement

and integrates the complexities of practical and theoretical learning with opportunity for repetition, feedback, evaluation and reflection (Bland, Topping and Wood, 2011), simulated learning has much greater potential than mannequin use would suggest. However, the occupational therapy profession has not been forthcoming in integrating such methods into regular practice (Bennett *et al.*, 2017).

The substitution of simulated learning for practice education in occupational therapy is also comparatively new, with Australian students permitted to undertake up to 20% of their 1000 hours with a “well-designed simulation experience” (OTC, 2013, p13) and British pre-registration education programmes able to replace up to 40 of the required 1000 hours of practice education (4%) with simulated practice. Although the precise design and delivery of simulated practice is not defined, Imms *et al.* (2017) suggest an experience offering high levels of authenticity and complexity which should directly replicate real placement interactions, and should be assessed in a similar manner.

Noting the absence of systematic reviews and the limited previous literature reviews (Yeung, Dubrowski and Carnahan, 2013; Bennett *et al.*, 2017), this scoping review seeks to explore the evidence base for simulated learning currently being used within the occupational therapy profession.

Method:

The scoping review was undertaken following the six-step methodological framework identified by Levac, Colquhoun, & O'Brien, (2010) as follows:

1. Identify the research question
2. Identify relevant studies
3. Select studies
4. Chart data
5. Collect, review & summarise results
6. Consultation

In order to develop a clear picture of the current use of simulation within occupational therapy education, this review sought to include both an understanding of the types of simulation currently used in occupational therapy education and an exploration of the evidence base to support its use. The research question identified to guide the review was “What is the evidence that simulation is being used as an educational approach within pre-registration occupational therapy education?”

Searches for full-text articles using the terms Occupational Therap* AND simulation AND education were carried out using the Cumulative Index for Nursing and Allied Health Literature (CINAHL), MEDLINE, PsycINFO® and Academic Search Complete for the period 2009 - 2019 yielding a total of 112 results, with a further five papers identified from reference

searches. The ten-year search period was selected to ensure that current practice was being reviewed, in recognition of this rapidly developing area of practice. A pre-publication update to include papers published in 2020 identified four additional papers bringing the total to 121.

Study titles and abstracts were reviewed by one author using the PICOT model (Aveyard and Sharp, 2013) to ensure relevance, leading to the removal of duplicates (n=16), conference abstract (n=1) and the elimination of a further 72 papers where the focus of study was not the pre-registration education of Occupational Therapy students. Excluded results included papers focussed on other allied health professions where Occupational Therapy students did not participate, studies in which the simulation was used as a client intervention, and studies where simulation was used to train qualified health professionals. The remaining papers (n=32) stood up to scrutiny using the appropriate CASP checklist (CASP Checklists, 2019), although variation in relation to rigour was noted and reported on where appropriate. This meant that no further selection process was required (see *Figure 2-1 Search Process*)



PRISMA 2009 Flow Diagram

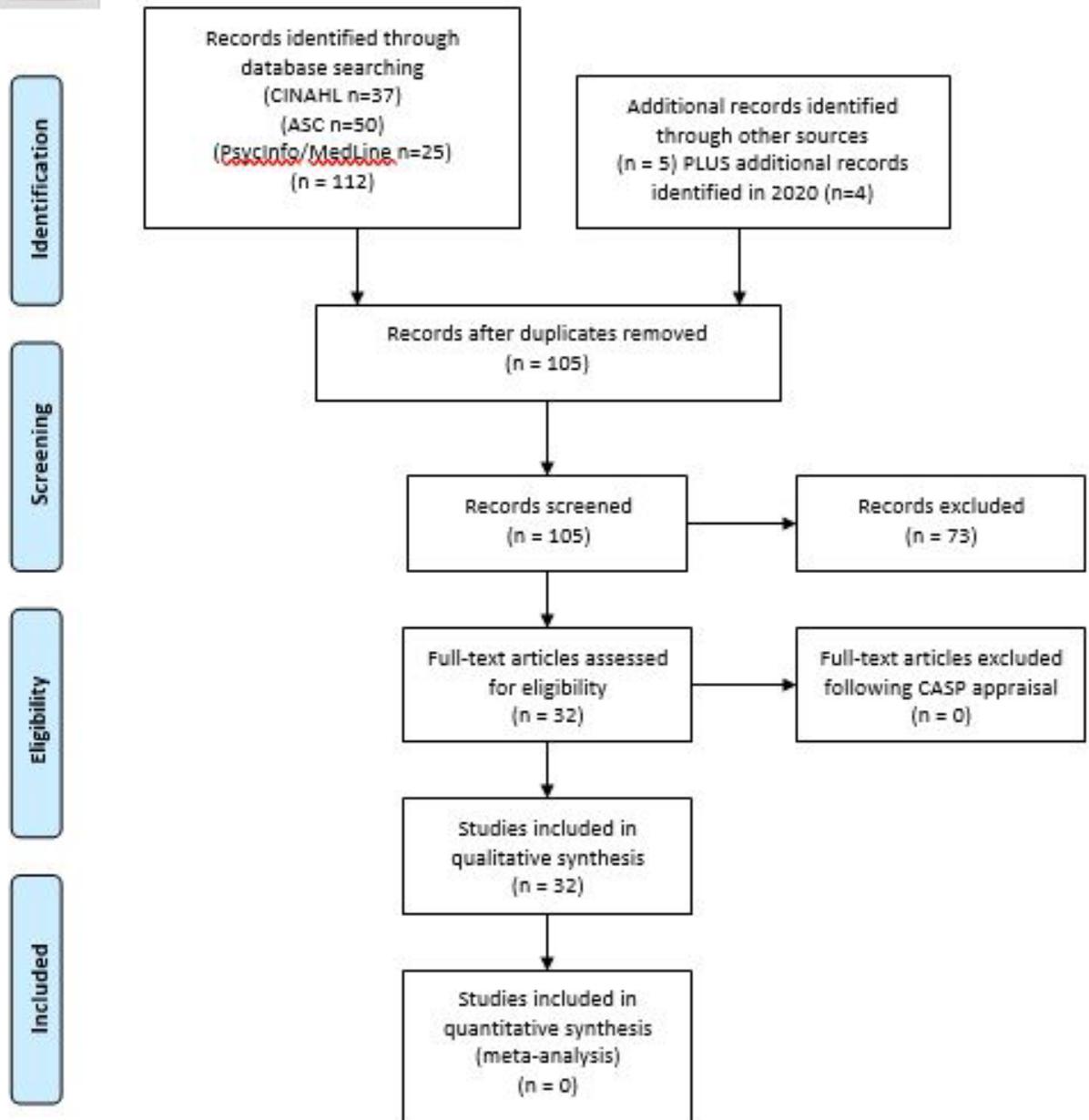


Figure 2-1 Search Process

(adapted from PRISMA 2009)

Data charting took place in line with Arksey & O'Malley's (2005) narrative review. Key information regarding author geography, type of simulation, type of study, and results were extracted via an iterative process, re-reading papers on multiple occasions to ensure that all relevant data was extracted. Use of CASP identified the methodology used by each study, evaluated its appropriateness for the topic and ensured that analysis was sufficiently rigorous to warrant inclusion. Studies from a wide range of sources including Occupational Therapy specific journals, interprofessional education journals teaching publications and health-condition specific publications were included. An inclusive approach was taken in respect of study methods, which are identified below.

The collation and summarising of results was completed by the primary author. Results are reported following Levac et al.'s (2010) recommendations of numerical summary, thematic analysis and implications of findings.

Consultation took place with the additional authors throughout the process of reviewing literature, primarily during stages four and five. All authors were instrumental in supporting the verification of the appropriateness of themes and findings in the context of the current simulation discussion within other health care professions.

Study Methods

Of the 32 studies identified, 26 reported primary research, with seven using a solely quantitative methodology including one randomised controlled trial, nine using a combination of quantitative and qualitative measures in various forms, and ten approaching the subject from a qualitative perspective only (see *Table 2-1 Origin and type of study*). 24 studies carried out post-simulation evaluations, of which four also incorporated pre-test findings. Most studies were carried out with students immediately following the simulation experience, although one assessed students' views post-qualification. Twenty-two of these studies focused on student perceptions with 10 attempting to quantify these perceptions and six also measuring outcomes using a variety of methods. One comparative cohort study did not include student evaluations and one study reported on the opinions of faculty members on the use of simulation.

Remaining literature included two literature reviews (Yeung, Dubrowski and Carnahan, 2013; Bennett *et al.*, 2017) and two descriptions or recommendations of simulation methods and processes without analysis (Treadwell and Havenga, 2013; Shea, 2015). One national survey of the use of simulation in practice (Bethea, Castillo and Harvison, 2014) and one protocol paper for a randomised controlled trial (Imms *et al.*, 2017) were included.

Table 2-1 Origin and type of study

Year	Country of publication	Author	Study Design	Focus
2009	USA	Velde et al	Post-sim evaluation	Student perception
2011	USA	Sabus et al	Post-sim evaluation	Student perception
2011	USA	Shoemaker et al.	Post-sim evaluation	Student perception
2013	UK	Bradley et al	Post-sim evaluation	Student perception
2013	Africa	Treadwell & Havenga	Recommendations for practice	N/A
2013	Aus	Watchorn, V. et al.	Pre-post test	Student perception
2013	Canada	Yeung et al	Literature review	N/A
2014	USA	Bethea et al	National survey	Sim types used by HEIs
2014	USA	Giles et al.	Post-sim evaluation	Student perception
2014	USA	Shoemaker et al.	Post-sim evaluation	Student perception
2015	USA	Cahill	Post-sim evaluation	Student perception
2015	Aus	Haracz et al	Post-sim evaluation	Student perception
2015	USA	Shea	Recommendations for practice	N/A
2016	USA	Ozelie et al.	Comparative cohort study	Measure of effectiveness
2016	Africa	Pitout et al.	Post-sim evaluation	Student perception
2016	Africa	Vuuren	Post-sim evaluation	Student perception
2017	Aus	Bennett et al.	Literature review	N/A
2017	Canada	Gee et al.	Post-sim evaluation	Student perception
2017	USA	Gibbs et al	Post-sim evaluation	Student perception
2017	Aus	Imms et al.	Proposal	N/A
2017	Canada	MacKenzie et al.	Post-sim evaluation	Student perception AND effectiveness
2017	USA	Thomas et al.	Pre-post test	Student perception AND effectiveness
2018	Aus	Imms et al.	RCT	Measure of effectiveness
2018	Aus	Lewis et al	Post-sim evaluation	Student perception AND effectiveness
2018	Canada	Mackenzie et al.	Post-sim evaluation	Student perception
2018	Aus	Springfield et al	Pre-post test	Student perception
2018	USA	Zamjahnet al.	Pre-post test	Student perception
2019	Aus	Mills et al.	Post-sim evaluation	Student perception AND effectiveness
2019	USA	Reichl et al	Post qualification reflection	Student perception
2019	USA	Walls et al	Post-sim evaluation	Student perception AND effectiveness
2020	South Africa	Van Wyk et al	Quantitative descriptive study	Faculty perception
2020	USA	Wu & Shea	Post-sim evaluation	Student perception

Of the literature identified, 20 papers reported on simulation for occupational therapy students alone, whereas the remaining 10 included occupational therapy students as part of an interprofessional group with other students from medical, nursing, pharmacy, physiotherapy, speech and language therapy, dietetics or architecture courses.

Thematic Analysis

Thematic analysis of results followed Braun & Clarke's (2006) steps. Initial codes were collated and grouped into potential themes and further reviewed and refined until the final themes of types of simulation, authenticity, global approaches and relationship to practice education were defined to allow for synthesis of findings of student perception.

Theme 1: Simulation methods

The review found that various methods of simulation have been used in pre-registration education, and an overview of different methods are provided in *Table 2-2 Interactive and Non-interactive Simulation Techniques*. Simulation methods were divided into interactive simulation, in which students engaged with simulated patients, mannequins or virtual reality systems, and non-interactive simulation, where the student receives a video or text-based case study.

Interactive Simulation

The most frequently reported method was that of standardised or simulated patients. This simulation modality takes the form of a patient or client being portrayed by an appropriately trained individual (Velde, Lane and Clay, 2009), often following a standardised script or protocol. Whilst these are frequently played by medical actors, there is some reference to lecturers (Sabus, Sabata and Antonacci, 2011; Bradley, Whittington and Mottram, 2013) taking on these roles in order to reduce cost. Role-play, in which the role of the patient is played by a classmate or staff member, was considered less authentic by students (Vuuren, 2016). The authenticity of interactive methods using standardised or simulated patients was identified as a key factor in the success of simulation (Giles *et al.*, 2014; Cahill, 2015; Haracz, Arrighi and Joyce, 2015; Vuuren, 2016; Gibbs, Dietrich and Dagnan, 2017).

One study explored the use of people with stable chronic medical conditions, known as expert patients, concluding that students' ability to practice in a client-centred way was enhanced following this activity (Cameron and McColl, 2015). However, the lack of structured learning strategies during the interactions with expert patients suggest they may not be characterised as simulated learning.

The use of mannequins, discussed in five papers, appears more common in North America, with no studies from other countries involving this form of simulation (Ozelie *et al.*, 2016; Gibbs, Dietrich and Dagnan, 2017; Thomas *et al.*, 2017, Zamjahn *et al.*, 2018; Reichl *et al.*, 2019). Mannequin simulation appears to be common practice within other healthcare professions (Evans, Taubert and Deanery, 2019) and comprises a range of equipment from, at its most basic, part-task models which allow students to practice one specific task, through to human simulators which take the form of full-body human mannequins equipped with sensors to simulate changes in homeostatic functions.

Virtual reality (VR) in which an entire virtual environment is created was also evaluated positively though less frequently used (Sabus, Sabata and Antonacci, 2011; Watchorn *et al.*, 2013). Sabus *et al.* (2011) built a training environment within the SecondLife® platform to enable students to carry out a virtual home assessment for a simulated patient who was played by a staff member. Watchorn *et al.*, (2013) utilised the same platform to enable students to practice principles of inclusive design. Both studies found that using the platform was not entirely intuitive and students needed time to learn to use it effectively before participating in the simulation. In addition, the single virtual environment described by Sabus *et al.* (2011) took a team of staff approximately 50 hours to develop,

suggesting that the time and effort required to develop and use SecondLife® may make such a system impractical. Whilst only two included studies used VR, it was noted that several excluded papers used this modality when working directly with clients.

Results from all studies suggest that students find the use of simulated patients, along with mannequin simulation, to be a valuable addition to their learning.

Non-interactive simulation

The review identified a number of common methods to convey information about a 'client' to students. Bennett *et al.*'s (2017) extensive literature review identified a number of papers using paper-based case studies, in which students read about a person's needs and challenges, and video-based case studies, in which students may observe the individual either talking about, or carrying out, occupations which they wish to develop. Case studies have been challenged as lacking the richness and challenges provided by interactive simulation (Bennett *et al.*, 2017). Whether case studies in any format meet the definition of simulated learning is a debate that is wider than the scope of this report, and it is recognised that there exists a wide range of literature using these methods which is not identified as simulation and therefore not identified as part of this review. Nevertheless, studies defining case study methods

as simulation were noted to provide valuable opportunities for interprofessional learning, enhanced communication and team functioning (Gee *et al.*, 2017; Lewis, Rudd and Mills, 2018; MacKenzie *et al.*, 2018; Mills *et al.*, 2019).

Table 2-2 Interactive and Non-interactive Simulation Techniques

Interactive Simulation				
Type of Simulation	Characteristics	Author(s)	Benefits	Limitations
Standardised patients (SP)	Students interview "patients" who are NOT played by students or staff Scenario set by educators Patients trained in scenario Patients give feedback	Velde, Lane and Clay (2009) Shoemaker <i>et al.</i> (2011) Treadwell and Havenga (2013) Giles <i>et al.</i> (2014) Cahill (2015) Haracz, Arrighi and Joyce (2015) Pitout <i>et al.</i> (2016) Thomas <i>et al.</i> (2017) Springfield, Honnery and Bennett (2018) Imms <i>et al.</i> (2018) Walls, Fletcher and Brown (2019)	Good mimic of "real" situation Fidelity can be enhanced by careful planning of the environment, use of appropriate moulage and dress (Treadwell and Havenga, 2013) Interaction can be recorded for self-analysis by student Low technology, high fidelity (Shoemaker 2011) Additional feedback route (SP can provide feedback on student performance)	Patients require training although medical schools may already use SPs) Ongoing cost to pay SPs SPs need to be appropriately skilled to demonstrate real emotions, and express the needs, expectations and fears of a patient.
Mannequins and / or part-task trainers	Use of computer aided mannequins that mimic physiological responses	Gibbs, Dietrich & Dagnan (2017) Ozelie <i>et al.</i> , (2016) Thomas <i>et al.</i> , (2017) Zamjahn <i>et al.</i> (2018) Reichl <i>et al.</i> (2019)	Reduced risk to people Opportunities to develop awareness of other professions skill set	Availability & cost of mannequins Relevance to Occupational Therapy
Virtual environment	SecondLife® Users interact (through computer hardware & software) in an environment without physically being in it	Sabus, Sabata and Antonacci, (2011) Watchorn <i>et al.</i> (2015)	Students can practice risky tasks without putting an actual patient's well-being in jeopardy. Fully customisable Temporal control (can recreate past and future) SecondLife® is free (?) Allows for low-risk but sensitive activities such as end of life conversations All students can access the same environment (or not) Areas can be set to restricted view so only students can access	Land has a cost implication in SecondLife® (although not expensive) Time to build appropriate resource(s) Requires a staff member to role-play the client Not as useful as real-life simulations (Watchorn <i>et al.</i> , 2013) Steep learning curve in achieving basic proficiency in SecondLife® - high levels of attrition
Expert patients	People with real but stable conditions interact with students	Cameron and McColl (2015)	Minimal cost Students gain exposure to individuals who have not been trained in how to interact with them Puts the client at the centre of the experience Students experience people with real health conditions	This particular study does not constitute simulation as no attempt was made to replicate a "real-life" therapy situation (no part of the OT process was replicated)
Team simulations	Students use stimuli such as written case reports, client notes, video footage, virtual cases The simulation occurs in the form of an interprofessional meeting	Shoemaker <i>et al.</i> (2014) MacKenzie <i>et al.</i> (2017) Mills <i>et al.</i> (2019)	Minimal cost Prepared materials can be re-used No additional training required	Could be argued that this is not simulation at all but simply IPL? Scheduling & curriculum alignment challenges
Role play	Students interview patients who are played by staff or other students	Bradley, Whittington and Mottram (2013) Vuuren (2016) Lewis, Rudd and Mills (2018) Mills <i>et al.</i> (2019)	Minimal cost Enhance fidelity by making environment as realistic as possible Provides a role in the simulation experience for more students	Lack of fidelity / realism
Non-Interactive Simulation				
Computer based virtual case	Virtual patient based on case study information available electronically	Shoemaker <i>et al.</i> (2014)	Helps students from different programmes to collaborate Commercially available Similar findings to those of large IPE Sims Less resource-intensive	Software needs to be edited to provide appropriate information for OT assessment Reduced authenticity / fidelity?
Video case studies or scenarios	Written or video resources are created to provide students with as much information as possible about the client	Lewis, Rudd and Mills, (2018) Mills <i>et al.</i> (2019)	Students are able to make observational assessments rather than relying on others' interpretation Allows students to observe other professionals interacting with clients	Are case studies really simulation? What is being simulated here? There appears to be few or no links to simulation identity
Written case studies	Written resources are created to provide students with as much information as possible about the client	Identified in an extensive literature review by Bennett <i>et al.</i> (2017)	Low cost	Are case studies really simulation? What is being simulated here? There appears to be few or no links to simulation identity Low fidelity
Real-life simulation	Students simulate impairments in function on themselves (ie, wheelchair use, visual impairment, GERT suits)	Watchorn <i>et al.</i> , 2013	Students found helpful to make theoretical learning real Provided a social and emotional element to student learning	Unable to gain service user feedback or perception on activity

Theme 2: Authenticity

There is consistent agreement within the literature that for simulation to be effective, a high level of authenticity, described as fidelity, is required (Shea, 2015). Discrepancies exist between authors about what constitutes a high-fidelity learning environment, with realism being described by varying authors as being achieved by the use of technological equipment and by the use of simulated patients, although not within the same studies.

Gibbs, Dietrich and Dagnan (2017) utilise the terminology 'high-fidelity' to describe computerised human simulators. The mannequin studies identified in this review utilise sophisticated technology-enhanced mannequins, that reproduce physiological responses such as changes in heart rate, pulse and oxygen saturation to enhance the realism of the situation. Students stated that they preferred the mannequin simulation to that of a classmate because the mannequin is unable to unintentionally help them out, although no comparisons are drawn between mannequins and actors (Gibbs, Dietrich and Dagnan, 2017)

Psychological fidelity, the degree to which the simulation mimics the real task, is considered of greater importance than engineering fidelity, the degree to which the equipment reproduces physiological changes, by Bradley, Whittington and

Mottram (2013). Development of communication skills and empathy, which students identified as beneficial within simulated patient studies (Shoemaker *et al.*, 2011; Giles *et al.*, 2014; Pitout *et al.*, 2016; Bennett *et al.*, 2017), has not been explored in relation to fidelity and may not be supported by mannequin based learning. Bradley, Whittington and Mottram (2013) suggest that the mannequin simulations often referred to as ‘high fidelity simulation’ may lack relevance to the occupational therapy profession, although there is evidence that they are used successfully within North America (Ozelie *et al.*, 2016; Thomas *et al.*, 2017; Zamjahn *et al.*, 2018).

Theme 3: Global Approaches to Simulation

North American authors were responsible for over half of the identified literature (n=18), of which 14 were based in the US and four in Canada. Eight papers by Australian authors were included, and small numbers of papers were found by African (n=3) and British (n=1) authors. Differences are noted between locations in both the types and purpose of simulation experiences which may be reflective of the different healthcare systems.

Despite a national study of Higher Education Institutions in the US reporting that the most frequently used simulation methodology is the standardised patient – a person trained to play the role of a patient or carer - (Bethea, Castillo and

Harvison, 2014), the literature suggests that occupational therapy education in America focuses on using simulation to expose students to medical emergencies and medically complex environments, using elements of mannequin simulation. Thomas *et al.* (2017) and Gibbs, Dietrich and Dagnan (2017) simulated the intensive care unit experience with a combination of mannequin and human simulators whilst Ozelie *et al.* (2016) included a mannequin-based medical emergency as one of four simulations. Results from Canadian authors identifies only the use of a case-study approach to simulation (Gee *et al.*, 2017; MacKenzie *et al.*, 2017).

The African studies identified contribute to the evidence base from pre-post evaluative methodologies of simulated patient studies (Pitout *et al.*, 2016; Vuuren, 2016) and considered faculty perceptions of similar simulations (Van Wyk, Labuschagne and Joubert, 2020), and the only British study included utilised a post-simulation evaluation of role play.

Australian literature spans a breadth of types of simulation ranging from non-interactive simulation using video case-studies (Lewis, Rudd and Mills, 2018; Mills *et al.*, 2019) through pre-post evaluation using both simulated patients and mannequins (Springfield, Honnery and Bennett, 2018) to a simulated clinical placement (Imms *et al.*, 2018). The most recent studies from Australia explore the relationship with practice learning (Imms *et al.*, 2017, 2018; Chu *et al.*, 2019),

and include the only randomised controlled trial (Imms *et al.*, 2018).

Theme 4: Relationship to Practice Education

The relevance of simulation to practice learning appears inherent, given the intention to replicate practice in a safe and controlled environment to facilitate the application of learning (Cant and Cooper, 2010). Despite this, the relevance of simulation to students' placement experience is only discussed explicitly in three papers. Giles *et al.* (2014) identify simulation as a well-received assessment tool to ensure students' readiness for practice, in line with a national requirement in the USA for examination before the commencement of 'Fieldwork II', the placement which US students undertake at the end of their academic programme. This study identified a desire by students to increase the amount of simulation available throughout the curriculum but noted the relative resource intensiveness. Ozelie *et al.* (2016) explore the impact of simulation on practice placement grades, again focusing on Fieldwork II, finding no benefit to grades.

Only one study directly comparing simulated learning with practice based learning was identified (Imms *et al.*, 2018), with this group of authors contributing significantly to the evidence base (Imms *et al.*, 2017, 2018; Chu *et al.*, 2019). This study concludes that the use of a clearly defined simulated

placement, designed with attention to authenticity and complexity, in comparison with a traditional placement of the same 40-hour duration within the early years of a pre-registration occupational therapy programme is equally effective in enabling students to meet their prescribed learning outcomes. Chu *et al.* (2019) recognise that design of the placement in line with nationally agreed standards could provide reassurance to students, clinicians and educators that simulation is effective in replacing practice education.

Findings

Qualitative findings

The majority of identified papers (n=25) investigate students' perceptions of the simulation experience. Results from these studies all identify a positive perception of the simulation experience by students and provides good evidence to suggest that simulation is of value within the Occupational Therapy pre-registration curriculum. No studies identified a negative perception, and although feedback was given by students on ways to improve the experience in all studies, this tended to relate to timing of feedback (Vuuren, 2016), whether the students felt that their classroom learning prepared them for the simulation (Mills *et al.*, 2019) and other issues specific to the study environment.

The key findings of these studies can be synthesized to enhance understanding of the ways in which simulation is perceived as beneficial. Based on these studies, simulation has been demonstrated to enhance professional identity and develop inter-professional knowledge, improve communication skills, increase critical thinking and decision making, and develop confidence, autonomy and self-efficacy.

There is good evidence to support the value of simulation to enhance interprofessional learning with eight studies investigating student perceptions of different simulation methods for developing inter-professional practice skills. Within these studies, outcomes were focused on developing knowledge of other professions rather than considering the specific impact of the simulation itself (Treadwell and Havenga, 2013; Shoemaker *et al.*, 2014; Pitout *et al.*, 2016; MacKenzie *et al.*, 2017; Thomas *et al.*, 2017; Zamjahn *et al.*, 2018; Mills *et al.*, 2019; Van Wyk, Labuschagne and Joubert, 2020).

However, simulation appears to be a common method for enhancing interprofessional learning, and Pitout *et al.*, (2016) note that the skills developed by interprofessional simulation are client-centred care, knowledge of other professions and social and communication skills, all of which are considered to be central to the occupational therapy profession (WFOT 2010, cited by College of Occupational Therapists, 2015).

Communication skills with other professionals, rather than with clients, are highlighted in mannequin-based studies, with Reichl *et al.* (2019) finding limited impact on communication and one participant in Thomas *et al.*'s (2017) study commenting that working with a mannequin did not encourage appropriate communication. Although Ozelie *et al.*, (2016), Thomas *et al.*, (2017) and Zamjahn *et al.* (2018) acknowledge the importance of developing empathy, none of the studies report directly on development of this skill.

Quantitative findings

Seven studies measure the effectiveness of simulation using quantitative methodologies, with five studies using post simulation design to quantify the student experience. Findings reflect those of the qualitative studies, with all studies demonstrating positive changes in learning measured. The lack of control studies is identified by Bennett *et al.* (2017) with the recommendation that further studies of this nature are required, and this review found only two studies which measured the effectiveness of simulated learning against a control group as described below. (Ozelie *et al.*, 2016; Imms *et al.*, 2018).

Ozelie *et al.* (2016) retrospectively analysed the grades of students who received simulated learning prior to a placement experience and those who did not, finding no significant difference in the scores. In fact, in some areas of practice those

who had participated in simulation achieved lower mean scores than those who had not. Results demonstrate a positive impact within the domain of communication for the students who had experienced simulation, although this did not reach the threshold for statistical significance.

Imms et al. (2018) carried out the largest trial to have taken place with regards to simulation within Occupational Therapy. They compared outcomes of a 40-hour simulated placement with those of a 40-hour traditional placement. This robust Australian multi-centre randomised controlled trial identified that students undertaking simulated placements achieved non-inferior outcomes to those undertaking traditional placements.

Discussion

This review of 32 publications on simulation in occupational therapy education demonstrates that despite differences with regards to the type of simulation studied, research design and project aims, simulation is being used in a variety of ways within occupational therapy pre-registration education. Benefits to students appear to be demonstrated across all studies, however there is a lack of rigorous studies and objective outcome measures for simulated learning in occupational therapy. The diversity of simulation methods and lack of objective outcome measures makes it difficult to draw any more

specific conclusions, and the need for further research continues.

It is clear that within Occupational Therapy, the main type of simulation is the use of simulated patients rather than mannequins. The literature suggests that there may be a place for mannequin simulation to support practice of technical skills and interprofessional communication alongside the use of simulated patients (Gibbs, Dietrich and Dagnan, 2017; Thomas *et al.*, 2017)

The preference towards the use of simulated patients may be indicative of the way in which the profession is practiced. To understand the central professional concept of a person's occupational identity, occupational therapists value the uniqueness of each individual, giving rise to the essential nature of person-centred practice (Sumsion, 2006). In direct contrast to professions which follow a process-driven approach, occupational therapists need to be able to access the clients' core beliefs, values and wishes. To achieve this, interactive and conditional reasoning are used rather than formal strategies such as diagnostic or hypothetico-deductive reasoning that may be more common in other health professions (Sole *et al.*, 2019). This leads therapists to use techniques such as interviewing and observation as key assessment skills, which may present challenges to simulation

by technology or mannequins but be more easily achieved by working with simulated patients.

Simulation designed to replicate human aspects of professional practice is considered valuable by students and educators. The ability to carry out skills such as taking an occupational history and interviewing to ascertain a person's valued occupations in a safe environment, combined with detailed debriefing, enables students to develop therapeutic communication skills which can be practiced and enhanced. The unique role of simulated patients can provide students with feedback from a client's perspective, enabling them the opportunity for reflection on and evaluation of these skills. Simulation can also provide a structured method for service user and carer involvement in all levels of education, as required by the regulator, by participating as simulated patients and carers (HCPC, 2017).

Using non-interactive simulation strategies for students to practice their skills has been taking place for some time within occupational therapy programmes without attracting the label of 'simulation'. Learning from case studies, practicing assessments on classmates and discussions with service users and expert patients are commonplace (Bethea, Castillo and Harvison, 2014; Bennett *et al.*, 2017). Although it is possible that the lack of realism inherent in these activities causes programmes and individuals to refrain from calling such tasks simulation, their structured combination, together with attention

to the details of the environment which enhance fidelity (Velde, Lane and Clay, 2009; Bradley, Whittington and Mottram, 2013; Bennett *et al.*, 2017), may be key in their identification as simulation activities.

The identification of the benefits of simulation to enhance team skills such as communication and collaboration (Shoemaker *et al.*, 2014; MacKenzie *et al.*, 2017) bodes well for the future of simulation within occupational therapy, as these core skills underpin the ability to work in an occupation-focused manner with clients. The interpretation of interprofessional simulation results could readily be applied to the profession to provide an appropriate evidence base to develop and identify the role of simulation within Occupational Therapy.

Enhancing fidelity, which may be achieved by addressing the environment in which the simulation takes place, should be easily achieved by occupational therapists who are experts in the impact of the environment on performance. Wearing uniform and carrying out activities with simulated clients within an authentic environment, such as a living room, bedroom or simulated ward, may contribute to a high-fidelity occupational therapy simulation.

Literature included in this review which relates simulation directly to Practice Education is limited. However, the notion that simulation enables students to develop confidence,

autonomy, and self-efficacy, as well as communication and professional skills, should be considered in relation to practice performance. As the profession diversifies in relation to changes in health care provision, placement experiences have become increasingly diverse (Glenn and Gilbert-Hunt, 2012) and student experiences can vary widely. In some settings, the student can be relegated to passive observer, unable to practice skills due to risk and regulatory restrictions and service user consent. It is possible that simulation could be used not only as preparation for practice, but to augment or replace placements in which students are unable to practice their skills. The purpose of undertaking placement learning in Occupational Therapy is widely understood to support integration of knowledge derived from formal education with practice in order to establish professional competence (Imms *et al.*, 2018). Simulation provides a safe opportunity to practice these skills and to build confidence and could therefore enhance learning opportunities experienced in practice.

The literature suggests that occupational therapy educators should continue to seek to incorporate simulation activities within curricula, as these are well received as beneficial by students, who express a desire to undertake them both early on in their studies and frequently. However, the specific learning achieved remains poorly described and educators should take care to align the simulation constructively with

intended learning outcomes (Boud and Falchikov, 2006) as they would with other learning activities.

Limitations of the review

This scoping review highlights the current evidence for simulation in relation to occupational therapy education and may not be exhaustive. It is recognised that it is limited by one author reviewing all papers, which was nevertheless appropriate in the context of completing the review as part of PhD study. Reference searches may not be comprehensive as synonyms for the search terms “simulation” and “education” were absent. However, the 32 articles included represented a wide range of international simulation studies in occupational therapy education.

Conclusion

The literature reviewed provides strong evidence that students find simulation to be a positive experience. Authors discuss simulation positively whilst recognising the need for further study and there is potential for simulation to be successfully used to replace a small number of practice learning hours. Occupational therapy educators are in an excellent position to develop the authentic environments required to create high fidelity simulations.

Future research

The lack of studies measuring the outcomes of simulated learning as a replacement for practice education demonstrates a clear research gap, and the extrapolation of evidence gathered from interprofessional simulation experiences requires further attention. Whilst not identified as the specific intentions of this review, it is also recognised that the effectiveness of simulation within occupational therapy education remains poorly evidenced, and there is an ongoing need for further control studies.

Key Points for Occupational Therapy

A wide variety of simulation methods are currently in use within pre-registration Occupational Therapy education

Students report simulation to be of benefit to the development of communication skills

Simulation may have a direct relevance to practice education if focused on professional competencies congruent with practice learning outcomes

The initial literature review as presented above demonstrates a clear gap in evidence in relation to the use of simulation within occupational therapy education. It illustrates that the profession does not have the breadth of evidence available to other professions such as nursing. For the purposes of developing context, a search of one database (CINAHL) was carried out using comparative search terms for the nursing profession (simulation AND nursing AND education) combined with the search term LITERATURE REVIEW. Over 30 different reviews of the topic were

identified between 2020 and 2023 alone, including systematic reviews (Niu *et al.*, 2021; Tolarba, 2021; Sim *et al.*, 2022), scoping reviews (Priambodo *et al.*, 2022; Bozkurt, Samia and Gazarian, 2023), integrative reviews (Bowen-Withington *et al.*, 2020; Ahmad and Irwan, 2022; Kamenšek, 2022; Ross *et al.*, 2022), and one bibliometric analysis of the top 100 cited studies (Cant, Ryan and Kardong-Edgren, 2022). It is therefore clear that the evidence base supporting the use of simulation in practice education within occupational therapy is insufficient. This demonstrates the need for the research carried out for this thesis which, at this stage in the study, considered how simulation may be able to support practice education.

2.3. The Ongoing Literature Review

Following the scoping review, the study was developed using grounded theory methodology and, as a result, it was established that in order to discover the potential value of simulation it was necessary to discover what learning a simulation curriculum would be attempting to simulate. Therefore, establishing what students learn on placement was seen as a pre-requisite to designing a simulated placement and the rationale for this decision can be seen in *Figure 1-1 Project Storyline*.

Therefore, the ongoing literature review presented here is aligned with the fully developed research question introduced at the end of this chapter.

2.3.1. Occupational therapy student learning during practice education

In line with grounded theory methodology, a narrative review of literature about occupational therapy student learning of practice placement took place after data collection and analysis. This review, which aligns with the concept of an 'ongoing review' (Thornberg and Dunne, 2019), is presented here in the thesis as it provides evidence of the research gap that the current study seeks to address. The rationale

for this review was to discover whether the initial study findings were consistent with, or refuted, existing evidence about what students learn during their first placement.

This ongoing literature review took the form of a narrative review, a method of critically summarising the available literature that is open to, and accepting of, interpretation (Greenhalgh, Thorne and Malterud, 2018). The narrative nature of this review was necessary to identify the nuanced information available about student learning in occupational therapy placements as the specific research question “what do student occupational therapists learn on their first placement” did not appear to have been frequently addressed in the literature. It was therefore appropriate to extrapolate and interpret relevant information from studies aligned with the subject, in the absence of study of the specific topic. To reduce subjectivity whilst recognising the importance of interpretation, a systematic approach to the inclusion of evidence was maintained by the robust search strategy employed.

The findings of this review are discussed and linked to the initial findings of the current study which will be fully described in *Chapter 5*. To maintain quality, the SANRA scale quality assessment of narrative review was adhered to (Baethge, Goldbeck-Wood and Mertens, 2019). This scale recommends justification of importance for the reader, clearly stating concrete aims or questions to be answered, describing the literature search in detail, including search terms and inclusion criteria, referencing key statements, applying scientific reasoning to incorporate appropriate evidence, and presenting the relevant data in an appropriate manner (Baethge, Goldbeck-Wood and Mertens, 2019; Agarwal, Charlesworth and Elrakhawy, 2023)

Method:

Using the CINAHL database to identify occupational therapy specific literature, a search was carried out using search terms “occupational therapy” AND “practice education OR practice learning OR placement” AND “theory”. When limited to English language journal articles and dissertations since 2002 (20-year period) 136 papers were identified. Title searches of the articles resulted in the removal of duplicates and excluded papers that discussed occupational therapy theories rather than practice learning theories, or whose purpose lay in other issues not relevant to the research question and reduced the count to 10 papers. Review of abstracts further reduced relevant papers to two. This limited number of journals identified is in part due to occupational therapy’s status as a relatively young and small profession, with approximately 43,000 qualified occupational therapists in the UK in 2021 compared to 506,000 nurses and 350,000 doctors (Michas, 2022b, 2022a, 2022c), and reinforces the gap that this study addresses. A further search was therefore carried out replacing the term “theory” with “learn*” (to include learned, learning, learner) to identify studies that did not seek to develop theory but still to explore the learning that occurs on placement, with the same search parameters. This search yielded a further 226 papers. Removal of duplicates and title searching to ensure that the focus of the paper was on student learning during placement, rather than placement models or student or educator perspectives on specific aspects of placement, reduced the count to fifteen. One was removed as it was this researcher’s own publication, reporting on the early findings of this doctoral study as discussed in *Chapter 5*, and one had previously been identified via the first search. Abstract reviews further excluded papers that did not report on the learning that occurred on placement, decreasing the count to nine. In total when combined with

the previous search, 11 papers were identified that focused on student learning during placement (see *Figure 2-2* below), of which nine were peer reviewed research, one a scholarly opinion piece and one a doctoral thesis. Two of the research articles (Healey, 2017; Honey and Penman, 2020) and the doctoral thesis (Baxter, 2006) explored student learning during an unspecified placement type which was assumed to be a traditional style of placement, as the authors did not state otherwise. The first placement was the focus of two studies, reported as a result of convenience sampling by Baxter (2006) and as a deliberate design feature by Honey and Penman (2020). Healey (2017) studied students' cumulative placement experiences ahead of their final placement.

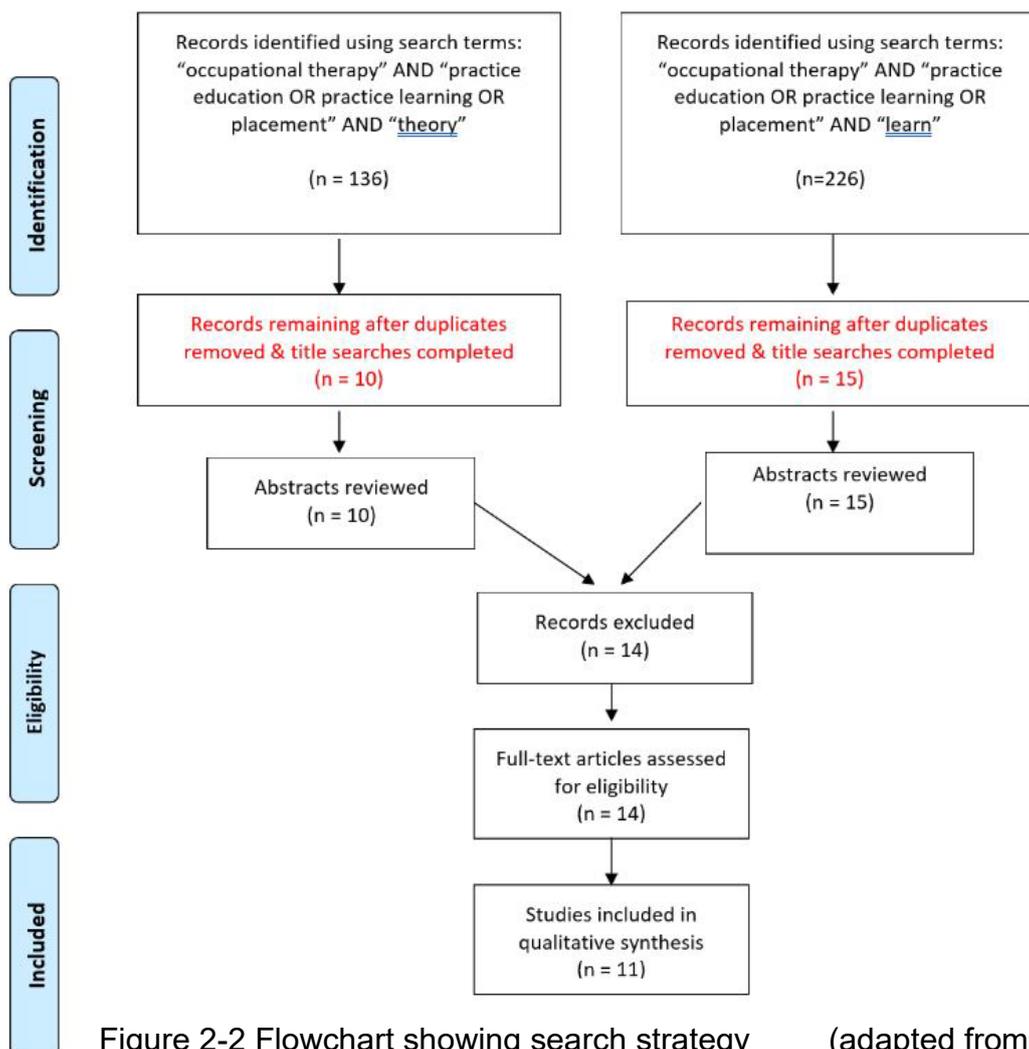


Figure 2-2 Flowchart showing search strategy

(adapted from PRISMA 2009)

The remaining papers investigated learning from specific types of placement, such as role-emerging placements (Fieldhouse and Fedden, 2009; Knightbridge, 2014; Dancza, Copley and Moran, 2019; Morales *et al.*, 2022), or by international students (Barker, Kinsella and Bossers, 2010; Lalor *et al.*, 2019; Miyamoto, Green, Bontje, Suyama, *et al.*, 2019; Law, Masterson-Ng and Pollard, 2022). All but one used qualitative methods with the sample sizes reflecting the methodology, and some papers focused only on one learning experience. Only Knightbridge (2014) utilised a quantitative methodology, in the form of a content analysis in which reflective journals of 14 participants were coded by frequency of terms and organised into units of meaning. The full list of included papers can be found in *Table 2-3 Papers included in ongoing literature review* (below).

Findings:

Findings from this literature review have been organised into five themes using principles of Braun and Clarke's (2006) six-step thematic analysis. Initial codes were generated freely, and recognition of similarity between the early findings presented in *Chapter 5* and the data generated by the literature was identified during steps three and four: searching for themes and reviewing themes (Braun and Clarke, 2006). The timing of the literature review after completion of data analysis influenced step five: defining and naming themes. The relevance of these themes to the findings from this study will be discussed later in the thesis, in *Chapter 6 Discussion of findings*.

Table 2-3 Papers included in ongoing literature review.

Author	Date	Title	Methodology	Participant subgroup
Baxter	2006	The realities of practice placement: learning from the experiences of occupational therapy students	Qualitative	First placement (n=39)
Fieldhouse and Fedden	2009	Exploring the learning process on a role-emerging practice placement: a qualitative study	Qualitative	Role emerging placements (n=4)
Barker, Kinsella and Bossers	2010	Learning in international practice placement education: A grounded theory study	Grounded theory	International students (n=8)
Knightbridge	2014	Experiential learning on an alternative practice education placement: student reflections on entry-level competency, personal growth, and future practice	Quantitative content analysis	Role emerging placements (n=14)
Healey	2017	Emotion management and occupational therapy student learning on placement: A post-structuralist exploration	Creative arts-based qualitative	Cumulative placement experiences (n=7)
Dancza, Copley and Moran	2019	Occupational therapy student learning on role-emerging placements in schools	Action research	Role emerging placements (n=25)
Lalor et al	2019	Occupational therapy international undergraduate students' perspectives on the purpose of practice education and what contributes to successful practice learning experiences	Qualitative thematic analysis	International students (n=7)

Author	Date	Title	Methodology	Participant subgroup
Miyamoto, Green, Bontje, Suyama, et al	2019	Student Perceptions of Growth-Facilitating and Growth-Constraining Factors of Practice Placements: A Comparison between Japanese and United Kingdom Occupational Therapy Students	Mixed methods	International students (n=29)
Honey and Penman	2020	'You actually see what occupational therapists do in real life': Outcomes and critical features of first-year practice education placements	Qualitative thematic analysis	First placement (n=18)
Zafran	2020	A narrative phenomenological approach to transformative learning: Lessons from occupational therapy reasoning in educational practice	Scholarly opinion	N/A
Law, Masterson-Ng and Pollard	2022	Occupational therapy practice education: A perspective from international students in the UK	Qualitative phenomenological	International students (n=6)

Theme 1: Learning about oneself

All of the studies reviewed reported in some way on the connections between student learning and personal growth and development.

Barker, Kinsella and Bossers' (2010) grounded theory study identified personal and professional development as the central phenomenon of learning in international occupational therapy placements. For some respondents in this study, many years had passed since their placement experiences, and they were able to reflect on the

intertwining of the personal and professional learning. The study found that they learnt to take a different approach, citing sub-categories of flexibility, adaptability and “thinking outside the box”, and in so doing, learnt to manage their own learning needs. Additionally, the development of mutually supportive interpersonal relationships and an increase in confidence were attributed to this placement experience.

Miyamoto, Green, Bontje, Suyama, *et al.* (2019) conducted a mixed methods study of students’ own perceptions of learning during international placements. They found that Japanese and British students recognised self-reflection as both facilitatory and inhibitory in terms of their development, depending on the opportunities and support provided during their placement. In addition, an internal sense of responsibility was noted as key in influencing their development as occupational therapists, a view reported by other authors who studied international students (Lalor *et al.*, 2019; Law, Masterson-Ng and Pollard, 2022), and suggested that international students had more to learn about self-directed learning than their British peers. Furthermore, the need to learn how to manage and balance their own occupations to ensure that sufficient time was available for rest, sleep and preparation for placement was noted as a feature of international studentship by Miyamoto, Green, Bontje, Suyama, *et al.* (2019).

Identification of students own occupational needs was also reflected in the role emerging setting, defined as a new area of practice where there is not an established occupational therapist role (RCOT, 2020). Fieldhouse and Fedden (2009) observed practice educators during student placements and supported this observation with journalling by researchers. They sought to understand the experiences of two students during their third placement of four, also identified that

the students developed greater awareness of the ways in which they consciously engaged with the interpersonal aspects of the therapeutic relationship with their clients. (Fieldhouse and Fedden, 2009). In occupational therapy these interpersonal and relationship skills are commonly known as 'therapeutic use of self' (Solman and Clouston, 2016), and requires the planned use of one's personality and perceptions (Punwar and Peloquin, 2000). Student engagement with the therapeutic relationship in practice as described in this study appeared to provide students with opportunities for learning about oneself.

Knightbridge (2014) conducted content analysis of students' reflective journal, while undertaking a role emerging placement. This study identified a greater adaptability and ability to manage professional responsibilities, alongside developing self-confidence, self-awareness and autonomy. The ability to access and recognise learning about oneself from a wide variety of experiences was a key feature of both of these studies (Fieldhouse and Fedden, 2009; Knightbridge, 2014), suggesting that students on role emerging placements learn a lot about themselves.

Healey's (2017) post-structuralist exploration considered the emotional labour required of undergraduate occupational therapy students on placement. Using creative writing techniques to elicit students' feelings about their previous placement experiences ahead of their final placement, the study highlighted the range of highly emotive work that students undertook on placement to keep their feelings under control in order to appear professional. The author concluded that learning to regulate emotions is an integral part of practice that is required by oneself to learn to be a healthcare professional.

Similarly, Baxter (2006) reported the challenges occupational therapy students experienced with managing their emotions, such as feeling upset when working with people at the end of their life, feeling anxious about working in an acute setting or feeling fearful about being able to meet the placement learning outcomes. This phenomenological doctoral research using focus groups sought to give voice to the learning experiences of occupational therapy students on placement. Whilst Baxter's study did not focus on the learning achieved as a result of these experiences, this study highlights that issues related to the student themselves are important to students on placement and suggests that students will learn to manage such factors as distress, anxiety and fear in order to successfully pass the placement.

Theme 2: Learning about the occupational therapy profession.

Several aspects of learning about occupational therapy as a profession are identified within the literature as experienced by students on placement. These include linking theory to practice, learning about different aspects of occupational therapy theory, learning about occupation, and understanding the role of the occupational therapist. Whilst Baxter (2006) asserted that a theory-practice divide exists between university and practice educators, linking theory and practice is a universally reported outcome of student learning on placement, regardless of setting, stage of placement or duration of placement (Fieldhouse and Fedden, 2009; Knightbridge, 2014; Dancza, Copley and Moran, 2019; Lalor *et al.*, 2019). Fieldhouse and Fedden (2009) found that students working in role-emerging settings linked theory with practice through use of a model of practice by necessity as there was no on-site practice educator available to assist them to make such links. Lalor *et al.* (2019) makes a distinction between theoretical knowledge, taught by the university, and its translation into

practice which was learnt on placement, recognising that placement provided students with the opportunity to translate knowledge into practice in a meaningful way.

Core professional reasoning skills are considered by RCOT (2016) as entry-level skills that support the occupational therapy process and include learning about the occupational therapy process, the person–occupation–environment relationship and its relationship to health. Amongst other aspects, entry-level competency skills made up the largest category in Knightbridge's (2014) reflective diary quantitative content analysis of the reflections of students on role emerging placements. Dancza, Copley and Moran (2019) highlighted learning about the implementation of occupational therapy theory in a four-cycle action research study, which collected data through reflective field notes, placement documentation and semi-structured interviews with students and practice educators. They identified that due to the lack of established systems on role-emerging placements, students relied on using theoretical models to help them to identify their knowledge gaps for themselves. By doing this, they learnt more about the profession by establishing ways to apply the occupational therapy process. Despite using different language to describe the learning, Miyamoto *et al*'s (2019) study, reported below, also includes findings that can be categorised as learning about the occupational therapy profession such as thinking about what occupational therapy is.

Learning about the occupational therapy profession was sometimes about understanding the role of the occupational therapist, particularly for students on a first year placement (Honey and Penman, 2020). Whilst the specifics of this learning differed depending on setting and previous student experience, Honey and Penman's (2020) study reported an overwhelming importance of the placement to

aid students' understanding of what occupational therapy is. Such understanding may have been different from that of students with greater placement experience, such as international or role-emerging placements, due to the focus in this study on the first placement experience. In common with Baxter (2006), it was recognised that some students appeared to view placement as an entirely different, almost unrelated experience to classroom study. Experiencing occupational therapy in action contributed to students learning about the occupational therapy profession by increasing knowledge about what occupational therapy is and what occupational therapists do in any given setting.

Theme 3: Learning about occupational therapy practices.

A common feature of the literature was the recognition of developing skills and practices (Fieldhouse and Fedden, 2009; Knightbridge, 2014; Miyamoto, Green, Bontje, Suyama, *et al.*, 2019). Fieldhouse and Fedden (2009) found that students on role emerging placements identified learning skills in assessment and observation as well as being able to design occupation-based interventions. Knightbridge (2014) identified that developing skills in information gathering and collaborative goal-setting were also valued.

Miyamoto, Green, Bontje, Suyama, *et al.* (2019) reported a contrast in perceptions between Japanese and British students when discussing learning within their own country and culture. They identified that Japanese students' perceptions of vital learning included a category they called 'clinical knowledge and skills', with high knowledge and skill levels being perceived as facilitating placement performance, whereas British students did not. The authors speculated that this difference might indicate that British students considered they had received a good grounding in

these skills before starting placement. Clinical knowledge and skills were not separated from each other, and what constitutes clinical knowledge was not fully explained by Miyamoto *et al.*'s. (2019) definition, which stated that it included the knowledge required for basic clinical abilities as an occupational therapist. Such a definition can be construed as the knowledge underpinning clinical skills, which were illustrated with statements from students about practicing what they had learned.

Theme 4: Learning about service users.

A nuanced approach to learning about the people who use occupational therapy services was reported across the literature. Fieldhouse and Fedden (2009), for example, recognised the importance of person-centredness, identifying that students developed the ability to set goals for the service user in a person-centred manner during their role emerging placement experience. Studies that reported on international experiences of placements identified specific learning in relation to cultural sensitivity and a non-judgmental attitude towards service users, whilst also learning about local organisational and national culture (Barker, Kinsella and Bossers, 2010; Lalor *et al.*, 2019; Law, Masterson-Ng and Pollard, 2022).

Knightbridge (2014) highlighted the importance of service users' welfare and autonomy to students undertaking role emerging placements. This was also reflected by Healey (2017), who recognised that students were uncomfortable with using service users as 'learning objects'. Such discomfort suggests learning about the service users as individuals with their own personal wishes and desires, rather than viewing service users as a homogenous group. Within the studies identified in the literature, the focus of learning about service users related to their occupational narratives rather than the specific health conditions experienced by service users.

The types of placements included in the literature, notably international experiences and role emerging experiences, may have influenced the occupational perspective.

Theme 5: The role of the Practice Educator

The final theme identified in this ongoing literature review is the importance of the practice educator (PE) for student learning. This theme was not specifically identified in the findings presented in this thesis – however, recommendations in Chapter 10 that relate to guidance for practice educators render it relevant to identify within this review. All studies made some reference to students' experience of having a supportive PE as a defining factor in the success of their placement, no matter the other challenges faced (Fieldhouse and Fedden, 2009; Barker, Kinsella and Bossers, 2010; Knightbridge, 2014; Lalor *et al.*, 2019; Miyamoto, Green, Bontje, Suyama, *et al.*, 2019; Honey and Penman, 2020; Law, Masterson-Ng and Pollard, 2022). Characteristics of supportive PEs included facilitating students to manage a small caseload and develop autonomy, building a good relationship by being approachable and encouraging questions, providing feedback, and understanding the students' difficulties.

In contrast to the literature mentioned above one publication, a scholarly opinion piece, highlighted the relevance of Mezirow's (1997) theory of transformational learning to undergraduate occupational therapy students. Zafran (2020) concluded that students are transformed by a combination of experience and meaning. Through providing opportunities to learners to develop teaching practices, Zafran (*ibid*) contemplated the process that students undergo when exposed to the prospects of teaching and mentoring. Transformational learning theory (Mezirow, 1997) will be

considered in depth in *Chapter 8* when considering data analysis in the context of learning theories.

Discussion

The available literature regarding student learning on placement demonstrates that the existing evidence on student learning can be easily aligned with the categories identified from the early findings of this study. A further category relating to the importance of the practice educator to student learning adds to understanding of how, rather than defining what, students learn. However, what is more striking is the distinct lack of evidence regarding the unique learning that arises from the placement itself.

The lack of enquiry dedicated to student learning on placement suggests that occupational therapy educators have not thus far considered that such evidence is needed. One possible reason for the lack of studies on what and how students learn on placement could be that there is a commonly held implicit assumption that a student's presence on placement is sufficient to ensure that learning is taking place. A second assumption may be that learning is measured appropriately by achievement of the intended learning outcomes. However, it is notable that no literature was found that provided discussion regarding what these learning outcomes should be, how they have been established, nor whether they are effective.

With such a lack of evidence, it is appropriate to begin to question these assumptions. Professional body documentation does not provide guidance as to what students should learn, nor what the learning outcomes should encompass, during placements. The RCOT standards for pre-registration education (2019c) state

that the placement should develop the students' ability to meet the professional standards for practice and adhere to ethical and professional conduct expectations. In addition, the same guidelines require students to be afforded the opportunity to implement the occupational therapy process. The remaining standards discuss settings, hours, types of workplace and quality requirements without expressing what students are to be expected to learn.

In itself, this lack of guidance is not concerning, as lack of prescription permits universities, placements and individual students to develop practice education into new settings, thus developing both student knowledge and the occupational therapy professional profile. However, it does further serve to demonstrate a gap in understanding of what students learn during one third of their educational programme that this thesis addresses.

It is clear from the make-up of the literature included in this review that 'traditional' placement opportunities, which can be described as settings in which students work directly alongside occupational therapists whose role is well-established (Bossers *et al.*, 1997) within the student's own national health or social care system, have not given rise to scrutiny in the same way as non-traditional placements. The literature identified focuses primarily on non-traditional styles of placement, such as role-emerging placements or international placements. Despite appearing in the literature as long ago as the late 1990s (Bossers *et al.*, 1997), this style of placement is still considered to be new and therefore considered worthy of study. Whilst increasing in popularity, such placements have not yet become the norm, and a literature review within the last decade (Clarke *et al.*, 2014) established that the majority of published work at the time reported only on the existence and structure of the placements. As

such, the current literature review spanning the past 20-year period is likely to have identified much of the literature related to the nature of learning on such placements.

Summary

Despite the inclusion of 1000 hours of practice education for occupational therapy students dating back to 1958 (WFOT, 2016), very little evidence exists that demonstrates what it is that students learn during their placements, and even less has been written specifically about the first practice placement. Slightly more evidence exists in relation to the learning experienced on other placements, such as role emerging or international experiences, and recognises learning about oneself, about the occupational therapy profession and people who access its services, and about the practices of the profession. This might suggest that occupational therapy educators have focused more on setting learning objectives and ensuring that students meet certain competencies, as dictated by the regulatory requirements for competency, rather than prioritising understanding the actual learning. Therefore, while practice education is recognised as a critical feature of occupational therapy education, there is no clear pedagogical understanding of the learning that results from practice.

The relevance of the literature presented in this review to the findings of this study will be discussed in *Chapter 6*.

2.4. Concluding the review of literature

This chapter has reviewed the literature at two stages within this grounded theory study. Together, the literature reviews in this chapter aimed to develop the researcher's understanding of the ways and extent to which simulation is currently used within the education of pre-registration occupational therapy students and what

is already known about student learning during their practice placements. The initial literature review explored the existing literature in relation to the use of simulation within occupational therapy education. It highlighted a variety of methods of simulation that have been used in different parts of the world and recognised that students report simulation to be positive and beneficial. In relation to practice education, it recognised that there is a very small body of evidence that demonstrates benefit, and further study within this area is warranted. The ongoing literature review considered the literature relevant to occupational therapy student learning during placement and was carried out following data collection and analysis in line with the conventions of grounded theory methodology (Glaser and Strauss, 1967; Birks and Mills, 2012; Urquhart, 2013; Corbin and Strauss, 2015). It recognised similarities in learning amongst students on international or role-emerging placements and identified the personal and psychological challenges faced by students on placements. The review of student learning concluded that there is a significant gap in evidence exploring what students learn on their first, or even subsequent, traditional placement experience.

Together these two literature reviews have shaped and affirmed the research gap that exists in terms of understanding what occupational therapy students learn during their placements, specifically the first placement, and the potential for a role of simulation to replace or enhance some part of the placement. This supports the development of the research question below.

Research Question: What skills, knowledge and behaviours do Occupational Therapy students learn during early exposure to practice in the course of their first assessed placement?

A further, final literature review in line with Thornberg and Dunne (2019) can be found in *Chapter 8*. This literature review situates the final theory emerging from this study within the existing literature relevant to learning theories and in so doing, justifies its relevance.

The following chapter will discuss the rationale for the selection of the chosen methodology to address this research question, leading to the development of appropriate research aims and objectives, before the thesis progresses with a description of the methods used to carry out the study.

Chapter 3 Methodology

This chapter explores the methodology underpinning the study's predominant aim,

“To seek to understand what students and Practice Educators (PEs) at one UK university believe is learnt by pre-registration Occupational Therapy students within their first practice education placement.”

Subsequent aims were added as a result of the chosen methodology and will be indicated at the end of this chapter.

Initially, the chapter describes the influencing factors which facilitate the reader's understanding of the researcher's stated position as a pragmatist researcher.

Qualitative research recognises the impossibility of excluding the individual thoughts, feelings and opinions of the researcher. It sees this process as undesirable and limiting and instead seeks to integrate the researcher's subjectivity within the research process (Flick, 2018). Section 3.1.1 *Researcher positioning* is deliberately written in the first person to highlight the researcher's voice and recognise the personal narrative within the research process. Personal and professional influences on researcher position are explored and the impact of the researcher's experiences and perspectives on the research philosophy, data collection and analysis are acknowledged.

Subsequently the chapter returns to the third person in line with the majority of the thesis, enabling the voice of the participants to remain at the centre of the study. The chapter discusses the selected methodology, providing a rationale for its selection. The iterative process of methodological decision making is referred to, and the development of the project from its inception in regard to simulation through to an

exploration of what is learnt on placement is explained. Initially referencing Saunders, Lewis and Thornhill's (2012) research on to situate methodology within the ontological and epistemological position, the second part of this chapter introduces Grounded Theory Methodology (GTM). A brief overview of GTM's development leads to the rejection of Classic and Constructivist GTM and the identification of pragmatist GTM as the selected theoretical position. The situation of the literature review within GTM is also considered.

The chapter concludes with an overview of the core principles of a pragmatist grounded theory which are adhered to, and it guides the reader to where these principles are discussed in greater depth in relation to this study within Chapter 4 Methods and subsequent chapters. Finally, ethical considerations relevant to the selected methodology and methods are discussed.

3.1. Establishing the research philosophy

3.1.1. Researcher positioning

As an occupational therapist, I have experienced for myself the learning that occurs on the very first placement which I now seek to explore. In providing some of my own background I acknowledge that my current position has been developed as a result of my personal and professional experiences and this section explains these links.

Personal and professional influences

I have always been interested in change and development. Although many who knew me in my 20s and 30s would probably rightly describe me as strongly opinionated, this character trait has softened over recent years to become more inquisitive and open to alternatives. This openness to deviating from the planned path can be clearly demonstrated in my journey into and through the occupational

therapy profession, which is relevant in explaining my professional perspective and influences my research ontology and epistemology.

As discussed in *1.5 About the researcher*, my initial intention on applying to study occupational therapy as an undergraduate was to develop specialist skills in drama and use this occupation to enable individuals with psychosocial challenges to explore and develop. I saw the profession as very much an artistic endeavour, despite the scientific nature of the degree course at the time. Throughout my learning, however, I found the scientific underpinnings of the profession comforting in providing confidence for my practice. I struggled with the artistic side of the profession and found myself drawn more and more to the scientific evidence base to help my daily practice, influenced in part by the discipline of occupational science which was gaining traction at the time that I was learning to become an occupational therapist (Yerxa, 1990). In practice settings, though, I was supported by therapists who had qualified before the occupational science revolution and was largely directed by them back towards the arts. Whilst scientific aspects of the profession supported my confidence, as I became more experienced in one specialist area, I realised that it was not always what my clients needed. For many stroke survivors, who made up the majority of my client base over my years of clinical practice, science may have supported the physical aspects of recovery. However, it was the artistic side of the profession which enabled the formation of deep connections and understanding of the sense of being and becoming that was central to my practice as a neurological occupational therapist (Wilcock, 1999).

Occupational therapy as a profession encompasses a range of values and ideologies that are difficult to set aside, coming as they do from the inherent belief that as humans, we are influenced by our occupations (Duncan, 2021). This

professional standpoint has, in the 30 years since I entered the profession, become interwoven with my personal belief systems. The understanding that as individuals we are influenced not only by what we choose to do, but also by what we are required to do by society and by what others do makes many occupational therapists, myself included, open to the possibilities of intuition and artistry in practice. As a specialist in neurological rehabilitation, I am also acutely aware of the importance of scientific discovery in supporting knowledge of the human brain and body. This embracing of both scientific and artistic aspects of the profession has influenced my position as a pragmatist researcher, as explored when discussing the *The Pragmatist Paradigm* in section 3.1.3. As a lecturer, I feel comfortable in straddling this arts/science debate (Wood, 1995), and endeavour to demonstrate to students the value of both and their integration in the complexity of human occupation.

After qualifying in the mid-1990s, I spent almost 20 years in clinical practice within the NHS, ultimately leading teams within the speciality of stroke rehabilitation. Prior to settling in stroke rehabilitation my role was primarily as a learner and I did not supervise students. However, when working in inpatient and community stroke services I offered both first year and subsequent student placement opportunities, undertaking the role of practice educator and supporting other staff to do the same. Students entering my team often expressed feeling overwhelmed with the learning facing them. Stroke, like many areas of practice, is clinically complex with a significant amount of new information to learn, but students also identified that understanding the daily working of a ward environment could be difficult, and I attempted to adjust my practice so that they could feel confident within the environment in order to be able to focus on their clinical learning. This recognition of

the complexity of learning for the profession that I developed as a practice educator has been taken forward into my work as a lecturer, adjusting my delivery according to students' energy and engagement and recognising that there is no one method of supporting all learners that can be universally applied.

Embracing pragmatism

In explaining my positionality as a pragmatist researcher, it is vital to consider the experiences which have helped to develop these attributes. A few months into my studies I started a research diary, and in retrospect, my first entry encapsulated my research philosophy completely when I wrote that:

my thought processes appear to change every five minutes and I'm never quite sure how or why (Diary entry November 2019)

This focus on the changing nature of knowledge resonates clearly with the pragmatist paradigm (Morgan, 2014). Dewey (1922) is largely regarded as the original proponent of the philosophy of pragmatism, central to which is Dewey's theory of habit, defined as "an acquired predisposition to ways or modes of response" (Dewey, 1922, p38). This considers that humans act in ways that are influenced by what has occurred before, rather than in the repetitious manner that common usage of the word 'habit' implies. As such, theory of habit refers to the concept that people are given to behaving in certain ways in response to certain types of stimuli by virtue of what has happened before, and that by changing the experience one will naturally change the response. It also recognises the importance of social cultural practices and expectations in shaping one's belief systems and therefore actions, and the reciprocity of this in shaping and changing the social

cultural landscape. Therefore, pragmatism views human beings as “products of their environmental transactions” (Cutchin in Wills *et al.*, 2020, p60).

Pragmatism can be defined as having three key characteristics: an emphasis on knowledge which leads to action; interconnection between experience, knowing and acting; and understanding enquiry as an experiential process (Morgan, 2020). As a research philosophy, it recognises that individuals will experience actions and change differently not only to one another but also to their earlier selves (Kelly and Cordeiro, 2020) and therefore embraces the notion of change.

Over the course of the first year, I grappled with what I was researching. As I began to look at the existing body of literature on simulation in Occupational Therapy, (Grant *et al.*, 2021) I moved from a desire to demonstrate effectiveness in a positivist paradigm – this being my initial assessment of the research gap - to a much broader understanding. This brought a new understanding that, before implementing any simulation at all, I needed to recognise what it was that should, or could be simulated. This in turn, through discussions with my supervisory team, supported the development of the first part of my research question: what is it that students learn on the first placement? Following a pragmatist philosophy, this knowledge could lead to action. From understanding what was being learned I could establish which of these ‘things learned’ (although at the time my preconceptions defined these as skills) could be simulated. Following this, I anticipated that I would be able to design a simulation curriculum (action) and then establish whether or not the curriculum was comparable with a placement (the experiential process of research).

Through this strand of reasoning, I can see my own inherent positivist tendencies suggesting that if I know what to do then I can do it ‘correctly’. As an Occupational

Therapist, I tread the line between positivism and interpretivism and between objectivity and subjectivity in my daily practice. Wood (1995) defines the 'art and science of practice', in which occupational therapists draw on positivist notions of health defended in scientific bodies of knowledge to generate interpretive and meaningful interventions designed to enhance the lives of the people with whom we work. From my clinical background in the field of stroke and neurological rehabilitation, I would regularly combine positivist knowledge of lost and damaged neural connections and the regrowth of neural networks (Carmichael and Chesselet, 2002; Carmichael *et al.*, 2005) with the individual's interpreted desires and motivations to inform my development of interventions which were both effective and meaningful to the identity of the person.

The influences of my journey as a learner, practitioner, lecturer and now researcher continue to be evident within my research philosophy. Pragmatism enables me to move fluidly between these positions and supports me to be a learner again in developing my skills as a researcher.

3.1.2. Ontology

As a novice researcher, at the start of my journey I did not understand my own research position or philosophy. In order to appropriately situate the study in relation to both ontology and epistemology, I considered the differing perspectives of positivism, interpretivism, constructivism, and pragmatism which led to the eventual realisation that the pragmatist paradigm is most appropriate for me as a researcher and congruent with the study's aims and objectives.

The pragmatist paradigm is not aligned to any specific system of ontology or epistemology (Weaver, 2018). As a therapist I am influenced by the previously discussed interest in a person's identity, the concepts of roles and belonging and the

multiple and constantly developing realities that each person embodies. As a researcher I believe that it is imperative to straddle the ground between positivism, interpretivism and constructivism in the manner not only permitted but encouraged by pragmatism. Whilst this could be criticised as a one size fits all approach, it has also been considered to be a practical approach to research that concludes that philosophical arguments on the nature of knowledge simply cannot be solved due to the inability to separate meaning from human experience (Kaushik and Walsh, 2019).

3.1.3. The Pragmatist Paradigm

Pragmatism arises from the artistic concept of poetic logic, which allows contradiction, difference, silence, everyday banality, ancient mystery, the spiritual, the sacred and more (Willis, 2007) to coexist. Colilli (1997) suggested that reliance on a scientific world view and prevailing rationalist approach to ontology and epistemology succeeded in separating “mind from body, philosophy from poetry and art from science” (ibid, p16). As previously mentioned, the concepts of science and artistry are seen as combining and complimentary within the occupational therapy profession and therefore to eschew one in favour of the other feels inappropriate (Mosey, 1992). In relation to this study, whilst it may be possible to objectively define and measure certain aspects of learning, this cannot be done without recognising that everyone will experience this differently and that one size cannot fit all.

Pragmatism describes this mixed view of reality by emphasizing the inherent links between beliefs and actions (Morgan, 2020). Rather than focusing on the existence of reality and defining it as either positivist, interpretivist or constructivist ontology, pragmatism recognises that everyone will have a unique set of experiences, beliefs, and knowledge. It differs from the relativist debate about whether each individual

brings their own reality in that it emphasizes the combining and sharing of such realities which develop into shared experience, arising from the extent of individuals shared beliefs (Blumer 1969, cited in Morgan 2020).

To embrace pragmatism is, essentially, to refuse to enter the ontological debate of the nature of knowledge, but rather to recognise that reality exists in multiple forms, each of which have bearing on the other. Pragmatism embraces the assumption that individual prior beliefs exist. In this study, the researcher brings beliefs about what is currently learned and what might be important to be learned. The student, who may have a particular idea about what they expect occupational therapy to look like, brings their own set of beliefs about what will be learned whilst the practice educator, skilled and experienced within their own clinical area, brings another set.

Morgan (2014) explains that pragmatism, based primarily on the work of Dewey in the 1920s, recognises the inseparability of beliefs and actions. This symbiotic nature of experience, which Dewey further places within the contexts of both history and culture, moves away from the metaphysical discussions about the nature of reality which are embodied by the positivist, interpretivist, and constructivist paradigms. Instead, pragmatism requires a process-based approach to knowledge which recognises that each situation brings a potentially unknowable set of prior beliefs. Pragmatists propose that these beliefs are reflected upon in order to select actions, which in turn are reflected upon in order to select beliefs (Morgan, 2014).

Pragmatism therefore embraces positivist, interpretivist, and constructivist standpoints, suggesting that one's experiences are necessarily shaped by the nature of the world (positivism) whilst being limited to our own interpretations of our experiences (interpretivism) in order to build a new understanding through interaction

with one's environment and previous knowledge (constructivism) (Morgan, 2014).

This paradigm reflects the occupational therapy profession's understanding of its practice as both art and science (Wood, 1995).

3.1.4. Epistemology

If pragmatism recognises the existence of knowledge in multiple forms, each of which interacts with and upon the other, then the epistemological debate becomes moot. It is not necessary to find a way to investigate such knowledge which aligns with the ontological perspective, but rather to identify that the epistemological approach embraces the multitude of different types of knowledge that exist, based on experience (Kaushik and Walsh, 2019). Pragmatism does not seek to determine certainty, but rather to recognise its absence as an asset in terms of knowledge production (Wills *et al.*, 2020). Therefore, all knowledge generated in the course of this study is seen as relevant within the moment, but ultimately subject to ongoing change and development as the individuals and society about which it seeks to learn undergo change.

In order to appropriately and fully develop a theory about the learning that occurs on a first placement, with the possibility of applying this theory to develop a simulation curriculum, the pragmatist philosophy enables whichever methods are necessary to conduct the research (Morgan, 2020). More importantly, it encourages the continued exploration of action, beliefs and consequences as an approach to inquiry. In embracing pragmatism as the paradigm in which to site this research, a variety of perspectives on the issues of learning, practice education, and occupational therapy are recognised and exploration in a breadth of directions is permitted. There is therefore no need to further clarify the ontological or epistemological position –

rather, clear links are made between the pragmatist paradigm and the selection of research methods.

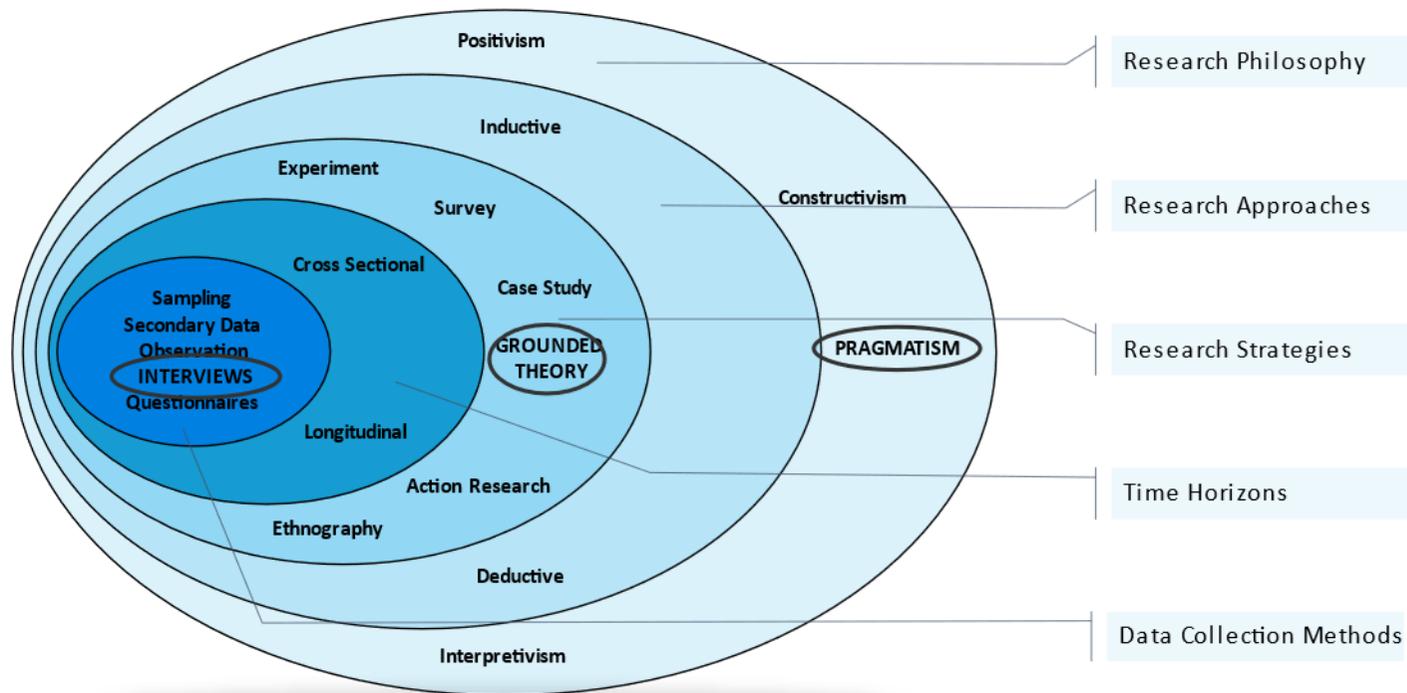
This study uses the Grounded Theory Methodology developed by Glaser and Strauss (1967) to explore and refine knowledge about the learning that students undergo during their first practice placement. In so doing, it draws on pragmatism as an ontology and appreciates the evolving nature of knowledge. In line with early pragmatist ideology, the ideas it generates will be deemed to be valuable only if they have useful consequences (Wills *et al.*, 2020). Practical application of these consequences to the integration of, or indeed rejection of, a simulation curriculum or other application, will provide meaning to the knowledge.

3.2. Methodology

Having situated this research within the pragmatist paradigm, the methodology for the study was determined by three key factors – research philosophy, research question and research aims and objectives. Whilst the narrative begins with the research philosophy, moving inwards along the research onion (Saunders, Lewis and Thornhill, 2012) to identify methods and data collection techniques (see *Figure 3-1*, below) the reality of this research journey was more flexible and iterative than its overall description here. The original research topic – exploring the potential use of simulation for occupational therapy undergraduate education – was entered into with a view that there may be an argument that simulation could be at least as effective as the workplace environment for developing practice learning, whilst recognising the challenges of identifying what practice learning encompasses. Through the process of exploration of methodology, it became clear that it was not yet appropriate to complete such a study, and that the research that needed to be completed was to explore what it is that students actually learn, in order that future research could

have an evidence base upon which to design simulation curricula in occupational therapy.

The Research Process Onion



Designed by PoweredTemplate
<https://poweredtemplate.com/the-research-process-onion-diagram-76401/>

Adapted from Saunders, Lewis and Thornhill (2012)

Figure 3-1 Overview of the research onion in relation to this study.

The use of pragmatism as a research philosophy as described above was central to the selection of grounded theory as the methodology for this study. This is explained in part here and is further supported by the influences of pragmatist authors such as Pierce and Dewey on the original developers of grounded theory (Bryant and Charmaz, 2010; Wills *et al.*, 2020).

A brief introduction to Grounded Theory Methodology

Grounded Theory Methodology (GTM) was developed by Glaser and Strauss from their work around the experiences of terminally ill people, their families, and carers (Glaser and Strauss, 1967). It was initially launched in defiance of the insistence of the time that only quantitative research could be rigorous, reliable, and objective (Bryant and Charmaz, 2010). GTM was intended to be used in a range of settings and considered equally applicable to both qualitative and quantitative data (Glaser and Strauss, 1967). Over time, differences in the application of GTM began to appear between the founding authors and subsequent researchers which resulted in the development of subtly different styles, all bearing the title of 'Grounded Theory' (Bryant and Charmaz, 2010).

Classic GTM, following Glaser's approach (Gibson and Hartman, 2014), holds more rigidly to the initial tenets of pure inductive research, with a strong sense, for example, that the literature should not be explored prior to gathering data (Thornberg and Dunne, 2019). Glaser (1992) held tightly to statements made in the initial publication such as: "study ... without any preconceived theory that dictates, prior to the research, 'relevancies' in concepts and hypotheses" (Glaser and Strauss, 1967, p37) and "...literally to ignore the literature of theory and fact on the area under

study, in order to assure that the emergence of categories will not be contaminated by concepts more suited to different areas” (ibid, p37).

Glaser (1999) argued that grounded theory could exist only as a complete methodological package in that any variation from the systematic and exact methods laid out in the original book (Glaser and Strauss, 1967) meant that the research could not truly be referred to as GTM. He recognised that GTM was initially adopted by early career researchers, who then went on to adapt it to suit their personal needs, subsequently teaching this adaptation to their own students (Glaser, 1999). He also identified that the methodology spread throughout the research community far more quickly than anticipated (Glaser, 1999), perhaps meaning that adaptations were made even before the core tenets of the theory had been clarified by the original authors.

There is evidence within Glaser’s publications of discontent between himself and his original co-author, Anselm Strauss, regarding the key concepts of GTM (Glaser, 1992). Glaser suggested that GTM had been misused by his colleague and that in doing so, what Strauss described as GTM, Glaser felt was simply qualitative data analysis (Glaser, 2002). It was Glaser who maintained the idea that theory could be generated from quantitative data, and that GTM was therefore a general methodology, and not purely a qualitative one (Glaser, 1999). Glaser’s approach to GTM is now commonly referred to as “Classic Grounded Theory” (Bryant, Strauss and Rorty, 2009; Gibson and Hartman, 2014; Chun Tie, Birks and Francis, 2019).

In contrast, Strauss (Corbin and Strauss, 1990; Bryant, 2019a, 2019b) expressed the view that the inductive aspects of GTM had been somewhat overstated. He called for ‘theoretical sensitivity’, recognising that it was neither possible nor desirable to

examine data in a vacuum devoid of context and pre-existing knowledge, and in doing so acknowledged the importance of researchers taking into account their prior experiences and theoretical ideas (Hesse-Bieber, 2007). The differentiation between GTM based in Glaser's work and in Strauss & Corbin's has been described as "traditional" in relation to Glaser and "evolved" in relation to Strauss and subsequent authors (Mills, Bonner and Francis, 2006, p27). The study described in this thesis can therefore be defined as following an evolved grounded theory methodology, as it does not adhere strictly to the tenets of any one form of GTM but follows a more eclectic approach which could more accurately be described as a pragmatist grounded theory (Morgan, 2020).

Pragmatist Grounded Theory

In line with the identified pragmatist philosophy, this study draws on concepts developed by Glaser and Strauss and is aligned with the pragmatist approach to GTM developed by Morgan (2020), the principles of which are laid out below. This approach draws heavily on Corbin and Strauss (2008) in which the authors outline the pragmatist roots of the methodology but allows the researcher the freedom to follow grounded theory in the way that best suits their research, rather than following a core set of methods aligned with one or other approach to GTM. Both Birks and Mills, (2012) and Urquhart (2013) describe GTM as a set of principles and methods that must be used in order for the finished work to be considered as a grounded theory. They consider it unnecessary to align specifically to either Glaser, Strauss or indeed Charmaz, a prominent author who built on Strauss' work to develop Constructivist Grounded Theory (Mills, Bonner and Francis, 2006; Charmaz, 2014). Therefore, the methodological choice here draws upon key authors across the spectrum of GTM literature in developing the best approach for this research. To

ensure that the approach can be recognised as a grounded theory, some fundamental issues related to the process are considered below.

Timing of the literature review

One commonly held belief about GTM is that a key facet is the timing of the literature review (Lempert, 2007; Bryant and Charmaz, 2010; Birks and Mills, 2012; Urquhart, 2013). Unlike other qualitative methodologies, in which it is usual to study the existing literature before collecting data, it is widely perceived that grounded theorists must not review the literature until after data collection (and, by definition of the methodology, data analysis) is complete (Bryant and Charmaz, 2010). There appear to be tensions within the research community regarding this principle as experienced in the initial stages of this study, when one expert reviewer suggested including the literature review within the planned timeline and another adamantly expounded that this must not happen until after data analysis was finished.

Sequencing of the literature review, data collection and data analysis is not strongly inherent within the literature. Strauss and Corbin (1997, p96), in discussing the work of Fujimura (1988) whom they believe uses GTM without naming it as such, list its key features as theoretical conceptualisation, constant comparisons and theory-driven sampling with no mention of the timing of the literature review. Many authors within grounded theory texts discuss the dispute regarding the withholding of the literature review until after data analysis has taken place (Covan, 2007; Hesse-Bieber, 2007; Kelle, 2007; Strübing, 2007; Weiner, 2007), however none appear to go so far as to recommend this withholding.

In this study, an initial literature review to familiarise the researcher with the subject of simulation within occupational therapy education took place prior to data collection

(see section 2.2.1 *The use of Simulation in Occupational Therapy Education: A Scoping Review*). An ongoing narrative literature review (Thornberg and Dunne, 2019) was conducted following primary data collection phases and supported this research in addressing the evidence gap (see section 2.3.1 *Occupational therapy student learning during practice education*). A final literature review, this time locating the burgeoning theory within existing learning theories (see section 6.3 *The four categories of learning in relation to learning (and other) theories*), was used to support theory development, as justified below.

The researcher's background and existing knowledge impacted on the decision-making process regarding the literature review. One of the appealing features of pragmatism was the recognition that the researcher brings knowledge that cannot be unlearned, but may change over time (Morgan, 2014). The aforementioned three roles of an Occupational Therapist who undertook practice education, clinician who provided practice education, and academic with a large role in planning, organising and supporting students and educators within practice education (see section 1.5 *About the researcher*), afforded the researcher a substantial existing knowledge. However, the researcher's theoretical knowledge of pedagogy and educational theory was more limited, despite the benefit of six years of experience of pedagogy in practice.

It was initially unclear how the researcher would be able to recognise and code relevant data without a good understanding of learning theory. Increased knowledge of pedagogy could have enhanced the researcher's ability to identify new and emergent themes for data that pre-existed in the literature and enhance the ability to extract the important concepts from the words of participants. However, developing such knowledge could impact on the ability to remain open in the field of education

and learning, and thus hear the views of participants without the influence of the researcher's opinions or knowledge of theory. The central research aim was to understand what students and educators believe is learned within the first practice education placement, therefore, hearing the participants' voices was of greater importance than the need to understand what was being said in the context of the literature.

Data collection commenced following the initial literature review, which facilitated the development of multiple codes using an inductive approach according to the researcher's interpretation of participants' words. This was important in enabling the researcher to feel confident that any resulting theory would be grounded in the data and remain close to the participants' words.

Principles of Pragmatist Grounded Theory

The main principles of GTM followed in this study are listed in *Table 3-1: Principles of Pragmatist Grounded Theory Methodology* (below), adapted from Birks & Mills (2012). These principles allow for the inclusion of literature reviewed as background context, as data, and / or as part of the theoretical sensitivity process, depending on the needs of the study. For this reason, literature review is not included within the list of principles, as its timing is considered flexible. This study has incorporated the literature both as background context and as part of the process of theoretical sensitivity, as discussed within 4.3.4 Theoretical Sensitivity. Each of the core principles are discussed in detail in relation to this study in the chapters defined below.

Table 3-1: Principles of Pragmatist Grounded Theory Methodology

Stage	Thesis Location	Core principle (Birks and Mills, 2012)
1	4.3.3	Initial coding and categorisation of data
2	4.2, 4.3	Concurrent data collection and analysis
3	4.4	Writing memos
4	4.3.2	Theoretical sampling
5	4.3.1	Constant comparative analysis
6	4.3.4	Theoretical sensitivity
7	4.3.2	Intermediate coding
8	7.1	Identifying a core category
9	4.5	Advanced coding and theoretical integration
10	<i>Chapter 7</i>	Generating theory

3.2.1. Ethical considerations and management

The overarching ethical principles of autonomy, non-maleficence, beneficence, and justice in biomedical research described in professional health care research policies and standards (HCPC, 2016; RCOT, 2019, 2021) are equally relevant within educational research and are encompassed within guidance from the British Educational Research Association (BERA, 2018). In addition, and particularly relevant to this study, BERA highlights responsibilities to participants, including the researcher themselves.

Particular ethical implications identified as a result of the study existed in relation to the researcher's dual role as both researcher and as Senior Lecturer in Occupational Therapy / Practice Education Lead at the time of data collection. Potential existed for students to be vulnerable due to the power relationship inherent between student

and lecturer (Symonds, 2020). This relationship gave rise to several risks to the participants' ability to consent voluntarily. Students risked feeling obliged to participate and may have been concerned about whether failure to do so might impact upon their grades. Furthermore, the power dynamic that existed by virtue of the researcher knowing the students well enough to be able to identify who has and has not offered to participate, and the perception of the students that as a lecturer, the researcher would know more about the subject being discussed than them, were important to consider.

To some extent, grounded theory methodology is helpful in enabling the researcher to circumnavigate such challenges. GTM seeks to develop theory from participant voice and in doing so rejects the integration of *a priori* knowledge and theory. Any coercion, persuasion or insertion of the researcher's voice means that the resulting theory would be grounded not in truth, but in a tempered version of truth which itself undermines the results. Therefore, whilst recognising that the researcher will hold pre-existing views which could shape data analysis and theory development, the pragmatist perspective is that those views are subject to change. It is expected that such views will be inherently altered by virtue of interaction with data generated by participants. This belief in the process supports the researcher's ability to hear the voice of the participants without coercion or persuasion.

Local university and BERA guidance were followed (BERA, 2018) in relation to these issues. Every attempt was made to mitigate the impact of this power imbalance, whilst recognising that it could not be completely eliminated, and that the duality of the researcher's role may continue to be of influence (Shi, 2006). During the recruitment process a voluntary opt-in process was offered, with a limited number of reminders of the opportunity to participate. The study was introduced to the student

group by the BSc (Hons) Occupational Therapy Course Leader, who expressed the value of staff members at the university being research active and explained the importance of participants making informed decisions. A video introduction to the research, including the consent process, was recorded by the researcher, and shown to the class by the Course Leader. As part of this video introduction, the researcher's role as a student, rather than a lecturer, was clarified and potential participants were asked to communicate via the researcher's student email address, which was provided at this point. This was followed by a cohort email (*Appendix D*), including consent forms (*Appendix E*) and participant information sheets (*Appendix F*) from the researcher's student email address. Individual email exchanges only occurred at the instigation of the students offering to be participants for the purpose of arranging interviews.

Further efforts were made to minimise the impact of the power relationship by expressly informing students that the researcher would not be undertaking marking of any work submitted by the cohort of students whilst data collection was taking place. In practice, during the data collection period the researcher did not mark any first-year BSc student work, whether related or unrelated to placement experiences. Marking of first-year MSc student work still occurred, but not within the same semester as the data collection. Students were informed of this within the video introduction, and it was stressed in the participant information sheet that participation or non-participation had no bearing on student grades now or in the future.

A potential power dynamic also existed with practice educators, with a risk that they may perceive themselves more or less likely to be allocated students dependent on their participation. Similar steps were taken, with all communication occurring through the researcher's student email account and individual trust leads receiving

the initial approach prior to the email invitation being extended to all educators. The Health Research Authority decision tool was consulted to establish whether a full IRAS application was necessary (*Appendix E*). This identified no need for full approval, but for site specific approval to be granted prior to approaching practice educators who were NHS employees. Communication with the local Research Consortium identified that, as data collection was to take place remotely and not in person on NHS sites, authority was not required to approach practice educators (*Appendix H*). Advice received from the research consortium to seek permission from local trust leads was heeded, with all trust leads returning permission to contact their staff via email (*Appendix I*). Email addresses were drawn from the placement offers database held by the Occupational Therapy and Physiotherapy Practice Education Team by the researcher, who has access to this database as part of her substantive role.

Salutations such as “Dear Practice Educator” in place of a personal greeting, along with an explanation as to why they had been invited to participate (*Appendix J*) were intended to reduce coercion, or the perception of coercion. For all participants, signed consent forms were required to be returned before an interview date was booked, and consent was also confirmed verbally prior to each interview following the questions on the written consent form (Flick, 2021).

The risk of potential harm to students and practice educators in their role as participants was carefully considered. It was recognised that participants who had experienced a challenging placement may have found reflecting on this in the research interview distressing and may give rise to additional anxieties or concerns (Flick, 2021, p140). Students were directed back to their Personal Academic Tutor or to student services for additional support, whilst practice educators were asked to

seek supervision from their line manager and / or contact the Therapy Placement team. In the event of the latter, plans were in place for other members of the Therapy Placement team (not the researcher) to respond.

Ethical approval was granted by the University Research Ethics Panel (*Appendix K*). This process included specific identification of consideration of issues in relation to recruitment, consent, transparency, right to withdraw, potential harm, confidentiality, anonymity, data storage and disposal.

3.3. Finalising the Research Aims & Objectives

The iterative process that led to the methodological selection also resulted in adding supplementary aims to the initial research aim “to seek to understand what students and Practice Educators (PEs) at one UK University believe is learnt by pre-registration Occupational Therapy students within their first practice education placement”. These supplementary aims were developed as a direct result of the selection of GTM as the methodology, leading as it does towards theory development which had not previously been considered. The complete and final research question, aims and objectives are listed below.

Research Question: What skills, knowledge and behaviours do Occupational Therapy students learn during early exposure to practice in the course of their first assessed placement?

Aims

- To seek to understand what students and Practice Educators (PEs) at one UK university believe is learned by pre-registration Occupational Therapy students within their first practice education placement.

- To develop a theory of practice learning that explains what and how pre-registration Occupational Therapy students learn during their first practice education placement.
- To consider the feasibility of replacement of a proportion of practice education placements with simulated placements in light of the newly developed theory.

Objectives

- To explore the current literature on prevalence and relevance of simulation within Occupational Therapy pre-registration education
- To explore the learning experience of first year students during their first placement.
- To explore practice educators' perceptions of students' learning during their first placement.
- To synthesise data from the above sources to formulate a theory which seeks to explain what is learnt during the first placement, in order to guide the development of simulation and / or simulated placements within Occupational Therapy

3.4. Conclusion

This chapter has situated the research within the pragmatist paradigm, by first explaining the researcher's position as influenced personally and professionally, and subsequently relating these to the ontological position. This has then been used to direct the selection of methodology, whilst considering other options, to grounded theory methodology. The varying types of GTM have been discussed, leading to the conclusion that an evolved form of GTM as initially referenced by Strauss (Strauss

and Corbin, 1998) and later developed by a variety of authors including Birks and Mills (2012), Urquhart (2013) and Morgan (2014, 2020) is most suitable for this study. In remaining close to the pragmatist philosophy and underpinnings of the methodology, the selected type of GTM is referred to as pragmatist GTM. Finally, core principles of pragmatist grounded theory are expressed along with ethical considerations pertinent to the study. Previously unconsidered research aims were added as a result of selecting a methodology that seeks to develop theory, and these have been expressed in conjunction with the previously developed research question. The following chapter will provide detailed information regarding the study design and methods followed.

Chapter 4 Methods

This chapter describes in detail the methods used for the study, with reference to how they were selected and applied to address the research question “What skills, knowledge and behaviours do Occupational Therapy students learn during early exposure to practice in the course of their first assessed placement?” Grounded theory methodology determined the study design – the sampling strategy, data collection and analysis methods. This chapter discusses each aspect of the design in turn, explaining each concept and how it has been employed within this study.

Grounded Theory Methodology consists of a set of principles, rather than specific methods, that should be followed to ensure that resulting theory is grounded in the data (Birks and Mills, 2012). These principles directed selection of the specific methods which are described here. Some of methods, such as data collection techniques, are used by a range of qualitative methodologies. Others, such as constant comparison, are specific to GTM. The research design used to establish the learning is shown in *Figure 4-1 Research design framework* as a diagrammatical representation adapted from Chun Tie, Birks and Francis (2019), which demonstrates the interplay between grounded theory principles and the processes used in this study.

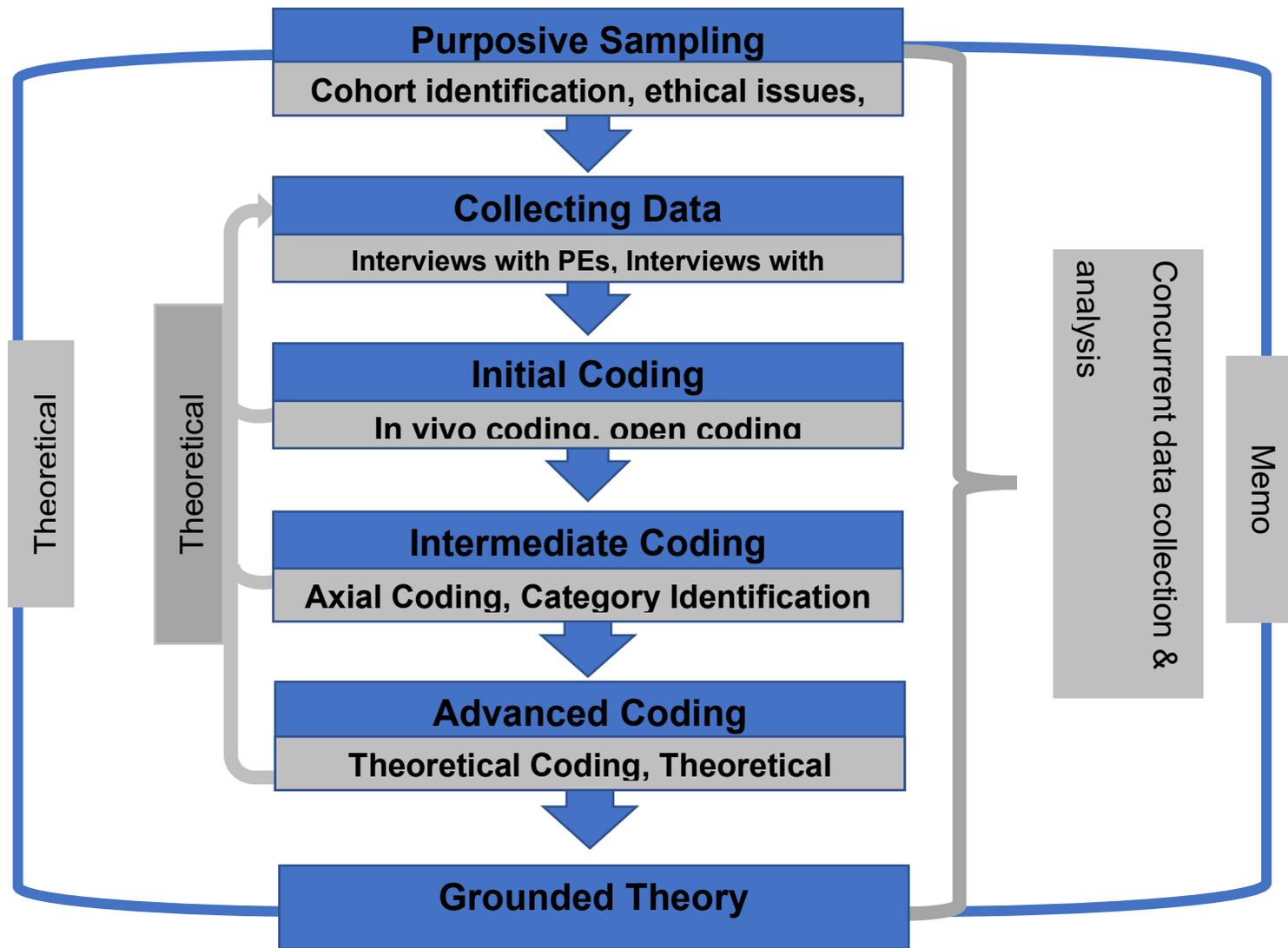


Figure 4-1 Research design framework

Adapted from Chun Tie, Birks and Francis (2019)

4.1. Sampling and Recruitment

Following the ethical parameters of the recruitment strategy discussed in section 3.2.1 *Ethical considerations and management*, participants were invited to interview on a first come, first served basis, with some variations on this approach applied due to participant availability. No distinction was made between students and educators and the order of interviews was therefore dictated by the availability of both parties.

Initial recruitment took place from a cohort of 51 BSc (Hons) Occupational Therapy students, all of whom were invited to participate regardless of whether they had passed or failed their placement. This included four students who had deferred their placement until the summer, who were invited to participate as and when their placement was completed. Because the placement structure had been adjusted due to the impact of the Covid-19 pandemic, students attended half of their anticipated placement hours with the remainder of hours coming from a project placement.

Interviews were therefore scheduled after the practical placement hours had been completed, which influenced the order in which students were interviewed. A total of nine students offered to participate in the initial data collection. Seven interviews were completed, and one interview remained incomplete due to internet failure at the participant's end, with the participant failing to respond to an invitation to rearrange the interview. Although data were analysed from this interview, only preliminary information was gathered from the participant with no discussion about learning. One student who offered to participate was not interviewed as their placement was significantly delayed, resulting in insufficient time to complete the interview prior to this student commencing their second placement. This student was notified by email and offered to be contacted should this become appropriate during further stages of the research.

The number of eligible practice educators was less than the number of eligible students because some educators offered placements to two or more students within each cohort. Twenty-seven practice educators across three local trusts and one social care provider were invited to participate. Six practice educators responded to the initial email and expressed an interest in participating. Of these, three were interviewed. Two educators did not respond to the request to complete the consent form, and therefore, interviews were not scheduled. The sending of a follow up 'reminder' email was considered in the context of ensuring that consent was provided voluntarily and without coercion, however this was ultimately deemed unnecessary due to the direction of the project which was adjusted during constant comparison of results and consequent theoretical sampling (Glaser and Strauss, 1967). Theoretical sampling, discussed in more detail below, led the researcher to focus on student interviews, and therefore a decision to stop collecting data from practice educators was made. One further educator offered to participate after this point - this individual was informed that their input may not be required, and they volunteered to be contacted should this become appropriate during further stages of the research.

A second recruitment process was conducted with a new cohort of students undertaking their first placement in order to seek theoretical saturation, for which further ethical approval was sought (*Appendix L*). This student cohort comprised first year MSc (Pre-registration) students and enabled the researcher to determine the parameters of each category and develop and verify the theory according to the core category. Again, all 22 members of the cohort were invited to participate. Five students responded to this invitation; however, one student had transferred from BSc to MSc programme and had already participated as a BSc student. They were

therefore deemed ineligible as although they had just experienced their first placement of the programme, it was not their first occupational therapy placement. Interviews were carried out with the remaining four students who responded. Participant information is provided in *Table 4-1* (below).

Table 4-1 Participant information

Participant	Student / Practice Educator	Cohort
1	Student	BSc
2	Student	BSc
3	Student	BSc
4	Student	BSc
5	Student	BSc
6	Practice Educator	N/A
7	Student	BSc
8	Student	BSc
9	Student	BSc
10	Practice Educator	N/A
11	Practice Educator	N/A
12	Student	MSc
13	Student	MSc
14	Student	MSc
15	Student	MSc

4.1.1. Theoretical Saturation

When using GTM it is neither possible, nor desirable, to specify the number of participants that will be required to enable the research question to be answered and the theory to be generated (Thomson, 2011). This is apparent in the distinct lack of debate, or even instruction, in relation to sample size by GTM authors. However, a majority of studies have been found to use approximately 25 participants, with normal practice ranging from as few as five to over one hundred (Thomson, 2011). Instead, the concept of theoretical saturation is often utilised, and the researcher makes an informed decision to cease collecting new data at this point. Corbin and Strauss (2015) define saturation as not only the point at which no new concepts

emerge, but also the point at which the development of the properties and variation of concepts is considered complete. This approach is adopted here.

Many authors recognise the challenge in identifying saturation as a concept, and therefore in knowing when to stop collecting data. Saunders *et al.*, (2018) suggest four different categories of saturation – theoretical, inductive thematic, a priori thematic and data saturation. Inductive thematic saturation describes the point at which no new codes emerge from the data. This was the point at which initial data collection from students and practice educators ceased and coincided with a total of 14 interviews – 11 with students and three with practice educators. Recruitment from a new student cohort to progress towards theoretical saturation, identified as a situation in which, by virtue of theoretical sampling, the properties of a category are fully defined (Corbin and Strauss, 2015). This point was deemed to be reached following data collection from three of the four pre-registration MSc students. Saunders *et al.*'s (2018) remaining two categories of 'a priori thematic saturation' and 'data saturation' are inconsistent with grounded theory, because they are used with pre-determined theoretical categories (Saunders *et al.*, 2018).

Grounded theory literature also suggests that good practice includes testing theoretical saturation by conducting one or more further interviews after the researcher believes that saturation has been reached (Saunders *et al.*, 2018). This was more challenging in practice as the moment at which saturation occurs is not always clear. Strauss and Corbin (1998) advocate focusing on evidence that saturation has been reached rather than expressing a specific point at which it happens, recognising that ongoing data collection will always bring more depth of understanding to the situation. The final interview was conducted after the

researcher felt that the properties of all the categories had been fully defined, to instil confidence that data collection had not stopped prematurely.

4.2. Data collection

Glaser & Struss assertion that “all is data” (Bryant, Strauss and Rorty, 2009, p6) meaning that data can be collected from a variety of sources, has become somewhat of a mantra for grounded theorists. There is no doubt that this was intended as guidance to researchers to integrate, rather than segregate, all forms of data collected to ensure that the resulting theory is well rounded and fully considered. This in turn seeks to support the credibility of the theory generated by ensuring that, for example, observations and transcriptions are given equal consideration, so that the researcher does not ignore any incongruence between the two and generate theory that relates to only what was said by participants, and not what they did. In practice, it is necessary to adopt some method of primary data collection which is deliberately sought out and analysed in detail.

Individual interviews were selected to answer the research question “What skills, knowledge and behaviours are learnt during Student Occupational Therapists’ early exposure to practice in the course of their first assessed placement”. This is reflected in the research objective of collecting data from first year students and practice educators exploring their beliefs about the skills, knowledge, and behaviours they learned and found difficult to learn during their first placement.

Focus groups or group interviews were initially considered, identifying that they may have an added benefit over one-to-one interviews in allowing participants to react and respond to one another’s views (Flick, 2021). In the case of practice educators, they were discounted in favour of individual interviews because the different contexts

in which educators' practice was anticipated to give rise to several different narratives about the student experience. Individual interviews enabled educators to fully engage with the research process without feeling the temptation, or need, to justify their particular education or supervision methods to their peers. This enabled each educator to focus on describing the student learning, rather than the supervision provided.

In order to remain true to the notion that any developed theory is grounded in the perspectives of the participants, collecting individual experiences and perspectives from students on what was learned was also preferred. Focus groups run the risk that it may be more difficult for students to discuss sensitive issues with a group rather than with an individual (Flick, 2018 p265) which may prevent participants from sharing ideas that they perceive to be specific to them. For example, a young student who had never been in any workplace environment before may have been reluctant to disclose their learning in relation to this in a focus group with mature students who may have had previous careers. Focus groups were therefore deemed best suited to research in which one aims to understand group dynamics or constructions (Mason, 2018), which did not apply to this study.

Observation was also briefly considered as a data collection strategy, although the ethical implications of the researcher being present during the students' placement were vast and problematic. Issues such as confidentiality for clients and the impact of the researcher's presence on the process of supervision ultimately deemed that the benefits of potential data could not outweigh the risks to student learning, causing this method to be in direct contradiction with the ethical principle of non-maleficence (Creswell and Creswell, 2018; RCOT, 2019).

Individual interviews are widely considered to be a useful and important qualitative data collection method (Flick, 2018). Selecting one-to-one interviews as the major source of data from participants enabled the researcher to probe for depth of information and be sure to have heard the perspectives from a variety of students, allowing for divergent information to be incorporated into the resultant theory (Flick, 2021 p348). First year occupational therapy students and practice educators are far from a homogenous group, with variations in age, gender, ethnicity, previous experience, and placement type just some of the differences which interviews could incorporate.

Due to the impact of the Covid-19 pandemic on the research process, face to face interviews were not possible. National government guidance at the time that participants became available for interview focused on minimising social contact (UK Cabinet Office, 2021) with the country broadly following lockdown rules. Whilst recognising the potential negative impact of the virtual environment on interviews due to challenges and interruptions caused by technological issues and the risk of limiting the participant population (Archibald *et al.*, 2019; Sah, Singh and Sah, 2020) recent evidence suggests that using videoconferencing software such as Microsoft Teams is received favourably by participants and researchers alike with some specific benefits in terms of scheduling, efficiency and the balancing out of power relationships (Sah, Singh and Sah, 2020; Pocock, Smith and Wiles, 2021). The impact on power relationships was of particular importance, recognising the potential power held by the researcher over student groups as discussed in section 4.1 *Sampling and Recruitment*. Using an online environment prevented participants from needing to physically enter the researcher's office, thus attempting to redress this power dynamic by conducting interviews in the participant's own environment

(Pocock, Smith and Wiles, 2021). The researcher and participants had extensive experience of conducting meetings in this setting and all potential participants had access to the required technology via the University or workplace. Attention was paid to confidentiality, with the researcher working alone in a home office with wired internet collection and participants able to choose their own physical location.

A further consideration was the type of interview conducted. Structured interviews are inappropriate for GTM, given the lack of flexibility and ability to follow the participant voice (Corbin and Strauss, 2015), and were not considered. Unstructured interviews are considered to be the most appropriate, giving full voice to the participants and allowing them to guide the direction of the conversation (Glaser and Strauss, 1967; Corbin and Strauss, 2015). The use of a 'grand opener' – one question with which to start the interview which allows the participant to share their views in any way they prefer – has been recommended by Corbin and Strauss (2015) as an appropriate starting point. As this study aimed specifically to address the learning acquired during practice education, and because expressing one's own learning does not follow a narrative flow but requires some analysis of events on the part of the participant, semi-structured interviews were employed and a loose interview schedule prepared (*Appendix M*). GTM encourages the researcher to follow the direction dictated by the data, therefore pre-defined questions are difficult to generate and inappropriate to rigidly apply – however a pilot interview was conducted to enable the researcher to develop confidence with the schedule and practice following the conversation. The participant for the pilot was a student from the equivalent BSc cohort in the subject of physiotherapy, whose placement trajectory in terms of timing, duration and so on was the same as the BSc

Occupational Therapy students but who did not meet the inclusion criteria for the study by virtue of the course on which they were enrolled.

Use of the grand opener in the form of one overarching question “tell me about what you learned on your placement” was included, but this was preceded with questions about the placement itself and day to day practice (see *Appendix M*). These questions sought to re-immense the participant in the experience as a method of ensuring the interview remained “fresh and real” (Flick, 2021, p348). Prompts regarding what was most important, what skills, knowledge and behaviours were learned, and what was difficult to learn were also included to support the students to reflect on their learning. Such questions were developed in accordance with the research objectives and reflected the decision not to complete a literature review regarding learning theory until after data collection (see section 2.1 *Purpose of the literature review in Grounded Theory Methodology*). In following the semi-structured approach as loosely as possible to allow students to respond to the ‘grand opener’ in their own way, these questions were employed in the order deemed most appropriate by the researcher at the time in response to the direction taken by the participant. For example, when a participant talked about acquiring specific knowledge about their own learning on placement, the researcher summarised this and then specifically asked about knowledge gained by stating:

So, from a knowledge point of view, you know that you’ve got to ask questions..... was there any other particular knowledge that you feel that you learned or that you took away from your placement? (Researcher question asked of participant 3)

Over time, as data analysis progressed and the researcher gained confidence in the skill of conducting research interviews, less structure was employed.

4.3. Data Analysis

Interviews were audio and video recorded using Microsoft Teams which facilitated secure storage and access to the recordings for the participants if they wished.

Memos, discussed further below, were taken during the interview to help ensure that participants were prompted to expand where appropriate and to both document and evidence the researcher's reflexivity and transparency (Lempert, 2007). The researcher's reflections on these processes are discussed in *Chapter 10* and memos have been included throughout *Chapter 5* and *Chapter 10* as appropriate.

Following each interview, the autogenerated transcript was first cleaned to remove date stamps, and then manually edited to provide a full and accurate transcript. This enabled the researcher to engage with the full interview for a second time, attempting to enter the perspective of the participant and listen without prejudice to what was being said (Corbin and Strauss, 2008). Prejudice remains an inherent part of any interaction and therefore it is not suggested that this was fully achieved, however listening to the interview in full whilst editing the transcript provided the researcher with an opportunity to engage with the participant's perspective, rather than attempting to judge content by commencing coding at this early stage.

4.3.1. Constant comparative analysis

As seen in *Figure 4-1*, GTM design is not linear and is reliant on a number of processes occurring alongside data collection. Most important is that data are collected and analysed concurrently, resulting in constant comparison of data with that which has been collected before and that which comes after. The processes of

data collection and analysis occurred together, so that the researcher entered each interview having completed some degree of analysis of those that came before. This facilitated constant comparative analysis, which has been identified as a key concept of GTM (Strauss and Corbin, 1997). Each piece of data was compared with previously generated pieces of data as they were collected, and data that appeared to be conceptually similar were grouped together (Corbin and Strauss, 2015). Each time a new piece of data was analysed using the processes discussed in section 4.3.3 *Coding*, codes generated were compared with existing codes to look for similarity or difference. This iterative process continued, back and forth between transcripts, in vivo codes, open codes and axial codes (see 4.3.3 for explanation of terms), in order to develop the final theory. Constant comparison was vital in enabling the researcher to remain close to the data and ensure that codes emerged from the data, rather than data being forced into existing codes (Kelle, 2007).

4.3.2. Theoretical sampling

Along with constant comparison, theoretical sampling can be seen as one of the hallmarks of GTM (Glaser and Strauss, 1967; Corbin and Strauss, 1990; Strauss and Corbin, 1998; Charmaz, 2014; Morgan, 2020). Theoretical sampling describes a particular method of data collection, based on what is being derived from data as they are collected, in which the researcher seeks out specific information to enable them to maximise the concepts they wish to explore (Corbin and Strauss, 2015). For example, application of theoretical sampling to the data collection process resulted in interviews becoming devolved from semi-structured towards more unstructured, as the researcher sought to explore one or more concepts in greater depth. Participants rarely answered the question “what skills were learned” directly and tended instead to focus on processes. Following the principle of theoretical sampling (Glaser and

Strauss, 1967; Birks and Mills, 2012; Corbin and Strauss, 2015) the researcher would follow this line of thought with the participant by using various prompt questions such as “tell me more about that” and “what did you learn from that?”, rather than adhering to a strict interview schedule determined to extract information about skill acquisition. Consequently, this caused dissonance for the researcher at times as it appeared that the question “what knowledge, skills and behaviours are learned” was not being answered, as demonstrated in memos on data:

I have been thinking about the Practice Educator contributions & concerned that I do not feel as though they have told me what they think their students learned, more how their students performed. (Memo D31)

However, through theoretical sampling decisions were taken regarding the relevance of data contributed by the practice educator participants. This was expressed in a further memo:

I am trying to ask the PEs more about the learning, but they still respond re: performance. I think this says more about the personal, internalised nature of learning and how we try to measure something internal as an outsider to that learning. (Memo D33)

Ultimately, the direction of this analysis of practice educator participant responses led to further interviews with educators not being pursued, as it was identified within the data that it was student participants who could better answer the research question. As the study progressed and analysis began to develop into early theory, a further invitation was extended to students who considered that they had had a difficult placement experience to specifically come forward (*Appendix N*). This theoretical sampling (Morgan, 2020) was aimed at developing the concept of

“availability for learning”, which would later be identified as central to the developed theory. It resulted in one additional BSc interview, prior to the subsequent recruitment of MSc students.

4.3.3. Coding

A three-stage process of coding was employed to refine data into theory (Chun Tie, Birks and Francis, 2019). Initial coding, the process of assigning a conceptually descriptive code to a piece of data, was the starting point for analysing interview transcripts and was applied to each transcript in turn through in-vivo coding and open coding which are explained in detail below. Occurring concurrently with constant comparison, intermediate (axial) coding continued to refine and reduce the number of codes into conceptual categories. At this point, the researcher initially thought that the core category, which is the concept that the researcher determines represents the main theme of the research (Corbin and Strauss, 2015), had emerged. However, after the final stage of advanced coding was employed to develop the theory by defining the relationships between the conceptual categories, it became clear that what had initially been thought to be the core category was in fact the central concept of the theory as highlighted by the relationships between the categories, and a new core category emerged. This is discussed in detail in *Chapter 7*.

In vivo coding

Once the interview was fully and accurately transcribed by the researcher, the participant’s data were manually coded line by line, to describe or summarise the text. All parts of the interview were coded in the same way, including the researcher’s in-interview summarisation, or paraphrasing. This process of in vivo coding (Manning, 2017) allowed a third engagement with the full text and supported

the development of early categories. Creation of memos pertaining to the text also commenced at this point and continued throughout the different stages of analysis. In contrast to the memos used during interviews, these memos formed the early part of analysis, in which the researcher's thinking was recorded and later incorporated with the data to formulate conceptual understanding of the topic (Corbin and Strauss, 2008) and were later used in the processes of intermediate and advanced (theoretical) coding. In vivo coding was viewed by the researcher as a method of summarising and explaining the concepts discussed by the participants prior to attempting to ascribe meaning or relationships to the data.

Open coding

In vivo codes were subsequently exported to a new document for the commencement of open coding, in which each in vivo code was assigned a researcher-generated code which grouped together sections of the text discussing similar concepts. For example, the in vivo codes of "didn't understand the learning outcomes" and "wasn't clear in my head" were combined within the open code of "uncertainty". Reflexivity is of vital importance at this stage of the process, as the researcher is required to carefully reflect on their choice of codes, which occurred via memoing and explanation of the coding process during supervision meetings. During this stage of coding, multiple categories were generated according to the perception of the researcher, rather than data being assigned to *a priori* categories. This was important to allow the process of analysis to remain close to the raw data and to avoid the concept of 'forcing' data into predetermined codes, which is strongly counter to the original tenets of GTM (Glaser and Strauss, 1967). Together, the closely aligned processes of in vivo and open coding form initial coding, which is

considered to be the first step in grounded theory analysis (Birks and Mills, 2012, p91).

Axial coding

Open codes were further combined into axial codes which explained the researcher's interpretation of what was happening in the open codes. Axial codes were derived by grouping existing open codes. To use the previous example, the open code "uncertainty", along with open codes "confusion", "overwhelm", "fear" and "worry" were grouped together under the axial code of "emotions". The process of axial coding aligns with intermediate coding according to Birks & Mills (2012) principles as illustrated in *Table 3-1*.

4.3.4. Theoretical Sensitivity

The concept of theoretical sensitivity resonates strongly with the pragmatist approach to research as open to changing beliefs. In any grounded theory study, the researcher should be open to and aware of their changing beliefs and perceptions in relation to the data, recognising and responding to the process of theoretical development. Staying close to the data by reading, re-reading, re-interpreting, and questioning supports the researcher's ability to remain sensitive to the developing theory. This changing perspective was identified throughout the study as the researcher engaged in the process of constant comparison and was demonstrated and facilitated by the keeping of memos.

4.4. Memos

Memo writing, often shortened to memoing, is shown in *Figure 4-1* as occurring at all stages of the research process (Chun Tie, Birks and Francis, 2019). Memos are informal 'notes to self' written by the researcher which encapsulate researcher

reflexivity as part of the analytical process. They are considered essential in ensuring quality within GTM (Birks and Mills, 2012) and provide a detailed history of the researcher's analytical thinking process, including reflections, ideas, and feelings. Using memos prompts researchers to develop codes and categories with meaning and explain how and why decisions were made, and the process is considered crucial by many authors (Lempert, 2007; Corbin and Strauss, 2015; Chun Tie, Birks and Francis, 2019).

Memoing within this study aided in the development of new questions which became important in later interviews. Early memos provided general guidance to self, as shown in sequential memos D2, D4 and D6.

go back and probe what is meant by assessment (Memo D2)

ask more probing questions (Memo D4)

be specific about student's individual learning – ask what was new for you?
(Memo D6).

As the researcher became more familiar with memoing, later memos were more analytical and were differently constructed. They therefore did not provide such specific guidance but enabled the flow of the interview to become more relaxed and showed the emerging analysis process. This in turn enabled the researcher to direct the interviews to better explore the concepts being developed as demonstrated in Memo D20.

P5 makes the distinction between skills & behaviours in her recognition that she lacks some of the skills that her peers have, which she attributes to previous anxiety / not learning social skills & behaviours. She is the only student to date to acknowledge learning of behaviours but also makes the

observation that skills when practiced & learned turn into unconscious behaviours. Therefore, is there something about the very fact that behaviours are well-learned & automatic that prevents some students from identifying what these are? Perhaps it is unfair to even classify professional behaviours, and we should / could instead talk about the skills of professionalism to incorporate active listening, maintaining focus, turning up on time and so on. I feel that the distinction between skill and behaviour is something to be considered from within the literature – how is a behaviour defined? Is there a tipping point at which a skill becomes a behaviour? What is our role as educators to support students to develop these skills into behaviours? Is there a stigma associated with behaviours that doesn't exist in relation to skill? Many student participants appeared to brush off behaviours, and I was mindful that their tone and approach to the conversation made me think that learning about behaving equated to not being naughty – it had a ring of childishness which is important to acknowledge.

Linked with this is the suggestion that a behaviour is something one is in control of (doing or not doing – as expressed by P5 as paying attention, or always working) whereas skill is less controlled by the individual and needs to be allowed to be developed. The implication is that not having skills is acceptable but not behaving appropriately is not. Could it be, however, that being able to apply the appropriate behaviour to the appropriate situation is also a skill which students are learning and sometimes get wrong (a good example might be how to banter within the staff team) (Memo D20)

4.5. Advanced coding and the core category

The final stage of analysis required the researcher to examine the relationships between each of the categories, in light of the findings that had emerged to date. This process is considered by both Birks and Mills (2012) and Urquhart (2013) as a vital stage of abstraction, the process of cognitively moving away from the concrete data towards a conceptual understanding (Urquhart, 2013). Abstraction leads to the resultant theory, rather than simply a reporting of findings, and is therefore central to describing a piece of work as a grounded theory study, rather than simply a study that employs grounded theory methods. Advanced coding is known in some types of GTM as either theoretical or selective coding and is required to abstract the theory from the analysis that has gone before (Birks and Mills, 2012). Utilising theoretical sensitivity, advanced coding was employed following the earlier open and axial stages of coding in order to develop the theory.

Chapter 5 presents four categories of learning identified by participants as a result of constant comparative analysis via initial and axial coding processes. These are presented and discussed in relation to the literature identified in section 2.3.1 before the final stage in the development of the grounded theory is presented in *Chapter 7*. The advanced coding process will be explained in detail in this chapter.

Within the process of advanced coding, the core category was also identified. The core category is a concept that is most prevalent in classic GTM but takes a less prominent position in other forms of the methodology (Glaser, 2007; Birks and Mills, 2012; Charmaz, 2014; Bryant, 2019b). It is said to encompass all of the categories that have been identified from the data and explains the grounded theory as a whole (Birks and Mills, 2012). During the initial and intermediate coding processes, the researcher initially identified that the concept of 'availability for learning', as

discussed in *Chapter 7*, could be considered a core category. However, the advanced coding stage proved crucial in abstracting the theory and led to the identification of ‘availability for learning’ as a central concept to the theory, whilst recognising the core category as something entirely different in ‘**becoming a student occupational therapist**’, further discussed and identified in *Chapter 7*.

The process of abstraction can be seen in memos D43, D53 and D55 below, which were written over a period of almost 18 months.

What I now need to do is immerse myself back in the data, in the light of this core category, the four sub-categories and the concept of developing into a student occupational therapist – the “becoming” which is influenced and impacted by the student’s availability for learning and occurs across all contexts, rather than being context dependent. (Memo D43 - 17/07/2021)

I am re-visiting data sets and the focus of understanding the profession strikes me as strong. This was coded into professional identity, and could be an important part of the developing theory. I have hypothesized before about something happening on placement that turns a student from an OT student into a student OT (Memo D53 - 01/05/2022)

Is my core category actually: BECOMING A STUDENT OCCUPATIONAL THERAPIST? (Memo D55 – 13/03/2023)

4.6. Conclusion

This chapter has explained the methods used throughout the study, utilising a research design framework adapted from Chun Tie, Birks and Francis (2019) to explain the relationship of each process to grounded theory methodology. Sampling and recruitment methods describe the process of selecting participants initially

purposively and later using the GTM process of theoretical sampling. The concept of theoretical saturation has been introduced and data collection tools and techniques explored. Concurrent data analysis including different types of coding and constant comparison have been demonstrated in relation to the non-linear processes of GTM, and examples of the impact of the analytical memoing process have been provided.

Chapter 5 will present the findings from the study, following completion of interviews and the concurrent data analysis process. Findings will initially be submitted in their pre-theory state, with four categories of learning demonstrated and the central category presented. The following chapter (*Chapter 6*) will consider these findings in relation to the existing literature, including both that presented in *0* and the extensive body of literature relevant to learning theory. Relationships between the categories will then be extrapolated and the resultant theory presented in *Chapter 7*, prior to discussion of the newly developed theory in relation to the existing literature in *Chapter 8*. Finally, implications of the findings and resultant theory will be presented in *8.4* before the thesis closes with limitations and recommendations.

Chapter 5 Findings

The iterative data analysis process revealed four categories of learning that were expressed by all participants. These categories are described as: **learning about oneself as an occupational therapist, learning about the occupational therapy profession, learning about occupational therapy practices, and learning about users of occupational therapy services**. For ease of use, these are also referred to by their shortened forms: **learning about oneself, learning about the profession, learning about practices and learning about service users**. Further analysis to understand and uncover relationships between data led to the central concept of **availability for learning**. Throughout the remainder of this thesis (except within headings), where these categories of learning are referred to they will be presented in bold type to aid their identification as categories arising from the data, as opposed to general discussion regarding student learning.

This chapter will describe each of the four categories of learning in detail, illustrated with direct participant quotes from each of the sub-categories, before moving on to describe the central concept. Quotes are attributed to individual participants by the suffix P[number] where P refers to participant and the number identifies the participant (see *Table 4-1 Participant information*). Where relevant, memos have been used to explain the data analysis process that led to the organisation of the findings into these categories. Memos are identified by the suffix D[number], where D refers to the memo on data, rather than other memos which were also kept on the research process (RP), literature review (LR) and educational theory (ET). The four categories of learning are shown in *Figure 5-1 Categories of Learning* (below).



Figure 5-1 Categories of Learning

Author's own creation, 2024

5.1. Learning about oneself

The study participants highlighted the personal nature of their learning and how the practice experience gave them an opportunity to develop their awareness of themselves and their personal learning in this new and demanding context. They described experiencing learning that was not necessarily related to the profession or the service users they were supporting but encapsulated their own personal development. For some participants, this was very clearly identified and articulated as a new learning that was developed. Such learning was overtly stated by a student participant:

I learned not to be hard on myself; I was proud of myself because I did things I didn't think I was going to do. I left feeling...different about myself (P7)

For other participants, there was less emphasis on the development of self-knowledge and more on the need to use their existing self-knowledge in order to manage their behaviours on placement appropriately.

I would have probably had some grounds to go and say I don't think this is on, but I just kept quiet 'cause I just, I just don't, I need to get through the placement (P13)

The presence of this different approach to self-knowledge was identified during the memoing process in relation to mature students.

There's a sense of not being accepted for who they are, and not having their pre-existing skill set recognised. This is part of, but doesn't exactly fit, the category of learning about oneself, but I guess it is part of managing oneself in the workplace. (Memo D51)

Learning about oneself as an occupational therapist was further divided into six sub-categories expressing the different learning about themselves that students experienced, shown in *Figure 5-2 Learning about oneself* below.



Figure 5-2 Learning about oneself as an Occupational Therapist
Author's own creation, 2024

5.1.1. Learning about the learning process

Student participants identified and differentiated between the learning that was required of them and the learning that they needed to develop. They discussed getting to grips with what a successful placement involved, and how to demonstrate that they had met the learning outcomes of the placement. In doing so, they highlighted the concept of reflection on learning, which was new to many students. Links were made between their ability to learn and the overwhelming nature of the new, and frequently alien, environment. The role of the practice educator was first identified here, as students discussed the importance of being able to talk about what they were seeing and doing.

Students identified the effort required to understand how to learn, and that not only did they need to be aware of what they didn't do automatically, but that learning could not always take place in the way that they wanted.

I learned that I couldn't always participate when I wanted to. So I couldn't always practically learn (P7)

You don't get time to...to sort of go over your thoughts of the visit. You're kind of just in the car dwelling on it on, on your own and then doing another visit, and then you're done and it's sort of ... right, OK, I'll, I'll write up my reflection (P1)

Practice educator participants demonstrated their awareness that this learning about learning is an important, and expected aspect of the first placement:

Especially as a first year, they don't know what they don't know, and I think that's... that's part of the process I think, for being a first year, is learning how to how to get the most out of the placement (P6 - PE)

Learning about the ways in which students were learning on placement, recognising this as different to classroom learning and identifying how they learned and what may have been difficult to learn was one aspect of learning about or managing oneself on placement.

5.1.2. Ways of learning

Student and practice educator participants identified using a variety of methods of learning during the placement, including the learning that occurred from modelling behaviours, as well as learning from planned tutorials and peer discussion. Practice educators described setting up deliberate learning opportunities for students, such as arranging tutorials with different therapists. Student participants discussed copying their practice educator's behaviours and methods in an attempt to learn how to carry out specific actions, but also as a way to increase their own confidence.

[I copied] the way my practice educator interrupted [a client] So I was thinking how [do I] stop this [client from going off on a tangent]? I didn't know that! So I was thinking, I know that it's going and I don't know how to interrupt. So now I know ... that I have to interrupt (P12)

The importance of different learning modalities, specifically different from those available in the classroom, was discussed, with many students describing themselves as practical people who expected to learn better by watching and doing than by listening. They saw placement as an opportunity to develop their learning because of the opportunity to practice and were pleased with this.

I was actually quite surprised at how involved I got in it because. We... you know the first couple of days, there's a bit of shadowing and stuff, but then she was almost like, you know, So here's the assessment. Now you try it

yourself. So there was... It was very involved, which I really enjoyed and there's a lot of independent working and stuff (P4)

All participants highlighted the importance of the practice educators' role in developing student learning. Positive and negative experiences with educators impacted students' ability to learn or not, and students valued educators experience, knowledge, and ability to impart information in a way that they could understand. Practice educator participants deliberately cultivated relationships which allowed students to learn from them, by trying to make students part of the team and respond positively to questions.

I think having ... just discussions with my educator, she knew quite a lot about the theories, like knew ... was quite good at explaining it (P15)

She was trusting. And she was honest. And she was like, right? Well, you know you can do this. You can do that. You know, if you can't do it, you can't do it sort of thing. (P9)

For some students, the experience of placement learning opened up an ability to reflect on previous learning experiences and therefore get to know themselves and their own learning needs better.

One of the biggest things is I've found out is that I can't type on a keyboard ... I physically feel ill and drained ... being dyslexic, it means that referencing and things is a real problem for me. That's not an excuse, but these are things that I've learned actually during the placement, which sounds odd, but it's true. That's probably the biggest learning ... it sounds stupid, but it's the biggest learning I got from my placement ... I hadn't realized it until now. (P13)

The variety of learning methodologies that were employed during placements, together with students learning about their own learning needs and skills which was facilitated by the placement environment, were important to students and practice educators.

5.1.3. Achievement

Students discussed experiencing achievement in terms of both success and failure, and many specifically highlighted the practice educator's role in this. Whilst many student participants felt that their educator helped them to recognise achievement and that this benefitted their ongoing learning, some felt they did not receive support in this way.

My practice educator was lovely, but she was... she was so stuck in her way, I don't know if ... she really thought about laying things out from a student's point of view ... she acknowledged that I seem to like to have an explanation about things. But I don't really think she knew what to do with that (P1)

The value participants placed on the practice educator as a role model was evident, with students responding to the success that they observed in their educator's interactions with clients and trying to achieve the same results.

I saw, like, how the patients responded to her. I wanted them to respond like that with me as well (P5)

Praise was accepted as recognition of achievement by others, and this contributed to students developing confidence and subsequently attempting more tasks, as they continued to seek out further praise. However, some were also able to demonstrate a level of comfort with failure and recognise the learning that this promoted.

I could be wrong. And I'm a student, so if I'm wrong, good, I'll learn something, that's fine (P9)

Students learned about achievement in both positive and negative ways on placement and felt that both were valuable in terms of learning about oneself.

5.1.4. Feelings

Student participants discussed their feelings and emotions in relation to placement as a significant part of their learning. These ranged from disappointment, embarrassment, uncertainty and confusion through to shock, fear and anxiety.

Students found the concept of entering into a first placement somewhat intimidating, caused by not knowing what to expect and being afraid of the unknown. Many students described feeling overwhelmed both by the sights and sounds of the environment and by the enormity of new experiences and expectations.

One practice educator participant was able to identify how anxiety prevented their student from carrying out tasks that they felt them to be capable of.

I was really surprised [that she was] really lacking in confidence with just even just taking a message from the phone ... It's just about taking a message and passing it on, and I don't think she actually did that in the time that she was here. Maybe once she did it. She hated it (to researcher) You probably don't realize you're doing it because it's not an anxiety provoking moment, but for students, it is, isn't it? (P6 - PE)

Confidence was a feeling discussed by all participants, with one practice educator participant summing up ways of developing confidence that were reflected by the majority of student participants.

It's confidence, isn't it? ... if you ask a student initially to go and talk to a doctor about somebody, they might be, "ooh! can't do that". But you know ... it might be that the student will go and spend time in a clinic first, observing, and then hopefully they'll have that confidence and they'll know the person that they're then going to talk to. (P10 - PE)

The emotionally challenging nature of placement was also highlighted. Student participants expressed feeling sad about the situations that their clients were in and working hard not to show that emotion. For others, the emotional challenge came from trying not to take on the emotions of their clients and maintaining a professional role.

They [service users with dementia] were so scared, and it was about me trying to find a way to sort of help them not be scared ... they were getting really upset and I found it quite... yeah... I think emotionally challenging trying to deal with that situation professionally (P4)

Students also discussed overcoming negative emotions of nervousness, embarrassment and fear of failure. They expressed their ability to learn from the situation and take their learning forward into the next task, and the importance of not allowing themselves to judge their own performance too harshly. There was a sense of being fully aware that this was a learning situation that was going to be difficult and with this a development of resilience.

As it went on, it was easier to kinda go and integrate myself into what other people are doing and saying can I have a look? I want to understand this, I want to understand that, and the kind of... intrigue overtook the nervousness in a way (P5)

Developing confidence, emotional regulation, and overcoming emotions were expressed by participants as important aspects of managing oneself on placement.

5.1.5. Feeling like a therapist

The development of the sense of self as an occupational therapist was expressed by all student participants and was highlighted by one participant who describes talking to peers who had not yet started their placements:

I was sort of talking to them, but I didn't want to lead them too much because I just I knew the answers, I'd seen it, had sort of observed it, but when I was talking to them they said to me, mate, you sound like an OT (P2)

Students invariably expressed a sense of developing identity that had not been present at the start of their placement. They began to refer to themselves as occupational therapists, and in their descriptions of what they did at the end of their placements they regularly used the pronoun “we”. In contrast, when discussing the early weeks on placement, many students used the pronoun “they”, describing the educator or service role. Part of this development appeared to have been influenced by the value that students found in contributing to “real life” work, and the impact this had on them in feeling like an Occupational Therapist.

I think made me feel more like you're making decisions as an occupational therapist ... I actually felt like “oh, the information that's ... I've done that and got that information”, and that's actually ... real life made an impact to someone (P15)

Beginning to feel like an occupational therapist was highlighted by many student participants as a positive aspect of learning about oneself on placement.

5.1.6. Self-knowledge

Participants shared that, during their placement, they learned more about themselves as individuals and the ways in which they perceived themselves. Some experienced less new learning but discussed ways in which they used their existing knowledge of themselves to help them to manage their placement experience.

Some students learned to demonstrate vulnerability and allow themselves to make mistakes, controlling their inherent perfectionist tendencies and embracing errors as part of the learning process. For many, this was part of an ongoing process that students were able to identify at the beginning of their placements – they recognised that it was their first placement and therefore they were not expected to know everything. However, for others it was described almost as life changing.

I kinda went in thinking oh, no, I mean I have to know everything and you know, I can't show that I don't know things, where [the OTs] were instantly like, "oh, you're not quite getting what we're saying, you know, should we try a different way?" ... yeah, that was a really big kind of learning curve for me, it was like, you know, it's OK not to be perfect all the time and you know that was part of building my confidence up (P5)

Others demonstrated that they had used their existing self-knowledge during their placement. They were able to understand that the way in which they approached tasks and experiences would impact the sense that they could make of them, and that they needed to use their knowledge of themselves to their own advantage.

Understanding that they needed to be more flexible, rather than taking a fixed and structured approach to the situation, was mentioned by multiple students as one way in which they were able to adapt to the needs of the client.

[it was] challenging in the I, I suppose the way I, I... perhaps self-assess and progress in my own learning [because] I'll try and take a structured approach
(P2)

Some students did not specifically discuss learning about themselves but were still able to demonstrate ways in which they used their self-knowledge to manage themselves during placement. For example, one participant described checking with his practice educator how his behaviour was being perceived by others by asking whether he was coming across as belligerent, which suggests an awareness of how he may previously have been described, whilst others expressed using self-knowledge to help them to be resilient.

The ways in which students either learned about themselves on placement, or used their knowledge about themselves to help them to cope with the demands of placement were clearly expressed.

5.1.7. Conclusion – Learning about oneself as an occupational therapist.

Although this category is titled **learning about oneself as an occupational therapists**, throughout the iterative data analysis process it became increasingly evident that some students learned little about themselves, as they already felt that they had a good understanding of their own needs and attributes. Despite this, they raised issues about themselves that impacted on their learning, such as managing their emotions, demonstrating resilience, and handling their inherent perfectionist traits. The impact of working with this knowledge of oneself was described by students as equally important as learning about oneself, hence this category includes both learning new things about oneself and learning to manage oneself within the placement setting.

5.2. Learning about the Occupational Therapy profession

Participants discussed a wide variety of occupational therapy-specific learning that students experienced during their first placement. Student participants also discussed the impact of placement learning and its role in their education, and there was a distinct sense of the placement being an integral part of learning to be an occupational therapist, with participants alluding to the changes they were going through in order to become qualified occupational therapists.

The impact of this learning is best summarised by participant 5, who explains how being on placement made sense of all their theoretical learning.

Going into placement was when it all clicked into place and I was like, “that’s this, that’s that” ...you know, my practice educator and the team like explaining these things for me majorly like, really fit into place. And so I could understand what was assessment, was invention, was part of the OT process. What was their reasoning for doing all these things that were just like kinda in my mind floating around like ... I know they’re happening somewhere around me. I understood when they were happening and why they were happening then [...] the placement was definitely where it clicked for me. (P5)

Other students viewed the placement experience as so valuable that they questioned the value of in-class theoretical learning.

I feel that I've learned more on placement than I have from doing the majority of the theory actually within university [...] I've got extraordinary learning from it and I can see that anybody going in whatever level, they are probably going to be a different person coming out [...] so if anything, I think it ... I mean it

serves its purpose, doesn't it? You have to get over 1000 hours of practical and it's absolutely essential (P2)

This category was further divided into four sub-categories of professional identity, thinking like a therapist, linking theory and practice and occupational therapy skills. These sub-categories express the different learning about the profession that students and educators explored, shown in *Figure 5-3 Learning about the Occupational Therapy* below.

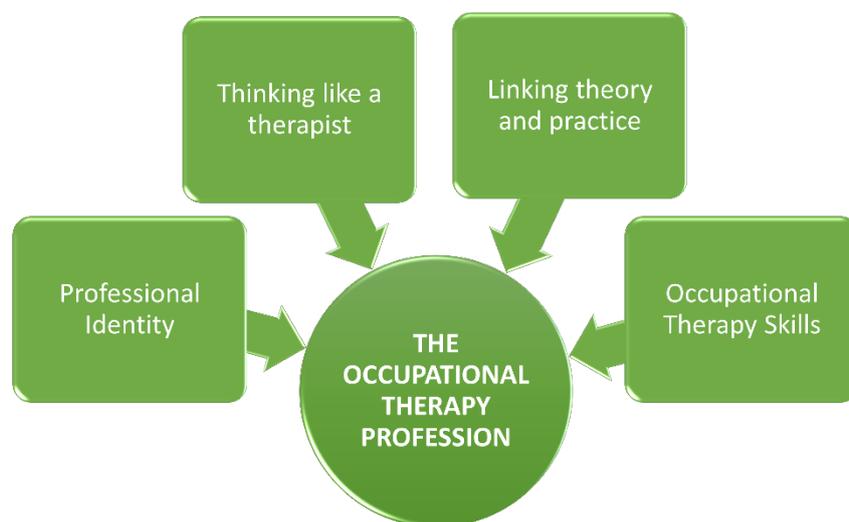


Figure 5-3 Learning about the Occupational Therapy profession.
Author's own creation, 2024

5.2.1. Professional Identity

Participants discussed the development of their identity as an occupational therapist as integral to their placement experience. One practice educator participant explained this process at length within her interview, which was paraphrased back to her by the researcher:

I guess that's about sort of developing their professional identity, isn't it? From the student's point of view, understanding how I have similarity, in terms of

what I'm doing, but also how I have difference in my professional role as an occupational therapy student versus what I'm observing from ..., maybe the physiotherapists, or the nurses, or whoever else is on the on the ward. (R to P11 - PE)

This was expressed by student participants, who explained that developing an understanding of other professionals' roles helped them to develop interventions with clients. For many students, development of professional identity was expressed in relation to learning from, or about, other professions. Learning that other professionals had a limited understanding of the occupational therapy role appeared to support students in learning about their own professional identity, as they were able to identify the knowledge gaps that they perceived in others.

Maybe some people had a sort of lack of understanding of what the OT job was. I think they just thought it was getting them equipment and getting them home, so a lot of ... just sort of random things would go to the OT (P15)

The specific role of the occupational therapist within the placement setting also formed part of this learning and enabled students to begin to develop their own professional identity and knowledge of their role.

Because it was a mental health setting ... and I've kind of looked at OT from a more of a physical health setting ... I wasn't too sure how ... or what I'd be doing at all if I'm honest or like what, what kind of to expect ... at the end of the day, I think you're there to help someone do the things they want to do essentially, and that's with within any setting (P14)

Some of the student participants' discussion about their professional identity included learning about professionalism in practice. One participant described her

efforts at attempting to demonstrate her professionalism at all times, by offering a pen, asking questions, and holding the door open. She discussed the importance of being a professional when not with a patient. However, others reflected on the differences between the professionalism that was expected of them and that which they observed in the workplace.

What was the official line and what did people actually do? There was ... there were some variations between the qualified staff (P13)

The development of professional identity was highlighted as an important part of the placement experience that contained a number of contributing factors.

5.2.2. Thinking like a therapist

Participants described their burgeoning understanding of Occupational Therapy philosophy as part of their placement learning, which many felt enabled them to begin to think in the way an Occupational Therapist would think. This subcategory encompassed professional reasoning skills, which enabled them to think more like a therapist.

I just knew there was something happening that my brain wasn't automatically doing. I could just kind of see like instantly they [Occupational Therapists] just look at the situation and know what to do (P5)

It kind of clicked and was like ... of course you're gonna do that (P14)

I think that helped me a lot when she said, oh OK, this is [professional] reasoning (P12)

However, professional reasoning was only one part of what one practice educator participant expressed as “thinking like a therapist”, that they perceived as a large part of learning on a first placement.

I think, with the first year, you don't even know what you're assessing. You know, you don't think like a therapist you don't observe like a therapist. (P6 - PE)

This participant was able to explain the concept of thinking like a therapist as thinking holistically, but with attention to detail, incorporating aspects of person, environment and occupation and considering barriers and enablers to participation.

Um...I think there's something about both thinking holistically. But also spotting detail ... so considering the person as, you know, their environment, all the things we... I was talking about yesterday. As you know the person, the environment, the occupation, thinking about all those things (P6 - PE)

Student participants alluded to this in different ways in their interviews, rather than defining the development of this thinking style as clearly as practice educators could. For example, participant 1 discussed the importance of considering every aspect of a person's life.

How you would... make an assessment of someone, like taking into consideration every aspect of their life (P1 – emphasis provided by participant)

Other participants considered transferring knowledge between situations as important in developing their ability to think like a therapist.

What might be different for one patient, um... could be completely different with another, and actually the first person I went in to see was absolutely very very very different compared to what I'd seen before (P2 – emphasis provided by participant)

After that day I was like well I think I know how to communicate with her now, I feel like I could approach people who were anxious and agitated a lot more easy, a lot more easily after that day (P7)

One student participant was able to identify the difference between the occupational therapy perspective and the ways that other professionals documented the same information, demonstrating their understanding of the difference between their thinking and that of other professions.

From an occupational therapy point of view, we look at it the other way. So when ... you look at the way that the doctors and the social services write their notes you think “well, hold on a minute” you know we were trying to find solutions to problems and they're writing it medically and ... it's almost like we're looking at [it] from the other end, and the way they write those notes was like it's all written in one way that's not really necessarily compatible with the occupational therapy view, if that makes sense (P9)

Although student participants did not refer directly to the concept of thinking like a therapist in the way that practice educator participants were able to, they discussed awareness that their thinking was changing and related this to the occupational therapy profession.

5.2.3. Linking theory and practice

Identifying links between university-based theory and the practice they were seeing was a commonality between all participants. Students described this linkage as one of the main things that they felt they learned on placement and discussed their developing ability to see how practices they had written about in their assignments were happening in real life. Theory was considered both in relation to being able to apply previously learned theory to practice and in terms of seeing practices that they had previously only learned about theoretically.

How did that [professionalism] work and what [was] ... the theory we've learned, and how did that fit into the experience I had, and where were the gaps (P13)

It just really made a link where I was like... I would think back to my assignment had written. I'd be like, yeah, I understand that (P4)

Many students expressed surprise that the theory they had learned was not always overt in their placement setting and explained the need to identify it for themselves. They reported expecting to see references to the theory base, such as occupational therapy models, in the offices and available for therapists to refer to. During the course of the placement, some student participants developed an understanding that the therapists they were working with did not need the tangible reference points that they needed but were able to hold that information and work with it in their heads. However, some did not make this link and suggested that they did not feel that theory was being used in their placement setting.

I think it was quite hard to link any sort of theory models to the job ... if I sat down and yeah, took the time to do it, it did sort of fit, but I think ... the actual

OTs that were there... I don't know if they ... I don't think they used any sort of theory or model (P15)

I can then see how they are ... following the structure laid out by a model and are picking up all the information that the model dictates. But on a practical day-to-day basis, nobody is sitting there going “ooh, let me just...yeah, I think that fits” you know, holding a model up in front of them. They're not doing that. (P3)

Despite this, many students were able to express their understanding and how they made links with ease.

I was quite surprised 'cause I thought I would be, like, thinking a lot about it and thinking how is this linking into theory, but it came quite naturally after a while (P4)

I like the model of human occupation because it's takes into account like ... several things that you wouldn't really think of, and it's really good in mental health settings. So, like environment. Like their routine, I think it was, because obviously when they come there, their routine is completely changed, like they don't know they don't have a routine. That's not where they live, that's not their home. The environment's different. Their occupations are different (P7)

For other students, recognising where the different elements of theory were happening in practice was more challenging, or did not feel relevant.

So, when I kind of said my practice educator alright, I need to, you know, learn about interventions like when are we going to do that and she was like “you've done them from the start” and I was like “have I?” (P5)

Sometimes I feel like [...] a lot of the theory is busy work to make a degree
(P2)

Students clearly made use of the placement opportunity to enable them to either put their theory into practice or identify theory in the practice they were observing, although they did this with varying levels of ability.

5.2.4. Occupational Therapy skills

The expression of occupational therapy specific skills identified within the category of learning about the occupational therapy profession differs from the specific skills expressed within the category of practices. In this context, it refers to the cognitive skills that are unique to occupational therapists, including the practice of thinking about occupational therapy. It is best expressed by participant 5, who explained her developing sense of understanding how occupational therapy fits together.

I went in thinking you know it was separate skills, its ... you know, I need to work on my communication skills, It's, you know, not little things, it is like one big machine that you got to understand (P5)

Other students described the specific occupational therapy skills of being able to understand the client's occupations and their own place in the processes that surrounded them, whilst others talked about time spent thinking about their practice as an occupational therapist.

[Occupational therapists] can just build up a picture of [clients], i.e. just what's normal for them (P2)

In describing their learning about the profession of occupational therapy, students discussed their understanding of what the profession looked like in practice, the development of thinking skills that were recognisably occupational therapy thought

processes, the beginning to understand and develop professional reasoning skills, and the early formation of professional identity. They also learned by making links between the theory they had learned in university and the practices they were seeing. Finally, they developed the ability to think in occupational terms.

5.3. Learning about occupational therapy practices

The category of **learning about occupational therapy practices** is used to describe the learning undertaken by students in terms of both the skills that they developed on placement and other practices that they observed, learned, or were exposed to. This category is again represented by four sub-categories: personal abilities, specific skills, culture, and relevant skills, found in *Figure 5-4 Learning about occupational therapy practices* below.



Figure 5-4 Learning about occupational therapy practices

Author's own creation, 2024

5.3.1. Personal Abilities

In this sub-category participants expressed the impact of their own personal experience or ability to carry out what was asked of them. This was related to, but

not necessarily the same as, learning to carry out or develop a skill. In this category, some students expressed abilities that had not taken them any effort to develop, but nevertheless contributed to their ability to learn on placement, such as time management, the ability to respond appropriately in communication, and professional behaviours. The sub-category is offered by way of recognising these abilities, which were sometimes innate and sometimes learned, and the impact that being able to practice in this manner had on other learning. It recognises that students bring with them to their studies a level of ability that, whilst expected at the end of the learning period, may in fact already be secure and that neither academic nor placement learning has influenced. It is best described by one student participant who explained why they felt ambivalent at being awarded a certificate of excellence on placement for their communication.

I understand what you've done there. You've judged me against expectations. I don't feel like I did anything special to do that because I didn't have to work very hard at communication skills in any way, shape, or form. Didn't have to put any effort into that (P3)

Other students discussed receiving praise for handling situations appropriately or conducting themselves professionally but felt that this was just their norm and did not relate it to their learning.

Attributes developed by students as part of their life experience and not specifically related to learned skills or behaviours are described as personal abilities.

5.3.2. Specific skills

All participants were able to identify specific skills that students learned as part of their first placement experience. These included the practice of carrying out the

occupational therapy process – the practice of gathering information, of carrying out an assessment, of developing and delivering an intervention, of evaluating the effectiveness of the intervention and of making appropriate decisions about the onward referral or discharge of a client from the service in which they were based. In this context, this was quite different from knowledge of the process or the ability to apply theory to develop professional reasoning but related directly to the ability to conduct the specific task. A long list of different assessment types was identified, including but not limited to functional skills assessments, cognitive assessments, volitional assessments and standardised assessments such as the Montreal Cognitive Assessment (MoCA) (Nasreddine *et al.*, 2005) or the Model of Human Occupation Screening Tool (MOHOST) (Forsyth *et al.*, 2011). Similarly, students discussed interventions that they had carried out, such as dancing, meal preparation, personal care activities and fitting equipment. For many students, it was clear that within their setting the focus was greater in one or other of these areas.

I learned about intervention for cognitive interventions and creative interventions and things like that which we were able to do for the patients (P7)

I bought her some writing paper and stuff so she, she drew [...] sketched, and got her reading again and all that kind of stuff (P13)

So much of the day is, is that sort of assessment and reassessment and, and the goal is moving them towards a safe discharge (P2)

Included also within the sub-category of specific skills were those skills that were unique to the practice area, but not to occupational therapy. These included positioning a client's hemiplegic arm or re-directing a service user with dementia.

The many enhanced infection control processes, such as donning and doffing of PPE at a time when Covid-19 precautions were being fully observed was also noted.

5.3.3. Culture

Student and practice educator participants were able to identify the cultural practices that they needed to learn about during their first placement. They identified the uniqueness of the healthcare environment and the idiosyncrasies of each individual setting. Practices dictated by culture included locating notes, knowing how and when to approach particular staff and who would be less supportive, and understanding the organisational culture and their place within this system.

I also asked a lot about...why is that person over there doing that? Why ... are these notes here? Why are they not like ... why are there 2 trolleys full of notes in two different places? That ... it's bizarre. Why is ... that doctor over there arguing with the sister about ... like what's going on there? Who are these people in purple? (P3)

Practices such as where and when they could take breaks were also highlighted, along with behaving in a professional manner. Students identified that what they perceived to be professional could, in practice, be quite different to what they observed. They identified the apparent mistrust in what they perceived to be an out-of-date culture, for example not being able to use smartphones to access information.

I was looking up ... the abbreviations, I was Googling it as we [were in the meeting] And then this other particular sister reported me for ... for playing on my phone or something, ... she said you can't use it because ... you can't use

your phone, and at that point I said that's just archaic. You know, that's just ridiculous. (P13)

Some students highlighted the need to learn how to negotiate the cultural expectations of different members of the team, so that they felt safe and could make sure they were asking questions of those clinicians who understood that they were there to learn.

Other practices identified included the expectation that curtains would be drawn when working with a service user in a ward bedspace, and that clients' modesty would be maintained by covering them with towels, clothing or blankets when carrying out personal tasks.

Cultural practices differed between settings, however there was commonality between students and educators about the need to learn to navigate the healthcare system and to practice and behave in a manner that was considered to be culturally appropriate.

5.3.4. Relevant skills

The final sub-category pertains to those skills or practices described by participants that were more generalisable across settings and shared by other health care professionals, rather than those that were specific to occupational therapists or the particular practice area. These included skills such as organisation and time-management skills, self-leadership, teamwork, and rapport building.

Communication skills were highlighted by all participants, including those who felt that they did not have any difficulty with them. The timing of the research in relation to the Covid-19 pandemic, which meant that many of the students had been on placement in between periods of national lockdown, led to the challenges of

communicating from behind personal protective equipment, specifically face masks, being paramount. Identified also within this category were learning to communicate with clients who may have their own communication difficulties and developing confidence in communicating with professionals in practice.

I'm like quite shy, anxious ... so speaking to the patients was really difficult for me (P5)

In terms of being in a multidisciplinary team meeting ... communicating professionally with them. Going through care plans and stuff and then ... the recording of care plans and ... care notes, making sure that it's following all the GDPR guidelines and stuff. Make sure it's all confidential and everything, not leaving stuff written on paper (P4)

Non-verbal communication skills were also expressly identified, from learning to use body language through to learning to document interactions appropriately. Learning to write 'SOAP' notes, in which a structure of Subjective, Objective, Analysis and Plan is followed, was of particular concern to many students, as they identified how different this practice is to other forms of writing. Some students identified that the use of electronic care records meant that they needed to learn how to navigate unfamiliar information technology systems as well as working out what and how to record their notes. Managing the technology in all its forms was a common area of learning.

Student participants learned how to manage risk as part of their ability to practice safely. These included risks to service users in terms of frailty, falls, facilitating safe discharge and avoiding self-harm, but also incorporated a developing awareness of the practices required to safeguard themselves as practitioners.

I never ever turn off my caller ID on my phone, ever. But I had to during this. Now it only ..it would've only [...] taken me to forgotten to have done it one morning on a morning when I was calling patients and I'd have had [...] several mental health patients with my phone number which has got confidentiality issues written all over it, and my safety is another one (P9)

Students learned a range of skills relevant to health and social care settings that were not unique to their individual setting or to the occupational therapy profession but were shared by professionals across the sector.

5.4. Learning about users of occupational therapy services

All participants discussed the learning that occurred about people who use occupational therapy services. Students spoke enthusiastically about **learning about service users**, expressing their learning about working with service users as individuals as well as learning about the features and impacts of different health conditions. These subcategories are represented in *Figure 5-5 Learning about users* below.

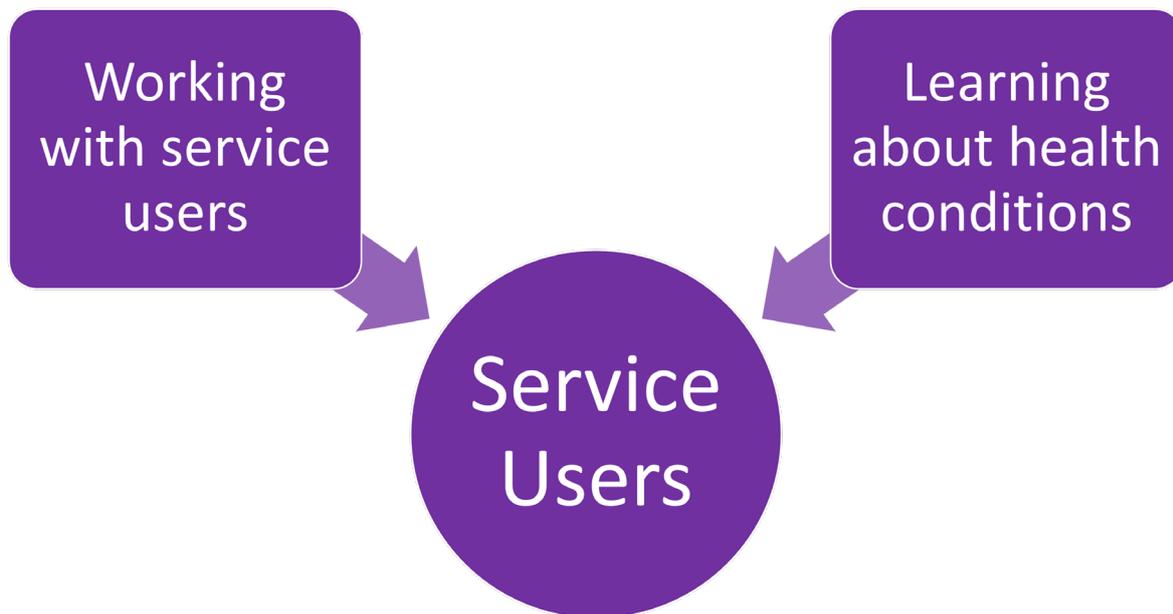


Figure 5-5 Learning about users of occupational therapy services
Author's own creation, 2024

5.4.1. Working with Service Users

Participants discussed their initial anxieties about working with service users, including fears about what to say and whether they would be able to communicate with them effectively. Participants were clear that learning how to talk to service users was not the same thing as learning how to communicate effectively but was more indicative of their ability to perceive service users as individuals. For example, one participant described the impact of face coverings on developing rapport with service users:

Communication isn't something that I really felt like I needed to be concerned with...(but) the face coverings really do bring a different dimension to communication. So, it is a skill to be able to ... consider how you're going to

interact with the service users that you've got, particularly with the older clients who are hard of hearing. (P1)

The concept of the service user as an individual person, with individual needs, wishes and opinions was shared by all students as an important area of learning.

5.4.2. Learning about health conditions

Participants described the learning that took place in relation to the different health conditions the service users they worked with experienced, and the ways in which understanding the condition supported their understanding of the person.

I mean I knew a little bit about stroke, but ... I did find that no stroke patient is the same...so that that was sort of interesting, but also challenging ... I'll try and take a structured approach, but then sometimes if you're, you know, you're dealing with somebody who ... perhaps has ... an effect such as that they may have lost their speech and they have lost some mobility or their understanding ... actually it's almost a little bit intimidating 'cause you just don't know what to expect (P2)

The links between service users as occupational beings and service users as patients experiencing the impacts of a health condition was another aspect of learning for students. This was best expressed by participant 7 who described an intervention with a service user with dementia in which they were able to find a way to interact with the person.

There was this one patient who was very anxious ... and just wouldn't ... wouldn't sit down or anything like that. Nobody could really get through to her ... she wasn't aggressive towards me, but she was sort of lashing out a bit so she was, like, hitting her hands on the bed and stuff like that and just like

hurting herself but not meaning to ... And I said, should we just have a cup of tea ... what I learned was, it is nice for you to have a drink with them. We just sat and we chatted and stuff like that and she told me about her life, which she hadn't really opened up about before (P7)

5.5. Conclusion

Analysis of interview data prior to considering the relationships between the data revealed that student learning on placement could be organised into four categories. Students expressed the learning that they undertook on placement as: **learning about oneself; learning about the occupational therapy profession; learning about practices** and **learning about service users**. Overlap between the categories was apparent and is explored in detail in *Chapter 7*.

Chapter 6 Discussion of findings

As discussed in *Chapter 1*, grounded theory methodology follows a different approach to other qualitative methodologies. This includes delaying of any substantive review of literature until after data collection and analysis, which can lead to challenges in the presentation of the research, particularly as part of a doctoral thesis (Birks and Mills, 2012; Urquhart, 2013).

The structure presented here represents an adaptation of the structure recommended by Birks & Mills (2012). Rather than one discussion chapter, in which the significance of findings is discussed in the context of existing knowledge, the thesis presents two separate chapters dedicated to discussing this significance. This chapter reflects on and discusses the findings of the study in relation to the **four categories of learning** discussed by participants. It relates these categories firstly to the occupational therapy literature discussed in *0* and then to the extensive body of learning theory literature, which is simultaneously introduced and its relevance to findings discussed. Following this, the culmination of the analytical process will be presented as the final theory of practice learning (*Chapter 7*). Further discussion of the theory of practice learning with reference to existing learning theories illustrates how learning takes place in practice education in *Chapter 8*. Finally, *8.4* sees the application of the final theory to the way in which both practice education and simulation can be used in occupational therapy education and presents implications for future practice both within and outside of the profession.

6.1. Significance of findings in the context of existing knowledge

Early findings were published during the course of study and therefore some of the text included in this chapter, as well as some of the text included in *Chapter 5*,

Findings has been published in the British Journal of Occupational Therapy in August 2023, with online publication in October 2022, as Grant *et al.* (2023). The paper is provided in full in *Appendix O*. The work was published with multiple authors with contributions defined using the CRediT taxonomy (Allen, O’Connell and Kiermer, 2019), which are laid out in the publication. The researcher conceived the study and carried out recruitment, data collection and data analysis. Co-authors were involved in protocol development and in gaining ethical approval. The researcher wrote the first draft of the manuscript and all authors reviewed and edited the manuscript and approved the final version of the manuscript.

6.2. Occupational therapy student learning during practice education

The aim of this section is to discuss the findings of four categories of learning of **learning about oneself; learning about the occupational therapy profession; learning about practices** and **learning about service users** in relation to the existing literature.

This study aimed to gain an understanding of the learning that students gather during their first practice learning placement, regardless of whether that learning is explicitly evident in the intended learning outcomes. In fact, neither student nor practice educator participants referred to the overt learning outcomes in their responses. However, it is fair to conclude that some of the learning experienced was already captured within the placement’s intended learning outcomes, which map directly to the required entry level occupational therapy skills provided by the professional body (RCOT, 2016). These entry level skills are identified by the Royal College of Occupational Therapists as “core professional reasoning skills that make up the Occupational Therapy process” and include assessment, identification, analysis, and prioritisation of occupational needs; facilitating occupational

performance and engagement; and evaluation of occupational outcomes. Intended learning outcomes are known to students prior to placement commencing and form the basis of their supervision and assessment discussions with practice educators. The intended learning outcomes differed slightly for the two cohorts of students and are illustrated, along with the category of learning identified by this study to which they relate, in *Table 6-1 Summary of Learning Outcomes*(below). The category of **learning about oneself** does not appear to be represented in the existing learning outcomes.

The papers reported in section 2.3.1 demonstrate congruence between the four categories of learning and the existing, yet small, knowledge base. Familiar themes were noted in terms of the types of learning experienced by students across the literature that reflected the four categories of learning presented in this study, regardless of timing of the student placement experience or type of placement. With the exception of Honey and Penman (2020) the first placement is not considered in the existing literature base and many studies report on students' final placements. This may explain why a different emphasis is noticed within the existing literature, where participants are able to explain how their experiences were similar to or differed from other placements. The focus of learning in other studies was also different, with an emphasis from studies into role emerging placements on deep, self-directed learning (Fieldhouse and Fedden, 2009; Knightbridge, 2014), and from international students on cultural learning and responsibility (Barker, Kinsella and Bossers, 2010; Lalor et al., 2019; Miyamoto et al., 2019; Law, Masterson-Ng and Pollard, 2022).

Table 6-1 Summary of Learning Outcomes

BSc Student Learning Outcomes – placement 1	MSc Student Learning Outcomes – placement 1	Category of Learning.
With structured support, demonstrate professional behaviours which strengthen the core values of Occupational Therapy practice	Demonstrate professional behaviours and core values of Occupational Therapy practice with a diverse range of clients, and awareness of your own limitations and learning needs.	Learning about - the occupational therapy profession
With structured support, reflect on the development of self-leadership skills	With support, demonstrate effective communication with a diverse range of service users, carers and professionals, including team working skills.	Learning about: - occupational therapy practices
With structured support, demonstrate appropriate communication skills with both service users & their carers and other professionals.	With support, demonstrate the ability to assess service users, using developing professional reasoning.	Learning about - occupational therapy service users - occupational therapy practices
With structured support practice appropriate assessment techniques.	With support justify and implement a range of safe and effective intervention skills under supervision.	- the occupational therapy profession Learning about: - occupational therapy practices
With structured support demonstrate appropriate decision-making and participate in safe and effective intervention skills.	With support identify appropriate outcome measures to monitor progress of interventions and begin to evaluate their effectiveness	- the occupational therapy profession Learning about: - occupational therapy service users - occupational therapy practices
With support, demonstrate knowledge of underpinning theoretical and philosophical concepts in Occupational Therapy practice.	Apply knowledge of underpinning theoretical and philosophical concepts in safe and effective Occupational Therapy practice.	- the occupational therapy profession Learning about: - the occupational therapy profession

Such differences serve to highlight the knowledge gap that this study seeks to fill. However, similarities in the concepts discussed to the **four categories of learning** identified in this study were noted, demonstrating that learning that is attained on a first placement is similar to that experienced in other placements, according to the literature.

The category of **learning about oneself** was reflected in the literature in discussions of personal growth and development (Barker, Kinsella and Bossers, 2010), emotional challenge (Baxter, 2006; Healey, 2017), self-awareness (Fieldhouse and Fedden, 2009; Knightbridge, 2014), self-directed learning (Lalor *et al.*, 2019; Law, Masterson-Ng and Pollard, 2022) and maintaining occupational balance (Miyamoto *et al.*, 2019). **Learning about the occupational therapy profession** was universally reported, primarily with reference to the linking of theory and practice, which forms a sub-theme of this category (Fieldhouse and Fedden, 2009; Knightbridge, 2014; Lalor *et al.*, 2019). **Learning about practices** was reported in relation to skill acquisition, such as learning to carry out assessments and interventions (Fieldhouse and Fedden, 2009; Knightbridge, 2014; Miyamoto *et al.*, 2019). Finally, **learning about service users** was highlighted in the literature in relation to person-centredness (Fieldhouse and Fedden, 2009), cultural sensitivity and non-judgmental practice (Barker, Kinsella and Bossers, 2010; Lalor *et al.*, 2019; Law, Masterson-Ng and Pollard, 2022) and service user welfare (Knightbridge, 2014; Healey, 2017).

6.2.1. Learning about oneself as an Occupational Therapist

The category of **learning about oneself** can be described as unexpected and may reflect the extent to which the existing literature has yet to be integrated into practice. Though few in number, all the studies reviewed reported on **learning about oneself**, yet in practice it could be argued that little or no attention is paid to such learning during any placement.

A lack of attention to **learning about oneself** in practice settings may be in part due to the challenges in constructing learning outcomes related to personal development. The UK Quality Assurance Agency (2014) states that achievement of outcomes should be assessed and demonstrated by the student for the award of a qualification, and that learning outcomes should be achievable and assessable (Overton 2010). **Learning about oneself** is difficult to quantify in any such manner and may be difficult to evidence, given the personal nature of such learning and considering that each student's start and end point will be very different.

Creating a measurable learning outcome that reflects personal development and growth may be impractical given the differing rates at which this is likely to happen for students. However, recognition of the experience of such learning by educators could be supportive for students who are struggling to meet their placement requirements. Identifying the placement as having not only practical and academic value, but personal value as well, places the student as an individual back at the centre of their learning experience (Nursing and Midwifery Council, 2019).

Personal growth and development may be considered by academics developing occupational therapy curricula to be an adjunct to, rather than a goal of, formal

learning. Designing a placement learning outcome to include **learning about oneself** as both an intended and assessable part of placement could be seen to increase the emotional burden on students. Such increased emotional load may add unnecessary stress, which could have a countering effect on this learning and will be discussed further in *7.3 Availability for Learning*. Conversely, understanding that some degree of personal development can be expected on placement may help students to cope with the daunting prospect of perceiving themselves as future occupational therapists. Realising that they will undergo change in themselves as well as learning new skills and knowledge may help to develop self-confidence, found to be a contributing factor to stress on placement for healthcare students by Hardy (2020) . Expecting to undergo personal changes may be particularly helpful in supporting students to develop resilience and cope with the challenges of practice learning and post-graduation practice, as evidenced within nursing by Brill *et al.* (2022).

6.2.2. Learning about the occupational therapy profession

The categories of **learning about the profession** and **learning about practices** are both logical and anticipated as they are reflected in the entry-level occupational therapy core knowledge and practice skills (Brzykcy et al., 2016; RCOT, 2016) that underpin practice education in pre-registration programmes. **Learning about the occupational therapy profession**, and specifically learning how to apply occupational theory in practice is both represented in the intended learning outcomes (see *Table 6-1 Summary of Learning Outcomes*) and well-reflected in the literature (Baxter, 2006; Fieldhouse and Fedden, 2009; Knightbridge, 2014; Towns and Ashby, 2014; Dancza, Copley and Moran, 2019; Lalor *et al.*, 2019; Honey and Penman, 2020). More tacit **learning about the profession**, such as understanding

the role of the occupational therapist in a particular setting (Mulholland and Derdall, 2007; Britton and Rehmel, 2019; Honey and Penman, 2020) and learning in the domain of cultural competency (Dyck and Forwell, 1997; Nielsen *et al.*, 2017; Sonn and Vermeulen, 2018) have also previously been reported.

This may be exactly what students expect to learn when on placement, as gaining experience of occupational therapy before entering an education programme can be challenging, particularly since the Covid-19 pandemic limited access to work experience in general, but even more so within the NHS (Weale, 2020). The title of one paper, taken from a participant quote, sums up student expectations in this regard: “You actually see what occupational therapists do in real life” (Honey and Penman 2020).

6.2.3. Learning occupational therapy practices

As students hold expectations about what they will learn on placement, so do the practitioners supporting and facilitating their learning. Previous literature has found that practice educators expect students to develop a range of professional and technical skills during early placement experiences, with communication and planning, implementing, and grading interventions identified as the most important (Mason, Hayden and Causey-Upton, 2020). The current study found that students expressed a variety of different practices depending on their placement setting, with assessments covering such tasks as hemiparetic limb assessment, interest checklists and Personal Activities of Daily Living (PADL) assessments, and interventions variously being expressed as equipment provision, group work and identifying care needs. The range of practices highlighted by students reflects the contextual dependence of practice skills, listed as entry-level skills in terms of activities, participation and environmental factors (RCOT, 2016).

The placement that a student attends can be seen to influence the specific skills acquired, although all students in this study described learning of relevant skills, such as communication or moving and handling skills. However, all students also experienced learning of assessment and intervention skills, both of which are represented in the intended learning outcomes and are also described in the literature (Fieldhouse and Fedden, 2009; Knightbridge, 2014; Miyamoto *et al.*, 2019). These practices could reasonably be expected to vary according to placement setting, but all students would be expected to learn how to participate in assessing clients, as reflected in the intended learning outcomes (see *Table 6-1 Summary of Learning Outcomes*). The vast majority of students in this study also described participating in initial information gathering about service users, frequently in the form of the initial occupational therapy interview or social history, which could therefore be considered to be a common, if not universal practice.

Learning about the culture of health care was also relevant within this category, with students readily identifying the challenges of finding oneself not only working for the best outcomes for specific service users, but also navigating the vast system of the National Health Service (NHS). Little has been written describing the culture of the NHS – however much has been written identifying the need for cultural change (Sambrook, 2009; Konteh BA, Mannion and O Davies BA MA, 2010; Quirk *et al.*, 2018; Wise, 2018) which itself implies that a strong NHS culture exists. Students discussed learning about such cultural practices as identifying staff, finding information both on the ward and within medical notes and recognising the rhythms of the day.

Learning such cultural practices may be more relevant to and noticeable on first exposure, so this learning may be greater during the first placement. Whilst

individual wards, units and departments have their own idiosyncrasies that will need to be learned by all new starters, NHS cultural practices such as what happens at the nurses station, what is recorded in patient notes and how to recognise staff of different professions and grades could be considered both unique to, and universal within the UK and therefore such learning will decrease on repeated exposure to the organisation. As not all occupational therapy students will be placed in NHS settings, this cultural learning may be less prevalent for some, although each individual organisation will require adaptation to workplace culture.

6.2.4. Learning about users of occupational therapy services

Learning about service users is identified within existing learning outcomes as shown in *Table 6-1 Summary of Learning Outcomes*, although participants identified more nuanced learning than can reasonably be captured in this way. Students learn to understand and develop a professional relationship with people as occupational beings as part of their development of professional knowledge identity. It is recognised as an entry-level skill to be able to understand the lived experience of each individual and practice in a person-centred and collaborative way (RCOT, 2016). Little has been written about the ways that students learn from service users in the literature, perhaps reflecting it as an obvious and expected outcome. However, learning from exposure to clients with certain conditions can help to reduce stigmatised beliefs and develop relationships that allow them to see beyond their superficial understanding of a diagnosis. Positive changes have been observed in the attitudes of occupational therapy students towards clients with mental health conditions, for example (Beltran *et al.*, 2007).

Other learning about service users included the ability to communicate with individuals, learning about different health conditions and how these affected the

lives of the individuals with whom the participants were working. To some extent, much of this learning could be subsumed in learning about the occupational therapy profession, which serves to demonstrate the interconnectedness of the different categories of learning which will be discussed in *Chapter 7* Development of a theory of practice learning.

6.2.5. Summary of occupational therapy student learning on placement

The greatest alignment between this study and the existing literature comes from Honey and Penman (2020), who also used grounded theory methods to explore the first practice placement in occupational therapy. In a non-grounded theory study, the existence of this work would have been known to the researcher as part of a preliminary literature review, which may have led this research in a different direction. The requirement of the grounded theorist to undertake research in the absence of a priori knowledge has led to a unique and valuable set of comparable findings. Honey and Penman (2020) sought to understand students' views about the values and characteristics of a first placement and conducted focus groups with students at all stages of their studies, reflecting back on their first placement. Despite significant differences between the participants in this study and those in Honey and Penman's who studied in Australia, undertook a one-week first placement and participated in the study up to three years after the placement occurred, the four **categories of learning** identified in this study align closely with the findings identified as "proximal valued outcomes" by Honey and Penman (2020), as demonstrated in *Figure 6-1* Relationship between Honey & Penman (2020)'s proximal outcomes of a first placement to this study (below). The category of **learning about oneself** directly reflected the proximal learning outcome 'finding out about myself'; **learning about the occupational therapy profession** was reflected

in 'learning about occupational therapists'; **learning about practices** shared common ideas with 'developing skills' and **learning about service users** was similar to 'understanding clients'. These similarities demonstrate that the four categories of learning, including the unexpected category of **learning about oneself**, is shared between students on opposite sides of the globe, who may have very different placement durations and expectations.

The similarity of categories of learning between the two studies suggests that the outcomes of first occupational therapy placements are widely experienced by occupational therapy students from western cultures. This makes qualitative information about placement learning relevant to students despite differences in courses and placement types.

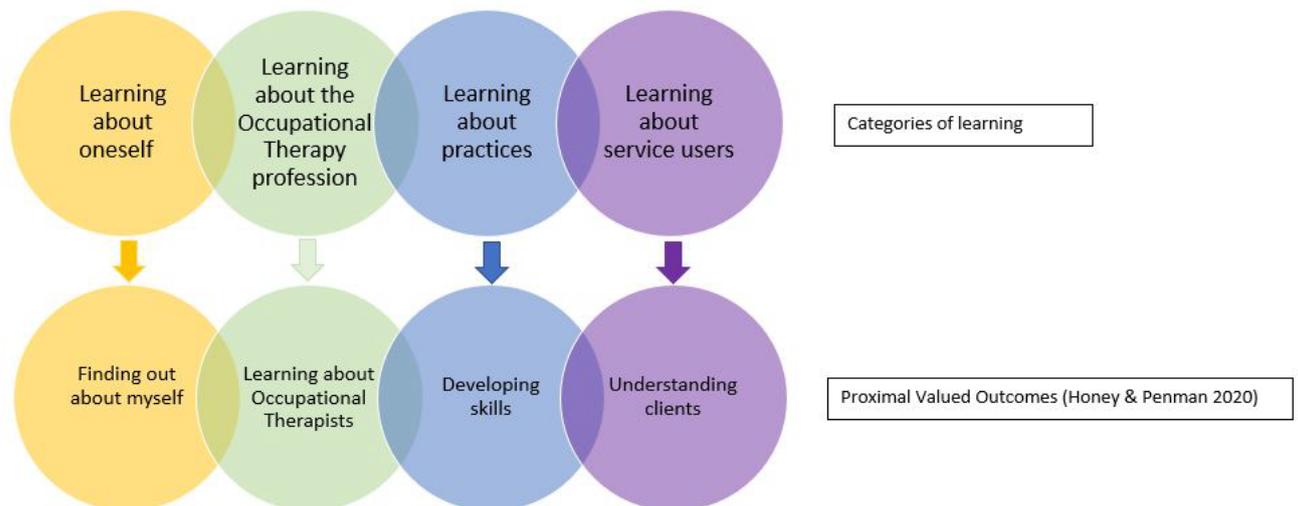


Figure 6-1 Relationship between Honey & Penman (2020)'s proximal outcomes of a first placement to this study Author's own creation, 2024

The four categories of learning identified in this study - **learning about oneself**; **learning about the occupational therapy profession**; **learning about practices** and **learning about service users** - sought to describe the types of learning that

students on placement experience in order to be able to consider such learning when designing and creating a simulation curriculum. Rather than identifying specific skills, knowledge, and behaviours, which may be different for each placement area, a broader understanding of different types of learning has been gained.

The importance of the first placement experience is validated by this current study, by the fact that the learning identified by students themselves includes that which is covered in the intended learning outcomes. The first placement can confirm the choice of profession, as identified by Honey and Penman (2020), but also lay the foundations for progression towards the graduate entry level skills required (RCOT, 2016). The knowledge developed by this study is significant in any discussions about the relevance of early placements and the associated expectations placed on students.

In summary, very little has been written about the learning that students experience on their first practice placement. Slightly more research exists in relation to learning experienced on other placements, such as role emerging or international experiences. In all the existing literature, whilst the categorisation of learning is presented differently, all the learning described aligns with the four categories of learning identified by participants in this study.

6.3. The four categories of learning in relation to learning (and other) theories

In order to fully situate the knowledge generated by this study within the existing knowledge base, this chapter also considers the existing literature relevant to educational theories. The theory of education is vast and diverse, with many competing and complimentary theoretical bases, using varied psychological

approaches to define and describe learning. To review all theory would be an undertaking greatly outside the scope of this research. Therefore this chapter considers the learning theories most relevant to practice learning and has related these to the **four categories of learning** described in *Chapter 5*.

Most learning is classified according to psychological schools of thought, the most prevalent being behaviourism, cognitivism, constructivism and humanism (Aubrey and Riley, 2022) with some authors also recognising connectivism, although others perceive this to be based on constructivism (Mattar, 2018). Within these categories, theories relating to behaviourism focus on stimulus-response, without the apparent impact of thought or effort on the part of the learner (Bandura, 1977; Schunk, 2013; Bates, 2016; Aubrey and Riley, 2022), and have therefore been excluded from in this review. Other learning theories centred specifically around child learning have also been excluded. Cognitivism places student thinking and understanding at the centre of the learning process, and focuses on students' ability to combine this knowledge with existing knowledge in an appropriate cognitive structure (Brieger, Arghode and McLean, 2020; Aubrey and Riley, 2022), whereas constructivism expands this argument to suggest that learning is constructed as the result of the learner developing and adapting their knowledge in light of new information, providing the opportunity to construct new ideas (Aubrey and Riley, 2022). Finally, humanism views learning as part of an individual's journey towards self-fulfilment, rather than an outcome in its own right, and therefore is more concerned with process than with outcome (Aubrey and Riley, 2022). The theory developed in this study and presented in *Chapter 7* draws primarily on principles of cognitivism and constructivism.

Challenges exist in relation to reviewing a body of literature as large as learning theory, which stretches back in time to ancient philosophers such as Plato and Descartes (Schunk, 2013). A timeline approach was therefore taken to first identify the predominant learning theorists whose work may hold relevance to practice learning. Multiple sources were consulted from standard learning theory texts (Schunk, 2013; Pound, 2014; Bates, 2016; Pritchard, 2018; Aubrey and Riley, 2022) along with Millwood's (2021) learning theories map to develop a timeline (*Appendix P*), which is not intended to be exhaustive but rather to direct the search towards theories with greatest relevance to how learning occurs within the specific context of professional practice. Included concepts are presented chronologically in *Table 6-2 Theories and concepts relevant to categories of learning* and are discussed in order of publication.

Table 6-2 Theories and concepts relevant to categories of learning

Author	Year	Theory / concept
Bandura	1977	Social learning theory
Bronfenbrenner	1979	Ecological systems theory
Kolb	1984	Experiential learning theory
Marton & Säljö	1984	Approaches to learning in higher education
Lave & Wenger	1990	Situated learning theory / legitimate peripheral participation
Mezirow	1991	Transformative learning theory
Goleman	1995	Emotional Intelligence

The theories selected for detailed review were predominantly theories of learning. Authors whose primary contribution to theory was about the teaching process and theories relating to learning styles and preferences were excluded. Whilst aspects of each of these may have relevance to occupational therapy education, the purpose of

the review was to seek to situate the theory of practice learning within existing theoretical frameworks. Therefore, of interest are theories relating to ways in which people organise their learning, rather than ways in which people prefer to take in new learning, or ways that educators either in higher education or professional practice organise their teaching. The practice learning environment usually exists as a clinical service provider first and an educational environment second. This means that a placement setting is organised to serve the occupational needs of the service users, and student and educator preferences, if considered at all in such organisation, are necessarily secondary. Behaviour management theories were also excluded as they relate to creating the environment in which learning takes place rather than to the process of learning itself. Although relevant to the practice educator role, coaching theories were also excluded from the literature search as they focused on the practice educator side of the dyad, rather than on what and how the students learn.

Theories considered to be relative to the **four categories of learning** were selected for review in detail. This review included those theories which considered social learning, situated learning, experiential learning and transformative learning. The learning theories selected and their anticipated relationships to the **four categories of practice learning** can be seen in *Table 6-2 Theories and concepts relevant to categories of learning* (above) and in *Figure 6-2 Relationships between learning categories and learning theories*(below).

Two further concepts were identified as potentially relevant to the four categories of practice learning, although they are not specifically learning theories. The concept of emotional intelligence (Goleman, 1995) is discussed in relation to the category of **learning about oneself** as an occupational therapist, and ecological systems theory

(Bronfenbrenner, 1979) is discussed in relation to learning in the remaining three categories. These concepts can also be found in *Figure 6-2* (below) which shows to which of the **four categories of learning** each of the existing theories relate.

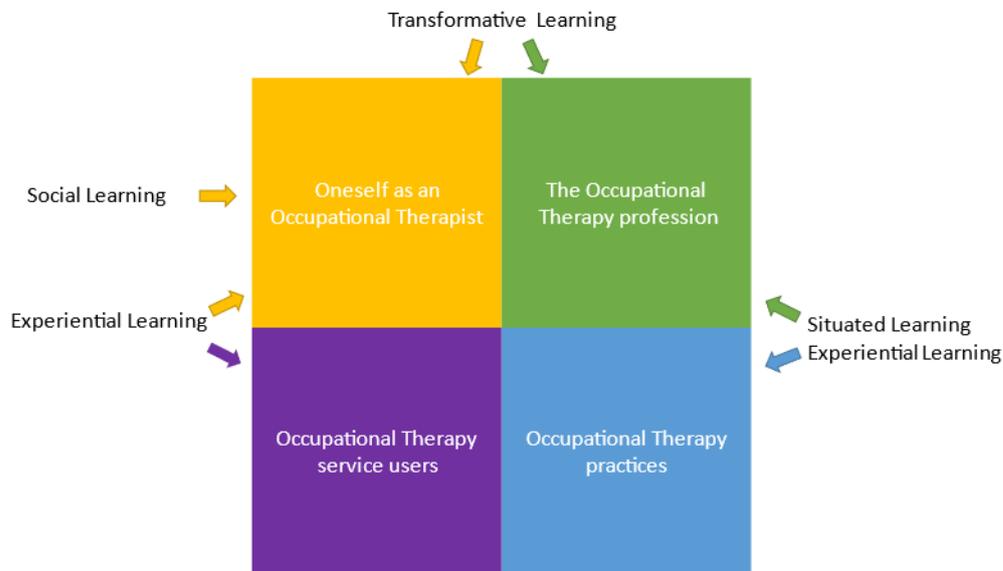


Figure 6-2 Relationships between learning categories and learning theories

Author's own creation, 2024

6.3.1. Social Learning Theory

An interesting starting point for consideration of the ways in which learning is acquired on placement is presented by social learning theory (Bandura, 1977). This theory suggests that learning occurs through observation, imitation and modelling but recognises the influences that independent cognition have on these actions. Motivation, attention and emotion are seen as influencing factors on the learning that occurs (Bandura, 1977).

Practice learning requires an immersion into the culture of the placement area, with the categories of **learning about oneself as an occupational therapist, learning about the occupational therapy profession** and **learning occupational therapy**

practices all influenced by observing and modelling behaviours of practice educators. There is obvious congruence between the consideration of social learning theory's focus on the cognitive aspects of antecedents, behaviours and consequences (Bandura, 1977, p22) and the decisions made by students to participate in specific practices during placement. Furthermore, the concept of the efficacy of expectation – how successfully one (a student) believes they will be able to carry out a task learned by such modelling – was raised by students in discussing the learning they did about themselves when on their first placement. Practice educators played a strong role in supporting students' beliefs that, if they did what they observed their educators doing, they too would become successful therapists, as illustrated by this quote by a student participant.

...if I kind of copy this behaviour it will then increase my skills and my confidence (P5).

Social learning theory, therefore, illustrates the ways in which students **learn about the profession** and learn specific practices on placement and also explains some of the learning about oneself that students experience, via the development of efficacy expectations (Bandura, 1977, p79) and the understanding of the impact of emotion on motivation. Bandura's discussion of the interdependence of personal and environmental factors that impact learning resonates with the concept of **learning about oneself** on placement, in which students learn not only new things about themselves but also how to manage their own behaviours and emotions in a way which facilitates learning in their specific placement environment. Social learning theory is not unique to the first practice education placement and continues throughout the professional career. Existing studies apply social learning theory to

ongoing professional development in the health professions (Allen *et al.*, 2020), which can be seen as an extension of practice learning into the workplace.

6.3.2. Experiential Learning Theory

Authors such as Dewey, Lewin, and Piaget have all hypothesized and written about the process of learning from doing. These are best brought together by the work of Kolb (1984) who developed experiential learning theory by combining a number of works by these authors with his own. As a result, Kolb describes the experiential learning cycle, in which learning occurs as a result of the process used by learners to resolve creative tension between four parts of experience – the ‘concrete experience’ itself, ‘reflective observation’ on the experience, ‘abstract conceptualisation’ of the experience and ‘active experimentation’, or trying out new methods (Kolb, 2014, p48).

Experiential learning theory supports the learning described across all four categories and provides a framework for understanding how learning takes place on placement. The ‘concrete experience’ can be closely aligned with the practices that students in this study described learning about and experiencing, such as carrying out an assessment or intervention. Whilst these experiences may be described as occupational therapy practices, other concrete experiences such as listening to team discussions or hearing from a service user about their health condition are also included as part of experiential learning. ‘Reflective observation’ enables the student to consider the impact that the experience has had on their learning, thus developing the category of learning about oneself as an occupational therapist. The process of ‘abstract conceptualisation’ enables deeper understanding of the ways that students learn about the occupational therapy profession and about service users during their placement – by thinking about and ultimately learning to grasp the concepts that this

entails. Finally, the 'active experimentation' phase of the cycle enables students to try out new ways of being on placement, whether in relation to their own self-awareness, communicating with others or carrying out practices in a way that is different to the original attempt.

Students report learning about themselves during their placement experiences and reflect Kolb's early assertions that humans' uniqueness lies in our ability to appreciate and identify with the process of adaptation that we undergo as learners (Kolb, 2014). Integration of work and education with personal development is central to Kolb's experiential learning theory, and serves to demonstrate its role in lifelong learning, as the person themselves is changed as a result of the learning experience.

Experiential learning, therefore, serves to describe on a general level, a theorised "how" of placement learning – students learn from exposure to a variety of experiences during their placement which they reflect on and abstractly conceptualise in order to provide them with the ability to learn how to act and interact when faced with similar experiences. Experiential learning provides a basis for many of the reasons that placements are an essential part of the learning curriculum (HCPC, 2017; RCOT, 2019c).

Jarvis and Gibson (1997) suggest that in reality, the learning cycle is more complex than Kolb's (1984, 2014) representation. They consider that people do not always learn from their experiences and are also able to learn from experience without necessarily reflecting. They therefore assert that whilst it is possible for experiential learning to result in new learning or change, this cannot be assumed to be so.

Experiential learning can also result in an unchanged state, in which existing knowledge, skills or presumptions are reinforced. For example, some participants in

the current study stated that they had not learned anything about communication skills, despite going on to discuss them in detail. This illustrates Jarvis and Gibson's (1997) assertion that the output of the experience could either be a person changed by the situation or a person fundamentally unchanged, but with more experience. It may also be true that the student is changed, but unaware of the changes made. Despite this critique, the learning cycles offer insight into the ways in which students can learn in all four categories by virtue of their placement experience.

6.3.3. Situated Learning Theory and legitimate peripheral participation.

The concept of situated learning (Lave and Wenger, 1991) was developed from the theory of apprenticeship learning, itself proposed as a signature pedagogy for occupational therapy education (Schaber, 2014). Signature pedagogies are described as the types of instruction that one intuitively thinks about when considering a particular profession (Shulman, 2005), such as Socratic questioning of law students or the group of medical students being quizzed by a consultant as they stand around the bed of an unwell patient. Situated learning theory argues against learning as one type of activity that takes place in a given situation and instead suggests that learning is an aspect of all activity, and therefore that learning occurs as an intrinsic part of finding oneself in a given situation (Lave & Wenger, 1991, pp37-38). Situated learning is particularly relevant to the learning that can be derived from a placement because it does not consider intentional instruction to be the cause of learning in this context, nor does it perceive learning as being a purely internalised process, occurring within the learner's thoughts. Rather, it considers that learning is gained by participation within a given situation – in this case, the practice area in which the placement is occurring – thereby made up of a continuously evolving set of interactions and relations with the environment.

Situated learning theory encompasses 'legitimate peripheral participation', in which learning occurs from immersion within the placement and includes everything that is associated with this (Lave and Wenger, 1991). The term 'communities of practice' is used to refer to the wider social environment of learning, which for occupational therapy students on placement encompasses the placement setting and culture, immediate and wider team members as well as the university community. This holistic view of learning as being within the environment is seen in all four categories of learning but is perhaps most evident in the categories of learning about the occupational therapy profession and learning about practices.

Legitimate peripheral participation and the practice associated with it helps to make sense of these additional ways of learning that student participants found challenging to articulate. They learned about the occupational therapy profession by being immersed in the culture of occupational therapy and noted surprise at the lack of overt evidence about occupational therapy theory such as models of practice and applied frames of reference. However, students reported increasing their theoretical knowledge of models of practice and learned how this were implemented in the practice context, as illustrated by one participant.

We spoke about it a lot, their model of practice, which was MoHO, model of human occupation...although what I learned is in practice, the theory side of it is more so, like a background knowledge that you should have..." I think in my head I thought, oh they'll have things lying around that talk about theory. You know they'll have things up on the walls that talk about theory. I don't know why I thought that, but it was more of a ... just a, yeah, like a background knowledge that they had and that they worked from without having to consult it. (P7)

The same participant alluded to situated learning about practices:

I learned that I couldn't always participate when I wanted to. So I couldn't always practically learn. (P7)

This participant went on to explain that they found other ways of learning without specifically practicing a skill. In relation to learning practices, students readily discussed the breadth of the community of practice within which they were situated, describing learning that occurred from working alongside a wide range of other health care professionals. Likewise, practices were learned that related directly to the community, such as cultural practices including how to identify a staff member from the colour of their uniform, or which seat to vacate when the consultant arrived on the ward.

Situated learning theory therefore supports the learning that students gain from being on a placement, regardless of the level of practical participation, and goes some way to explaining how and why students **learn about the occupational therapy** profession by virtue of being on placement with an occupational therapist in a specific setting.

6.3.4. Transformative Learning Theory

Considering adult learners specifically, transformative learning theory (Mezirow, 1997) refers to the process of changing one's frame of reference to enable new or previously conflicting concepts to be assimilated and new perspectives learnt.

Mezirow (1997) considers both habits of mind (habitual ways of thinking, feeling and acting) and points of view (attitudes and judgements) to be influenced by cultural and social knowledge and situations. He argues that an individual's perspectives are primarily influenced by early life and cultural assimilation. The process of changing

such perspectives continues throughout life as one is exposed to new cultures and situations that conflict with existing ones and crucially, then, engage in self-reflection. The transformative process can be uncomfortable and challenging both cognitively and emotionally.

Occupational therapy students on their first practice placement encounter what may be the first significant challenge to their existing world view, illustrated by one participant who described their initial inability to engage with service users.

I think at the beginning I probably would, I...maybe walked away more times than I should have because I thought, oh ... there's nothing I can really do
(P7)

Students are actively encouraged to participate in the process of critical self-reflection (RCOT, 2019c) and to interrogate their own expressed self-knowledge as one of the components of **learning about oneself**. One participant demonstrated this when reflecting on the way they were able to learn on placement.

[the fast pace of the placement was] also challenging in the I, suppose the way I, I... perhaps self-assess and progress in my own learning (P2)

Students who have previously experienced such challenges to their world view, for example by making changes to their career trajectory, may be more adept at adapting their perspectives, or they may have strengthened their own point of view over time, reflecting Jarvis and Gibson's (1997) view that one's existing knowledge may be reinforced by experience. In either situation, a student's current point of view may be challenged, as illustrated by one participant who discussed their use of a mobile phone to look up terminology and consequent admonishment as 'unprofessional' by the practice educator for doing so:

...and at that point I said that's just archaic. You know, that's just ridiculous
(P13)

Exposure to new experiences can influence the student's point of view in one of two ways. It can be strengthened and extended if the environment one finds oneself in reinforces it. For example, this may happen if a student with a biomedical perspective on health and occupation finds themselves on a placement in an acute setting in which the occupational focus of the profession has been eroded in favour of discharge planning, as demonstrated by one participant:

The name of the game was discharge, so it was all about discharge planning and it was all about...um... doing whatever assessment or intervention we needed to do to facilitate discharge for whatever the patient was (P3)

Conversely, new points of view can be established and should these be repeatedly reinforced, one's perspective and habits of mind can be transformed to accommodate these new ways of thinking, as reflected by Jarvis and Gibson (1997). One example might be if the same student with a biomedical view of health had found themselves on a placement in which occupation is highly valued by all medical professionals and the patients day structured by therapeutic groups and activities.

The concept of transformative learning most fully supports the category of **learning about the occupational therapy profession**, as this is the worldview about which students are likely to have the least knowledge. It can also be applied to **learning about oneself**, by virtue of the application of self-reflection, and also **learning about service users**. This was demonstrated by one participant when they reflected that they had learned to change their view of what constituted person-centredness, even

though they reported entering the placement with a clear focus on the person, which they attributed to their previous work as a qualified counsellor.

[I learned] to open myself up and look beyond [the person] and consider their [...] social network, [...] environment, [...] what their interests might be outside of the home environment, you know where they might want to go and access hobbies and things like that (P1).

Focusing on the challenges of transformative learning could enable practice educators to further support students as they move through their first placement and may also be of value in preparing students for the learning that they are likely to undergo in the category of **learning about oneself** as an occupational therapist.

6.4. Other theoretical concepts relevant to the four categories of placement learning

The following concepts are presented not as learning theories, but as additional theoretical concepts that may be of relevance to the four **categories of placement learning**. They reflect the additional changes that may be happening for students which may or may not be as a direct result of learning. Ecological systems theory describes how the environment influences development, which may have natural links to learning but is not a learning theory. Next, consideration is given to the specific nature of higher education and the types of learning that students are likely to encounter within the university classroom. Finally, The concept of emotional intelligence relies on the understanding that individuals may possess a range of different types of intelligence, known as multiple intelligence theory (Gardner, 1993), which is discussed in more detail in *Chapter 8*, following the presentation of the **theory of practice learning**.

6.4.1. Ecological Systems Theory

Bronfenbrenner's (1979) theory explores the relationships between the different environments one finds oneself in throughout life. This theory gives rise to a number of important concepts that can be considered relevant to student learning on placement. Firstly, the concept that each different environment, which Bronfenbrenner considers existing from the perspective of the student rather than as it objectively exists, is different to the others in which the student finds themselves. In relation to occupational therapy students, each placement learning environment is recognised as different from each other despite potential similarities in structure and service. Perhaps more importantly, Bronfenbrenner considers each environment to be interconnected with others. For example, students will experience the university learning environment, in which their learning is at the forefront of the experience. They will also experience a placement learning environment (in this study their first placement), where the focus of others is not on them and their learning, but on the delivery of the occupational therapy service. Additionally, they may experience a work environment which may or may not be aligned to the profession they are learning about, and all participate in a home environment which may look very different depending on their life stage, whether they commute to university or move during term time, their responsibilities and so on.

The result of switching between these environments, known as an ecological transition, is theorised to significantly impact an individual's personal development. Students undergo many such transitions in their first year at university, some of which will be significant such as moving away from home to the first time or changing roles from child to independent adult, or from wage earner to student. However, whatever other ecological transitions they go through, all will go through a transition

from learning in the classroom to being a student on placement when they enter a brand-new practice environment which creates a change in role, from student as a (potentially) passive recipient of knowledge to student an active practitioner, involved in their own learning but also involved in delivering a service. Predictably, students would undergo significant personal development, due to the ecological environment changes, during their placement, as described by the category of learning about oneself.

Ecological environments are described as nesting within one another (Bronfenbrenner, 1979), with the centre of each consisting of a dyad between the individual and one other person (ibid). The most significant dyad experienced by students on placement is that between themselves and their practice educator, who is potentially the only other person within the environment who is focused on the student's learning. Development of one member of this dyad is considered to influence the other, which supports the concept of placement as a learning experience for both parties. However, the dyad exists within the context of other relationships within the ecological environment, for example, other occupational therapy team members or multidisciplinary team members. This bears a resemblance to Lave & Wenger's communities of practice, (Fuller *et al.*, 2005) which explores individuals outside of the dyad and the impact that they can have on the student. As with a community of practice, if a third party is disruptive or absent, rather than supportive, this can have a significant impact on the student's personal development and therefore on **learning about oneself** as well as other learning.

6.4.2. Learning in higher education

When considering student learning on placement it is important to consider this within the context of higher education. Many of the previously discussed theories,

particularly ecological systems theory, are relevant to this time of life which for most students is a time of significant change. The students experiencing placements in this study did so within six months of commencing their university courses and can therefore be considered to be within the early period of university. Student understanding of learning at university has been divided into six categories of approach to learning (Entwistle, 1988), with the term 'approach' used to encompass both process and intent. Three 'reproductive' categories of increasing one's knowledge, memorising and reproducing, and applying knowledge, are described along with three 'transformative' categories of understanding, seeing something in a different way and changing as a person (Marton and Säljö, 1976a, 1976b). The first three are all activities that have been described within the category of **learning about the occupational therapy profession**, whilst seeing something in a different way and changing as a person are part of the category of **learning about oneself**.

6.4.3. Emotional Intelligence

Learning in the category of **learning about oneself** as an occupational therapist may be supported by the concept of emotional intelligence (Goleman, 2020). It can be argued that some level of emotional intelligence may be a prerequisite for being able to function on placement initially, but that the placement experience will also assist it to develop. Gribble, Ladyshewsky and Parsons' (2019) longitudinal Australian study demonstrated that therapy students emotional intelligence skills changed considerably more than their student peers over a period of time during which they were engaged in placements and their peers were not. However, this study recognised that change in some specific aspects of emotional intelligence, such as assertiveness, self-expression and stress-tolerance occurred in a negative as well as positive direction. Of note, Lewis' (2010) study found no specific

relationship between the emotional intelligence skills of slightly older physiotherapy students and their clinical performance as measured by end of course examination results, suggesting that whilst emotional intelligence may be learned about and developed during placement, it is not related to success or otherwise of the placement experience.

The development of emotional intelligence skills closely relates to the **learning about oneself** that students in the current study reported. Subcategories of 'feelings', 'achievement' and 'self-knowledge' can be associated with subcategories from the Emotional Quotient Inventory 2.0 (EQ-i 2.0) (Multi Health Systems, 2012) of 'self-perception' and 'self-expression'. Similarly, it is easy to align the concepts of flexibility and optimism, components of the EQ-i 2.0's subcategory of 'stress management' with some of the aspects that students discussed in the subcategory of 'learning about learning', such as managing the experience of feeling overwhelmed. The theory of emotional intelligence is therefore considered here as an adjunct to the learning theories that may explain the four categories of placement learning in recognition that there may be connections between emotional intelligence and management of the emotional burden of placement, as discussed by Healey (2017) in *O*.

6.5. Summary of learning and other theories

In summary, many learning theories have been developed over the past century, with a significant number of these pertaining both to adult learning and to the learning that is achieved in locations outside of the classroom. These theories combine to support the results from this study that students are able to learn from their first placement experience and explain some of the ways in which this occurs. In addition, exploration of these learning theories and their suggestions about the

interconnection between theoretical learning, practical learning and personal development reinforce the findings that students learn about themselves during their placement. Learning theory can therefore be seen to support the discovery of the **four categories of learning** as logical and congruent with existing theory.

Consideration of these theories at this point in the study, following data collection, enables consideration of the relevance of the findings of this study in relation to the existing literature and in answering the research question “What skills, knowledge and behaviours do Occupational Therapy students learn during early exposure to practice in the course of their first assessed placement?”

6.6. Conclusion

This chapter has discussed the findings, in terms of the **four categories of learning**, in relation to two distinct aspects of the existing literature. Findings were discussed in relation to published literature on learning within occupational therapy placements.

This discussion demonstrated congruence between the findings of this study and previous literature, explaining in greater detail potential reasons for differences and exploring the relevance of findings from studies carried out with different student groups, such as final year students or students on role emerging placements. This section concluded that the **four categories of learning** identified in this study (**learning about oneself as an occupational therapist, learning about the occupational therapy profession, learning occupational therapy practices and learning about users of occupational therapy services**) have been shown to be broadly experienced by all students on occupational therapy placements, and particularly by students on their first placement.

The second half of the chapter discussed these four categories of placement learning in relation to extant learning theory and other relevant theories that explain how learning may occur. This discussion demonstrated that each of the categories could be explained by existing learning theory, with different theories being applicable to the different categories. This suggests that students on their first practice placement use a wide variety of methods of learning to be able to learn in each of the four categories identified in this study of **learning about oneself as an occupational therapist, learning about the occupational therapy profession, learning occupational therapy practices, and learning about users of occupational therapy services**. Consideration was given to theories that may both support and challenge this learning, such as ecological systems theory and emotional intelligence, and the student's status within higher education was considered as a potential influence to learning during their first placement.

With findings from the data collection explained and related to existing learning theories, *Chapter 7* presents further analysis of the same data to identify interactions between these findings. Relationships are drawn directly from the data and, following the grounded theory concept of advanced coding, abstracted further to develop a **theory of occupational therapy practice learning**. Additional literature is then considered in relation to the final theory in *Chapter 8*, prior to discussion regarding the implications of all the findings, including both the **four categories of learning** and the final **theory of practice learning**.

Chapter 7 Development of a theory of practice learning

Each of the four **categories of learning** and the relationships between them can be grouped together to form one overarching category, known in grounded theory methodology as the core category. The core category is used to encapsulate and explain the grounded theory as a whole (Birks & Mills, 2012 p12), although in some later versions of grounded theory this is considered less important than explaining how the categories integrate together. This chapter will begin by explaining the core category of '**becoming a student occupational therapist**'. Links between the four categories of learning and the transition from occupational therapy student to student occupational therapist will be developed. Becoming a student occupational therapist will be explained in reference to the occupational science principles of doing, being, becoming and belonging (Wilcock, 1999, 2007) and this core category will be presented as the overall contribution of the first occupational therapy practice placement.

The core category will then frame the development of a **theory of occupational therapy practice learning**, by examining and presenting the relationships between the four categories of learning previously identified: **learning about oneself as an Occupational Therapist, learning about the occupational therapy profession, learning occupational therapy practices and learning about users of occupational therapy services**. These relationships will lead to the consideration of a further phenomenon of **availability for learning**, which impacts the way in which the categories are able to interact for students depending upon their specific personal characteristics, life experiences, existing knowledge and skills and placement setting. This phenomenon and the interplay between the four categories

are therefore presented as a **theory of practice learning** that has been developed during the first occupational therapy placement.

Following presentation of the theory, three student archetypes are suggested, which serve to illustrate the manner in which learning might take place for students who present certain typical characteristics. These archetypes are not exhaustive and are presented to explain and expand the theory.

7.1. The core category: becoming a student occupational therapist.

The research question asked during this grounded theory study is “what do occupational therapy students learn during their first practice placement?” In *Chapter 5*, four categories of learning were identified through constant comparative analysis. These are **learning about oneself as an occupational therapist, learning about the occupational therapy profession, learning about occupational therapy practices** and **learning about users of occupational therapy services**.

Encapsulating all of these categories within the data is a concept that explains not only what students are learning within their placement, but also what is happening to students during the course of their first placement as this learning occurs. Using a grounded theory approach in this study it has been demonstrated that students are becoming student occupational therapists in their first placement. Theoretical sampling assisted with the development of this as the core category, as adjustments to the interview schedule enabled greater exploration of the concept. It was therefore most clearly expressed by participants in later interviews which were guided by theoretical sampling.

Specifically, the core category highlights a shift from the status of occupational therapy student to student occupational therapist. Whilst an occupational therapy

student can be any person who attends lectures and classes, completes academic work and functions within the university setting, being a student occupational therapist encompasses a sense of professional identity, of belonging within the profession, of functioning in a professional capacity and of impacting on the lives of other people who use occupational therapy services. The concept of professional identity was readily identified in a series of studies of different professionals by the Carnegie Foundation in the early 2000s (Foster *et al.*, 2006; Sullivan *et al.*, 2007; Sheppard *et al.*, 2009; Benner, 2010; Cooke, Irby and O'Brien, 2010a) and, in healthcare professions, has been associated with having a positive effect on patient care (Professional Standards Authority, 2016). It is reinforced by professional regulation (HCPC, 2013; Professional Standards Authority, 2016; RCOT, 2021b) and has been linked with increased self-esteem amongst professionals (Shaw and Timmons, 2010).

The sense of self on placement was discussed both in relation to being a professional and being a student, with participants regularly discussing their developing professional identity. They discussed feeling like a therapist as part of **learning about oneself**, with various factors contributing to this but the impact on a person's life being a key factor.

I think I felt less of the student and more of an actual ... member of, like, the team I think, as the [...] weeks went on (P15)

Because I had the opportunity to do those assessments [of service users] and get ... gather that information, I actually felt like "oh, the information that's ... I've done that and got that information", and that's actually ... real life made an

impact to someone, and when they're going home, so I ... it just felt more real,
I think (P15)

Learning about the occupational therapy profession also played a key role in developing this identity. For some participants, this was recognised in affirmation of their choice to be an occupational therapist.

If I needed any more confirmation that I'd chosen the right course in the right profession, then the placement was it and it absolutely nailed that beyond doubt (P3)

(Researcher to P13) So was that quite ... quite affirming then, that actually this has been a good decision? P: 100% (P13)

For others, recognition that they were thinking in a similar way to the qualified occupational therapists provided opportunities to demonstrate how learning about the profession supported their development into student occupational therapists. Practice educator participants also recognised that students developed the ability to think in similar ways to qualified occupational therapists during their placement.

And like it kind of clicked and was like, of course you're gonna do that (P14)

I think, with the first year, you don't even know what you're assessing. You know, you don't think like a therapist, you don't observe like a therapist yet.
(P6 - PE)

Students began to identify themselves as student occupational therapists as they developed greater ability to participate in the process of delivering occupational therapy services, within the category of **learning about occupational therapy practices**. Others' expectations also influenced this development.

When I started to do it (communicate with people who were aggressive), I realized that actually I could do it. So, I left feeling... different about myself (P7)

For some students the sense of becoming a student occupational therapist developed as service users or staff members interacted with them on a professional level.

I was thinking about [...] experiences of people ignoring the word student on the badge and on my polo shirt and expecting me to have information about patients that they'd seen us near and it [...] ignoring the fact that I was a student and not knowing that I'd only been there for three days and expecting me to have an answer (P3)

And then they can feel that they're actually contributing something, I suppose (P6 - PE)

I said, let's just sit down on the bed for a minute and she actually did, which I was surprised about (P7)

However, the over-riding concept of becoming a student occupational therapist was demonstrated within the language choices of many participants as they discussed the moment that things began to take shape and make sense for them.

Going into placement was when it all clicked into place, and I was like. That's this, that's that...you know, my practice educator and the team like explaining these things for me majorly like really fit into place. And so, I could understand (P5)

It sort of struck me [...] I guess it's back to our philosophical, what makes us occupational therapists, this doing, and it made it made me really think, gosh, that... I haven't appreciated that, I haven't recognized... How important it was to keep someone active, to keep someone independent in their functioning (P1)

I can see that anybody going in whatever level, they are probably going to be a different person coming out (P2)

I could definitely see how everything was all fitting together when I went to placement (P4)

So now I think I started thinking like an OT. [...] yeah, I'm [an] OT now, so I feel that, that I'm an OT now (P12)

The transformational process of becoming an occupational therapist can be explained by reference to Wilcock's (1999, 2007) reflections on the processes of doing, being, becoming and belonging. This occupational science concept suggests that by the process of doing, one's being is altered and different roles are inhabited. Consequently, one moves towards becoming, which has connotations of transformation and self-actualisation and an indication of future development and growth (Wilcock, 1999). Together, these concepts act as a mechanism for belonging within societies and cultures (Wilcock, 2007). Within the context of this first occupational therapy placement, a student participates in the practice of the placement, and are therefore 'doing' occupational therapy, as opposed to only learning about occupational therapy, as they do in the classroom. As a result of this doing, they begin to inhabit and embody the role of 'being' a student occupational therapist. The difference between being a student occupational therapist and being

an occupational therapy student and learning about the profession's theory, values, and practices without inhabiting them, is explained by participants sense that their actions influence the lives of service users, as illustrated by participant 15:

that's actually ... real life made an impact to someone (P15)

The stage of 'becoming' describes the journey that the student undertakes during their studies and holds within it the sense that by 'being' a student occupational therapist they are on the route to 'becoming' a qualified occupational therapist, and consequently solidifying their place of 'belonging' within the communities of occupational therapy, health and social care and professional practitioners.

Therefore, the findings of this study clearly demonstrate that the first placement experience not only permits students to learn about themselves, about their profession, about the practice and about service users, but in so doing, enables them to develop a sense of professional identity. The unique contribution of the first placement experience demonstrated by this study is that students move from being occupational therapy students to being student occupational therapists.

7.2. Theoretical integration (examining relationships between categories)

Theoretical integration, sometimes referred to in the literature as advanced or theoretical coding (Birks and Mills, 2012), occurs in the advanced stages of GTM when the main categories have achieved theoretical saturation and are integrated with analytical memos to produce the substantive theory. This non-linear process was applied through the study, resulting in the final **theory of practice learning** presented in this chapter. Relationships between the categories are summarised in integrative relational diagrams, which convey the impact on each category of

learning discussed of each of the other categories. Integrative diagrams (Urquhart, 2013, p114) were developed by Strauss (1987) as a visual device used both to develop and to demonstrate relationships between the data and enable the researcher to develop theory with confidence that it remains grounded in the data.

Examination of the relationships between each of the **four categories of learning** enabled the researcher to identify the fluid, inter-related nature of placement learning. All of the relational aspects are illustrated in diagrammatic form in

Figure 7-1 Integrative diagram showing the relationships between the four categories of learning (below).

The process of abstraction identified the relationships between the different categories of learning, with learning in some categories supporting learning in others. Conversely, challenges perceived in learning within one category could inhibit learning within another. For example, **learning about oneself**, in the form of learning to manage emotions and identify feelings of safety were seen as enablers to learning about the other areas, and challenges in this area were perceived as barriers to learning. **Learning about the profession** enabled students to understand the context for their practices and interactions with service users and aided them to gain in confidence. Becoming familiar with **practices** was seen to provide a vehicle for learning in each of the other areas and **learning about service users** gave context to professional and practical learning, but also challenged students emotionally. Such relationships will be fully explored within this chapter, which will first present and then discuss relational diagrams for learning about oneself, learning about the occupational therapy profession, learning practices, and learning about service users.

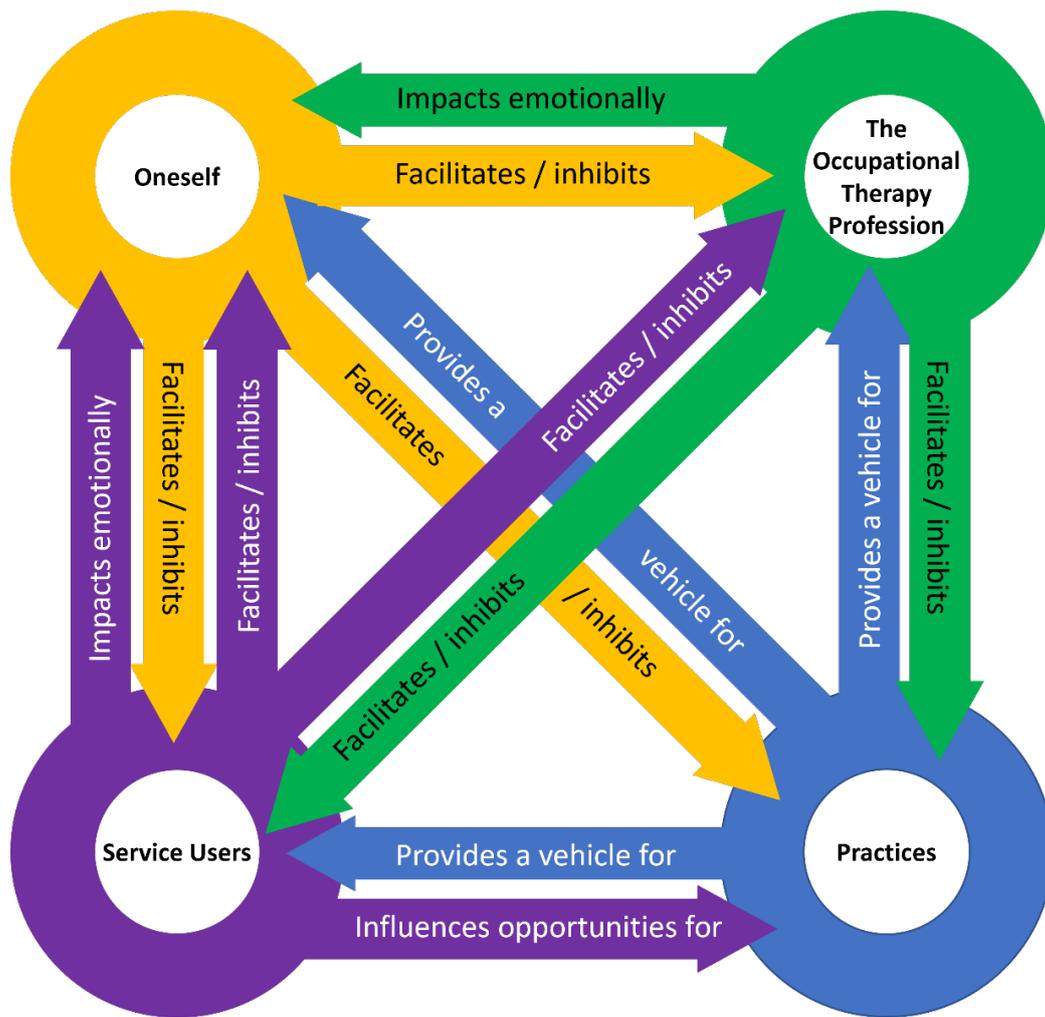


Figure 7-1 Integrative diagram showing the relationships between the four categories of learning Author's own creation, 2024

Following the presentation of these relational diagrams, the concept of **availability for learning** will be introduced, and the **theory of practice learning** presented in full. The theory will then be explained using three student archetypes as examples of ways in which it may be observed in practice.

7.2.1. Factors related to learning about oneself

A variety of personal factors were discussed by participants and identified by the researcher as impacting on the other categories. Whilst these factors (energy, focus, affect, safety and confidence) are presented as sub themes separately below, the

relationships between aspects of learning about and managing oneself, such as energy and affect, or safety and confidence, are intimately interlinked and therefore some overlap should be expected. The impact of learning about oneself can be seen in *Figure 7-2 Relationship between learning about oneself and other categories.*

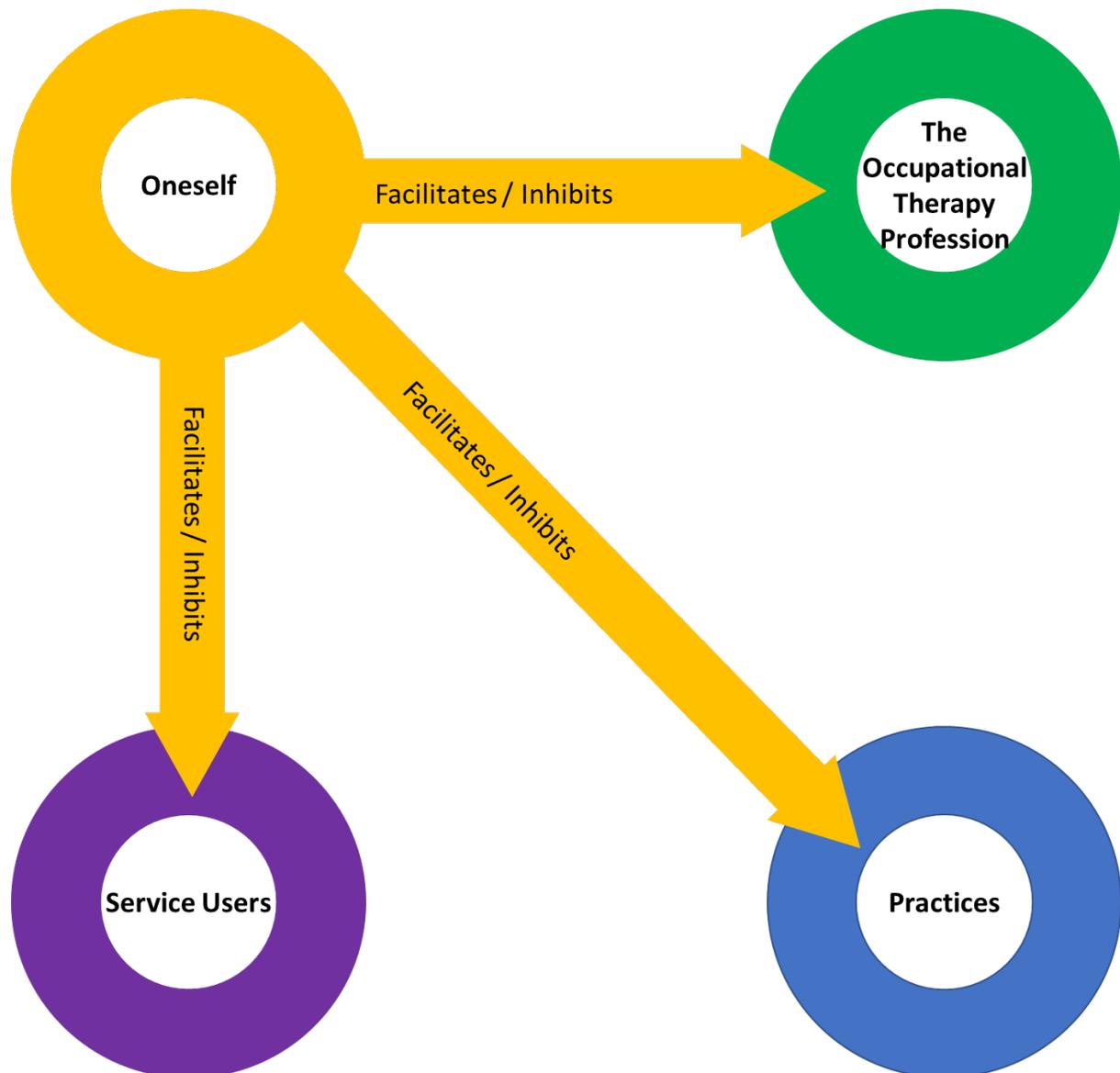


Figure 7-2 Relationship between learning about oneself and other categories.

Author's own creation, 2024

Energy / effort

The most prevalent factor discussed by participants related to the category of learning about oneself related to energy and effort. Participants highlighted the amount of energy needed for learning and explained the difference in energy expenditure and deliberate direction of effort required for different aspects of learning.

My practice educator gave me a Recognizing Excellence award for the communication I don't feel like I did anything special to do that because I didn't have to work very hard at communication skills in any way, shape, or form. Didn't have to put any effort into that. The ... the stuff I had to think about really hard was being in a hospital setting (P3)

Participants related the amount of energy they expended on learning to their emotional status or sense of managing themselves. For students experiencing anxieties either about the placement experience or about their additional learning needs, taking steps to reduce their anxiety provided them with the additional energy required to learn.

The form ... to kind of let my practice educator know what was going on for me, like medically, health wise was really helpful ... it [made] me feel better and more confident going in, which was a huge thing for me ... they were really understanding, and I think you know, after the kind of first week I stopped worrying about it. [It was] a really important part of the experience to me that I was understood and, you know, that it didn't affect my learning because they didn't know what was going on (P5)

This directing of energy and effort towards learning was also identified by practice educator participants, who suggested that when students have mastered a skill, they no longer need to think about it as much as they did when they were first learning it and can therefore direct their efforts towards learning something else. These participants, who have experience outside of the single placement that they discussed at interview, highlighted the value of non-clinical learning, such as making telephone calls to other clinicians, in providing students with more opportunities to develop clinical learning.

They don't have to think about it, it becomes natural. (P10 - PE)

The more students are able to achieve the non-clinical learning, the more opportunity they get to practice their clinical skills, or putting their theory into practice (Memo D32)

Whilst distinctions could be made between energy and effort, with the former having connotations as a physical resource and the latter a more cognitive resource (Kahneman, 1973; Bruya and Tang, 2018), participants did not make this differentiation.

Focus and concentration.

Participants discussed various factors that affected their ability to focus on the placement, or the task at hand, and linked this with the energy required to learn on placement. Practice educators commented on the perceived interference of academic assignments on placement learning, recognising that students who are working towards deadlines are often unable to focus on their placement. Student participants highlighted the impact of other things going on in their lives that made concentrating difficult, such as family or health issues.

I was feeling little bit low in mood in my placement ... During that period ... it was affecting me a little bit like, when I was with a patient. I sometimes miss(ed) some of the [information] ... because I'm not able to concentrate (P12)

Anxiety and other affective challenges

The emotional energy expended by existing in an anxious state was reported to influence the amount of information that students felt that could process, therefore influencing learning and the ability to progress on placement. Practice educator participants highlighted activities that they do not see as challenging but create anxiety for students which prevents them from learning, and students also reported limiting their participation because of their nerves or anxiety.

You probably don't realize you're [using the telephone] because it's not an anxiety provoking moment, but for students, it is, isn't it? (P6 - PE)

On the first day I remember sort of just following my practice educator around, and I'm thinking I don't want to ... get involved at this point, like I don't think I'm ready to get involved at this point. (P7)

Student participants also described the difficulties they faced in being able to generate ideas for interventions or learn about other aspects of theory and practice when they were emotionally affected by a client's situation.

I was thinking oh, I can't do anything with them. Like you know, I can't bring up new ideas to ... in my mind nothing was coming up. (P12)

Finally, participants identified the concept of feeling overwhelmed and the impact that this had on their ability to seek out additional information required to support learning.

When you've got a student who is just sort of totally overwhelmed by the experience, they don't ask questions because you have to have a certain amount of knowledge in order to know what questions to ask (P6 - PE)

I was very kind of overwhelmed when I first started like the first week ... I didn't kinda know what was going on ... I felt a bit out of my depth even though I was just kind of observing ... I didn't have any questions because I was like, I don't know what to ask (P14)

Affective challenges were clearly felt by participants to impact students' abilities to participate in active placement activities.

Safety

Students highlighted the importance of the support they received in creating a safe environment for them to learn in. Practice educators were widely cited as vital to cultivating these positive learning environments, which some participants felt were lacking in the wider healthcare community.

I couldn't really relax 'cause at any point in time that would be somebody watching waiting for me to [mess] up so they could go, "oh, yeah, so and so has just done that" ... If you feel, whether it's real or not, that that person is not going to [be] open ... so you don't feel it's a safe environment to [discuss learning] and then you can't really [talk], can you? (P13)

Feeling safe was linked to students building confidence and therefore being able to stretch themselves safely in weaker areas. In the quotations above and below, one participant was able to express both the limitations experienced by feeling unsafe and the differing benefits from being in an appropriate learning environment.

If that person is giving you good feedback ... and encouraging and constructive, you know both. So, it's honest and fair feedback ... you feel that they've got your back. They feel that ... you know, long as you're trying hard and being open and honest and as professional as you can be, and then ... and they're so, you know, you're here to make mistakes, that's fine, you know you've got to try these things (P13)

Participants made links between feeling safe on placement and having the confidence to make the most of learning opportunities.

Confidence

The impact of developing confidence on learning was an important factor for students. Increased levels of confidence gave them the ability to engage more with the learning opportunities available, therefore increasing their learning in other areas.

Some students were able to identify that the confidence they brought to placement as a result of life experiences enabled them to cope well with challenging situations, and therefore still be able to learn from them (see 6.3.3 *Situated Learning Theory* and legitimate peripheral

If it happened to somebody who didn't have ... the sort of experience that older people have had in dealing with lots of other situations then it could ... have been a real, a real sort of stumper for them ... but I was quite lucky in as much as I was like. OK, well, I've read that, this is my confidence level, this is

what I think. I could be wrong. And I'm a student, so if I'm wrong, good, I'll learn something, that's fine (P9)

Others reflected on the development of confidence through other areas of life and the impact that this had on their ability to engage fully with the learning opportunities available.

I think before I would have been scared to ask questions and been scared to ... yeah, talk to other roles in the MDT, but I think having had the confidence, I was able to ask questions and try things for the first time without being too reserved and actually like give it ... I think a better go than maybe before (P15)

Practice educator participants indicated that the level of ability the student has at the beginning of the placement will influence the level that they will be able to achieve, and what the educator will expect from them, at the end of the placement. Already possessing some skills or knowledge provides students with the space and confidence to go on to experience deeper learning.

I think because they're starting at higher levels, they almost end up at higher level (P10 - PE)

Summary of the relationship between learning about oneself and the other categories

Practice educators and students both identified that students' personal and emotional wellbeing in the forms of safety, anxiety and confidence directly impacted their ability to learn on placement. The provision of a safe, supportive environment enabled them to direct energy into their placement learning and focus their efforts appropriately. By contrast, feeling anxious, overwhelmed, or struggling with

managing their mood made it more challenging for students to focus on learning in the other categories. No attempt was made during the research to ascertain whether any temporal order existed between these factors, although it might be considered that students with very strong anxiety or altered mood may not be able to participate in practice, hence these personal factors would likely be occurring at a low level for a student throughout the placement. This can be seen in *Figure 7-2 Relationship between learning about oneself and other categories*(above).

7.2.2. Factors related to learning about the occupational therapy profession

Learning about the occupational therapy profession appeared to be the most difficult category of learning, perhaps because everything about the profession is new to students. Some students may have previously been exposed to working with service users and are likely to arrive on placement with some experience of some practices, such as communication skills, but still have no experience learning about the occupational therapy profession. This is highlighted by one participant when discussing the intended learning outcomes during placement:

when it says about the theoretical and the philosophical concepts, I started thinking I don't even know what that means, like I don't really understand what that's asking me to do (P1)

Within this category, participants did not identify occasions when the learning that they did about the profession specifically impacted the other categories of learning. However, the relationships are implied within analysis of the other categories and are represented in *Figure 7-3 Relationship between learning about occupational therapy and other categories*.

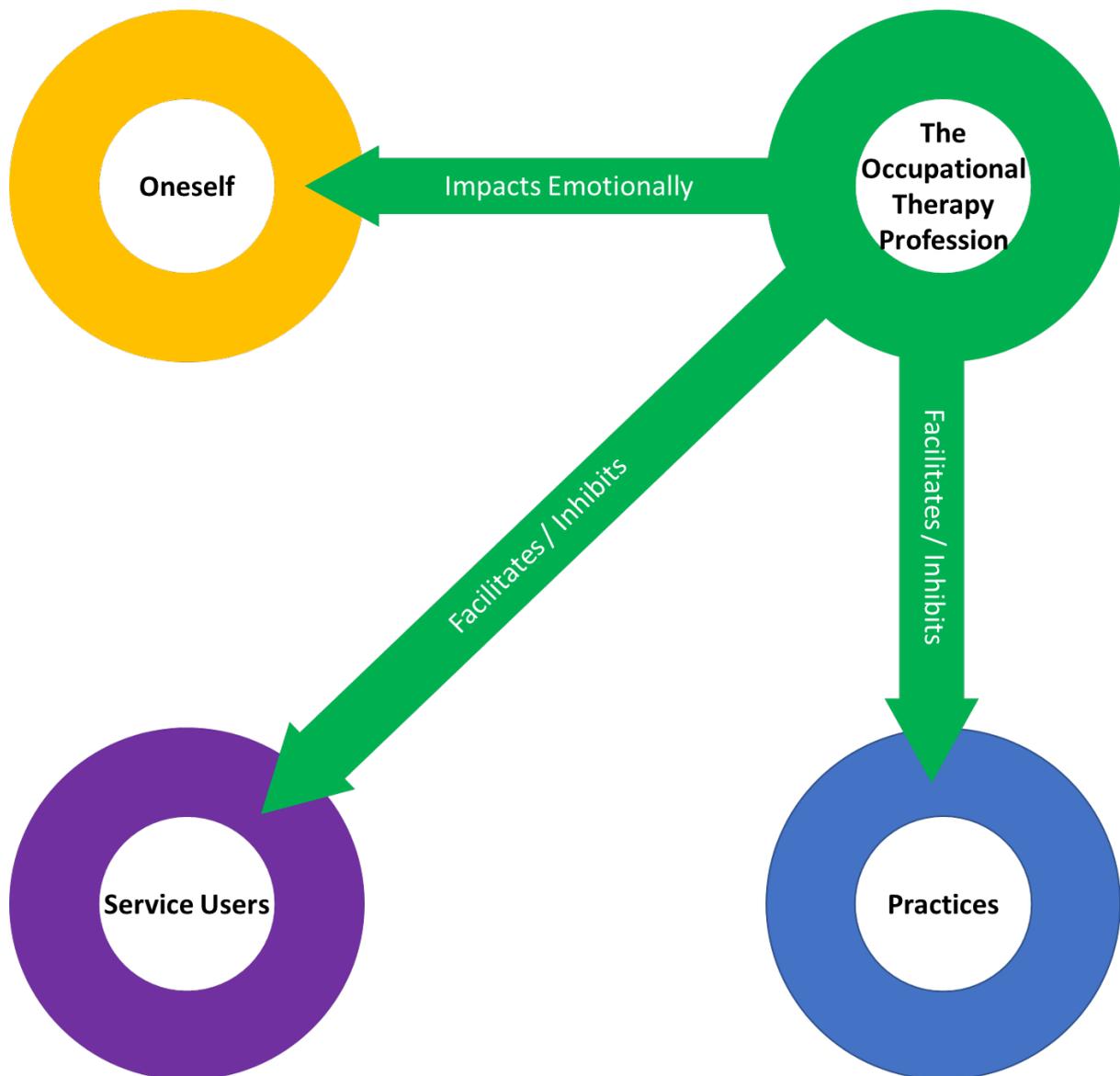


Figure 7-3 Relationship between learning about occupational therapy and other categories. Author's own creation, 2024

Learning about the Occupational Therapy profession in relation to learning about oneself

The challenge of learning about occupational therapy is best demonstrated in student participants' explanations of how they felt about themselves after the placement was completed. They highlighted feeling changed after their placement, and a greater sense of themselves as student occupational therapists as

demonstrated by the core category. This suggests that the learning they underwent about themselves was interlaced intricately with the learning that they experienced about their chosen profession. For some, it was a sense of relief and validation of their choice of occupational therapy as a future career, whereas others felt more competent and capable as they learned that they knew more about their profession than their peers who had not yet been on placement.

I've got extraordinary learning from it, and I can see that anybody going in whatever level, they are probably going to be a different person coming out.

Um, a great example is [when we] had to come up with a case study and then apply the model and just talk about some interventions ... but when I was talking to [my peers] they said to me, mate you sound like an OT! (P2)

Learning about the occupational therapy profession can therefore be seen to have an emotional impact on a student's learning about oneself.

Learning about the Occupational Therapy profession in relation to learning about practices

Participants recognised that having a higher level of knowledge about the profession enabled students to increase their participation in practices.

Now I'm feeling as like, yeah, that I have, now have got some knowledge so I can do things (P12)

This impact appeared to be reciprocal, with greater learning about the profession enabling students to participate in a wider variety of practices, which in turn gave context to their learning about occupational therapy and provided them with access to a greater range of practices. This relationship is discussed further in *7.2.3 Factors related to learning about practices*.

Learning about the Occupational Therapy profession in relation to learning about service users

Participants recognised that students learned about service users in an occupationally focussed way, so that as their knowledge of occupation and occupational therapy developed, so did their understanding of service users' needs. As with practices, this appeared to function in a reciprocal manner. Students who increased their understanding of occupational therapy concepts such as the interplay between person, environment and occupation (Law *et al.*, 1996) were better positioned to be able to learn about service users' needs and experiences from an occupational perspective. Likewise, developing an understanding of service users as individuals enabled students to develop an appreciation of the importance of occupation, and consider how occupational therapy could support them.

It made me sort of understand why we're trying to do what we're doing, and it's not about, you know, doing things for somebody, and that then started to link back to therapy plans ... where you really want to try and explain to carers that are supporting that individual, "Look, don't do this, you know, give them verbal encouragement. You know be next to them, but don't be holding them" and it really made me start to think about... OK, well how can I make that clear when I'm doing a therapy plan? (P1)

Summary of the relationship between learning about the occupational therapy profession and the other categories

Learning about the occupational therapy profession was seen by participants as a reciprocal process which gave purpose and context to learning in the other categories and had an emotional impact on a student's sense of self. This can be

seen in *Figure 7-3 Relationship between learning about occupational therapy and other categories*(above).

7.2.3. Factors related to learning about practices.

Learning by doing, or carrying out practices, was considered to provide a vehicle for learning about the other three categories. Student and practice educator participants alike valued the opportunity for learning through doing (see *6.3.2 Experiential Learning Theory*), even when recognising that the activities being carried out were new and constituted learning in their own right. However, the relationship between carrying out practices and developing occupational therapy knowledge, service user knowledge and self-knowledge was identified as a two-way process, with increased knowledge in any of these areas facilitating students' participation in practices, and is represented in *Figure 7-4 Relationship between learning about practices and other* below.

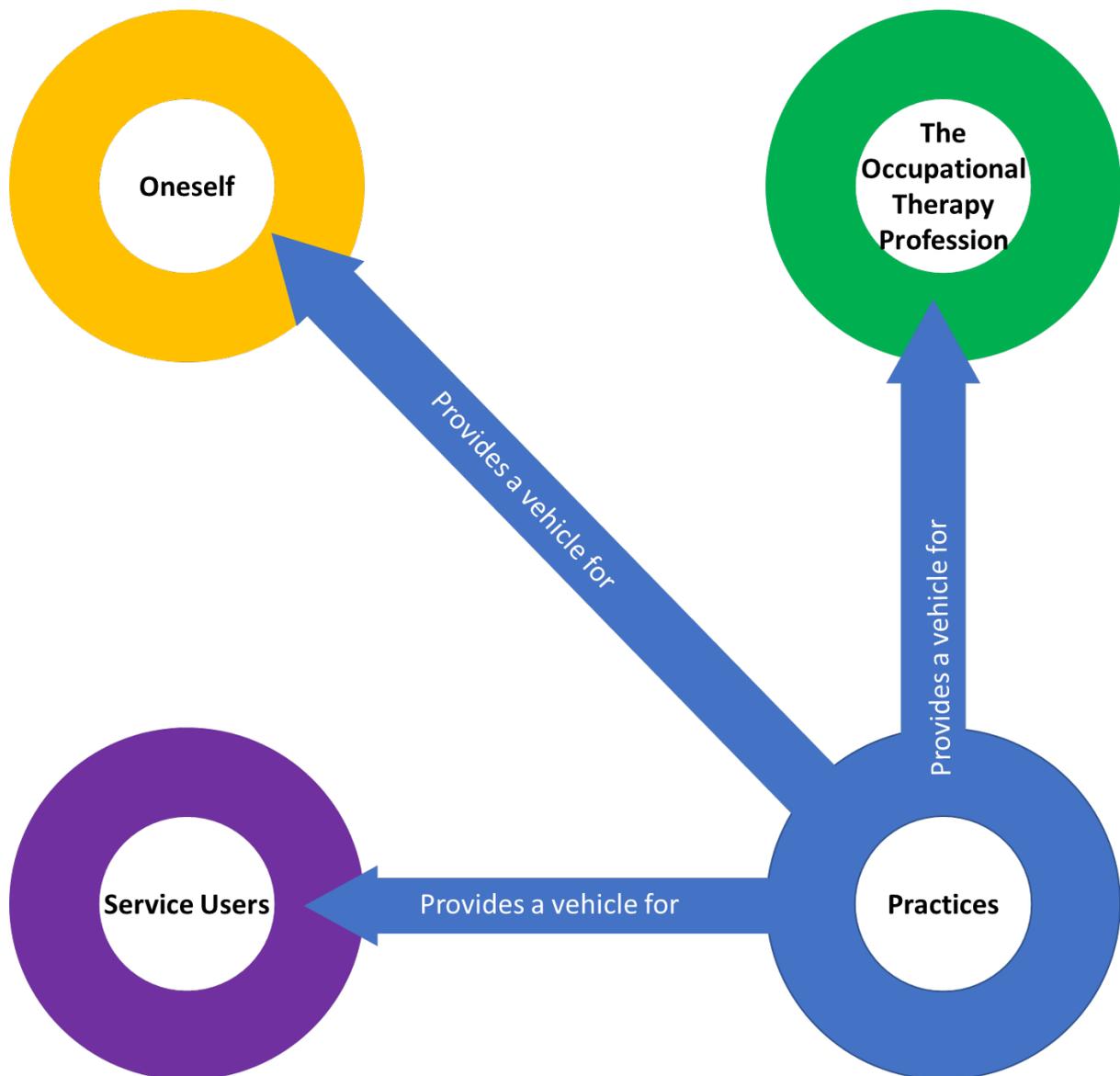


Figure 7-4 Relationship between learning about practices and other categories.

Author's own creation, 2024

The impact of learning about practices on learning about oneself

Carrying out practices enabled students to reflect on their existing self-management and self-knowledge, and to overcome their emotional barriers. For example, carrying out practical tasks with older adults reduced the fears students had about being able to cope with working with this population.

[Before I did a personal care assessment] I was scared they were gonna break, like ... I was just like Oh my God, I was just so scared (P15)

Students learned to be more resilient and persistent as a result of practicing specific tasks such as assessments. They recognised that each assessment was different and that they often did not go according to plan. This helped them to develop adaptability, by the continuous need to adjust their plans and carry out practices in different ways, which in turn led to feelings of success and overcoming challenge that enhanced resilience (Price, 2023).

I think that was the most important thing I kind of ... I got overall was just being – yeah, being able to be adaptable because at first like I said, I thought, I need to have a plan. I need to have my checklists. I need to tick everything off and then everything will be fine. Yeah, and it's not. That's definitely not always the case and it's being able to cope with that (P14)

Many participants identified the impact that repetition of practices had on their confidence to tackle other tasks. The more familiar they became with a practice, the more confident they felt, which enabled them to engage in other learning.

So, going in and just being able to kinda say, you know, what kind of home do you live in? And just practice that you know? How do I word this? (P5)

In addition, students noted that being able to carry out practices independently helped them to feel like a valuable member of the team, deepening their professional identity. Carrying out practices independently was specifically linked to feeling like an occupational therapist and increased students' ability to make decisions, which also impacted on this feeling.

So, the biggest thing for me was learning, like...you just have to kind of get in there, do it, give it ago ... it just feels so good when you kind of think I've really helped that person (P5)

Practices that required students to be in direct contact with service users influenced their learning about oneself, as they developed the mental energy and ability to cope with people who were distressed, or whose personal circumstances made them feel sad. Students developed emotional strength which enabled them to put their personal feelings to one side and behave professionally, thus influencing the way they felt about themselves.

The impact of learning about practices on learning about occupational therapy

Student participants reflected on the way in which being involved in **learning about practices** supported their **learning about occupational therapy**. They discussed how learning how to carry out an assessment enabled them to understand what an assessment means to an occupational therapist.

I assumed it would be some sort of checklist, and it wasn't, it was just a conversation and then we went back to the office and, and you know, reflected on it and did our case notes ... so I think for me, it's really understanding the process of how you do those things as an occupational ... therapist. (P1)

Some students felt that their previous life experience had taught them to trust in the process and that by doing what was asked of them and carrying out specific tasks, their occupational therapy knowledge would fall into place. For others, delivering interventions enabled them to reflect on the responses of others to the intervention and think more deeply about the meaning behind the occupation. Students

highlighted the opportunity provided to them on placement to apply the theory they had previously learned to the practices they were carrying out.

Practice educator participants were also keen that students should be actively practicing, rather than simply observing. They were able to identify a greater nuance to the learning that practices supported, including the development of occupational therapy-specific skills such as professional reasoning. Practice educators described the relationship that they observed between practices and developing depth of learning about the profession and opined that the more skilled students were with specific practices, such as making telephone calls or carrying out assessments, the quicker the student was able to direct their learning to developing in-depth knowledge.

It's like once you can ring the patient, they can then expand on their knowledge. So yes, they can ring the patient. They don't have to think about it, it becomes natural. ... So, they almost need to get the skill of getting the information before they can then go on and use that information to provide some intervention, but if they can't get the information in the first place, they can't move on to that more in depth knowledge really (P10 - PE)

I think [writing notes] would actually help their sort of clinical ... their observation and clinical reasoning as much as their note writing work, isn't it? I think it's about learning ... if you're thinking about what the key things are about what you have done or observed, then it's also leading you to that pre-step of actually observing in more detail and remembering what you've seen and heard. (P6 - PE)

Participants reflected on their identity as practical learners, identifying the centrality of carrying out practices on placement to their learning experience.

I think the way I have always been better at learning, if that makes sense, is by doing and watching. So that was ... why I was looking forward to a practical placement because I'm, I'm more of a practical person than a theory person. (P7)

Students who had had fewer opportunities to carry out practices reflected on how difficult they found it to extract the learning from placement and postulated that not being involved in interventions put them at a disadvantage compared to their peers, whereas those who had had opportunities to repeat practices were able to reflect on the deeper meaning that the practices held. In the example below, the participant identifies the learning that they underwent about the purpose of the practice of carrying out a washing and dressing assessment with a client and how this developed as they became more familiar with the practice as a task.

If I'd only done like two [personal care assessments] I still wouldn't have the confidence to be ... um [...] almost do it properly. I'd be, I think I'd be like still ... not really doing it as an assessment, more just doing it as the task and ... yeah, I think the purpose of it of doing it to assess them. I wouldn't have been able to do that. I would have just been doing it to ... to do it. (P15)

The impact of practices on learning about service users

Being able to participate in and learn about specific practices provided students with opportunities to access service users and interact with them in a meaningful way.

Many students had no experience of interacting with people within a healthcare dynamic and most students identified some level of anxiety about doing so, even if

they had worked directly with service users prior to commencing their occupational therapy education.

Participating in practices which directly impacted on service users, whether these were face to face practices such as moving and handling or indirect practices, such as writing notes or listening to multidisciplinary meetings, provided opportunities for students to learn about the service users and their health conditions. For example, students reported that the physical interactions involved in neurological assessments enabled them to learn about the health condition of stroke and its impact on individuals. The practice of running therapeutic groups enabled them to learn how people with dementia presented differently depending on their social environment.

Patients who were before quite sort of quiet and not sort of... well they were joining in activities and that but, like quite quiet, wouldn't sort of talk to you ... suddenly they were like all interacting together and they were chatting to each other (P4)

Student participants discussed the importance of carrying out practices in providing a vehicle for learning about the service users with whom they were working. Practice educator participants focused on practices as a vehicle for learning about the occupational therapy profession.

Reciprocal relationships

In addition, developing a greater level of self-knowledge or ability to manage oneself enabled students to take a more active involvement in delivering practices.

When I first started, I wouldn't even approach them. I would just let them be and I thought like I don't think I can give them what they need ... After that day

I was like, ... I feel like I could approach people who were anxious and agitated a lot more easily after that day. It was a really positive day (P7)

Performing specific practices appeared to be enhanced by learning in other categories, as well as being enhanced by learning about oneself, the occupational therapy profession and service users in return.

Summary of the relationship between learning about practices and the other categories

In summary, participants identified that the process of engaging with practices relevant to the placement setting provided a vehicle for learning for the other categories. Engaging in practices enabled students to become more aware of and develop their personal skills and abilities (**learning about oneself**), to **learn about the occupational therapy profession** by seeing it in action, and to learn more about the lives and health conditions of the service users with whom they worked. This can be seen in *Figure 7-4 Relationship between learning about practices and other categories* (above).

7.2.4. Factors related to learning about Service Users

Working with and **learning about Service Users** was described by participants as central to learning during the placement experience. Every participant expressed the importance of spending time with service users who are at the centre of occupational therapy practice. However, in the process of learning about the service user themselves and their health conditions, other learning was also identified which is shown in *Figure 7-5 Relationship between learning about service users and other categories* (below).

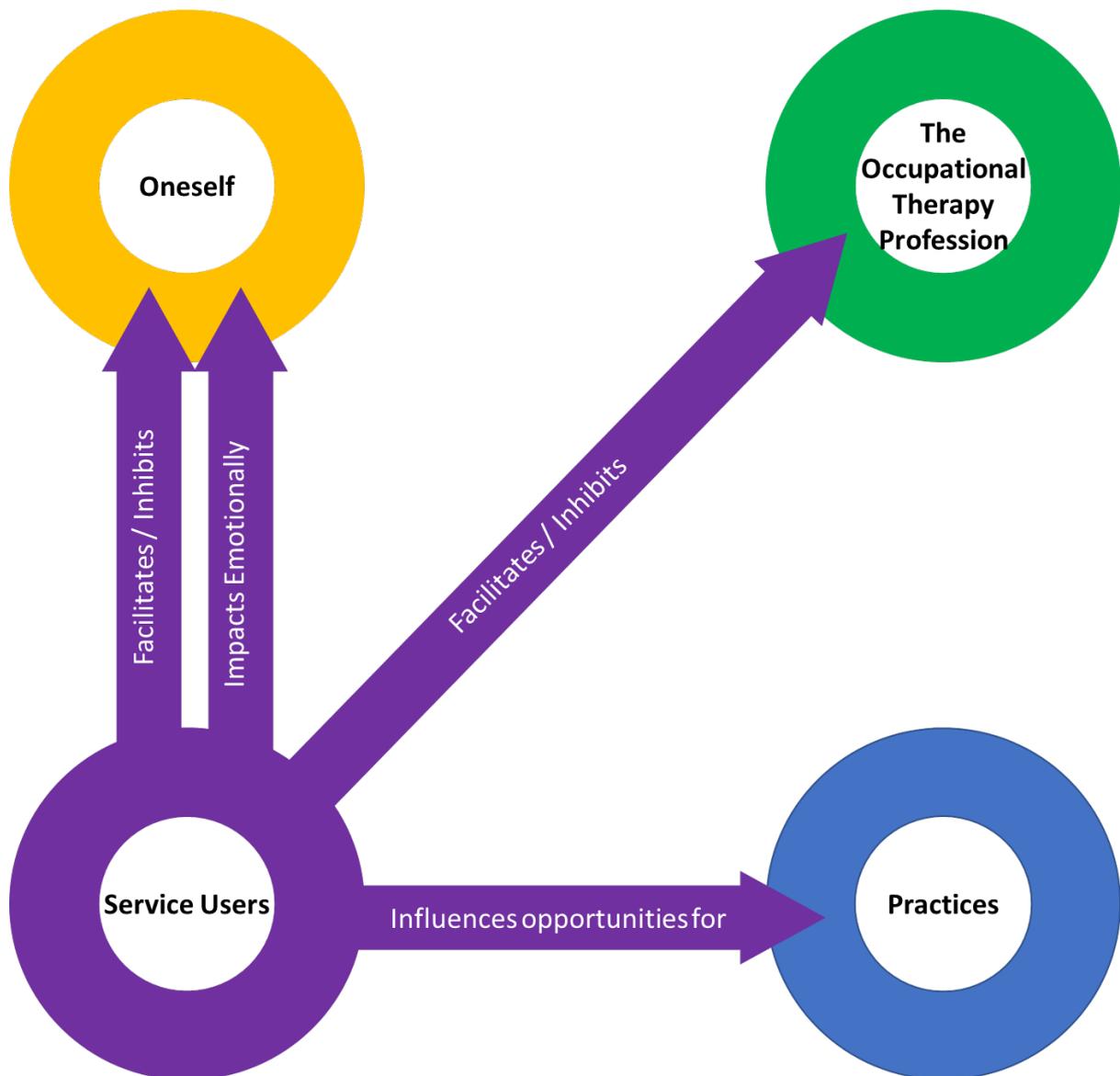


Figure 7-5 Relationship between learning about service users and other categories.

Author's own creation, 2024

The impact of learning about service users on learning about oneself

The impact on students of working with service users was universal, although different students expressed different learning. Working with a particular population of service users for the first time provided students with a different perspective than their own which led them to experience a variety of emotional responses. Negative

expressions of the self, such as sadness or fear were balanced by the positive emotions that this learning brought.

Negative self-expression was often demonstrated in anxiety. Participants discussed the fear of working with service users for the first time and fear of making mistakes that impacted on people's lives. This anxiety was identified as a commonality between students on placement and service users they were working with.

We're kind of overcoming little things like embarrassment and [...] communication barriers, things like that. It wasn't just the patients that had them, it was me too (P5)

Understanding the perspective of the service user enabled students to gain confidence in themselves, and to develop a greater awareness of their own positionality.

[People with dementia] still have a lot to offer. I just think sometimes people ... don't give them as much time as they should. ... I kinda knew that it was ... could be lonely for them, 'specially during Covid ... But yeah, I think I just learned to be ... probably more patient myself and not, not to be hard on myself Well, I was proud of myself as well, because I did things I didn't think I was going to do. So, I left feeling ... different about myself, just more confident (P7)

The development of personal skills such as emotional management was also facilitated by necessity when working with service users who had their own emotional needs, although some students found the emotional load difficult to deal with which impeded their performance.

I think I found it emotionally challenging ... You know they (people with dementia) were so scared, and it was about me trying to find a way to sort of help them not be scared (P4)

Sometimes situations are very ... very sad situations ... I feel like I'm not listening because I'm ... emotional ... and that's what she (the service user) is doing, you know ... it's just really ... hard, because ... I feel like she said for her (service user) it's not new, but ... for me it's very [new] (P12)

The impact of learning about Service Users on learning about occupational therapy

Student participants reported that the more they learned about their service users, the better they understood the profession of occupational therapy. Understanding the individual's needs enabled them to consider aspects of the profession that they had previously been unaware of, which in turn enabled a deeper understanding of relevant concepts.

He was very angry about his experience and that made me go away and do some research about the effects of hospitalization and it's ... I guess it's back to our philosophical what makes us occupational therapists, this doing, and it made it made me really think, gosh, that ... I haven't appreciated that, I haven't recognized ... how important it was to keep someone active, to keep someone independent in their functioning (P1)

Another impact that was highlighted was the identification of occupational therapy values that became clear when working with service users.

the patient ... wasn't really able to, kind of, understand as much but [the occupational therapist] would still take that time to actually talk to the patient rather than the family, which I thought was so important and that was really

lovely to see and I thought of course, because at the end of the day, that is the patient, that is the person you're helping. (P14)

The impact of learning about service users on practices

Fewer relationships were apparent in the data regarding the impact of service users on the learning of practices, although student participants did discuss their desires to carry out practices correctly so as not to disadvantage or harm service users.

Selection of appropriate assessments and interventions was reported to be improved when students knew more about service users, so it may be considered that learning about service users impacted on the selection of practices, rather than the students' ability to carry out the practice, as well as enhancing safe and effective practice.

The more you knew about the person and their [...] needs, the more you were able to think about what might we do, what might the intervention be, which assessment might I bring, so that knowing more about one thing made it easier to think about the other (P12)

Summary of the relationship between learning about service users and the other categories

Learning about service users enabled students to make sense of how the profession of occupational therapy worked to support and empower them. Putting themselves in the shoes of the service user provided students with opportunities to develop their learning about oneself and to influence the selection of practices that they might choose, but also affected the students on an emotional level. These relationships can be seen in *Figure 7-5 Relationship between learning about service users and other categories* (above).

7.3. Availability for Learning

Through exploration of these relationships represented in

Figure 7-1 Integrative diagram showing the relationships between the four categories of learning (repeated below for convenience) a theory of “**availability for learning**” was developed. This concept describes the factors that student and practice educator participants explored when discussing the relationships between aspects of the learning that was undertaken on placement.

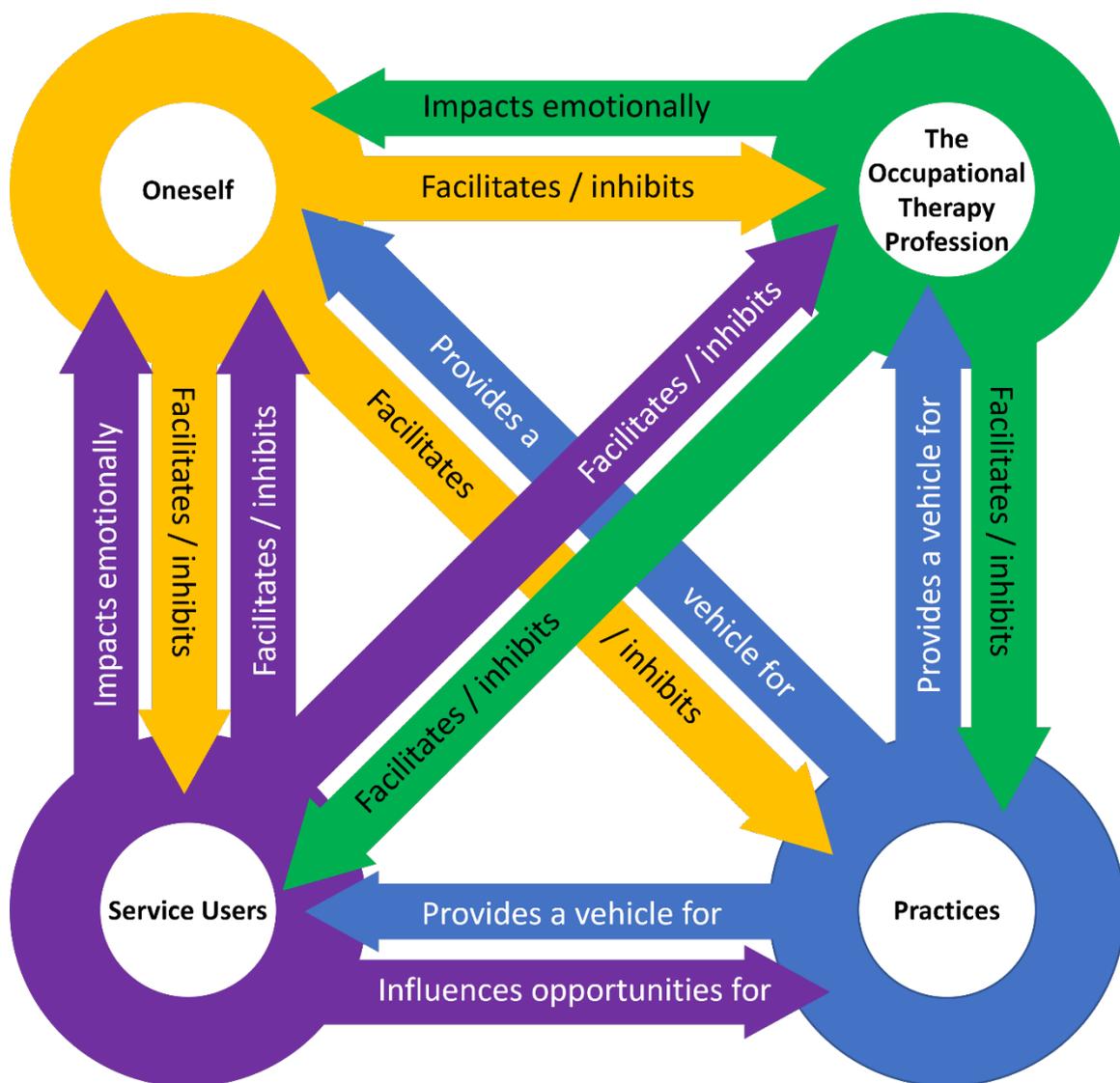


Figure 7-1 (Repeated) Integrative diagram showing the relationships between the four categories of learning.

Participants reported on some learning being easier than others, and on the challenges presented by certain factors. The concept of availability for learning was first developed in data analysis memos, following the early interviews.

Within all of this there is something about availability for learning – the combination of the individual factors, support networks & exposure to certain experiences that enables students to learn from the placement itself. P3 talked about the ability to make sense of & learn about theory in practice - showing fairly advanced understanding of occupational therapy models and how although they were not overtly used, they could see that the structure was incorporated into what was happening – and identified that they felt this was only possible because they didn't need to expend energy on professional behaviours & communication skills. (Memo D10)

The concept of being available for learning was alluded to by all participants in a variety of ways and identified via the analysis process. Student participants discussed factors that made their learning easier or harder, whilst educators discussed the deliberate effort they made to help students to become more able to learn. A student's availability for learning suggests that finding learning in some categories may be easy, which could be considered as beneficial to enabling learning in other categories. Conversely, finding learning in one category difficult or energy-consuming may create challenges in learning within other categories. This reciprocity reflects the dual nature of the relationships between the categories of learning, where learning in one category can benefit or impede the ability to learn in another.

7.3.1. Unavailability for learning

In considering their learning, students also demonstrated ideas and concepts that they had not learned fully, which were considered in data analysis as indicative of something interfering with students' availability. Therefore, subsumed within the theory of availability for learning is a student's "unavailability" for learning, identified as part of the memoing process.

P4 shows a clear lack of understanding of the purpose of what they describe to be OT interventions. This student reported feeling really prepared for their placement, not having any difficulties at meeting LOs, not feeling the need to practice anything specifically. This leads me to consider whether there is some element of knowing when you don't understand something – the Johari window "blind spot" of not knowing what you don't know which may in turn impact on this student's availability for learning. They report that they learned a lot but most of it is about process, there is no evidence in their interview of deeper, more theoretical thinking – does their lack of self-awareness impact on what they are able to learn? (Memo D12)

Students' demonstration of a lack of learning suggests the concept of a finite amount of availability that the student has for learning, and that once this availability is occupied, either with learning within a different category or by the emotional or cognitive processes associated with such learning, progress in other areas will be limited. Such availability is considered as bounded in nature, not by students' capacity for learning but by the finite nature of any placement experience.

Practice educators in particular identified the impact of students having other things to think about during their placement, such as an academic piece of work to submit. They considered academic submission deadlines to be distracting from placement

and felt that students became limited to essential learning, rather than being able to make the most of all placement opportunities and extend their learning. This can be considered as external deadlines taking up some of the student's availability for learning.

But any extra time or any extra learning that they wanted to do, perhaps will be taken up by what they're having to do in university (P10 - PE)

Students identified the uniqueness of their own position, and the impact that their background and experience had on their learning. They recognised that different students would be able to learn in different ways and at different rates, but also linked this to being able to focus on one category of learning because of their existing skills and knowledge.

I was able to do that because of all the stuff that I already knew and didn't have to learn, so I can imagine that fellow students in the same situation might be spending more of their time worrying about "Oh my God, oh my God, oh my God, I've got to speak to a complete stranger who's a patient who's not very well, who can't hear me very well. How am I going to deal with that?" And their focus, and their attention and their energy and their anxiety is all focused on that, whereas because of my background, and knowledge and experience, I was able to park that as being not a problem, so therefore I had more ability to do this other learning (P3)

Students also felt that their emotional management impacted on their availability for learning. Those who had pre-existing anxieties alleviated to some extent by their practice educators' approach reported that this improved their focus on placement, therefore increasing their availability.

I was able to go in and concentrate on the learning (P5)

7.4. Illustration of the theory

This concept of availability for learning draws together the four categories of learning (**learning about oneself, learning about the occupational therapy profession, learning about practices, and learning about service users**) into a learning capacity that is bounded in time and place – the learning that is achievable as a result of the specific placement opportunity itself. Such learning will be influenced by the duration of the placement and the opportunities provided by the particular placement setting. It should be recognised that this bounded availability for learning does not represent a student's entire capacity for learning across their lifespan or even their course, but the learning that is possible within the duration of the placement, which is necessarily time limited. One student's availability for learning may be greater or less than their peers, and no attempt has been made, within this work, to measure this scope of availability. Rather, the impact of learning in each of the four categories on a students' overall availability is described below.

In *Figure 7-6 Theory of practice learning* (below), the learning capacity is defined by the orange box, which can be interpreted as the boundaries of the placement itself. Inside the orange box is a white space, which represents a student's learning within the placement. When each of the four categories of learning are added to the box, the white space appears to diminish, so that a student's **availability for learning** is taken up by the **four categories of learning** during the placement.

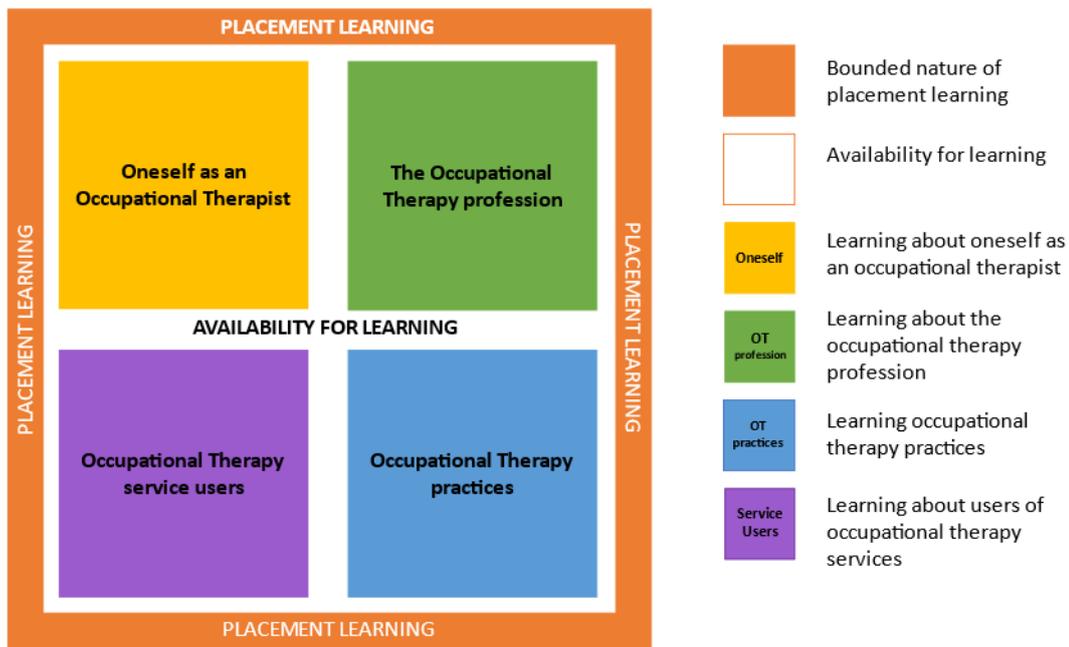


Figure 7-6 Theory of practice learning

Author's own creation, 2024

Whilst a student's availability for learning is bounded by the time and place of the placement experience itself, the amount of availability taken up by the four categories of learning should be viewed as fluid. Throughout the placement learning journey, different students will, at different points in their learning, use more of less of their availability for each different category. Therefore, the diagrams that follow should be viewed not as fixed entities but as representative of singular points in time, with the understanding that each category will be expected to grow or shrink as the placement progresses, but that availability for learning is fixed by the boundaries of the placement.

As previously explained in *Chapter 5*, participants described different patterns of learning between the four categories. For some, the learning about oneself was vast and reduced learning in other areas, whilst for others, competence in some categories provided space for additional learning. From the data analysed within this

study, three typical examples of particular student presentations, or archetypes, of student availability for learning have been developed to explain the interactive nature of this model and offer suggestions of the impact it may have on individual students. These three archetypes are not considered to be exhaustive but seek to explain and illuminate the theory. They provide examples of students who may be familiar to those involved in practice education and use the theory to further explain the learning the student may be engaged in at one moment in time during the placement.

7.4.1. Student Archetype 1 – Learning focused on self

This represents a student for whom learning about and managing themselves during placement dominated their availability for learning and can be seen in *Figure 7-7*

Student archetype 1: Learning focused on below.

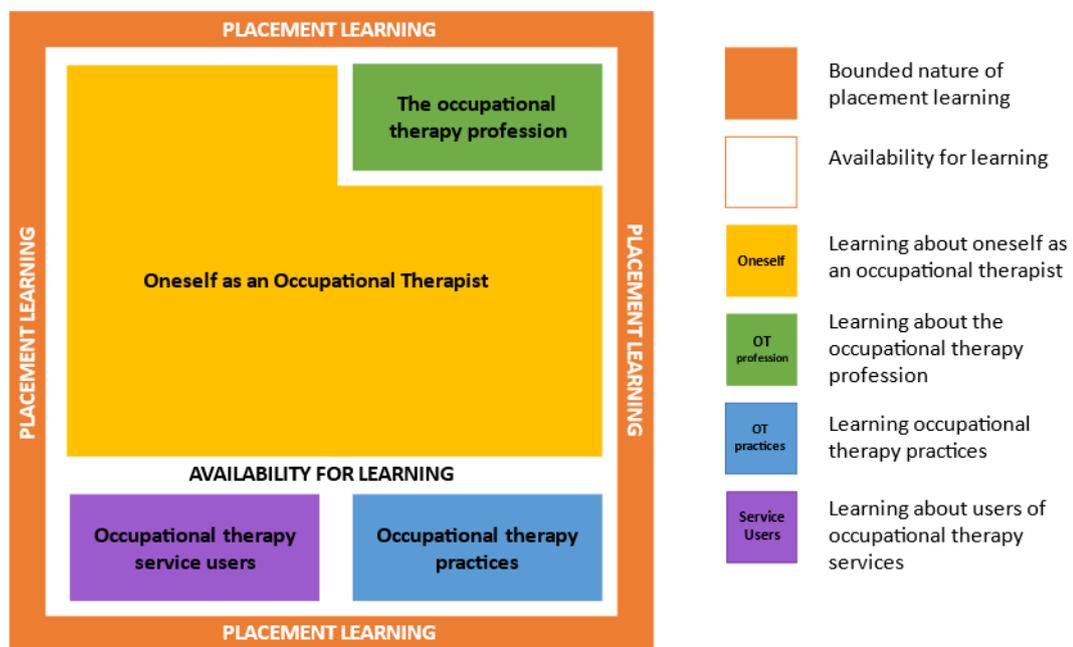


Figure 7-7 Student archetype 1: Learning focused on self.

Author's own creation, 2024

The key feature of this student is the amount of cognitive effort, or energy, that they needed to use in relation to learning about themselves on placement, represented by the yellow box. Reasons for this may be wide reaching and are not, in fact, relevant to understanding this student archetype. However, understanding of these features by both student and practice educator might be a first step towards reducing the amount of availability that learning about oneself occupies. Some examples are that they may have poor insight and self-awareness, they may have additional learning needs that are not being fully met during the placement, or they may be working to manage extreme anxiety or other health needs. They may discover that the way that they approached their placement was not what was required by their practice educator or may experience personality clashes with members of the team. They may struggle to keep focused on placement because of a bereavement, or a health issue. Whatever the reason, their availability for learning is largely given over to focusing on themselves.

This 'oneself' intrusion effectively reduces their capacity, or availability, to learn about the occupational therapy profession, service users and practices. In this example, whilst **learning about the profession** (identified in green with the abbreviation "OT profession") takes up a similar amount of the availability for learning as **service users** and **practices**. This may not necessarily be the case, because learning is a dynamic process, and the configuration between the remaining three categories will not necessarily be evenly distributed. For example, a student who is focused on **learning about themselves** may still be able to learn about a new population of service users as attention is necessarily drawn towards service user need. However, when away from service users it may be that this student reverts to concentrating on themselves and as such, they may find **learning about**

the occupational therapy profession, which is less overt and therefore more challenging, is impeded. It should also be noted that this theory is dynamic, so the distribution of availability between each category of learning is expected to change over time. In this archetype, it would be expected that a well-supported student may grow in confidence over time and therefore the size of the yellow box will reduce as the placement progresses.

7.4.2. Archetype 2 – Practice confident

This represents a student who is already familiar with the practices of their placement, seen in *Figure 7-8 Student archetype 2: Practice-confident* (below).

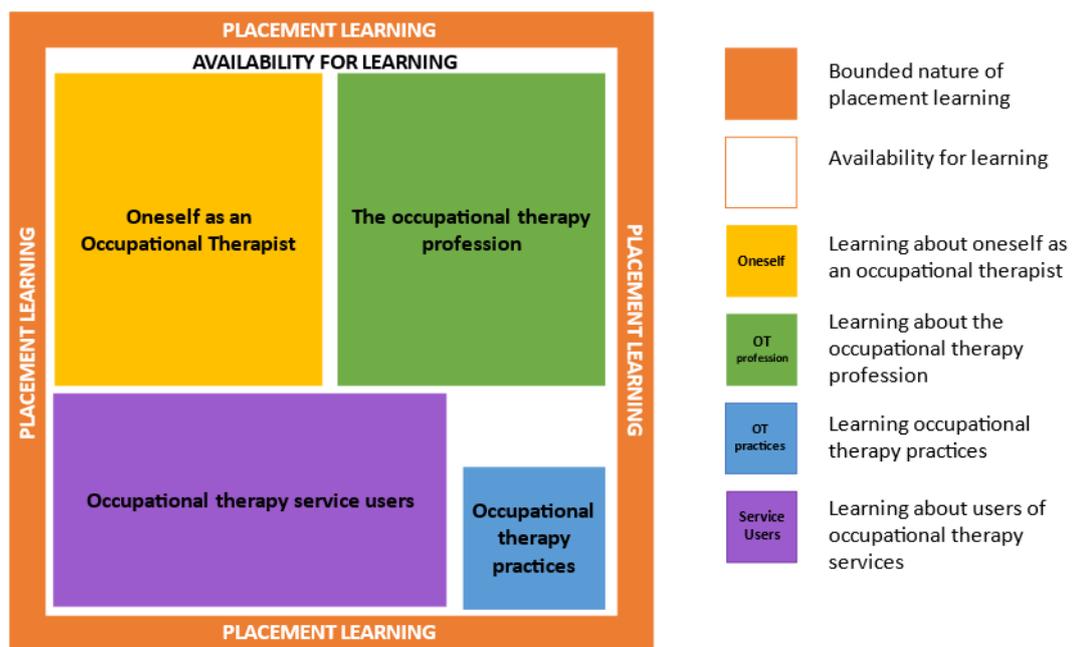


Figure 7-8 Student archetype 2: Practice-confident

Author’s own creation, 2024

As with student archetype 1, the reasons for this familiarity with placement practices are not definitive. It is possible that such a student may have previously worked in healthcare services, so are familiar with practices such as manual handling and NHS cultural practice, or that the practices of the setting are largely communicative, and

they are familiar with interviewing people and making telephone calls due their previous career. In either scenario, archetype 2 is likely to be demonstrated by students with previous experience of some practices, such as communication skills or healthcare specific practices, so this archetype may be more prevalent in mature students. However, it is important to note that mature students may also have an increased need for learning about and managing themselves within this new environment, so it is important not to make assumptions based on age or experience alone.

The representation of the practice-confident student archetype demonstrates that reducing the demands of learning occupational therapy practices can increase availability for learning in the other categories. This may have implications for curriculum development, which will be discussed in 8.4. How this learning takes place will depend on the student, the setting, and the opportunities they are afforded.

7.4.3. Archetype 3 – Self-confident and Practice-confident

Student archetype 3 is illustrated in *Figure 7-9 Student archetype 3: Self-confident and Practice-confident* (below) and represents a student who has a good command of their own needs, good self-awareness and fits in well to the team. The small yellow 'oneself' box suggests that there are no competing factors such as health needs or family or other responsibilities that distract them from the work of learning during their placement, combined with a small blue "practices" box suggesting familiarity with some practices, as seen in student archetype 2.

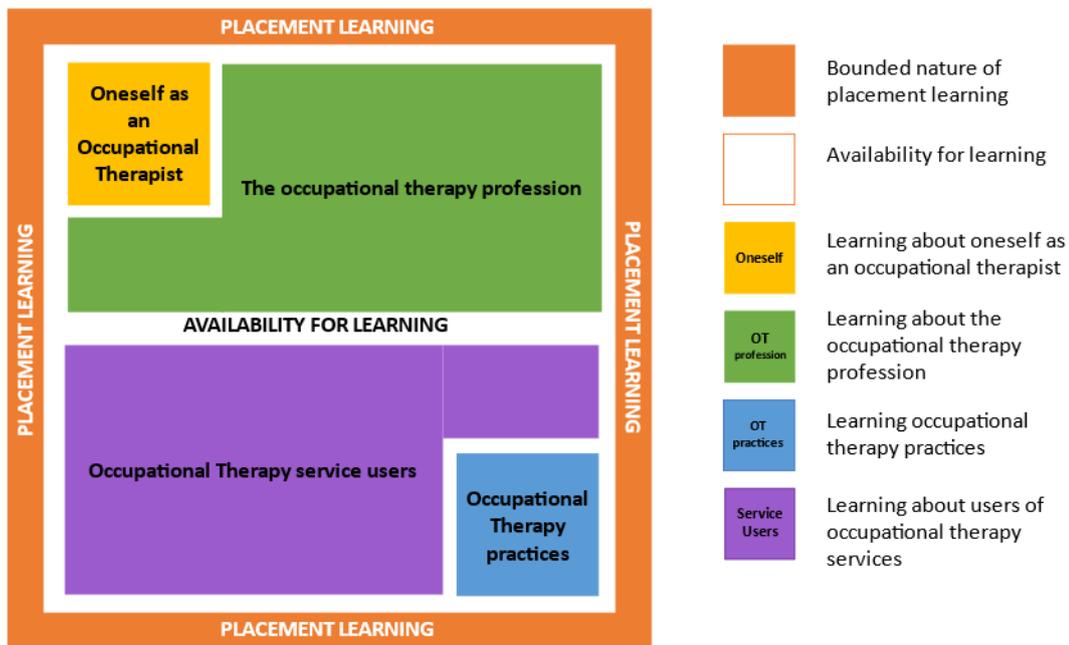


Figure 7-9 Student archetype 3: Self-confident and Practice-confident
 Author's own creation, 2024

A student represented by archetype 3 is keen to fill their availability for learning, and they do not find it difficult to learn the practices that they encounter. As a result, this student can dedicate a large amount of their availability for learning to **learning about both the Occupational Therapy profession and the service users** of this placement, signified by the larger green and purple boxes respectively.

Archetype 3 students typically will pick up practices quickly and seek out every opportunity to work with and learn about the service users. Because they have plenty of availability for learning, this particular student archetype is open to learning about the nuances of the occupational therapy profession and is therefore able to devote time and energy to some of the more theoretical constructs, such as implementation of a model of practice and / or the occupational therapy process.

7.4.4. Problematising the different student archetypes

The following interpretation of the different archetypes is derived from the researcher's experience as a practice educator and as an academic with responsibility for placement learning, reflecting the experiences of students over many years, rather than directly from the data. However, it is offered as a possible explanation as to how student and practice educator perspectives on learning can differ, with the intention of stimulating reflection on the part that practice educators play in how they interact with students on their placements.

It can be seen in *Figure 7-6 to Figure 7-9* (above) that all the student archetypes are maximising their learning – none of them leave any additional availability to learn unfilled, and therefore they are all working hard and doing the best that they can on their placement. However, each of the archetypes may be perceived differently, and their commitment to placement learning interpreted differently by educators observing their behaviours. This may be influenced by the Practice Educator's own beliefs and expectations of students within their placement setting, or the educator's own experiences as a student.

Student archetype 1 may be perceived to be a 'difficult' student, who does not appear fully engaged with their placement or with meeting the intended learning outcomes. They may be perceived by the practice educator as unable to understand theory-practice links, or the practice educator may surmise that the student is less self-aware or less able to self-manage than they 'should' be. This could be based on the practice educator's experience of previous students who have not fitted this archetype. It may also reflect practice educator assertions that the student does not have sufficient life skills to enable them to participate fully in the placement.

Literature on student failure in practice learning is sparse, however two 2017 studies

explored the phenomenon in different parts of the world. Both cited aspects of learning about oneself as factors influencing failure, including poor insight, lack of responsiveness to feedback, taking responsibility for their own learning, and attitude (Cardell *et al.*, 2017; Nicola-Richmond, Butterworth and Hitch, 2017). Furthermore, Cardell *et al.* (2017) highlight a range of other reasons for failure that would fall within the remaining categories of learning, including clinical skills, communication skills, knowledge and patient safety concerns. This could also reflect student archetype 1, due to limitations on their availability for learning in the remaining categories.

The theory of availability for learning suggests that this student is utilising all their resources to learn about and manage themselves, leaving them with limited availability for the other categories. The use of all of their availability is reflected in the choice of title for this archetype as 'learning focused on self'. Student learning may be less overt as they grapple with learning about themselves, and practice educators could help students to find a greater balance between the three remaining categories by adjusting their expectations and / or the student workload. Such a student may be experiencing great challenges via the transformative model of learning, as their world view and sense of self are challenged (see 6.3.4

Transformative Learning Theory)

Student archetype 2 may be perceived to be a 'good' student, because they are already familiar with the practices that are required of them during the placement. This is reflected in Campbell *et al.*'s (2015) identification of professional attributes of occupational therapy students in practice learning, where clinical competence and communication skills were both identified as essential to student success. However, Practice Educators have been noted to recognise student learning through

observable actions only, so focus on performance of tasks as identified as part of the memoing process:

It appears that PEs struggle to identify what the learning is and are more focussed on the performance of the student & the skills / attributes they display. Each question about learning is responded to with information about what students do - this is perhaps reflective of the observable rather than the internal and I guess says something about knowledge. PEs don't / can't see the internalised process of learning, only the output it generates. They therefore don't necessarily focus on what is being learned but on what the student can demonstrate / do (Memo D21)

It may therefore be the case that despite a strong performance, very little actual learning has happened in the area of practices. This archetype may well be seen in students who have previously worked as therapy or health care assistants. The perceived level of ability may in fact mask a lack of knowledge in other categories, and this student risks assumptions being made about their learning that are not accurate. Practice educators can support this student by providing a balance of opportunities and taking care not to assume that because they can carry out a task well (such as an initial interview, for example) they also have the knowledge to interpret the results of the task. It may be important that this student does not rely on experiential learning, as this may reinforce existing knowledge rather than challenge them to develop new knowledge (see *6.3.2 Experiential Learning Theory*)

Student archetype 3 may often be perceived as being an 'excellent' student. This student appears to just get on with the placement without any challenges, and because they have the availability to learn about both the profession and service

users, they can be seen to make good progress and develop their theory-practice learning further than the other student archetypes. Such students may actually end up being provided with a greater level of challenge from their educators, due in part to their ability to deliver a good task-based performance and to their ability to identify their own learning needs. In contrast with student archetype 1, the impact of not needing to focus on oneself can be seen in Brown *et al.*'s (2020) exploration of resilience, which concluded that student's abilities to manage their stress levels, amongst other factors, supported success in placement. Such a student could benefit from understanding the concepts related to situated learning as they develop their new place within their community of practice (see *6.3.3 Situated Learning Theory and legitimate peripheral*).

It is, however, important to consider that individual students and placements will result in different balances of learning between the four categories, and that the findings reported within this study suggest that all students undertake some learning in all categories during their first placement experience.

7.5. Conclusion

Within the context of the first placement, it is proposed that a transformation takes place by virtue of learning which occurs within four different **categories of learning** and is bounded by the placement experience. The categories of learning interact with one another in a manner that can be either facilitatory or inhibitory, depending upon the experience. Students have a bounded capacity for learning which is governed by the duration of the placement experience itself, and within this capacity students have a finite amount of availability for learning. This availability is shared between the learning that occurs within the four categories and may be influenced by individual factors, such as cognitive energy and capacity. Students who find learning

within any one category particularly challenging may find that their ability to learn in other categories is reduced as their learning availability is directed towards the more difficult category. Conversely, students who already have high levels of ability in one category may find themselves more able to direct their availability towards other categories, facilitating greater depth of learning. During this placement process students undergo transformation of their professional identity from being a university student of occupational therapy to becoming a student professional in the form of a student occupational therapist.

Chapter 8 Significance of the theory of practice learning

This chapter contains a discussion of the theory of practice learning presented in *Chapter 7* in relation to the relevant literature and constitutes the 'final' literature review as recommended by Thornberg and Dunne (2019). Building on the discussion in *Chapter 6*, which presented the relationship between both occupational therapy placement learning literature and learning theories with the four categories of practice learning, further literature will be introduced and discussed with a view to establishing whether the theory of practice learning developed in this grounded theory repeats, develops or refutes existing theory (Birks and Mills, 2012; Urquhart, 2013).

This chapter commences by considering occupational therapy theory in the form of two models of occupational therapy practice. These models are commonly used to direct occupational therapy intervention but are used here to provide context to the interaction of the student within the occupation of learning on placement and their practice placement environment.

Following presentation of occupational therapy theory, theories found in education literature that are not specific learning theories, but rather psychological theories relevant to the concept of availability for learning are presented and discussed.

Whilst the discussion herein relates specifically to data collected in relation to the first occupational therapy placement, the theory of practice learning could be considered relevant to other professions and other levels of placement, by virtue of its relationship to psychological theory. Discussion therefore does not focus on the

four categories of learning specifically, although reference is made to these in relation to the concept of availability. Instead, the focus is on how psychological theories that have been used to underpin learning theory may be applied to the concept of a finite and bounded availability for learning within which the four categories of placement learning must all be accommodated.

The theories selected have been identified following a timeline of education theory (Appendix P) informed by Milwood's 'Learning Theory' and represent those theories preceding this work that are considered specifically relevant. No emphasis is placed on any one theory, or group of theories, over others and there is scope for greater critical engagement with each theory individually. However, the purpose of their inclusion is to provide context and support to the theory of practice learning, and as a whole the theories presented coalesce to provide a bed in which the theory of practice education can be cohesively sited for further growth and development.

Whilst it is not possible to include every learning theory or psychological theory relevant to learning, an attempt has been made to include as many as possible. These particular theories were identified because relevance to learning in practice was evident. The range was intentionally wide, with all theories being deemed as of equal importance and no further weighting or selectivity applied. However, it is recognised that there already exists a significant body of literature critiquing and challenging theories relevant to learning. A selection of these theories is also discussed, but they do not appear in the diagrammatical representation which seeks to support the theory of practice learning from a psychological and learning theory perspective.

The chapter concludes with a summary of the **theory of occupational therapy practice learning** which is supported by the theories previously discussed.

8.1. Occupational Therapy theory

To fully understand the application of the **theory of occupational therapy practice learning** it is necessary to examine the occupational context in which students are operating whilst on placement. The Person-Environment-Occupational-Performance (PEOP) model (Christiansen, Baum and Bass, 2015) and the Canadian Model of Occupational Performance and Engagement (CMOP-E) (Townsend and Polatajko, 2007) can be used to examine the context of occupational therapy practice. These occupational therapy models of practice view all occupations as occurring within a framework that describes the interactions between person, the occupation, and the environment, which forms the basis of occupational therapy practice. An occupational therapy placement is not an occupation requiring therapeutic input, but occupational therapy theory provides a vehicle to explore and understand the component parts of the occupation of learning on placement, which differs from learning in the classroom.

The PEOP model assumes that a person is dynamic and developing and constantly interacts with the environment in which they carry out their occupations (Law *et al.*, 1996; Christiansen, Baum and Bass, 2015). The environment provides context for the occupations to be performed and has a reciprocal relationship with the person, both influencing and being influenced by them (see *Figure 8-1 Person-Environment-*

Occupational Performance model below).

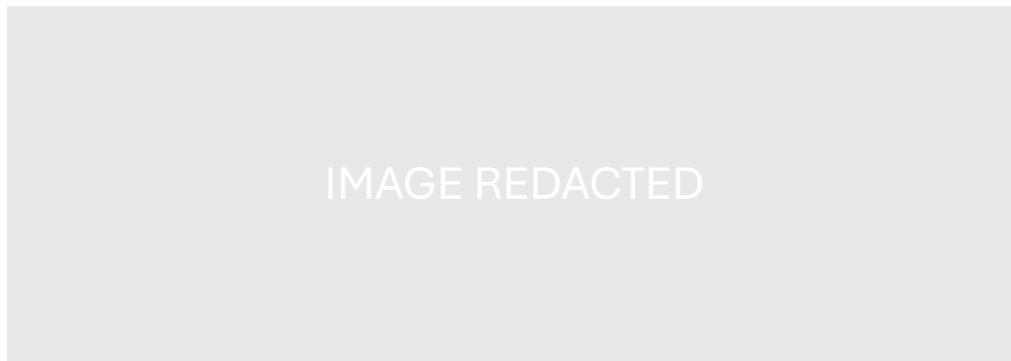


Figure 8-1 Person-Environment-Occupational Performance model – Permission to reprint from SLACK incorporated allows for password protected access only

In a similar manner to the reciprocal relationships found in the interactions between the **four categories of practice learning**, the environment is understood to be able to either facilitate or inhibit the person's performance (Law *et al.*, 1996).

Occupations, as defined by the occupational therapy profession and the PEOP model, are made up of tasks and activities that are carried out that bring meaning and purpose to life (WFOT, 2018). In the context of this study, the occupation being discussed is that of learning on placement, which is made up of tasks and activities that are numerous and variable depending upon the placement context, with the ultimate purpose of enabling the student to become an occupational therapist.

CMOP-E, shown in *Figure 8-2 The Canadian Model of Occupational Performance and Engagement* develops these three concepts of person, environment and occupation further by expanding upon the interactions between them. At the centre of the model is spirituality, often explained as what makes a person unique (Misiorek and Janus, 2019).

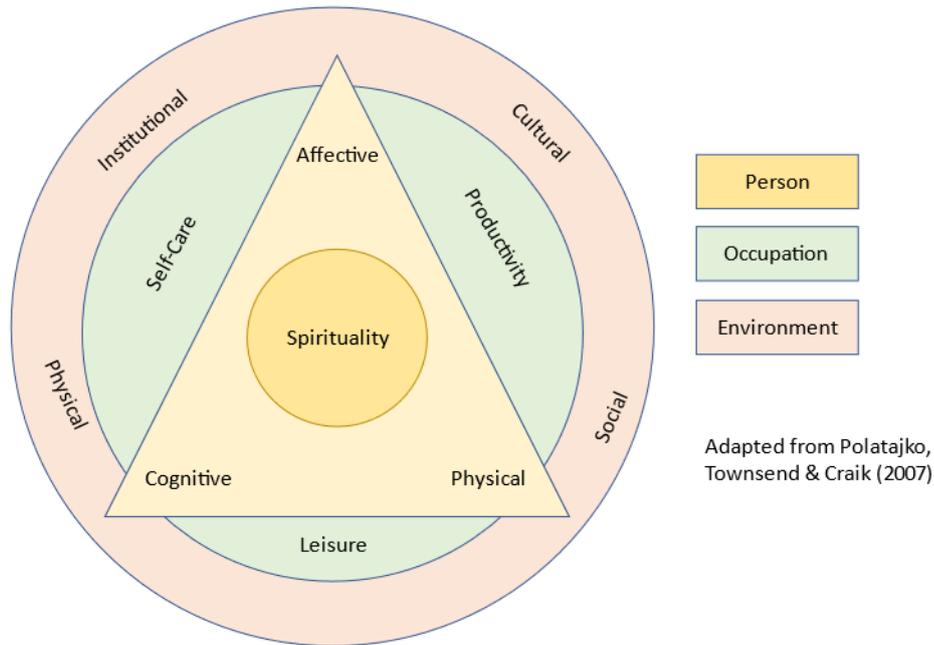


Figure 8-2 The Canadian Model of Occupational Performance and Engagement. Reprinted with permission from CAOT Publications ACE (Full Reference: Figure 1.3 Canadian Model of Occupational Performance and Engagement in Townsend, E. & Polatajko, H. (2007). *Enabling Occupation II: Advancing an Occupational Therapy Vision for Health, Well-being & Justice through Occupation*. Ottawa, ON, CAOT Publications ACE. p. 23.)

In the placement context, spirituality can be seen as an individual student's personality and motivations. The person's performance of any occupation is broken down into three performance components of cognitive, affective, and physical. These performance components can be directly compared to Bloom's (1956) cognitive, affective and psychomotor domains as the three types of learning required to be able to perform the occupation. CMOP-E also encompasses the physical, institutional, cultural and social environment that students have to navigate on their placement and recognises the direct impact that each of these will have on a student's performance of learning and therefore on their spirituality, or sense of self. These environmental aspects of placement learning are unique and therefore challenging to replicate with any consistency, such as might be required for simulation. Application

of the CMOP-E to the student experience is shown in *Figure 8-3 CMOP-E applied to the placement context* (below).

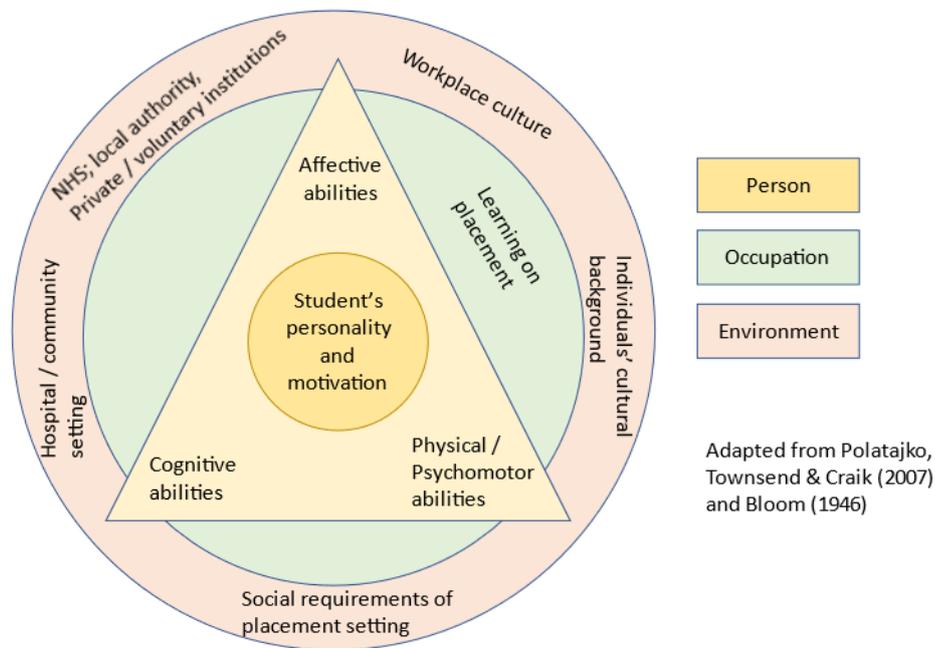


Figure 8-2 CMOP-E applied to the placement context; The Canadian Model of Occupational Performance and Engagement. Reprinted with permission from CAOT Publications ACE (Full Reference: Figure 1.3 Canadian Model of Occupational Performance and Engagement in Townsend, E. & Polatajko, H. (2007). *Enabling Occupation II: Advancing an Occupational Therapy Vision for Health, Well-being & Justice through Occupation*. Ottawa, ON, CAOT Publications ACE. p. 23.).

The specific activities that make up the occupation itself will vary, as previously discussed, according to the student's availability for learning and the unique set of circumstances with which they are presented, but the similarities within the occupation of learning on placement are demonstrated by the **four categories of practice learning**.

8.2. Psychological Theories

Theories considered within this discussion were identified during the exploration of education theory literature (*Appendix P*). They commence with Maslow's (1970)

hierarchy and progress in order of first publication to consider Bloom’s (1956) taxonomy and its later progressions (Anderson et al., 2001; Krathwohl, 2002), sociocultural theory and the zone of proximal development (Vygotsky, 1962, 1978), andragogy (Knowles, Holton and Swanson, 2015), multiple intelligence theory (Gardner, 1993) and three approaches to the cognitive handling of information that impact on the organisation and arrangement of new knowledge (Grabe, 1986; Chandler and Sweller, 1991; Mayer, 2005; Sweller, 2005). Marton & Säljö’s (1976) approaches with respect of differences in learning are also revisited with specific reference to the concept of availability. These theories, with their authors and publication dates can be seen in *Table 8-1* below.

Table 8-1 Theories relevant to availability of learning

Author	Year	Theory / concept
Maslow	1954	Hierarchy of motivation
Bloom	1956	Blooms taxonomy – 3 domains of learning
Vygotsky	1962	Sociocultural theory
Knowles	1973 (2015)	Andragogy
Marton & Säljö	1976	Differences in learning
Gardner	1983	Multiple intelligence theory
Grabe	1986	Information processing theory
Sweller	1991	Cognitive load theory
Mayer	2002	Cognitive theory of multi-media learning

It is important to note that many of the psychological theories discussed within this chapter inform the theories of learning discussed in chapter 6. It may be argued that they should therefore be presented before the theories of learning – however, their presentation here is a reflection of the research process and demonstrates that the findings in relation to the **four categories of learning** have been abstracted further to identify the theoretical construct of **availability for learning**.

The research study, and therefore the discussion in relation to the literature, has taken a bottom-up approach indicative of a theory that is based in the data, as a grounded theory. As demonstrated in *Figure 8-4 Relationship between extant theory and theory of practice learning* (below), the psychological theories inform learning theories, and demonstrate that availability for learning influences learning occurring in the categories of practice learning. Psychological theories explain the **theory of availability** whilst learning theories can be applied to the **categories of practice learning**.

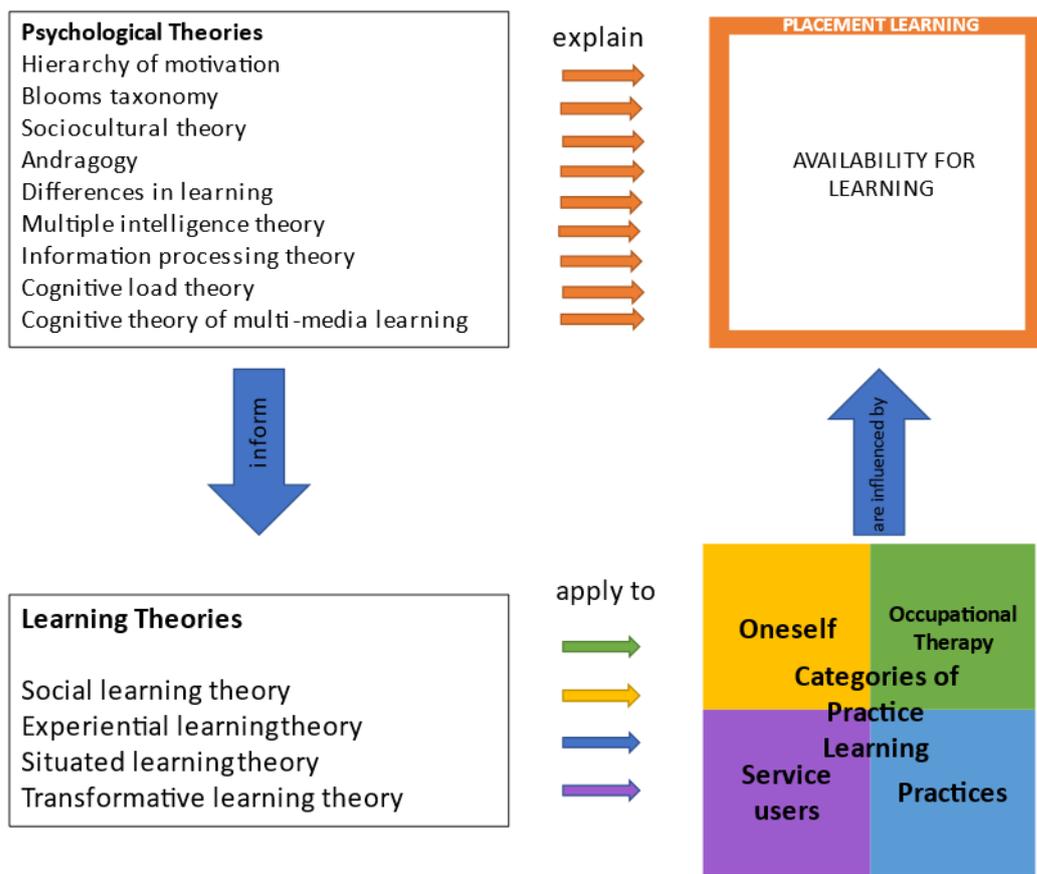


Figure 8-3 Relationship between extant theory and theory of practice learning

Author's own creation, 2024

8.2.1 Maslow's Hierarchy of Motivation

As a result of this grounded theory study no attempt has been made to consider whether any hierarchical relationship exists between the four categories of learning during placement. However, when considering the theory, one might speculate whether a student may place greater emphasis on learning about one category or another. This may not be a conscious decision, but a response to the environments within which the student lives outside of the placement setting, and the challenges that these can bring. This may be explained by ecological systems theory (Bronfenbrenner, 1979) as discussed in 6.4.1 so that a student whose cognitive energy is dominated by, for example, performance anxiety as a result of making their first transition into adult learning, may find themselves lacking in availability to focus on occupational therapy theory that informs their learning about the occupational therapy profession. In considering whether there exists any order in which the categories of practice learning occupy the a student's availability, it is helpful to reflect on Maslow's (1970) work, which theorises a hierarchical approach to factors affecting motivation.

Maslow posits that the starting point for motivation theory is basic physiological needs, and that only when these have been satisfied do other, higher needs emerge. Safety needs, including freedom from fear, anxiety and chaos are placed at a lower level on the hierarchy than esteem needs, which include the desire for achievement, mastery, competence and reputation (Maslow, 1970). At the top of the hierarchy is the need for self-actualisation, or fulfilment. When considering the **four categories of learning**, parallels can be drawn between each of these needs and the category of **learning about oneself as an occupational therapist**. For example, a student who is unable to have their basic physiological needs met, such as food, water and

sleep, is unlikely to be able to attend to the process of learning. This concept is readily accepted in the workforce with the right to access drinking water, facilities to rest and eat meals, and rest breaks during the working day enshrined in UK law (*The Workplace (Health, Safety and Welfare) Regulations 1992*).

It may be helpful to practice educators to recognise that unmet safety and/or other basic needs may lead to this category being prioritised by the student, which may in turn reduce their availability for learning in other areas (see *7.4.1 Student Archetype 1*). Within the placement setting itself, some responsibility for a student's basic needs lies with the practice educator, who has the ability to create an environment that is safe and welcoming (Rodger *et al.*, 2011) and therefore reduce the impact of basic needs on a student's availability for learning.

8.2.1. Bloom's Taxonomy

The work of Bloom (1956) organised learning into three domains of cognitive, affective and psychomotor (Pouliou, 2019; Aubrey and Riley, 2022), with much emphasis on the development within each domain of specific abilities, hierarchically arranged. The cognitive domain stems from Bloom's earliest work (1956) and is commonly used to develop learning outcomes with different levels of cognitive demand (Fry, Ketteridge and Marshall, 2009; Pouliou, 2019; Quality Assurance Agency for Higher Education, 2020), required by students to be met in order to pass a placement (see *Table 6-1 Summary of Learning Outcomes*) and the predominant focus of updated versions (Anderson *et al.*, 2001; Krathwohl, 2002) However, of greatest relevance to this study and the **theory of practice learning** is the identification of these three different domains of learning.

The factual learning described by students, such as the physiological causes of dementia, learning concepts such as models of practice, learning processes such as

how to conduct a physical assessment, and metacognition, which includes self-knowledge and knowledge of cognition in general is encompassed by the cognitive domain. Within this domain lie factual, conceptual, procedural and metacognitive knowledge which are achieved via six cognitive processes which take place hierarchically. In ascending order, students need to remember, understand, apply, analyse, evaluate and create knowledge.

The remaining domains in Bloom's original taxonomy (Bloom, 1956) are the affective and psychomotor domains. The affective domain is concerned with receiving and processing information relating to feelings or emotions, beginning with receiving and responding to phenomena and moving through valuing and organising before internalising values. The impact of psychological affect on learning is particularly relevant to the concept of **availability for learning**, and recognises that affective process, like cognitive processes, occur in an ascending order, with greater affective effort required to internalise values than to receive phenomena. Transformative learning theory also resonates in recognising that internalising values can be challenging, and there is parity between the notion of internalising values and that of a transformed world view (Mezirow, 1997). Together, these theories support the concept that being preoccupied with **learning about oneself**, particularly in terms of undergoing the type of profound psychological change associated with developing professional identity as a student occupational therapist, may impact on a student's availability for learning.

The psychomotor domain lacks development, as it was left incomplete on Bloom's death. Dave (1970, cited in (Pouliou, 2019) suggests a similar hierarchical process to the cognitive and affective processes within the other domains, moving from imitation and manipulation through precision and articulation to naturalisation. To some

extent, this has been addressed by the revisions which suggest that the cognitive processes of remembering, understanding, applying, analysing, evaluating and creating can be applied to procedural knowledge as well as factual knowledge (Anderson *et al.*, 2001; Krathwohl, 2002), although this remains under-explored. The psychomotor domain is clearly relevant when considering the learning of occupational therapy practices which are procedural in nature, such as learning how to carry out moving and handling techniques or fabricate a splint. As the same finite processes of remembering, understanding, applying, analysing and evaluating are used to make sense of learning in both procedural and factual contexts, a student's availability for learning will be impacted across the cognitive, psychomotor and affective domains.

The organisation of learning into these three domains by Bloom recognises the different types of learning that students can undertake, and clearly reflect the categories of learning practices (psychomotor domain) and learning about oneself (affective and cognitive domains), whilst learning about the occupational therapy profession and learning about service users may also involve both the cognitive and affective domains, as shown in *Figure 7-1*.

8.2.2. Sociocultural Theory and the Zone of Proximal Development

Vygotsky's (1934, 1980) sociocultural theory of higher mental processes explored the idea that simple psychological processes are transformed into complex ones through exposure to social and cultural influences. Within the practice learning environment, the knowledge of theory which is learned in the classroom setting prior to the placement experience is therefore transformed into a deeper, contextualised understanding of theory by observing and participating in culturally relevant behaviours. For example, theoretical learning about the centrality of occupation to

health and well-being became more meaningful to one participant once experienced in context on placement, as demonstrated in this quote:

It sort of struck me [...] I guess it's back to our philosophical, what makes us occupational therapists, this doing, and it made it made me really think, gosh, that... I haven't appreciated that, I haven't recognized... How important it was to keep someone active, to keep someone independent in their functioning
(P1)

What was previously surface learning developed into a deeper understanding via challenging the student within their zone of proximal development (Vygotsky, 1978) which suggests that within a person's capabilities there exists a range of abilities that have already been developed, as well as a range that they are in the process of developing. Ensuring that learning tasks centre on these developing skills or acquisitions will enable a student to develop more rapidly than if faced with a task that lies outside of these developing areas. The creation of a zone of proximal development occurs when a person is challenged to out-perform what they are currently capable of with help from a more capable peer or educator (Wass and Golding, 2014) who, in the placement context, is most likely to be the practice educator, and is explored by one participant in this study.

Gradually ... I'd just sit down and have a conversation with someone, to start with. And then my practice educator might see that and then give me positive feedback for that which is just like small things. So, I was like, oh, maybe I can do more, you know. And then once you get to know the patient ... they have a positive reaction to you (P7)

The application of the zone of proximal development to adult learning within nursing placement contexts has long been discussed (Spouse, 1998; Berragan, 2011). Most recently, Kantar, Ezzeddine and Rizk (2020) demonstrated that targeting teaching activities during a placement within a student's zone of proximal development enabled them to progress onto more complex activities. Vygotsky's theories were initially developed for children who he suggested expanded their zone of proximal development by practicing behaviours beyond their age by pretending that they are the teacher rather than the pupil. Comparisons can be drawn with entering the practice learning environment for the first time and taking on the behaviours of an occupational therapist in order to learn how to become an occupational therapist, as explained by participant 5.

So, by kinda doing the little things that she (practice educators) did, I was like I'm building up my skills and hopefully you know going into next placements I'll remember all these like really little things that add up to a huge communication skill. It's kinda, you know, becomes more ingrained, you automatically go in and take a hand, or you automatically look around, see if they've got a hearing aid or glasses and you know little things about their needs which think I need to communicate in this way and this style, and it will really help that person (P5)

The zone of proximal development applies directly to the idea of availability for learning. If a student is expected to extend their learning outside of their zone of proximal development, for example by being asked to carry out a task for which they have little frame of reference or limited knowledge, this becomes a highly challenging task. For some students, high challenge may lead to high motivation and thus develop a greater level of learning. However, a student who is trying to operate too

far outside of their zone of proximal development in one of the four categories of learning will find their availability taken up by the anxiety this creates and will therefore be less able to learn in the remaining categories. The example of *Student Archetype 1* which suggests a student who is needing to use a great deal of their availability to develop their self-management during placement, can be utilised for illustrative purposes. If this student finds that what their practice educator expects of them is vastly different to their own expectations of their performance on placement, they are being expected by the educator to work beyond their zone of proximal development. Students may be trying to learn but continue to fall short of what the practice educator would like them to achieve. By grading the demands of the placement, the practice educator can bring learning back within the zone of proximal development and the student can release availability to the remaining **categories of learning**.

8.2.3. Andragogy

As occupational therapy learners are always adults, it is important to recognise that adult learners have differing needs and characteristics than those of children (Knowles, Holton and Swanson, 2015). Pedagogic researchers of the 1950s – 1980s such as Bruner and Erikson demonstrated that learners' self-concept moves rapidly away from the dependent personality of the young child to a more independent individual who wants to direct and organise their own learning during adolescence (McLean, 2014; Knowles, Holton and Swanson, 2015). Once this self-concept of independence is fully developed, andragogic principles suggest a more appropriate approach to teaching is required than the didactic method of the instructor imparting knowledge that is common in school environments (Knowles, Holton and Swanson, 2015).

Andragogy incorporates six key principles – the need to know, the learner’s self-concept, the role of learners’ experiences, readiness to learn, orientation to learning and motivation (Knowles, Holton and Swanson, 2015). Adult learners acquire knowledge more readily when there is a need to know that information, although no information is offered as to the age at which this applies which may give rise to differences between younger and more mature students. Whilst adults’ self-concept is of independence, their experiences of education may be of themselves in a dependent role, which can limit engagement and may also impact their availability for learning. This may be one reason why practice learning is so popular with occupational therapy students, as it supports their self-concept as independent learners and the need to know is evident, demonstrated by one participant who stated:

I'm old enough to see it [independent learning] as an opportunity really (P9)

The role of experience in adult learning influences an adult’s engagement with a subject, and any perceived lack of value attributed to such experiences may inhibit engagement and therefore impact availability for learning.

In updating the theory of andragogy, neuroscientific links to basic brain structure, cellular structure and cognitive processing have been made (Tokuhama-Espinosa, 2011 cited in Knowles 2015) supporting much of the theories of cognitive load and information processing discussed later in this chapter; however two “meta-findings” (Knowles, Holton and Swanson, 2015) outlined below are of particular relevance to the concept of learner availability during practice learning.

The first relevant meta-finding is the critical role of emotions in learning. Processing of emotions in the limbic system takes a high priority in the brain, over-riding cortical

functions such as complex logical or rational processing (Jung *et al.*, 2014). If the emotional load is too great, the learner may not be able to learn any of the intended information. Learners must therefore feel safe in order to learn, as previously suggested by Maslow's motivational theory (Maslow, 1970), and how a student feels about a particular learning situation determines the amount of attention it is given. Marouchou (2012) uses these categories to argue that designing successful learning outcomes requires students to be aware of their own perceptions of learning and their approach to it. This would suggest that they should also be aware of their own availability for learning, or at least of anything that may reduce their availability. However, placement learning outcomes are routinely designed without this knowledge, as a set of expectations that do not take into consideration a student's experience of learning, expected methods of learning, or approach to learning. Furthermore, individual differences such as a student's specific approach to learning, are recognised as predictors of academic success (Cantwell and Grayson, 2002; Cantwell and Scevak, 2004; Marouchou, 2012). It could therefore be argued that a student's availability for learning is one of these specific individual differences. Multiple Intelligence Theory). Students recognise placements to be highly emotive learning situations as demonstrated by one participant who stated:

sometimes things (were) like, emotional (P12)

Stressful learning situations cause the release of adrenaline which leads to a fight or flight response, focusing attention on the stress rather than the learning which could reduce availability for learning. However, there is also evidence that emotional connections to learning events increase the ability to store and retrieve memories (Kensinger and Kark, 2013). Therefore, an appropriately emotionally charged

situation may in fact support students to learn, and availability could be increased by careful balancing of the demands between the four categories of learning. Secondly, in terms of brain function, connecting of new learning to existing learning follows a more straightforward path, in that such learning requires only small, incremental changes to be made to existing neural pathways. By contrast, learning that has no existing network or frame of reference with which to connect is more challenging, as entirely new neural networks need to be developed. Knowles et al. (2015) comment on the potential challenge that this may bring to adults in undergoing transformative learning (Mezirow, 1997). The expectation that learners challenge their prior beliefs and experiences is neurologically more difficult and will therefore take longer.

Connecting existing learning theory with existing knowledge of neural science and the principles of neuroplasticity is therefore important when considering the processing theories that support the concept of availability for learning that follow.

8.2.4. Differences in Learning

Expanding on the concept of andragogy, Marton & Saljo (1976a, 1976b) further explored learning that occurred specifically at university and identified qualitative differences in the outcomes of learning, demonstrating the different ways in which individuals both engage with and comprehend the same learning experiences. As discussed in *Chapter 6*, they identified six categories of approach to learning. The transformative categories of seeing something in a different way and changing as a person (Marton & Säljö 1976, cited in Marouchou, 2012) suggest an element of learning about oneself that could influence a student's availability for learning.

Marouchou (2012) uses these categories to argue that designing successful learning outcomes requires students to be aware of their own perceptions of learning and their approach to it. This would suggest that they should also be aware of their own

availability for learning, or at least of anything that may reduce their availability.

However, placement learning outcomes are routinely designed without this knowledge, as a set of expectations that do not take into consideration a student's experience of learning, expected methods of learning, or approach to learning.

Furthermore, individual differences such as a student's specific approach to learning, are recognised as predictors of academic success (Cantwell and Grayson, 2002; Cantwell and Scevak, 2004; Marouchou, 2012). It could therefore be argued that a student's availability for learning is one of these specific individual differences.

8.2.5. Multiple Intelligence Theory

The concept that students may choose, or be required, to give more or less attention to one category of learning over another may not in itself appear novel or unusual.

Gardner (1993) proposes that there are different types of learning, or knowledge, for which one might have a greater, or lesser aptitude. Calling these 'intelligences', they are defined as the ability "to solve problems or create products, that are valued within one or more cultural settings" (Gardner, 1993 pxxxviii). Eight different intelligences are described: linguistic, musical, logical-mathematical, spatial, bodily-kinaesthetic, intra- and inter-personal, and naturalistic.

Gardner (1993) suggests that each person may have greater aptitude in one or more such intelligence. **Learning about practices** such as moving and handling techniques may require a high level of demand on a student's bodily-kinaesthetic and spatial intelligences, whilst practices in settings such as care farms may require an element of naturalistic intelligence to support service users to care for animals and crops. **Learning about oneself** requires more attention to intrapersonal intelligence to support self-reflection and insight. **Learning about service users** will also draw upon intrapersonal intelligence, but additionally requires interpersonal and

linguistic intelligences to understand others' feelings and use appropriate language to respond to them. Finally, **learning about the profession** will add logical-mathematical intelligence, necessary for the comprehension of theoretical models of practice, together with linguistic intelligence, which will be required to understand the sometimes-complex languages of medicine and occupational science.

Multiple intelligence theory therefore supports the concept of availability for learning. Accepting that students will have greater ability in some areas of multiple intelligence than others begins to explain why they may have greater development needs within particular categories of learning, whilst finding others relatively natural. This in turn impacts on the balance between the **categories of learning**, so that a student may focus more on a category in which they can learn more easily, at the expense of a category that they find more challenging. Given the bounded nature of placement learning, this may mean that they are left with insufficient **availability for learning** that requires a less developed intelligence or conversely, that the amount of availability taken up by the more challenging learning may reduce availability for learning that is perceived as easier.

8.2.6. Information processing theory

Availability for learning considers that a student will need to direct their attention to one of four **categories of learning**, and can to some extent select the degree to which they do this. Grabe (1986) takes a broad view of attention, drawing on authors who have described it as energy, effort, fuel, capacity or resources. These labels are considered as synonyms in their attempt to outline the cognitive processes of learning, each describing an aspect relevant to the processing of information required for learning that is finite and must be expended in order to learn. As a person becomes more competent in a certain activity or with specific knowledge, the

attention required in order to process the knowledge decreases as activities become automatic (Grabe, 1986). Within this theory, it is hypothesized that exceeding the individual's processing capacity, which is explained by working memory considered in cognitive load theory below, will lead to overloading and will result in failure of the task at hand.

Viewing cognitive or learning processes as having a finite capacity is important in considering how much a student will be able to learn on placement. Kahneman (1973) suggests a capacity model for attentional processes, expanded by information processing theory to include all cognitive processes, in which 'spare' capacity is engaged in continuous monitoring of the environment. If this monitoring is particularly effortful, as in the case of a new and unfamiliar environment such as a hospital, it reduces the spare capacity and encroaches on the attention given to any other specified task.

The concept of **availability for learning** mirrors the concept of processing capacity. However, as processing capacity is neurological in nature one has no control over it, whereas it may be possible for students to influence their availability by virtue of conscious planning. Learning on placement reflects the direction of a student's attention towards different categories of learning, whether or not intentionally, which remain within the bounded and finite **availability for learning**, either within the moment or within the context of the placement as a whole. If the processing capacity, or **availability for learning**, becomes overwhelmed, spare capacity is used and there can be no additional learning taking place. By developing students' awareness of the **four categories of learning**, students can flex this availability to enable them to attend to whichever category is more pressing or relevant at any one time. This is demonstrated by participant three, who talked about their awareness of

the aspects of learning that they did not need to worry about, and that they suspected some of their peers would.

What's probably interesting for me is that I was able to do that because of all the stuff that I already knew and didn't have to learn, so I can imagine that fellow students in the same situation might be spending more of their time worrying about..." Oh my God. Oh my God, oh my God, I've got to speak to a complete stranger who's a patient who's not very well, who can't hear me very well. How am I going to deal with that?" And their focus, and their attention and their energy and their anxiety is all focused on that. Whereas because of my background and knowledge and experience I was able to [...] park that as being not a problem, so therefore I had more ability to do this other learning to focus on it, but I imagine it would be very [...] personal (P3)

8.2.7. Cognitive Load theory

The amount of information the brain can process at any one time has been explained by cognitive load theory (Chandler and Sweller, 1991; Sweller, 2011) that considers the internal biological and cognitive structures such as the lobes of the cerebrum that allow humans to learn from instruction. This theory separates knowledge learned from instruction from that acquired without any type of instructive process, such as the ability to listen or move one's limbs. Knowledge acquired via instruction, termed biologically secondary knowledge, includes all knowledge that is learned through formal educational systems.

Biologically secondary knowledge is considered to be acquired via five separate principles (Sweller, 2011), each of which have a specific function – information storage, gathering information from others, generation of novel information, restriction of information generation and use of information generation. Cognitive

load theory, which is aligned with the concept of **availability for learning**, relies heavily on memory processes, specifically working memory which is known to be restricted (Baddeley and Hitch, 1974). However, such restrictions are eliminated when working with information that is already stored in the long-term memory, hence working with existing knowledge reduces the 'cognitive load' on the working memory.

Whilst the amount of elements that can be processed by the working memory, known as the intrinsic cognitive load, is known to be fixed, the cognitive load can be influenced by extrinsic load factors (Sweller, 2011). A greater number of connections between elements, for example, will increase the load if each of those elements in themselves is new, but may decrease the load if they are already well known (Sweller, 2011). One placement example is learning to write up notes from an interaction with a service user. When first faced with this task, the student needs to understand not only the content of the interaction and which aspects are relevant to record, but also the structure of the notes that is expected, the type of language required and possibly a specified format. Therefore, asking a student to record an interaction as 'SOAP' notes, so called because they are recorded under the headings 'Subjective', 'Objective', 'Analysis and 'Plan' (Berni and Nicholson, 1974) will initially have an extremely high cognitive load, which may be overlooked by the practice educator for whom the load has diminished over time and now finds it to be a familiar task. High cognitive load tasks may push a student towards the edge of their zone of proximal development (Vygotsky, 1962) by exceeding their capacity for information processing (Grabe, 1986).

Managing the cognitive load, and thus creating a greater availability for learning can be achieved by employing a number of effects that increase or decrease the cognitive load of a particular task (Sweller 2011). The cognitive load is reduced via

the worked example effect if a PE provides an example record of a similar interaction. If a student can model their record on the exemplar structure and language and has information that explains what information is required in each of the S, O, A and P sections with the acronym explained in full, they can focus on the content required, thus lowering the cognitive load.

The basis of the **theory of practice learning** presented in this thesis considers that many extraneous cognitive factors can contribute to a student's attention becoming divided between the task at hand and other information. Sweller (2011) theorises that the extraneous cognitive load increases when a learner needs to divide their attention in order to complete the task, calling this the split-attention effect.

Availability for learning is considered in a similar manner to working memory – there is a finite capacity, based not only on a student's intrinsic cognitive load and cognitive architecture such as their working memory, but also because the period of learning itself is finite. All placements are time-bound, with students assessed against intended learning outcomes at the end of the placement period, therefore, some learning may be incomplete at the end of the placement. Challenges to this learning therefore occur when students need to divide their attention between aspects of the placement. For example, a student in an unfamiliar physical environment such as an acute hospital with a unique context associated with it will divide their attention between making sense of this environment and the task that they are asked to complete. Applying Sweller's (2011) hypothesis of split-attention effect, this will increase the cognitive load of the task itself, thus utilising a large proportion of the students' availability for learning.

8.2.8. Cognitive theory of multimedia learning

One method of increasing availability for learning despite tackling multiple tasks and concepts is supported by the cognitive theory of multimedia learning (Mayer, 2005). Drawing on the brain's organisational and processing capacities as described by cognitive load theory (Sweller, 2005), it utilises the brain's different information processing systems for verbal / auditory and visual / pictorial processing together deliberately, to reduce cognitive load whilst increasing the opportunities the learner has for working with the information. It aligns with other cognitive learning theories in recognising humans' ability to process a finite amount of information and seeks to recommend methods to maximise the efficiency of the brain and therefore the effectiveness of learning.

Multimedia learning is mainly used as an instructional technique, or method, rather than a theory of how learning takes place. However, its inclusion in this literature review pertains to the three assumptions from which this theory starts that support the concept that students will have a limited **availability for learning**. In the dual channel assumption (Mayer, 2005) proposes that information received by the eyes is processed by a different system, or channel, than information received by the ears. The limited capacity assumption suggests that the amount of information that can be processed in each channel at one time is limited, and in the active processing assumption active learning is achieved by organising information from both channels and integrating it with other knowledge.

As a result, the amount a student can learn on placement is likely to be inhibited by the volume of information they are required to process. This is of particular relevance when considering the challenges students described in relation to sometimes overwhelming new environments.

So, the whole environment was unfamiliar, so I was looking at... I was actually spending a lot of my time looking around, you know, clocking what was going on. Sights, sounds how it was organized (P3)

Initially, I was very kind of overwhelmed when I first started (P14)

It may be helpful to learning to receive information via dual channels, as occurs when immersed in a practice environment, as students are both observing practice and listening to information provided by service users and educators. However, the limitations on each of these processing channels and the need to combine the information received from each suggests an effective, but limited and potentially easily overloaded, learning system on placement.

8.3. Other practice learning theories

A number of other authors have developed work which both challenges and develops the theories previously discussed. Whilst psychological theories and learning theories have been the primary reference point to situate the theory of practice learning, there is also relevance in considering sociocultural theory and exploring other healthcare professionals' practice learning. For example, the study of socio-materialism requires one to consider the material elements with which a student interacts on placement, and the impact that these may have on their learning (Burm and MacLeod, 2020). This holds relevance to the learning of practices during a placement and therefore supports the theory's view that learning of practices acts as a vehicle for learning in other categories (see *Figure 7-4 Relationship between learning about practices and other categories*).

The complexity of the practice learning experience has been elucidated by McRae (2015) who challenges the more traditional learning theories previously discussed as

failing to recognise the intersectionality of the practice learning experience. By recognising the importance not only of cognitive processes in learning but also the impact of the socio-cultural environment on the interactions students experience, McRae's model seeks to explain how transformative learning theory applies to practice learning. It proposes that the system of opportunities experienced on placement, which will vary according to students' personal attributes, experience, and the input of significant others such as peers and Practice Educators interacts to develop the student's zone of proximal development. This socio-cultural perspective is further developed by Dean & Sykes' (2021) study that seeks to understand the 'how' of practice learning by studying the practice of business students' internships. Social, contextual and material interactions come together to develop students' learning of tasks that are reflective of the **learning of practices** highlighted in the **theory of practice learning** and extend the understanding of the acquisition of these practices.

Supporting the concept of availability for learning, Patton, Higgs and Smith (2018) further develop McRae's work to conceptualise physiotherapy practice learning as inclusive of time and emotional space. The impact of **learning about oneself** is reflected in their category of 'students dispositions and experiences' and of **learning practices** in their category of 'engagement in professional practice'. These elements of student learning interact with 'workplace influences' and 'clinical supervisors intentions and actions' in a fluid and interdependent manner to develop clinical learning spaces. Representation of the model of learning as a 'crucible', or bowl shape, values all of the elements and their interactions equally and is seen as supporting, or holding, student learning and professional identity development. This recognition of intersectionality reflects the fluid nature of the **theory of practice**

learning (see 7.4 *Illustration of the theory*) whilst recognising the same core concept of students **professional identity** development (see 7.1 *The core category: becoming a student occupational therapist*)

8.4. Conclusion

A number of psychological theories have been applied to learning, the most relevant of which have been discussed in this chapter and are represented in *Figure 8-4*, repeated here for ease of reference.

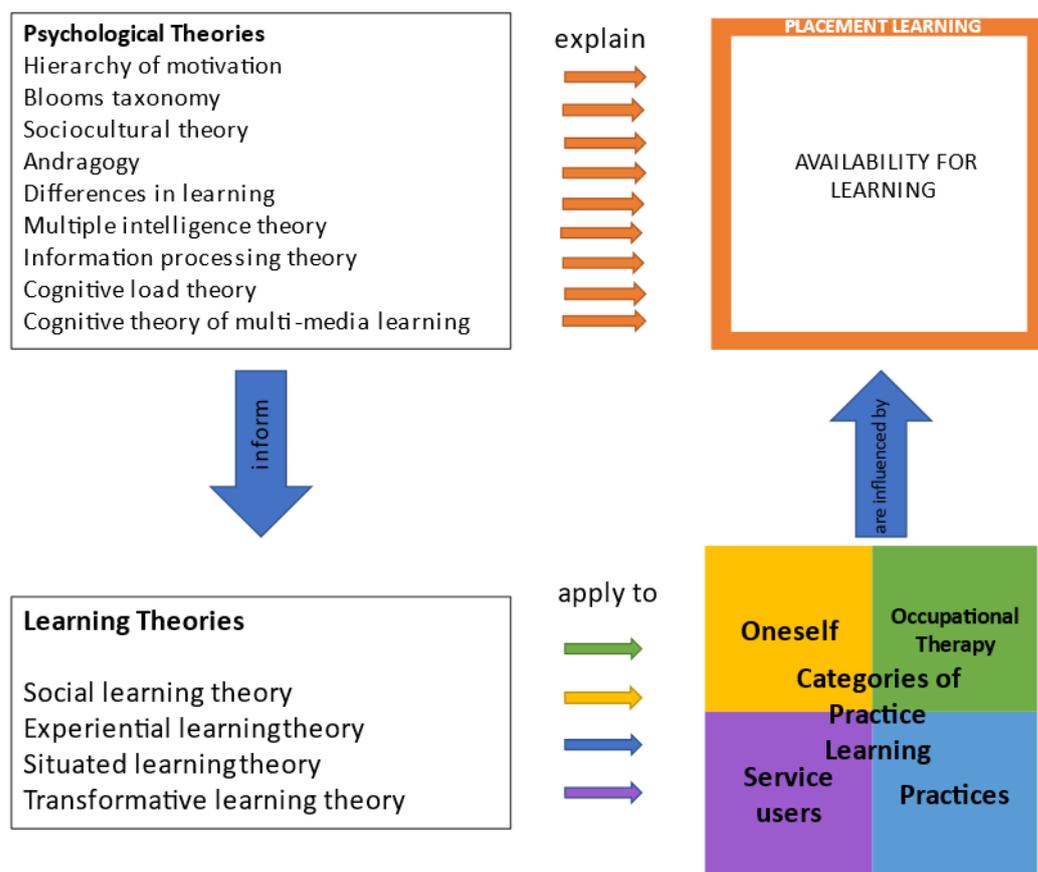


Figure 8-4 (Repeated) Relationship between extant theory and theory of practice learning

Chapter 6 focused on the literature relating to adult learning theory and demonstrated that the **four categories of learning** are identifiable within learning theories. This chapter has considered the concept of **learner availability**, and in so

doing has demonstrated that it is supported by the existing psychological theoretical literature underpinning the aforementioned learning theories. It has been demonstrated that psychological theories, some of which have been reinforced by empirical evidence (Sweller, 2011) support the concept of a capacity for learning that is finite within the moment.

The amount a student can learn on placement is bounded not only by the duration of the placement, but by the student's ability to process and respond to the variety of information they are receiving. If a student receives more information than they are individually able to process, or does not feel that their basic needs have been met, they are likely to feel overwhelmed and their availability for learning will be reduced as they attempt to manage all of the emotional responses associated with this and present themselves as a student occupational therapist, thus increasing the encroachment of the category of **learning about oneself** into their availability. Whilst most adult learners of occupational therapy will be intrinsically motivated to succeed, each student will have a different level of ability to process and therefore learn from each of the types of information that they will be presented with, and a different aptitude for certain types of learning. Cognitive processes are biologically driven and therefore to some extent, the amount of learning that can take place during a placement cannot be influenced. However, awareness of the **four categories of learning** and their impacts on one another can enable students and practice educators to work together to structure and focus the learning to meet the individual student's needs. In this way, **availability for learning** can be maximised to ensure the student is provided with an appropriate level of challenge across all **categories of learning** which will extend the student's zone of proximal development.

The theory is further strengthened by the consideration of a small range of existing literature in the field of practice learning which considers sociocultural factors and demonstrates aspects of the **theory of practice learning** within these studies.

The **theory of practice learning** established by this research explains that four categories of placement learning interact with one another within a finite 'space' for learning known as availability. Existing literature strengthens the position of this grounded theory and demonstrates its contribution to existing knowledge by providing support for its basic concepts within psychological and learning theories and explaining their interactions within occupational therapy theory. The theory presented within this thesis can therefore be confidently positioned as a significant contribution to knowledge in explaining what and how occupational therapy students learn on their first placement. Whilst this theory has been developed from data pertaining to the first placement, its ready resonance with multiple existing psychological theories suggest that it will also be relevant to subsequent placements and is also likely to be applicable within other professions that require students to learn on placement.

Chapter 9 Implications and Recommendations for Practice

9.1. Introduction

Findings of this study have indicated that students appear to have a common shared experience of learning about themselves in four categories, **learning about oneself as an occupational therapist, learning about the occupational therapy profession, learning about occupational therapy practices** and **learning about users of occupational therapy services** during their first practice placement. The theory development phase has indicated that the balance of learning between these four categories, and the specific learning by a student will depend not only on the placement itself but the student's own internal availability for learning. Relational analysis (see 7.2 *Theoretical integration* (examining relationships between categories)) demonstrates that the four categories interact with and influence one another; however, if students are primarily focused on learning within one category this will impact on their ability to learn in another. Therefore, it can be suggested that ideally students attain a balance between all four categories to enable them to develop their learning in a symbiotic way, in order to maximise benefit from the relationships between each of the categories. However, it is recognised that this research has currently only explored the existence of this phenomenon during the first placement and as such, no attempt has been made to consider how achievable this balance may be and whether the learning develops differently during subsequent placements.

This chapter will discuss the potential practical application of the findings and theory presented in *Chapter 5* to *Chapter 8* in relation to occupational therapy education. Firstly, implications of understanding the core category of becoming a student occupational therapist will be discussed for students, practice educators and academics in turn. Next, implications of understanding the concept of **availability for learning** will be explored for students, practice educators and academics. Each of the **four categories of learning** that have been found to be present during the first placement hold their own unique place within the placement learning process for students and will then be considered in relation to the potential implications for practice. The potential use of simulation for each **category of learning** is also examined. Potential implications for the use of simulation either as a substitute for, or as an adjunct to practice learning placements will be considered and the potential impact of simulation on availability will be discussed.

The potential use of the theory to guide supervision for students during practice education will be explored, and alternative methods to simulation considered to develop placement learning. Finally, the chapter will conclude with a discussion around the potential for simulated placements in occupational therapy education that brings together earlier discussions and makes recommendations for the appropriate use of simulation.

9.2. Becoming a student occupational therapist

Establishing the core category in this study explains that during the course of the first practice placement students make a psychological and emotional shift from being an occupational therapy student to being a student occupational therapist. Students entering their course of study are aware that they are a student of occupational therapy, but the change in emphasis of this self-identity occurs during the placement

itself (see section 7.1 *The core category: becoming a student occupational therapist*). Whether this is a gradual transition or a there is specific moment when identity transformation occurs remains unknown. Although the timing of such transformation is likely to differ for each student, it was found to be a common experience for all students during their first practice placement. This reflects and develops the importance of placements in developing professional identity that has previously been identified across a range of professions (Sullivan *et al.*, 2007; Benner, 2010; Cooke, Irby and O'Brien, 2010b).

The concept of becoming a student occupational therapist, explained in relation to the occupational science concepts of doing, being and becoming (Wilcock, 1999) should be utilised as a teaching tool to support students ongoing understanding of occupational science concepts or as an introduction to these. It may help students to know that what faces them on their first placement is likely to be transformational, providing confidence to students grappling with new and complex ideas.

Understanding that such a change is entirely normal and is both expected and desirable may help students to prepare adequately for the placement experience, making plans during it that will support their growth and development, such as ensuring adequate rest time, engaging in reflective discussions with peers, arranging to spend time in a safe home environment or seeking other methods of support from friends and family. This knowledge may also support the professional growth of mature students by enabling them to arrange support with their parental or employment responsibilities.

For practice educators, knowing that students will be undergoing a transformative process during their first placement may relieve some of the perceived pressure to provide as many clinical contacts with service users as possible. Demands on

clinicians to provide placements are high, with educators anecdotally reporting on the challenges of providing placements and the attention required by students during this time whilst balancing the demands of a clinical caseload, as they feel the need to provide students with a high frequency of stimulating activities. The theory of student learning shows that students may feel overwhelmed by high demands for performing new tasks if they do not have the time they need to think about and assimilate their new learning. Understanding that this transformative process is happening provides practice educators with permission to reduce the placement content to provide the processing space and time required by students. Equally, understanding that the sense of being a student occupational therapist derives from making a difference to the lives of real people may help educators to provide students with appropriately selected opportunities to impact the occupational therapy offered to service users.

Teaching staff at the university can also benefit from this knowledge. Seeing the first placement as providing the platform for students to develop their professional identity may influence its timing within the academic year. Knowing that student engagement in learning may be affected by their availability for learning, part of which may be their perceived readiness for the placement, may help lecturers to consider which theoretical learning is essential before the placement commences and which concepts may be better introduced following placement experience. This knowledge can help to build a curriculum that is student centred (Gover, Loukkola and Peterbauer, 2019) and supports a high-quality student experience desired by educators and students alike (Office for Students, 2023)

The following recommendations in relation to the core concept of becoming an Occupational Therapist are therefore made:

- Concept of becoming a student occupational therapist should be used to prepare students for placement
- Practice educators should provide students with appropriately selected opportunities to impact the lives of service users
- Academics should consider the timing of the first placement to provide a platform for students to develop their professional identity

9.3. Understanding the concept of availability for learning

The theory of practice learning demonstrates that students undertaking their first practice placement learn within a bounded and finite capacity. For a specific student is to increase their learning in any one category, they will need to be aware of their current learning and able to manage to reduce learning in another category to create availability to learn.

The concept of availability is supported by multiple psychological theories including cognitive load theory (Sweller, 2011) and information processing theory (Grabe, 1986), but extends further. The links between the four categories show that managing or organising knowledge more effectively in one category will influence others. Therefore, there are deliberate, active steps that a student or practice educator can take to increase availability for learning. For example, the impact of emotion and anxiety reduces availability to learn, so creating a welcoming environment may reduce such anxiety. Whilst some of these aspects of learning about oneself may be directly related to the placement, there are others that may intrude on placement learning, such as poor sleep, poor nutrition, or a stressful journey to placement. Therefore, a student can exercise agency over their availability to learn by taking steps to ensure that their home life is as organised and as stress-

free as possible during the placement period. Possible suggestions include following good sleep hygiene practices, batch cooking at the weekend for the week ahead and even getting up to catch an earlier train or bus, all of which should reduce underlying stress levels and therefore increase availability.

Practice educators can be mindful of the challenges facing the student of balancing availability between the four categories of learning and support availability by designing the placement experience to reflect this. Understanding that **learning about occupational therapy practices** works as a vehicle for students to learn in other areas may encourage educators to provide hands-on practical experiences for students in the early days of the placement, rather than commencing the early weeks with observational tasks. Earlier participation in occupational therapy practices which provide an appropriate level of challenge may also have the effect of increasing student confidence in practice, thus releasing availability for learning in other categories as well. Whilst students can learn from failure as well as success, the standard expected must be achievable for the level of study. Practice educators may notice, before the student does, that learning about themselves at the beginning of the placement is consuming greater availability for than other categories, and subsequently adjust the demands of other learning to permit this to occur.

As availability is a flexible concept, being permitted to focus on one aspect of learning at a time may be more effective than attempting to learn extensively in all categories at once. Competing psychological theories (Maslow, 1970; Sen, 1999) suggest either a hierarchical or concurrent approach to one's own availability. A hierarchical approach would place concepts within the category of learning about oneself, such as safety, at the bottom and therefore suggest that this should be the first category of focus (Maslow, 1970). Conversely, a capability approach (Sen,

1999) suggests that humans are multi-faceted and able to achieve things that they value, without hierarchy. The need or desire to focus on one category of learning at a time may vary between students, so practice educators may benefit from increased knowledge about the **four categories of learning** to enable them to adjust the placement demands to maximise student availability for learning. At the same time, this may help students to develop knowledge about themselves and their learning experiences that can be of benefit in subsequent placements.

Lecturers may also be able to support students to expand their availability for learning on placement by considering carefully both the timing of the placement and the content that is delivered beforehand. Developing pre-requisite content from essential mandatory training, which requires a basic level of competence, into complete practices that students are fully confident to perform could increase student availability for learning the practices that are specific to the placement area only. For example, moving and handling training frequently offers one attempt at using a hoist and sling, but repeated practice is required to reduce student anxieties and develop confidence and competence. Equally, exposure to service users and developing practices such as communication skills, taking a social history and completing an initial assessment interview may increase availability to learn about the service users who are specific to the placement area.

9.3.1. Availability for learning – implications for simulation

Simulation may have a role to play in developing availability for learning and can be considered as a potential way of enhancing learning. For example, a wide variety of practices can be developed in an authentic manner using simulation, as is current practice in other healthcare professions (Wheeler and Dippenaar, 2020; Koukourikos *et al.*, 2021; Minns Lowe *et al.*, 2022). Developing students who are practice

confident, such as those shown in *Archetype 2 – Practice confident*, may increase student availability for learning in the remaining categories. The unique core skills of occupational therapists are largely hidden (Turner and Alsop, 2015), involving listening, observation and cognitive practises rather than specific clinical skills, and therefore require the presence of service users. Communication skills lie at the heart of all occupational therapy practices, as assessments and interventions often take place through talking, with the therapist listening carefully for cues and probing specifically for information about a person's occupational behaviours. Another key skill is that of observation, as the therapist analyses how an individual carries out their occupations. Consequently, to enable occupational therapy students to develop their core skills effectively, simulation of practices must involve human participants, often referred to in the literature as simulated patients or standardised patients (Bradley, 2006; Churchouse and McCafferty, 2012; Giles *et al.*, 2014; Haracz, Arrighi and Joyce, 2015; Coleman and McLaughlin, 2019; Health Education England (HEE), 2020a) to ensure fidelity.

The need to utilise simulated patients for simulation in occupational therapy has implications for scheduling that are perhaps more complex than the mannequin simulation available to other professions (Kuduvalli *et al.*, 2008; Springfield, Honnery and Bennett, 2018; Bhalla *et al.*, 2019). Crucially it also has financial implications. Simulated patients have a recurring revenue cost that is different to the capital cost of purchasing mannequin systems. Financial costs will vary depending on the number of simulated patients required, the number of students working through the simulation (and therefore the time required) and simulated patients require breaks between simulations and working breaks that are not experienced by mannequins. Additionally, these recurring costs mean that they cannot be secured with one-off

funding opportunities. The use of drama students to play simulated patients has been explored (Loth and Andersen, 2015), although it is important to ensure that the needs of the drama students in relation to their curriculum is also met and that they are not simply being used as free labour. In addition, there may be challenges related to the authenticity that students can provide relative to the skill level of professional actors, and consequently the fidelity of the simulation. The benefits of using simulated patients is becoming more recognised in other professions, most notably medicine and nursing (Bozkurt, Samia and Gazarian, 2023; Flanagan and Cummings, 2023), and therefore higher education institutions may benefit from working across professions to reduce some of these challenges.

Recommendations arising from understanding the concept of **availability for learning** are therefore as follows:

- Student and practice educators should take deliberate, active steps to increase availability for learning
- Students should organise their life outside of placement to reduce its intrusion on their availability
- Practice educators should support availability by designing the placement experience to reflect the challenges faced by the student of balancing availability between the four categories of learning
- Practice educators should recognise if one category is consuming greater availability for than others and adjust the demands of learning to account for this

- Simulation should be used to develop student learning of practices and therefore increase availability for learning in other categories during the placement

9.4. Learning about oneself as an occupational therapist

A significant part of the first placement learning includes learning about oneself as an occupational therapist, and understanding this may have a powerful effect on students. Whilst it is likely that students expect to learn theory and practice - the 'knowing' and 'doing' of occupational therapy - students may be poorly prepared for the concept and demands of personal change and the transformation of becoming an occupational therapist. This research has added to a small but significant body of knowledge that expresses the personal development, emotional learning or self-learning that students undertake on placement (Baxter, 2006; Healey, 2017; Lalor *et al.*, 2019; Miyamoto *et al.*, 2019; Honey and Penman, 2020). Such personal learning opportunities can, and perhaps need to, be more deliberately relayed to students to enable them to prepare appropriately for their placement by creating time and space for the emotional journey they are about to embark on in order and development the new professional identity of student occupational therapist.

Understanding that students are undergoing significant learning about themselves may enable practice educators to provide an appropriate level of support to students during placement. Anecdotally, practice educators frequently assume that when a student is finding placement difficult, this is in part a reflection of their own failing to provide adequate support and guidance. They may be frustrated that however hard they try to share their knowledge, the student is unable to grasp it, and they subsequently spend increasing amounts of time and effort trying to help their student to learn. Therefore, recognising that the student may be undertaking a journey of

learning about themselves and how they interact with others, manage their emotional responses, and feel about themselves could serve to remove this pressure from Practice Educators. This may in turn provide a better experience for the Practice Educator and impact their willingness to support future students. Consequently, inclusion of the **theory of practice learning** within Practice Educator preparation could improve the placement experience for students and educators alike.

9.4.1. Simulation in relation to learning about oneself as an occupational therapist

It is recognised that a key feature of simulation is authenticity (Bradley, Whittington and Mottram, 2013; Lavoie *et al.*, 2020; Grant *et al.*, 2021). Whilst the concepts of authenticity and realism have been debated in the literature of other professions, occupational therapy literature appears to take a view that authenticity, sometimes referred to as high fidelity (Shea, 2015), means that a situation is reproduced in a manner that makes it feel real to the student, as discussed in *2.2.1 The use of Simulation in Occupational Therapy Education: A Scoping Review* (Grant *et al.*, 2021). In order to achieve this, it should replicate practice as closely as possible. Identifying the **four categories of learning** demonstrates that **learning about oneself**, involving some degree of emotional engagement, is part of placement learning, therefore any simulation should attempt to incorporate this to increase authenticity.

That students are learning about themselves during placement has significant implications for the process of simulation. In the same way that it is not possible to construct an intended learning outcome related to **learning about oneself**, it would be incredibly challenging to construct a simulation intended to develop a student's learning about oneself. However, there are specific aspects of learning about oneself

that should be targeted via simulation, particularly regarding the development of professional identity (Berragan, 2013b). Simulation is unique in that it offers a learning environment that is safer to the student than practice (Gordon *et al.*, 2001), as a wider range of variables can be controlled. This makes it a suitable environment to challenge students' emotional responses. Interactions with simulated patients who have been well prepared for the simulation can be designed to elicit a student's response to shock, distress or discomfort. Whilst there are clearly ethical and moral challenges to deliberately creating such emotional responses in students and student psychological safety must be ensured, (Purva and Nicklin, 2018), risks can be mitigated by ensuring that students know what to expect and consent to participate, as well as being provided with a "time-out" option (Bradley, Whittington and Mottram, 2013) to remove themselves from the simulation if they feel that their response is uncomfortably high, and a comprehensive debriefing session (Shea, 2015; MacKenzie *et al.*, 2018; Walls, Fletcher and Brown, 2019). This pre-knowledge can also give students the opportunity to rehearse different responses so that they can select one which might be most appropriate in the moment.

Creating an appropriately emotionally charged experience with a required emotional response from a student may make a learning opportunity easier to recall (Knowles, Holton and Swanson, 2015) and therefore more effective across all categories of learning, as seen in *Figure 7-2 Relationship between learning about oneself and other categories*. This may go some way to explaining why students find placement such a useful learning opportunity and can therefore be used within a simulated learning environment to increase retention. Simulations must be carefully designed following appropriate guidelines (Association for Simulated Practice in Healthcare, 2016) to ensure physical and psychological safety for students. The deliberate

creation of high-stress or high-emotion simulated environments must be fully explained to enable students to give informed consent to participate and time-out mechanisms allowing students to reflect in-action must be in place (Clapper and Leighton, 2020). Relevance of any such experience to the first placement with mechanisms for feeding back the outcomes of simulated learning to practice educators should also be considered.

Using simulation to challenge students' emotional responses to develop their learning about themselves may provide an appropriate option for those who are not well enough physically or psychologically to manage the unpredictable nature of placement. Students experiencing, for example, exacerbations of pre-existing but generally well-managed mental health conditions may be unable to attend placement. Whilst placements can be deferred until they are well enough, this may mean that students are unable to progress with their peer group to the next level of study. This creates an additional psychological and financial burden as the student needs to find living costs for an additional year of study, as well as re-integrate with a new cohort of classmates, potentially losing existing support networks of peers in the process. For this reason, permitting one carefully developed simulated placement of any length during the programme of study may provide a positive and affirming alternative. Adjustment to the learning and development standards for pre-registration education (RCOT, 2019c), due for revision in 2024, would be required to support this.

It may be possible, through simulation, to increase students' awareness of the likelihood of personal change. The debrief process is considered to be an essential part of simulation and allows and encourages students to reflect on their learning (Mcdougall, 2006; Schreiber, Delbert and Huth, 2020; Shariff, Hatala and Regehr,

2020). Fishbowl-style simulation techniques (Sutherland *et al.*, 2012) allow students to observe and learn from one another's performance as well as their own.

Comparing one's performance in simulation to others may enable students to safely identify aspects of learning that are evident in their peers that they do not recognise in themselves, potentially supporting them to move through the pre-contemplative phase of behaviour change (Prochaska, Diclemente and Norcross, 1992) to enable them to identify necessary changes. The debriefing process, along with student reflective practice, may also be a useful technique for eliciting **learning about oneself** through simulation.

Considering all of the implications of understanding **learning about oneself** as an occupational therapist that have been discussed, it is concluded that incorporating this knowledge into the learning environment may be beneficial to students and practice educators alike. There may be benefits to targeting **learning about oneself** in the form of simulation experiences, particularly in the provision of immediate support available, and some rationale has been provided to the replacement of placement with simulation in specific circumstances to address this category of learning. However, simulation in relation to **learning about oneself** may have greater benefit in preparation for placement than to replace the placement itself. This is reflected in national guidance (HEE, 2020c) and should be taken into account when designing simulation curricula and considering their placement within the student's overall learning journey.

Recommendations arising from **learning about oneself as an occupational therapist** are therefore as follows:

- Personal learning opportunities should be more deliberately relayed to students to enable them to prepare appropriately for their placement
- The impact of student learning about oneself should be considered in relation to students who are struggling on placement and should be included in Practice Educator preparation
- Simulation used for practice replacement should attempt to incorporate the category of learning about oneself
- The debrief phase of any simulation should be used to support students learning about oneself

9.5. Learning about the occupational therapy profession

Understanding that students on placement are **learning about the profession** of occupational therapy is not unexpected given that it is a key learning outcome of practice learning (RCOT, 2016; see 6.2.2). Anecdotally, students and practice educators regularly discuss putting theory into practice as a focus of any placement. However, this learning is often difficult to observe as it is not always reflected in specific actions taken by students. Practice educators frequently ask students to complete a specific piece of work to demonstrate their understanding of the profession, which can add stress to the placement experience and potentially reduce a student's availability to learn as they become worried that they are deflecting time from carrying out the practical aspects of the placement.

Because this category of learning is challenging to observe, it is possible that a student may direct less of their availability towards it. A student who cannot quite yet understand what the boundaries and practices of the profession are may find that they have a more positive experience by focusing their energy and attention on the

practices of the placement, as these are more tangible and may feel easier to learn. Learning about the occupational therapy profession requires deep learning (Marton and Säljö, 1976a), as in order to apply the concepts to practice they must be fully understood and not simply replicated (Kelly *et al.*, 2016). However, students in the classroom may previously have taken a surface learning approach to remembering the component parts of the relevant theories. Arguably, remembering theories can never be the same as understanding, with sufficient depth, the practice of the profession.

Learning about the occupational therapy profession is challenging to observe, therefore students may need to direct more of their availability towards it (see *Figure 7-6 Theory of practice learning*). In practice, students require adequate thinking time to be incorporated into their day. One feature of qualified occupational therapists is their ability to process information and apply professional reasoning rapidly to generate intervention plans (Unsworth, 2001), which students find challenging.

Application of professional reasoning to practice may be achieved by supporting students to take responsibility for carrying out as much of the occupational therapy process as possible, to ensure that the planning and evaluating stages are as important to the student to practice as (for example) the assessment and intervention stages, and to ensure that students can directly relate the meaning of such theoretical constructs to developing and enhancing their practice. Analysis of the relationships between the **categories of learning** (see *Figure 7-1 Integrative diagram showing the relationships between the four categories of learning*) demonstrates that learning about oneself and about service users can facilitate learning about the profession, and that carrying out practices provides a vehicle for such learning, capitalising on the benefits of experiential learning (Kolb, 1984).

Making practice educators aware of this link and encouraging active reflection on learning about the occupational therapy profession as a result of carrying out different practices and working with service users would be beneficial.

9.5.1. Simulation in relation to learning about the occupational therapy profession

Interactions with other health care professionals formed part of learning about the occupational therapy process during this study, with students reporting that they learned from hearing occupational therapists explain their role and also from hearing how other professionals understood, or at times lacked depth of understanding of, the profession. This can be achieved within a multi-professional simulated learning environment, which has been demonstrated to benefit role clarification (Shoemaker *et al.*, 2014; Pitout *et al.*, 2016). However, for a first placement, whilst interprofessional simulation can enable role clarification to occur in a safe and non-threatening environment, lack of knowledge of all students regarding their own and other professions may run the risk of all students developing an over-simplified understanding of professional roles. Therefore, there is a place for simulation-based education in developing interprofessional knowledge prior to the first placement which can be built upon in practice.

Simulated learning opportunities may have a role to play in supporting students to demonstrate the theory-practice relationship by providing an opportunity for trial and error. In the placement setting this can be regarded as unsafe for service users, as a student may (for example) order an inappropriate piece of equipment or refer a service user to an occupational intervention that increases their mental health symptoms. However, in a simulated learning setting students would be able to learn by experiencing what is effective and ineffective. In simulation, an actor playing a

simulated patient can demonstrate to the student that the equipment provided does not enable them to stand from the toilet, without the danger of leaving a service user stuck on the toilet and unable to carry out any further occupations. Likewise, a simulated patient can indicate an increased level of distress and anxiety without actually experiencing these symptoms. In this way, simulation can support students in learning appropriate professional reasoning skills to enable them to select safe and effective interventions, thus preparing them for practice.

Similarly, simulation can provide students with an opportunity to work through the occupational therapy process by utilising different models of practice to enable them to understand how these theoretical constructs work. In practice, this process occurs very quickly in the thoughts of the Practice Educator which makes it difficult for students to observe and replicate (Unsworth, 2001). Simulated learning can provide the slower-paced opportunity to work through the theoretical concepts whilst a simulated service user waits in the form of a 'time-out' (Bradley, Whittington and Mottram, 2013), thus providing students the opportunity to pause and review or perfect their practice. In a practice situation a service user may become frustrated with such a delay, want to engage the student in conversation that prevents them from working through the theory, or become confused by students articulating their theoretical processes. Equally, in busy health care settings there may be pressure for other team members to work with the service user, with the lengthy student process delaying their access to a physiotherapy session, or a consultant's ward round.

Using simulation for students to learn about the profession by taking a simulated patient through the full occupational therapy process may bring benefits seen in role emerging placement settings. These include as understanding of the impact of

occupational therapy on service-user progress, (Morales *et al.*, 2022) understanding the person-environment-occupation relationship (Knightbridge, 2014) and understanding humans as occupational beings (Fieldhouse and Fedden, 2009). These are enhanced within the role emerging setting as the students themselves are guiding and directing the practice. Therefore, a simulated learning experience may be a useful opportunity to develop student learning about the occupational therapy profession.

However, if simulation were used in place of practice education, students would not have the opportunity to learn by observing already-skilled occupational therapists. This could be supplemented by video recordings, but there remains a risk that without the opportunity to ask questions of the therapist in real time, this may result in learning about the occupational therapy profession being reduced to only trial-and-error, rather than being theoretically grounded and evidence-based. In such a situation, it is also possible that theory could be incorrectly applied to practice which may have longer-term implications for service users, even if not evident at the time. The benefits of role-modelling could also be lost, although in contrast, poor working practices may not be replicated. Students in this study reported learning by working out where the theory existed in practice, which requires practice to be observed and would therefore not be replicated by simulation. This may be less of a concern for students who have already experienced one placement setting and observed occupational therapy being carried out but poses risks for attempting to simulate the first placement experience.

Recommendations arising from **learning about the occupational therapy profession** are therefore as follows:

- Students should be supported to take responsibility for carrying out as much of the occupational therapy process as possible.
- Practice educators should encourage active reflection on learning about the occupational therapy profession as a result of carrying out different practices and working with service users.
- Simulation can be used to provide students with opportunities to work through the occupational therapy process and support development of interprofessional knowledge prior to placement.

9.6. Learning of occupational therapy practices

Student **learning about occupational therapy practices**, together with learning about the **occupational therapy profession**, was perhaps an expected outcome of this study due to the emphasis placed on skills by the professional body's entry-level requirements (RCOT, 2016). The original study question, which included the terms skills, knowledge, and behaviours (see section 1.6) demonstrated that there was an expectation of finding that students learned some occupational therapy practices. However, the final category of practices comprises much more than skills, as it also takes into consideration cultural practices, such as which items might be found in the sluice room on a ward, who speaks first in a multidisciplinary meeting and so on.

The relationship between the category of **learning about occupational therapy practices** and learning in the other three categories, in which the practices provide a vehicle for other learning, brings to the forefront the role of **learning about occupational therapy practices** in relation to a student's availability for learning (see *Figure 7-6 Theory of practice learning*). By focusing on the **learning of occupational therapy practices**, it may be possible to provide more opportunity for

learning about the occupational therapy profession, previously identified as a less visible category of learning. It is suggested that the more practices a student carries out, the more opportunity they have to develop their professional identity by thinking about **themselves as an occupational therapist, the occupational therapy profession**, and the **users of occupational therapy services** in their placement setting, as shown in *Figure 7-4 Relationship between learning about practices and other categories*. However, it is equally possible that focusing too much on practices could impede learning in the other categories, particularly if the student is faced with increasingly challenging and complex practices such as managing tone with a stroke survivor or running a group within a school setting. In such challenging situations, the focus is likely to be on developing the practice, thus limiting availability in other areas.

Raising student and practice educator awareness of the relationships between **learning occupational therapy practices** and other aspects of learning may enable the placement to be structured in such a manner as to enable students to attempt more practices, particularly complex ones, under supervision instead of observing the educator doing them. By creating a more expansive learning environment that values a gradual transition to full participation (Fuller, Munro and Rainbird, 2004 p130), students will have increased opportunities to make connections between practice and theory as well as enabling them to remain motivated by staying actively engaged in perceived high-value interactions (Knowles, Holton and Swanson, 2015).

Increasing a student's active participation in carrying out occupational therapy practices can also bring benefits to the practice educator. Earlier and more frequent practice of specific, low-risk occupational therapy practices, such as conducting an initial interview, is likely to lead students to gain competence and capability in this

practice more rapidly. As competence increases, the requirement for the student to be directly supervised whilst carrying them out decreases. This releases the practice educator to focus on other work and may create additional time during the working day for the educator to engage in reflective discussion with the student about the learning that such practice has supported, such as learning about the occupational therapy profession. Providing the student with opportunities to practice low-risk tasks decreases the burden of time that educators report from offering student placements (Beveridge and Pentland, 2020). Reduction of this burden may facilitate greater placement capacity and therefore enable the occupational therapy workforce, currently in shortage (UK Visas & Immigration, 2021), to expand more rapidly.

Practices are often tangible and specific, enabling students to achieve them via surface learning (Biggs and Tang, 2011; Howie and Bagnall, 2013), so a student learning to carry out an initial social history assessment learns only to ask questions that elicit a response that they can enter onto a form. Developing a deeper learning of a practice such as information gathering requires interactions with understanding **oneself as an occupational therapist, the occupational therapy profession, and the service user** and contributes to developing learning within these three categories.

9.6.1. Simulation in relation to learning about occupational therapy practices

Simulation of occupational therapy practices may help to bridge the gap between the potential surface learning of how to carry out the practice and deep learning for understanding that integrates all of the other categories of learning (Berragan, 2013a). The category of **learning about occupational therapy practices** appears to be the most obvious candidate for simulation, as this learning can be broken down into specific tasks that can be readily replicated in simulation. This enables students

to repeat such tasks or practices and therefore develop their confidence. Once a student is confident in their ability to perform the practice, their availability for learning in other areas is increased, as shown in *7.4.2 Archetype 2 – Practice confident*. Simulation may provide the opportunity for students to focus on one task at a time that is relevant to multiple practice areas, such as repeatedly conducting initial social history interviews, or carrying out occupational interviews with simulated patients. By becoming confident in common practices via simulation, the cognitive load (Sweller, 2011) is reduced when carrying out these tasks in practice enabling the student to release availability for learning to other categories.

Learning about occupational therapy practices via simulation may enable students to engage more quickly in carrying out practices on placement. It may also enable practice educators to feel more confident in supporting and enabling students to do so. Whilst individual placement settings will have slightly different approaches, some aspects of practices are universal. For example, students can learn to carry out an initial assessment by using an occupational therapy model of practice to guide their questions and to carry out a social history by being provided with a pro-forma. Although they may be required to adjust the process depending on placement setting, they will be able to develop skills in raising difficult topics with service users, in communicating clearly and ensuring that the service user has understood the question, and in asking the appropriate questions to enable them to understand the service users' usual occupations, identified as a core skill (Turner and Alsop, 2015; RCOT, 2016). All of these skills are transferrable into any practice setting and will provide the student with opportunities to also begin to learn about the service user and consider the role of occupational therapy. Students can also learn about their own abilities and emotional responses as a result of simulated **learning of practices**

and therefore simulating practices can be seen as a positive step towards promoting placement learning. In addition, identifying transferable practices may make the transition into second and subsequent placement easier for students as they develop confidence in these skills.

In terms of **learning about occupational therapy practices**, an authentically created simulation may be suitable to replace placement learning. Carefully developed simulation curricula should target the more universal practices of occupational therapy and the intense relationship between learning of practices and about other categories can provide a vehicle for learning in a safe environment. However, whether simulation of practice is desirable as a placement replacement is multi-factorial and will be discussed at the end of this chapter.

Recommendations arising from **learning about occupational therapy practices** are therefore as follows:

- Students should be active participants in occupational therapy practices from the outset of the placement, rather than observers.
- Care should be taken not to focus on practices at the expense of other learning, but to use practices as a vehicle for other learning
- Simulation should be used to develop students practice confidence

9.7. Learning about users of occupational therapy services

Interactions with service users are a part of placement learning that was widely discussed by students during data collection. Such interactions are unpredictable and cannot be planned out, as the individuals that students are exposed to on placement will vary depending on who requires access to occupational therapy

services in a given location at the time that the placement occurs. Interacting with service users fosters learning about humans as occupational beings, thus facilitating learning about the occupational therapy profession (see *Figure 7-5 Relationship between learning about service users and the other*). Student participants in this research also discussed theoretical learning about health conditions and / or social situations that impacted on service users. This theoretical knowledge could be argued to be part of classroom learning and therefore not vital to placement learning – however within the course of two to three years at university it is not possible to provide theoretical learning about every potential combination of health conditions or social situations. In addition, it is the ‘realness’ of the situation that students understand to impact their learning significantly, as explained by one participant:

that's actually ... real life made an impact to someone (P15)

The sense of having an impact on a person’s real life is a key factor in a student’s move from being an occupational therapy student to being a student occupational therapist. It could be argued that, without this service user contact, the transformation in identity from student to student therapist may not be able to occur, and that students who did not experience impacting on another individual’s life may not leave their placement feeling any differently to the way they entered it.

The need to truly impact on a person’s life may suggest that simulation does not have a role in **learning about service users**. However, learning about health conditions and how they impact individuals may still be achieved outside of the placement setting. Hearing stories from experts by experience can help to provide some of the nuanced understanding of how certain health conditions affect people that are not possible without them (Boylan, Loughrey and Donaghy, 2011). There is

also evidence to suggest that engaging experts by experience in learning and teaching leads to improved quality of life for the service users themselves (Castro *et al.*, 2019), so that integration of service users in university learning situations may serve a dual purpose. It may therefore be possible to begin to increase students' availability for learning in other areas by providing students with interactions with service users who have lived experience of a health condition that the student may encounter on their placement. For example, prior to a placement on an acute stroke unit, the opportunity to interview a stroke survivor may enable the student to begin to make links between theoretical knowledge of the health condition of stroke, and the ways in which it can impact individuals' occupations. Other examples might include meeting with people with severe and enduring mental health conditions prior to a community mental health team placement or visiting with a family of a child with autism spectrum disorder prior to a placement in a special educational needs school. Arranging such opportunities that are directly in line with the placement a student is about to undertake, with sufficient opportunity for repetition to enable the student to begin to fully understand the health condition for an entire cohort of students at the appropriate time is likely to be challenging. In addition, interacting with one service user may lead the student to expect a very narrow view of the potential implications of a health condition that is actually far-reaching. However, blending video and virtual reality experiences to integrate service user stories with simulated scenarios can support students' learning about a variety of health needs and conditions which are later complemented and contextualised during placement.

9.7.1. Simulation in relation to learning about service users

Experts by experience may be able to provide opportunities for students to engage in practicing communication skills and information gathering, however there is a

significant risk of fatigue and potential for mental distress if they are asked to repeatedly re-live their experiences for different students. Without significant additional training and careful management of workload, there is a risk that service users may not feel safe and therefore may withhold information that may support student learning. Boylan, Loughrey and Donaghy (2011) also identified a need for service users to have come to terms with their health condition prior to engaging in teaching, which may make it challenging for some service users to be able to present authentically.

However, there is a difference between hearing a service user's story and interacting with a service user on a personal occupational level. Working in simulated education settings with simulated patients may go some way towards enabling students to develop an understanding of the service user experience and health condition. Actors can be trained to portray specific health conditions authentically and can therefore repeat their portrayal for different individual students, which may be exhausting for a real service user to do. Fidelity can be enhanced by use of the environment, clothing, make-up and moulage (Treadwell and Havenga, 2013) so that the experience, to the student at least, is indistinguishable from a real-life placement experience. Skilled actors will be able to portray a wide range of health conditions and therefore 'become' a variety of simulated patients, but using the same actors may reduce fidelity for students. In addition, the financial cost of engaging sufficient actors to portray a range of simulated patients is not inconsiderable.

Recommendations arising from **learning about people who use occupational therapy services** are therefore as follows:

- Every effort should be taken to ensure that student actions on placement have a real-life impact on the lives of service users
- Simulated patients should be considered an integral part of any occupational therapy simulation
- The integration of experts by experience as simulated patients should be further explored

9.8. Implications for the use of simulation

This study has generated evidence that supports the need for occupational therapists to carefully consider the ways in which simulation is presented, should it form part of the required placement learning hours. The following considerations regarding the use of simulated placement hours are considered following synthesis of the findings and resultant theory with the literature and current practices and professional and regulatory body requirements.

In addition to the recommendations made in the preceding chapter, a number of specific implications for the use of simulation as a replacement placement should be considered. When considering any simulated learning experience intended to replace placement hours, the purpose of the simulation, including which **category of learning** is targeted, should be considered by curriculum designers.

Routine use of simulation should be considered as a viable part of the occupational therapy curriculum as an effective way of preparing students for the first placement experience, by providing repeated opportunities to practice aspects of the occupational therapy process such as information gathering and assessment including occupation analysis. If simulation becomes the norm for preparation, a review of the 1000 hours requirement should then be undertaken. Increased

preparation for practice via simulation may reduce the number of hours students routinely require to meet the graduate entry standards.

It should be noted that the benefits and opportunities provided by simulation are vast and should not be constrained by the amount of practice hours that they are permitted to replace. Higher education institutions should continue to invest in simulation whether or not it is used as placement replacement. Attention should be given by educators and curriculum designers to the practice of assessing simulation for practice replacement, with consideration as to whether such assessment may empower or disempower students on placement. Further research to establish the impact of assessment of simulation on student learning is required.

9.9. Alternative learning environments to simulation

Some categories of learning identified in this study, such as **learning about practices**, lend themselves more readily to simulation than others. The identification of the importance of **learning about oneself** during the placement experience should also be considered within simulation planning and seen as a necessary part of any simulated placement.

Consideration of the students' development of themselves as occupational therapists and the impact of working in real situations on placement in shaping them into student occupational therapists, rather than occupational therapy students, makes it important to consider whether replacing the 'real' interactions experienced on placement with simulated interactions may have an impact on this sense of becoming through doing and being (Wilcock, 1999, 2007). Certainly, the doing may be able to be replicated via simulated learning, taking into consideration the challenges discussed above. However, the importance of making an impact on

another person's life as discussed in *7.1 The core category: becoming a student occupational therapist*. – usually that of a service user – should not be underestimated and cannot be replicated in simulation.

It is clear that the benefits of simulated learning include the ability to tailor the learning experience to student need, rather than expecting the student to generate learning from service user need, thus creating a student-centred learning opportunity (Gover, Loukkola and Peterbauer, 2019). Other opportunities to tailor learning in this way can be generated within a student-led clinic. Student-led facilities harness the benefits both of tailoring the learning environment to the student whilst providing services to real people. Student-led clinics have been demonstrated to be safe and effective learning environments in a range of other professions including nursing, physiotherapy, pharmacy and social work (Bostick and Hall, 2014; Buckley, Vu and Remedios, 2014; Walpola and Schneider, 2018; Niwa and Maclellan, 2021) with fewer studies reporting on interprofessional student-led clinics which include occupational therapy (Kent and Keating, 2013; Coss, Chapman and Fleming, 2021). Rather than simulating practice, providing students with opportunities to develop practice learning in a structured setting specifically designed for the purpose of learning but with 'real' service users can contribute more meaningfully to learning. Such a setting can still be tailored towards the learning experience, however all service users who access the facilities do so in full knowledge that care will be provided by students as part of their learning journey. Longer consultations, greater lengths of time between sessions and slower decision-making may therefore be anticipated and not seen as a barrier to accessing required interventions, as may be the case within NHS services.

Because student-led clinic services are supervised by qualified professionals, and are therefore not simulations but placements, students can still be exposed to the emotional and psychological challenges of practice without risk to service users. Such services may in fact offer more time to practice some skills, resulting in the real service users receiving more input from students and the students having repeated opportunities to practice. It could be argued that student-led services may not be appropriate for a first placement experience as students need to be able to experience an already-established perspective of occupational therapy before developing their own. However, an alternative perspective may be that as a first placement experience, such settings may provide students with well-developed theoretical knowledge the opportunity to apply this theory to practice in their own style, without being influenced by the design of existing services. There may be benefits in developing practitioners of the future who have learnt to act based on their own application of theory to practice, rather than repeating the actions of those currently in practice, but this requires greater exploration and debate.

9.9.1. The purpose of practice learning

In discussing the potential replacement of placement learning with simulated learning it is important to be clear about the purpose of the 1000 hours in practice. The Royal College of Occupational Therapists (RCOT) states that practice learning “facilitates the learner’s formation of their identity as an occupational therapist and develops learners to meet the professional standards for practice and the ethical and professional conduct expectations of the profession” (RCOT, 2019c, p38). The World Federation of Occupational Therapists specifically states that the minimum of 1000 hours exists to “ensure integration of theory to practice” (WFOT, 2016, p49). The 1000 hours must be successfully completed (RCOT, 2019, p39) with any hours

accrued from a failed placement not counting towards the 1000. In addition, RCOT states that all activities, including simulation, must be assessed and passed in order to contribute to the 1000 hours (RCOT, 2019, p15). Limitations are also imposed on students about the number of attempts at placement or other practice-based activities that are permitted, with a placement failed without mitigation only being provided with one re-sit opportunity and students who fail two consecutive first attempts at a placement being withdrawn from their programme of study (RCOT, 2019, p46).

Thomas and Penman (2019) suggest that the purpose of the 1000 hours of practice-based learning is founded not in evidence, but in the apprenticeship model of learning that was prevalent in the late 1950s when the standard was established, in which learners predominantly worked alongside skilled professionals (Berragan, 2013b). It could therefore be suggested that the purpose of the 1000 hours of practice-based learning is unclear, and may be interpreted differently by students, practice educators and university lecturers.

In developing intended learning outcomes against which students are assessed that meet the required level for undergraduate education, it can reasonably be argued that university lecturers anticipate the purpose of attending a placement to be for students to develop their learning. Based on the findings of this study, and on anecdotal evidence from discussions with students over many years both before, during and after the placement has occurred, this view seems to largely be shared by students. However, practice educators do not always concur, and this can be seen when students' and practice educators' perspectives misalign. Some, although not all, practice educators appear to approach the placement with the view that students' attendance in the practice learning environment is to demonstrate what

they have already learned and are able to do. Whilst practice educator respondents in this study did not specifically express this view, it may have been suggested in the difficulties they faced in conveying the learning that students achieved. Practice educator participants tended to focus not on what students learned during placement, but on the performance of students during placement in the form of what they could and could not do, potentially reinforcing the view that the purpose of the placement was not to learn, but to demonstrate learning.

In order to better understand how to maximise student learning on placement, further work is therefore required to establish a shared understanding of the purpose of the 1000 hours in practice-based learning, which can be supported by the data produced in this study about the **four categories of learning** and the interactions between these categories discussed in *7.2 Theoretical integration* (examining relationships between categories). With an improved shared understanding, it will be possible to develop programmes to maximise student learning in the placement environment.

9.9.2. Simulation as an adjunct to practice learning

Designing simulation curricula to replace placement experiences is not the only option. Using this **theory of practice learning**, it is suggested that students who are confident in one or more categories may use their availability for learning in other categories. Previously discussed is that **learning about occupational therapy practices** appears to be the category that lends itself most readily to simulation.

Students who enter the practice learning environment feeling confident in their ability to carry out specific practises may resemble *Archetype 2 – Practice confident*.

All practice hours within occupational therapy must be “successful” to meet the Royal College of Occupational Therapists guidance (RCOT, 2019c, p39). In practice learning, this means that hours accrued on a placement that is not passed do not

count towards the required 1000. Therefore, for simulation to be considered as a replacement for practice learning, it needs to culminate in an assessment process. Using simulation as an adjunct to, rather than a replacement for the placement may remove this requirement, which may make it more appealing to students.

There is a role for simulation in complementing, without necessarily replacing practice (Berragan, Short and Grindrod, 2014). By preparing students better for the practice learning that they are about to undertake, simulation may reduce the perceived demands of placement by increasing students' **availability for learning**.

Within the occupational therapy profession, a wide range of specific practices can be found which will vary depending on the practice learning environment, clinical speciality, service user population and service configuration. It would be unreasonable to suggest that all occupational therapy practices could be learned by students prior to their placement. However, within these practices a number of similarities can also be seen, and this was expressed by participants within this study in *5.3 Learning about occupational therapy practices*. All participants, for example, discussed carrying out information gathering and initial assessment practices. It may be expected that the vast majority of students on a first placement participate in the information gathering stage of the Occupational Therapy process (Duncan, 2021). Simulations that require a student to access a service user's medical notes or referral information before carrying out an initial interview may be used to familiarise students with this practice and can be considered relevant to all students, no matter the intended placement location. Preparing students for placement through simulation may be particularly helpful when the placement area itself is not yet known.

Another practice universally performed within occupational therapy is that of identifying and analysing occupational need (Turner and Alsop, 2015). Extending the simulation designed to replicate the information gathering phase to include occupation analysis would also be relevant to all students as part of preparation for practice. However, this may be best related directly to the practice area in question, as the reasons behind service users' challenges in carrying out occupations and the manner in which they perform them will be different depending on their specific needs.

Use of simulation as an adjunct to placement, rather than a direct replacement, can be predicted to benefit students in a variety of ways. The emotional load of practice learning will be reduced by enabling students to feel better prepared for their placement experience (Wu and Shea 2020), limiting but perhaps not completely alleviating the anxiety about their ability to perform certain practices. If students have completed simulated practice activities to a specified standard, for example by being assessed in the final simulation activity, this may enable practice educators to feel more confident permitting students to participate in and lead these activities earlier in their placement. Early participation in practices can then enable the student to benefit from the facilitatory relationships between **learning occupational therapy practices** and the other **categories of learning**.

There is a risk that being assessed in simulation may potentially be counter-productive, with students' anxiety levels being raised not only by the assessment process but also by the knowledge that on arriving at placement they may be expected to know what to do. Within the sub-category of self-awareness as part of **learning about oneself**, students discussed the desire to be successful and subsequent fear of failure.

I wanted to make sure that, you know, I was dealing with the situation in the right way (P4)

oh no, what if I've done them wrong [...] I'm terrified I'm going to say it wrong (P5).

This fear may be exacerbated by perceived heightened expectations, although psychological research suggests that the opposite is true and high expectations actually lead to higher performance (Rosenthal, 2003). Ensuring that students have the required availability for learning may enable them to cope better with higher expectations. It is also possible that greater preparation via simulation may in fact increase the risk of Practice Educators' perspectives that students attend placement to demonstrate their learning, rather than to learn new skills and practices, thus reducing the desired expansive approach to learning (Fuller, Munro and Rainbird, 2004). Therefore, the potential benefits to students of increased confidence and a faster ability to participate on placement, combined with less **availability for learning** being taken up by the **learning of practices** should be carefully assessed as to whether they sufficiently outweigh these risks. It may be that the risks, which will be different for each student, could be mitigated with careful planning, simulation design and communication with Practice Educators.

Another potential use of simulation as a preparation for practice is to enable students to feel ready for the placement. Timing of the first placement varies between programmes and universities and can sometimes be the result of optimum timing being sought for later placements which prepare students to enter the workplace, rather than being specifically planned at the best time. Student engagement in placement learning is likely to increase if the student feels ready for placement, so

preparing via simulation could help to develop this readiness for students who otherwise find their placement occurring too early in their first year. Additionally, for students who feel that their placement arrives later than they would like, simulation could be used to give them some sense of the reality of occupational therapy earlier in the year.

If students are well-prepared for placement, it could be argued that they may achieve learning more rapidly than students who are under-prepared. This may be somewhat beneficial in enabling student success and decreasing the fail rate on placement, which in turn affects placement capacity, although this cannot be assumed.

However, if students are more successful because they are better prepared, it is necessary once again to consider whether the preparation should count towards the 1000 hours of placement. In such a scenario, a simulation intended as preparation for placement automatically becomes a placement replacement, because the student no longer requires the same number of hours to complete the placement learning due to their enhanced preparation.

It is clear that the subject of simulation to replace placement hours remains complex and cannot be easily addressed. Placements occur within a whole system of other learning and teaching activities, and the number of hours required to achieve a particular level of achievement is somewhat arbitrary and not based in evidence.

Whilst higher education institutions may view simulation as placement replacement to be an exit strategy to the otherwise endless challenges of placement capacity (HEE, 2020b), developing authentic simulation is financially costly. In addition, students and practice educators alike recognise the benefits of placement learning and show no signs of desire to reduce the amount undertaken. The 1000 hours requirement is shared by most other professions regulated by the HCPC, with only

Music Therapy and Speech and Language Therapy requiring significantly fewer hours. The remaining HCPC regulated professions of Paramedics, Operating Department Practitioners and Radiographers do not have requirements but guidance that approximately half of the course duration is spent in practice. This equates to approximately 2300 hours, in line with the requirements of professions regulated by the Nursing and Midwifery Council (NMC) (HEE, 2020b; Nursing and Midwifery Council, 2023). As stated by one student and reiterated by many participants in this study:

[placement] it's absolutely essential (P2).

9.10. Simulation as a means of making up hours

One further potential use for simulation in terms of replacing placement hours was alluded to when discussing the implications of **learning about oneself** on placement. It is not uncommon for students to miss out on intended placement hours due to ill health, acts of nature such as snow or flooding making it impossible to travel to the placement location, or placement-specific challenges that may restrict their attendance, such as schools closing for half-term during the placement block. Whilst it is possible for students to complete placement-related work to retrieve these hours, this is not always practical or desirable. For example, for a student whose greatest challenge on placement is communicating with service users, perhaps as a result of their learning being self-focused as with *7.4.1 Student Archetype 1 – Learning focused* on the benefit of carrying out a piece of placement-related work centred around professional reasoning does not target the required areas of **learning about practices** or **learning about service users**. In such situations, there may be a role for simulation being made available for students to retrieve the lost hours.

It is also possible that, should a student become unwell towards the end of their placement and need to be absent, for example, on the Wednesday and Thursday of the final week, there will simply not be sufficient time left to make back hours.

Assuming that this student was on course to pass, they would be expected to return to carry out the final assessment on the Friday. They may not have lost new learning time, but rather time for consolidation and demonstration of learning. If the student is expected to attend scheduled lectures the following week, or the Practice Educator has holiday booked, or the service is closing down for Christmas, it may not be practical to extend the placement. At present, pre-registration courses currently need to build in sufficient hours over the required 1000 to act as a “buffer” in such cases. This means that most students are offered well over the required minimum hours.

Providing more hours than are strictly required will impact on national placement capacity. Within the four nations of the UK in 2019-20, the last year for which figures are freely available, there were 67 pre-registration programmes totalling 2852 learners (RCOT, 2022). Programme numbers have since risen to 98 (RCOT, 2023) and therefore an estimate is made that current learner numbers will have risen to approximately 4,000. With each student requiring 1000 hours of practice, this equates to 4,000,000 hours of placement capacity required. If each student is also provided with “buffer” hours equating to 0.5%, or 20 hours, an additional 80,000 placement hours are required. These hours are the equivalent to the full placement requirement of 80 additional students. Given the challenge that currently exists in terms of sourcing adequate numbers of placement opportunities (RCOT, 2021a), steps should be taken to minimise wasting these hours by restricting hours above the 1000 required. Simulation for the replacement of lost placement hours could therefore be an appropriate solution, with learning able to be tailored towards the

student's particular learning needs. Some challenge in how to ensure that these hours are able to be measured as "successful" exists. This may be better achieved by considering ways of denoting simulations as unsuccessful, as some level of student learning during such simulations is almost guaranteed. The facility for the simulation provider to declare that a student performed in a manner that was unprofessional and / or unsafe even after feedback and opportunities to adjust practice may be sufficient. Any such use of simulation would need to be supported by the professional body to ensure parity and consistency of application.

Therefore, awarding bodies could consider permitting one carefully developed simulated placement of any length during the programme of study to support students with mental health needs, replace hours missed due to illness, industrial action, inclement weather and so on.

9.11. Using the four categories of learning to guide supervision

Supervision is commonly used in occupational therapy practice learning to facilitate student reflection (RCOT, 2015), with one hour per week in which students discuss with their Practice Educator what has gone well, what has been more challenging and what plans they want and need to make for the upcoming placement week expected as the norm. Understanding the interactions and relationships between the **four categories of learning** as shown in *Figure 7-1 Integrative diagram showing the relationships between the four categories of learning*, and the opportunity for students and practice educators to direct **availability for learning** towards one or more categories by decreasing the demands of others, may be used to guide reflective discussions. Using the **theory of learner availability in practice** to guide supervision may enable students and educators to spend time focusing on the

learning that has occurred and how this has been achieved, with a view to building on successful learning practices.

Rather than the supervision practice of focusing on what has gone well and what could be improved which is regularly reported by students, students and educators can consider the learning that has taken place in each of the four categories. They can reflect together on what the student found easier or more challenging to learn and consider the balance of student learning between the four categories. They can actively discuss a student's self-perception of their availability for learning, and which categories are currently taking up this availability, so that the educator can support them in identifying learning activities that will allow them to maximise the relational benefits and learn in other categories as well. They can also consider the impact that the student's learning about themselves is having on their placement experience.

For example, a student who feels that they are focusing all of their time on understanding the occupational therapy process may be directed to consider which service-user specific factors are impacting on the assessment phase of the process. Conversely, a student who is focusing on their communication skills and fitting into the team might be instructed to consider how these impact on the opportunities they have to practice physical moving and handling skills. This student-specific supervision model may offer a beneficial adjustment from current practice, which is often an adaptation of supervision models aimed at qualified practitioners (RCOT, 2015). Its development for this purpose lies outside of the remit of this thesis and requires further research.

9.12. Conclusion

This chapter has presented discussion surrounding the implications of **the theory of learner availability in practice** that leads to a series of recommendations. The core category of **becoming a student occupational therapist** was considered in relation to the individual change in professional identity that students undergo during their first practice placement. The concept of **availability for learning** was considered, with reference to students and practice educators ability to use such knowledge to adjust activities on placement to maximise learning for students across each of the **four categories of learning**, potentially directing availability to where the learning need is greatest. Implications of understanding about the **four categories of learning** were discussed in turn, with consideration for each category of how the placement may be adjusted to facilitate learning and where simulation may be of value. A wider discussion regarding the contribution of simulation to learning ensued and a different type of placement that could offer some of the benefits of simulated placements was suggested in the form of student-led clinic environments. The purpose of practice learning was explored, leading to a recommendation that simulation may be better used as an adjunct to, rather than a replacement for, practice learning on placement. The potential benefits of simulation as an adjunct were discussed, and a potential, specific role for simulation considered. Finally, the application of the **theory of learner availability in practice** was considered as a model for supervision. It is concluded that students, practice educators and academics should actively apply the theory of practice learning to their placement education.

Chapter 10 Limitations, Recommendations and Conclusion

This chapter will commence by reviewing the research question before considering the potential limitations of this study, with reference to efforts taken to mitigate these and resultant strengths of the study. Recommendations both for practice and further research will be made and conclusions drawn.

10.1. Research question, aims and objectives

This study set out to consider the potential role of simulation as a replacement for the first practice learning placements for occupational therapy students. The research commenced by achieving one early research objective: to explore the current literature on prevalence and relevance of simulation within Occupational Therapy pre-registration education (see 3.3). This literature review published as Grant T, Thomas Y, Gossman P, Berragan L. The use of simulation in occupational therapy education: A scoping review. *Australian Occupational Therapy Journal* 2021 Aug;68(4):345-356 [doi: 10.1111/1440-1630.12726](https://doi.org/10.1111/1440-1630.12726). Epub 2021 Mar 9 (see 2.2.1 and *Chapter 11 Appendix C*), enabled the development of understanding of what simulation means in the occupational therapy profession and identified its sparse and inconsistent current use as a teaching medium across the globe.

As a result of the research journey shown in *Figure 1-1 Project Storyline*, repeated below for convenience, it was established that to design a simulation curriculum to replace a placement, it was first necessary to understand what students learn during that placement.

The research question posed was: *What skills, knowledge and behaviours do Occupational Therapy students learn during early exposure to practice in the course*

of their first assessed placement? (See section 3.3). In meeting the research aim to seek to understand what students and Practice Educators (PEs) at one UK university believe is learned by pre-registration Occupational Therapy students within their first practice education placement, the research objectives of exploring the learning experience of first year students during their first placement and exploring practice educators' perceptions of students' learning during their first placement were met through individual interviews.

In answering the research question, this research has established that student learning on placement is not limited to skills, knowledge, and behaviours, which do not reflect the learning that students themselves deem to be important.

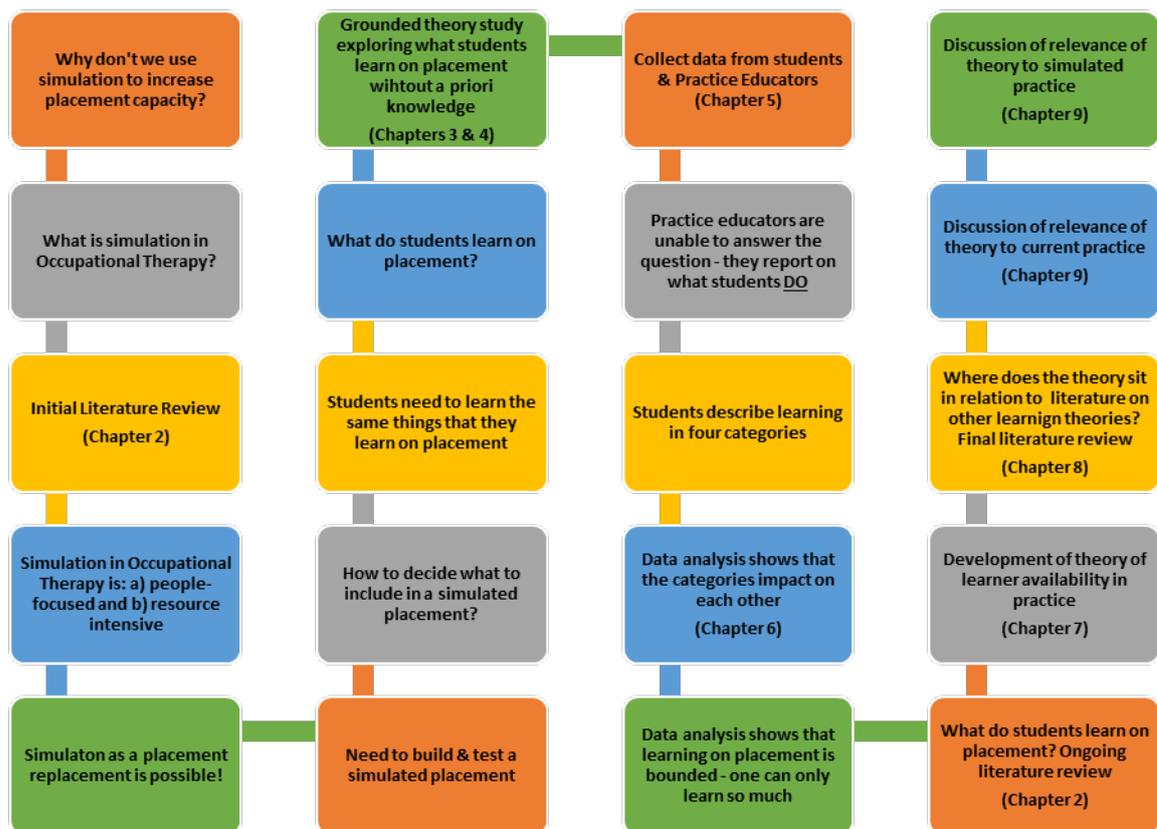


Figure 10-1 Project Storyline (1-1 Repeated)

Rather, students on their first placement are undergoing transformative learning (Mezirow, 1997) that enables them to develop professional identity and **become a student occupational therapist**. The learning occurs within four categories of **learning about oneself as an occupational therapist, learning about the occupational therapy profession, learning about occupational therapy practices, and learning about users of occupational therapy services**.

10.2. Contribution to knowledge

The subsequent aim *to develop a theory of practice learning that explains what and how students learn during their first practice education placement* was achieved by partially completing the objective *to synthesise data from the above sources to produce a theory which seeks to explain what is learnt during the first placement, in order to guide the development of simulation and / or simulated placements within Occupational Therapy*. The resulting **theory of practice learning** contributes to knowledge by identifying the concept of **availability for learning** and theorises that student learning in the four categories of **learning about oneself as an occupational therapist, learning about the occupational therapy profession, learning about occupational therapy practices, and learning about users of occupational therapy services** is achieved according to the student's availability. Availability for learning is presented as a finite concept that exists within the boundaries of the placement itself and is impacted by the amount of learning a student needs to do in each of the **four categories**. Consideration of **availability for learning** may help students and practice educators to target learning where it is most required by acknowledging, and where possible reducing, the demands in other categories.

The final research aim, to consider the feasibility of replacement of a proportion of practice education placements with simulated placements in light of the newly developed theory, has been addressed by considering the impact simulation can have on each **category of learning** and how this will influence a student's **availability for learning**.

10.3. Limitations

As with any research study, limitations apply to this work which should be taken into consideration when making recommendations and drawing conclusions. As a doctoral research study, it is appropriate to reflect on the potential limitations of all aspects of the study being carried out by a sole researcher. To limit the impact of this risk and improve credibility, stringent use was made of the doctoral supervision process. During regular monthly meetings the researcher explained, justified and was challenged about decisions made relating to data analysis, theory development and all aspects of the research process. In addition, the researcher undertook extensive reflexive analysis throughout the doctoral journey by writing a research journal to ensure rigour. These processes permitted data analysis and theory generation to be carried out with confidence that due consideration had been given to all aspects, enhancing the quality of the study. For example, a small number of transcripts with analytical coding were shared with the supervisory team, rationale behind the development of early codes and categories were discussed within supervision, and the finalisation of the **four categories of learning** provided in a variety of formats (written and diagrammatical) to supervisors. Throughout this process, supervisors asked questions to clarify their own understanding of data analysis which in turn enabled the researcher to develop confidence in interpretation. At least four illustrations representing the final theory were provided, with supervisors

expressing their understanding of each, before the researcher settled on the final theory diagram. Likewise, diagrammatical representation of the student archetypes was adjusted and adapted following feedback from supervisors to ensure that they both represented the researcher's intention and were clear and easy to understand. The reflexive process of memoing central to grounded theory methodology (Corbin and Strauss, 2015) was adhered to, providing a record of both analysis and decision making (Birks and Mills, 2012), facilitating supervision discussion. One supervision discussion centred almost entirely around memo on data 10 (below) in which the researcher had begun to question what learning is and how this was represented in the data.

Having begun to review & compare data (past constant comparison & into I think retro comparison) I have identified a first pass at the concept of learning. Along with skill, knowledge & behaviour, I've identified thinking process – as this seems to be different to acquiring either knowledge or skill. It seems that the thinking process is universal amongst students no matter what skills, knowledge & behaviours they did or didn't acquire. It encompasses activities like "trying to understand" as an active process, even if mastery wasn't achieved, and includes more processes such as discussing and questioning. There appears to be a link between thinking processes & skills which is to do with how students acquire skills. They discuss feedback and modelling (of others) and the skill of problem solving, which could be said to be a thinking process in its own right....

Within all of this there is something about availability for learning – the combination of the individual factors, support networks & exposure to certain

experiences that enables students to learn from the placement itself. P3 talked about the ability to make sense of & learn about theory in practice - showing fairly advanced understanding of occupational therapy models and how although they were not overtly used, they could see that the structure was incorporated into what was happening – and identified that they felt this was only possible because they didn't need to expend energy on professional behaviours & communication skills. This was then repeated by P5 in yesterday's interview (not yet coded) who discussed their own health needs and how important it was that they weren't worried that people would think they were being lazy or didn't care, because they knew about their health conditions. This gave the student the ability to focus on learning and identifying which aspects of OT process they were observing. (Memo D10)

The resulting discussion, recorded in supervision records, assisted in developing the concept of **availability for learning** which ended up as the basis for the resulting theory.

The decision to take a pragmatist approach, rather than follow one of the more common schools of grounded theory methodology, could also be seen as a limitation. Using a well-known and well-established version, such as classic grounded theory (Glaser and Strauss, 1967; Glaser, 2010; Gibson and Hartman, 2014) or constructivist grounded theory (Charmaz, 2014) may have been more easily followed, as procedures and processes for these forms of grounded theory are clearly articulated by prevalent and for the most part current authors. However, prevalence in itself does not lead to quality and there also exist a number of authors proposing a more eclectic approach to grounded theory so long as the core components are followed (Birks and Mills, 2012; Urquhart, 2013; Bryant, 2019b;

Chun Tie, Birks and Francis, 2019). A pragmatist approach to grounded theory has been proposed and used by a number of authors (Strübing, 2007; Corbin and Strauss, 2015; Morgan, 2020) and is based in the work of one of the originators of the methodology. As such, this study joins a growing body of grounded theories that follow neither classic nor constructivist forms of GTM but are collectively referred to as evolved grounded theories more closely connected with the work of Strauss than of Glaser (Mills, Bonner and Francis, 2006).

Limitations could reasonably be found in the focused participant group. This study was conducted with occupational therapy students and practice educators from one university in the UK's West Midlands following their first placement. As such, the possibility exists that including participants from a wider geographical location may have enhanced the findings. To some extent, this has been addressed within the context of similar findings from a study that took place in Australia and also included students who were later in their studies reflecting back on their first placement (Honey and Penman, 2020). Further studies with participants from different universities and / or different professional groups can be undertaken in the future to explore whether the findings and resultant theory can be considered to apply in a range of contexts.

Consideration may also be given, in terms of limitations, to the power dynamic between students and researcher which was discussed in *Chapter 1* and may have influenced both student and practice educator participation. The requirement for participants within a sample to self-select may influence findings and therefore strengthens the recommendation for further research as suggested above.

Similarly, the timing of the research in relation to the Covid-19 pandemic may be considered to have limited transferability of findings. The placements undertaken by one of the cohorts interviewed were delivered in a slightly different manner than usual, with undergraduate placements having an increased project component which would have reduced the students face to face contact time with the practice educator and service users as a result of limited placement availability due to national lockdowns (Frenk *et al.*, 2022; Thomas *et al.*, 2023). However, placement duration is not universal and whilst the participants experienced a different placement than other cohorts at their university, the learning requirements of the placement were unchanged, and postgraduate placements were not significantly affected as lockdown rules had lifted by this time. The practices of the time in relation to wearing of personal protective equipment may have led students to discuss certain practices such as communication in more detail than might otherwise have been noted; however, this was not identified as particularly prevalent during data analysis. Further studies following the end of Covid-19 restrictions in the UK would be beneficial.

10.4. Recommendations for further research

This study has been conducted with, and focused on, the learning that occupational therapy students experience during their first assessed practice placement. The resultant theory can arguably be applied in practice to students at different points in their learning journey and to students of other health and social care professions on placement. However, there is a need to explore the experiences of these student populations in more depth to ascertain the degree of equivalence in experiences between professions. Additionally, the growing evidence base in relation to simulation in occupational therapy education remains small. Further research

exploring its effectiveness continues to be required. Therefore, the following recommendations for further research within occupational therapy and within other health and care professions are suggested.

- Exploration of the applicability of the **theory of practice learning** to occupational therapy students on placement at all stages of study should be undertaken in order to verify the theory's suitability for use in placement regardless of level.
- The applicability of the **theory of practice learning** to students of other health and social care professions should be explored. Such work would allow the theory to be expanded to support educators of other student professionals in their understanding of and support for student learning on placement.
- Exploration of the applicability of the **theory of practice learning** to other students who undertake practice learning, such as student teachers, would enhance the credibility of the theory as a substantive theory of learning irrespective of profession. If applicable, this would enable educators of other student groups to better understand the learning experienced during placements and therefore better support all such students.
- Exploration of the impact on student learning of preparation for practice using simulated learning experiences should be undertaken in order to establish best practices in preparing students for practice learning.
- Continued exploration of the equivalence, inferiority or superiority of simulated placements when compared with traditional placements needs to be undertaken. If equivalence is ascertained, resource implications can then be considered in establishing best practice.

- Continued exploration of the features of simulated placements that increase or decrease efficacy of student learning is required to enable simulation to be considered where it offers maximum learning value.
- The **theory of practice learning** should be trialled as a supervision tool and its effectiveness evaluated. If deemed effective, its use as a student-specific supervision model may be a beneficial adjustment from current practice, which is often an adaptation of supervision models aimed at qualified practitioners (RCOT, 2015).

10.5. Reflection on the process

This section will return to first person to allow for personal reflection on the process of doctoral study.

I began the process of doctoral study slightly naïvely, and with no real expectations of what I could or would achieve. Two factors underpinned the decision to register, the first of which was the desire to improve as a researcher which I hoped would, in turn, make me a better research supervisor for undergraduate students. This recognised my internal sense of not being skilled enough for the standard academic contract on which I had been employed, and demonstrated my long-term relationship with imposter syndrome (Clance and Imes, 1978). The second influencing factor was the realisation that it was not within my personality to find a topic that would continue to draw my interest and excite me for six or seven years. This latter understanding enabled me to select a research topic that was interesting and associated with my daily work as a lecturer without creating the type of passion that would cause me to have fixed ideas. Therefore the topic, influenced by one statement that there was “no

appetite for simulation” at the Royal College of Occupational Therapists national conference (RCOT, 2019b) permitted me to be flexible in my thinking.

I found this to be of particular benefit as I moved through the first year. I was consistently challenged in supervisory meetings, and the lack of specific emotional attachment to the research subject permitted me to reframe and revisit my ideas, eventually leading to a research question and methodology that I felt would enable me to make an original contribution to knowledge. Involvement with a support group of my peers enabled me to observe the benefits of my openness to change where I saw other students struggle to accept suggestions and revisions. My research diary in December 2019 notes:

Supervision seems to be less gaining reassurance, and more being asked and asking questions! I really enjoy the process of talking out loud about things as it is a positive way for me to generate ideas. (Diary entry December 2019)

At no point in the decision-making process did I consider seeking publication as I progressed with my studies. However, the scaffolding of the Postgraduate Certificate in Research which is built into doctoral study at the university required a piece of work which achieved a strong grade and would go on to form the basis of my first publication, presented in *2.2.1 The use of Simulation in Occupational Therapy Education: A Scoping Review*. Having been encouraged by my director of studies to publish this work, I found the process of revision after revision emotionally draining which significantly challenged my sense of confidence in myself. I have long since experienced a contradictory sense of both not being good enough and the confidence that if I work hard enough at something, I will be successful,

characterised as a specific part of imposter syndrome (Clance and Imes, 1978) known as “the superperson” (Young, 2011). This became stronger whilst seeking publication as each revision I made appeared to be met with a call for even more amendments. However the achievement of publication and more specifically the realisation in the form of citations, including by my professional body (RCOT, 2021a) that the work was valued by others provided the validation that I had previously lacked. In turn, I developed an intrinsic motivation to share my work and I became able to develop confidence in myself and my abilities.

My confidence was shaken again when having written my second publication, this time sharing the four categories of learning (Grant *et al.*, 2023), I began to feel that what I had learned during this research project – and specifically the theory that I was at that time developing – was surely obvious to everyone and therefore could not possibly contribute to advancing knowledge. Reassurance from the supervisory team and from colleagues who had successfully completed their PhD studies recently helped me to recognise this as normal, and I allowed my “superperson” to take over at this stage and resigned myself to the fact that if I kept working, all would be well.

More than anything my journey through doctoral study has enabled me to **learn about myself**, whilst learning about the experiences of the students I work with. I have been able to apply the concept of **learner availability** to myself as a research student and recognise that personal factors have impacted on my availability for doctoral learning in the form of progression with my research and thesis. This understanding has enabled me to continue to make progress even when not able to actively study, as I have become more able to allow myself to ‘sit with’ and process ideas that challenge me, to which I would previously have sought a resolution. Being

comfortable with not knowing and realising that in time I would be able to process and turn this to knowledge, has been a key factor in my research journey.

10.6. Concluding remarks

This study has established what students learn during their first practice placement and has addressed the issue of simulation as a replacement for practice learning in occupational therapy education. The existing literature in relation to simulation in occupational therapy education was reviewed prior to designing the study, and identified that whilst students value simulation, there is no consensus within the profession about what constitutes simulation, nor about its effectiveness. To consider the role of simulation, it was first necessary to understand exactly what students learn during their first practice placement. This study answered the research question *What skills, knowledge and behaviours do Occupational Therapy students learn during early exposure to practice in the course of their first assessed placement?* Students were interviewed about their first placement experiences and the findings analysed using grounded theory methodology including constant comparison. The concepts of skills, knowledge and behaviours were found not to be reported by participants, who instead discussed what they learned within four categories of learning. Relationships between these four categories of learning were analysed and abstracted to develop a theory of learner availability which suggests that learning between these categories is symbiotic, and that learner availability is a finite resource that can be recognised by both student and educator and managed accordingly. Paying attention to the student's individual requirements may explain why students find learning in some categories more challenging than learning in others and raising student and educator awareness of this may enable learning activities on placement to be structured in a way that increases learner availability.

As part of the process of theory development, initial findings from the study were analysed in relation to existing studies of occupational therapy student learning on placement. Congruence was demonstrated between the **four categories of learning** and the existing evidence base. Following this, findings were analysed and discussed in relation to extant learning theories to explain both the learning identified and the concept of availability for learning.

A **theory of practice learning** was developed that explains how the concept of **availability for learning** within the bounded time, space and place of a placement is finite and enables learning within the four categories to take place. The theory explains that each category of learning impacts on the others and if students are working hard to achieve learning in one category this will limit the availability they have for learning in the remaining categories.

Implications of the **theory of practice learning** were considered in relation to existing practice, with suggestions made for students, practice educators and academics to enhance the placement learning experience in light of this new knowledge. Implications of the theory were then considered in relation to the use of simulation in occupational therapy education, both in terms of simulated placements to replace placement hours and other uses of simulation within the curriculum.

Finally, recommendations for future practice and research were made based on the findings and resultant theory. The theory of learning developed from this study is the first theory to explain what and how students learn on their first occupational therapy practice placement. Including this theory in the education of students, academics and Practice Educators will enable students to maximise their learning on placement to enhance occupational therapy practice.

Chapter 11 References

Agarwal, S., Charlesworth, M. and Elrakhawy, M. (2023) 'How to write a narrative review', *Anaesthesia*, pp. 1162–1166. Available at:

<https://doi.org/10.1111/anae.16016> (Accessed: 12/08/23).

Ahmad, S.M. and Irwan, A.M. (2022) 'Clinical Simulation of Complementary Therapy in Nursing Education: An Integrative Review', *Africa Journal of Nursing and Midwifery*, 24(2). Available at: <https://doi.org/10.25159/2520-5293/11830> (Accessed: 12/08/23).

Allen, L., O'Connell, A. and Kiermer, V. (2019) 'How can we ensure visibility and diversity in research contributions? How the Contributor Role Taxonomy (CRediT) is helping the shift from authorship to contributorship', *Learned Publishing*, 32(1), pp. 71–74. Available at: <https://doi.org/10.1002/leap.1210> (Accessed: 26/02/23).

Allen, L.M. *et al.* (2020) 'Applying a social theory of learning to explain the possible impacts of continuing professional development (CPD) programs', *Medical Teacher*, 42(10), pp. 1140–1147. Available at: <https://doi.org/10.1080/0142159X.2020.1795097> (Accessed: 20/11/22).

Anderson, L.W. *et al.* (2001) *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Available at: <https://www.uky.edu/~rsand1/china2018/texts/Anderson-Krathwohl - A taxonomy for learning teaching and assessing.pdf> (Accessed: 01/05/21).

Archibald, M.M. *et al.* (2019) 'Using Zoom Videoconferencing for Qualitative Data Collection: Perceptions and Experiences of Researchers and Participants', *International Journal of Qualitative Methods*, 18, pp. 1–8. Available at:

<https://doi.org/10.1177/1609406919874596> (Accessed: 29/10/21).

Arksey, H. and O'Malley, L. (2005) 'Scoping studies: Towards a methodological framework', *International Journal of Social Research Methodology: Theory and Practice*, 8(1), pp. 19–32. Available at:

<https://doi.org/10.1080/1364557032000119616> (Accessed: 15/08/20).

Association for Simulated Practice in Healthcare (2016) *Simulation-Based Education in Healthcare, Standards Framework and Guidance*. Available at:

<http://aspnh.org.uk/wp-content/uploads/2017/07/standards-framework.pdf> (Accessed: 16/10/23).

Aubrey, K. and Riley, A. (2022) *Understanding and using educational theories*. 3rd edn. London: SAGE Publications, Ltd (UK).

Aveyard, H. and Sharp, P. (2013) 'How do I find relevant evidence to support my practice and learning?' in *A beginner's guide to evidence-based practice in health and social care*. Milton Keynes: McGraw-Hill Education, pp. 86–108.

Baddeley, A.D. and Hitch, G. (1974) 'Working Memory', in G.A. Bower (ed.) *The psychology of learning and motivation : advances in research and theory*. New York: Academic Press, pp. 47–89.

Baethge, C., Goldbeck-Wood, S. and Mertens, S. (2019) 'SANRA—a scale for the quality assessment of narrative review articles', *Research Integrity and Peer Review*, 4(1), pp. 2–8. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6434870/> (Accessed: 12/08/23).

Bandura, A. (1977) *Social Learning Theory*. London: Prentice-Hall International.

Barker, A., Kinsella, E.A. and Bossers, A. (2010) 'Learning in international practice

placement education: A grounded theory study', *British Journal of Occupational Therapy*, 73(1), pp. 29–37. Available at:

<https://doi.org/10.4276/030802210X12629548272709> (Accessed: 05/02/23).

Bates, B. (2016) *Learning theories simplified and how to apply them to teaching*. London: SAGE Publications, Ltd. (UK).

Baxter, T.A. (2006) *The realities of practice placement: learning from the experiences of occupational therapy students*, EdD Thesis, University of Sheffield.

Available at:

http://search.proquest.com.libraryproxy.griffith.edu.au/docview/301652770?accountid=14543%0Ahttp://hy8fy9jj4b.search.serialssolutions.com?ctx_ver=Z39.88-

2004&ctx_enc=info:ofi/enc:UTF-

8&rft_id=info:sid/ProQuest+Dissertations+%26+Theses+Global&rft_val_fmt=i

(Accessed: 05/02/23).

Beltran, R.O. *et al.* (2007) 'The effect of first year mental health fieldwork on attitudes of occupational therapy students towards people with mental illness', *Australian Occupational Therapy Journal*, 54(1), pp. 42–48. Available at:

<https://doi.org/10.1111/j.1440-1630.2006.00619.x> (Accessed: 05/04/22).

Benner, P. (2010) *Educating Nurses: A call for radical transformation*. Jossey-Bass.

Bennett, S. *et al.* (2017) 'Simulation in Occupational Therapy Curricula: A literature review', *Australian Occupational Therapy Journal*, 64(4), pp. 314–327. Available at:

<https://doi.org/10.1111/1440-1630.12372> (Accessed: 13/10/19).

BERA (2018) "Ethical Guidelines for Educational Research - 4th Ed," *British Educational Research Association* [Preprint].

Berni, R. and Nicholson, C. (1974) 'The POR as a Tool in Rehabilitation and Patient Teaching', *Nursing Clinics of North America*, 9(2). Available at: <https://www-sciencedirect-com.apollo.worc.ac.uk/sdfe/pdf/download/eid/1-s2.0-S0029646522031760/first-page-pdf> (Accessed: 21/03/23).

Berragan, L. (2011) 'Simulation: An effective pedagogical approach for nursing?', *Nurse Education Today*, 31(7), pp. 660–663. Available at: <https://doi.org/10.1016/j.nedt.2011.01.019> (Accessed: 23/11/19).

Berragan, L. (2013a) 'Conceptualising learning through simulation: An expansive approach for professional and personal learning', *Nurse Education in Practice*, 13(4), pp. 250–255. Available at: <https://doi.org/10.1016/j.nepr.2013.01.004> (Accessed: 28/05/23).

Berragan, L. (2013b) *Learning nursing through simulation : towards an expansive model of learning*. University of the West of England. Available at: <http://eprints.uwe.ac.uk/20107/> (Accessed: 03/10/20).

Berragan, L., Short, H. and Grindrod, E. (2014) 'Learning through simulation', *Nursing Standard* 29(4), p. 71 (Accessed: 08/11/19).

Bethea, D.P., Castillo, D.C. and Harvison, N. (2014) 'Use of simulation in occupational therapy education: Way of the future?', *American Journal of Occupational Therapy*, 68 (S2), pp. S32–S39. Available at: <https://doi.org/10.5014/ajot.2014.012716> (Accessed: 09/07/19).

Beveridge, J. and Pentland, D. (2020) 'A mapping review of models of practice education in allied health and social care professions', *British Journal of Occupational Therapy*, 83(8), pp. 485–544. Available at: <https://doi.org/10.1177/0308022620904325> (Accessed: 07/04/20).

Bhalla, S. *et al.* (2019) 'Simulation-based ENT induction: Validation of a novel mannequin training model', *Journal of Laryngology and Otology*, pp. 1–7. Available at: <https://doi.org/10.1017/S0022215119002639> (Accessed: 08/02/20).

Biggs, J. and Tang, C. (2011) *Teaching for Quality Learning at University*. Maidenhead, England: Open University Press.

Birks, M. and Mills, J. (2012) *Grounded Theory - A practical guide*. London: SAGE Publications, Ltd (UK).

Bland, A.J., Topping, A. and Wood, B. (2011) 'A concept analysis of simulation as a learning strategy in the education of undergraduate nursing students', *Nurse Education Today*, 31(7), pp. 664–670. Available at: <https://doi.org/10.1016/j.nedt.2010.10.013> (Accessed: 21/03/20).

Bloom, B. (1956) *Taxonomy of educational objectives: Cognitive domain / the classification of educational goals*. David McKay Company, Inc.

Bossers, A. *et al.* (1997) 'Understanding the role - emerging fieldwork placement', *Canadian Journal of Occupational Therapy*, 64(1), pp. 70–81 (Accessed: 07/10/23).

Bostick, G. and Hall, M. (2014) 'Out-patients: Novel clinical learning from a student-led clinic', *The Clinical Teacher*, 11, pp. 512–515. Available at: <https://doi.org/10.1111/tct.12214> (Accessed: 02/04/23).

Boud, D. and Falchikov, N. (2006) 'Aligning assessment with long term learning', *Assessment & Evaluation in Higher Education*, 31(4), pp. 399–413. Available at: <http://www.tandfonline.com.proxy.worc.ac.uk/doi/pdf/10.1080/02602930600679050?needAccess=true> (Accessed: 20/04/17).

Bowen-Withington, J. *et al.* (2020) 'Integration of high-fidelity simulation into

undergraduate nursing education in aotearoa New Zealand and Australia: An integrative literature review', *Nursing Praxis in Aotearoa New Zealand*, 36(3), pp. 37–50. Available at: <https://doi.org/10.36951/27034542.2020.013> (Accessed: 12/08/23).

Boylan, O., Loughrey, C. and Donaghy, F. (2011) 'Learning from the expert patient's voice: Implications for training', *Education for Primary Care*, 22(3), pp. 140–143. Available at: <https://doi.org/10.1080/14739879.2011.11493987> (Accessed: 02/04/23).

Bozkurt, S.A., Samia, R. and Gazarian, P.K. (2023) 'Using Standardized Patient Simulation in Undergraduate Nursing Education: A Scoping Review', *Clinical Simulation in Nursing*, 74, pp. 3–18. Available at: <https://doi.org/10.1016/j.ecns.2022.10.003> (Accessed: 12/08/23).

Bradley, G., Whittington, S. and Mottram, P. (2013) 'Enhancing occupational therapy education through simulation', *British Journal of Occupational Therapists*, 76(1), pp. 43–46. Available at: <https://doi.org/10.4276/030802213X13576469254775> (Accessed: 20/08/19).

Bradley, P. (2006) 'The history of simulation in medical education and possible future directions', *Medical Education*, 40(3), pp. 254–262. Available at: <https://doi.org/10.1111/j.1365-2929.2006.02394.x> (Accessed: 08/02/20).

Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), pp. 77–101. Available at: <https://doi.org/10.1111/j.1460-2466.1978.tb01621.x> (Accessed: 16/04/20).

Brieger, E., Arghode, V. and McLean, G. (2020) 'Connecting theory and practice: reviewing six learning theories to inform online instruction', *European journal of training and development*. Emerald Group Holdings Ltd., pp. 321–339. Available at:

<https://doi.org/10.1108%2FEJTD-07-2019-0116> (Accessed: 16/03/23).

Bril, I. *et al.* (2022) 'Nursing students' experiences with clinical placement as a learning environment for assertiveness: a qualitative interview study', *Teaching and Learning in Nursing*, 17(4), pp. 383–391. Available at:

<https://doi.org/10.1016/j.teln.2022.04.006> (Accessed: 10/10/23).

Britton, E. and Rehmel, E. (2019) 'Occupational Therapy Students ' Perceived Preparedness for Applying Mental Health Interventions in Practice', *PREPRINT* [Preprint], (April 2021). Available at:

https://www.researchgate.net/publication/350567593_Occupational_Therapy_Students%27_Perceived_Preparedness_for_Applying_Mental_Health_Interventions_in_Practice (Accessed: 03/04/22).

Bronfenbrenner, U. (1979) *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, Massachusetts: Harvard University Press.

Brown, T. *et al.* (2020) 'Exploring the relationship between resilience and practice education placement success in occupational therapy students', *Australian Occupational Therapy Journal*, 67(1), pp. 49–61. Available at:

<https://doi.org/10.1111/1440-1630.12622> (Accessed: 28/08/23).

Bruya, B. and Tang, Y.Y. (2018) 'Is attention really effort? Revisiting Daniel Kahneman's influential 1973 book attention and effort', *Frontiers in Psychology*, 9(SEP), pp. 1–10. Available at: <https://doi.org/10.3389/fpsyg.2018.01133> (Accessed: 29/10/23).

Bryant, A. (2019a) *The SAGE Handbook of Current Developments in Grounded Theory*. Edited by A. Bryant. London: SAGE Publications, Ltd (UK).

Bryant, A. (2019b) *The Varieties of Grounded Theory*. London: SAGE Publications, Ltd (UK).

Bryant, A. and Charmaz, K. (2010) *The SAGE Handbook of Grounded Theory*.

Edited by A. Bryant and K. Charmaz. London: SAGE Publications, Ltd (UK).

Bryant, A., Strauss, A. and Rorty, R. (2009) 'Grounded Theory and Pragmatism : The Curious Case of Anselm Strauss 1 . Issues and Aspects of Grounded Theory 1 . 1

The emergence and growth of GTM', *Forum: Qualitative Social Research*, 10(3).

Buckley, E., Vu, T. and Remedios, L. (2014) 'The reach project: Implementing interprofessional practice at Australia's first student-led clinic', *Education for Health: Change in Learning and Practice*, 27(1), pp. 93–98. Available at:

<https://doi.org/10.4103/1357-6283.134360> (Accessed: 02/04/23).

Buckley, S. *et al.* (2012) 'Developing interprofessional simulation in the undergraduate setting: Experience with five different professional groups', *Journal of Interprofessional Care*, 26(5), pp. 362–369. Available at:

<https://doi.org/10.3109/13561820.2012.685993> (Accessed: 23/11/19).

Burm, S. and MacLeod, A. (2020) 'Focus on Methodology: A sense of sociomaterialism: How sociomaterial perspectives might illuminate health professions education', *Focus on Health Professional Education: A Multi-Professional Journal*, 21(1), p. 1. Available at:

<https://doi.org/10.11157/fohpe.v21i1.443>

Cahill, S.M. (2015) 'Perspectives on the use of standardized parents to teach collaboration to graduate occupational therapy students', *American Journal of Occupational Therapy*, 69. Available at: <https://doi.org/10.5014/ajot.2015.017103>.

Cameron, J.J. and McColl, M.A. (2015) 'Learning client-centred practice short report: Experience of OT students interacting with "expert patients"', *Scandinavian Journal of Occupational Therapy*, 22(4), pp. 322–324. Available at:

<https://doi.org/10.3109/11038128.2015.1011691> (Accessed: 13/10/19).

Campbell, M.K. *et al.* (2015) 'Fieldwork Educators' Perspectives: Professional Behavior Attributes of Level II Fieldwork Students', *The Open Journal of Occupational Therapy*, 3(4). Available at: <https://doi.org/10.15453/2168-6408.1146>

(Accessed: 28/08/23).

Cant, R., Ryan, C. and Kardong-Edgren, S. (2022) 'Virtual simulation studies in nursing education: A bibliometric analysis of the top 100 cited studies, 2021', *Nurse Education Today*, 114(February), pp. 1–7. Available at:

<https://doi.org/10.1016/j.nedt.2022.105385> (Accessed: 12/08/23).

Cant, R.P. and Cooper, S.J. (2010) 'Simulation-based learning in nurse education: Systematic review', *Journal of Advanced Nursing*, 66(1), pp. 3–15. Available at:

<https://doi.org/10.1111/j.1365-2648.2009.05240.x> (Accessed: 09/02/20).

Cantwell, R.H. and Grayson, R. (2002) 'Individual differences among enabling students: A comparison across three enabling programmes', *Journal of Further and Higher Education*, 26(4), pp. 293–306. Available at:

<https://doi.org/10.1080/0309877022000021702> (Accessed: 09/01/23).

Cantwell, R.H. and Scevak, J.J. (2004) 'Engaging university learning: The experiences of students entering university via recognition of prior industrial experience', *Higher Education Research and Development*, 23(2), pp. 131–145.

Available at: <https://doi.org/10.1080/0729436042000206627> (Accessed: 09/01/23).

Cardell, B. *et al.* (2017) 'Underperforming Students: Factors and Decision-Making in

Occupational Therapy Programs', *Journal of Occupational Therapy Education*, 1(1).

Available at: <https://doi.org/10.26681/jote.2017.010301> (Accessed: 28/08/23).

Carmichael, S.T. *et al.* (2005) "Growth-associated gene expression after stroke: Evidence for a growth-promoting region in peri-infarct cortex," *Experimental Neurology*, 193(2), pp. 291–311. doi:10.1016/j.expneurol.2005.01.004.

Carmichael, S.T. and Chesselet, M.F. (2002) "Synchronous neuronal activity is a signal for axonal sprouting after cortical lesions in the adult," *Journal of Neuroscience*, 22(14), pp. 6062–6070. doi:10.1523/jneurosci.22-14-06062.2002.

CASP Checklists (2019) 'CASP Checklists - CASP - Critical Appraisal Skills Programme', (2018). Available at: <https://casp-uk.net/casp-tools-checklists/> (Accessed: 29/02/20).

Castro, E.M. *et al.* (2019) 'Patients' experiential knowledge and expertise in health care: A hybrid concept analysis', *Social Theory and Health*, 17(3), pp. 307–330. Available at: <https://doi.org/10.1057/s41285-018-0081-6> (Accessed: 02/04/23).

Chandler, P. and Sweller, J. (1991) 'Cognitive Load Theory and the Format of Instruction', *Cognition and Instruction*, 8(4), pp. 293–332. Available at: https://doi.org/10.1207/S1532690XC10804_2 (Accessed: 14/01/22).

Charmaz, K. (2014) *Constructing Grounded Theory (2nd ed)*. 2nd edn. London: SAGE Publications, Ltd (UK).

Christiansen, C., Baum, C. and Bass, J. (2015) *Occupational Therapy: Performance, Participation, Well-being*. Fouth Edition. Torofare, NJ: Slack Incorporated 2014.

Chu, E.M.Y. *et al.* (2019) 'Placement replacement: A conceptual framework for designing simulated clinical placement in occupational therapy', *Nursing and Health*

Sciences, 21(1), pp. 4–13. Available at: <https://doi.org/10.1111/nhs.12551>

(Accessed: 09/07/19).

Chun Tie, Y., Birks, M. and Francis, K. (2019) 'Grounded theory research: A design framework for novice researchers', *SAGE Open Medicine*, 7, p. 205031211882292.

Available at: <https://doi.org/10.1177/2050312118822927> (Accessed: 18/05/21).

Churchouse, C. and McCafferty, C. (2012) 'Standardized Patients Versus Simulated Patients: Is There a Difference?', *Clinical Simulation in Nursing*, 8(8), pp. e363–

e365. Available at: <https://doi.org/10.1016/j.ecns.2011.04.008> (Accessed: 13/10/19).

Clance, P.R. and Imes, S.A. (1978) 'The imposter phenomenon in high achieving women: dynamics and therapeutic intervention', *Psychotherapy: Theory, research and practice*, 15(3), pp. 241–247. Available at: [https://doi.org/10.1088/0022-](https://doi.org/10.1088/0022-3727/32/16/312)

[3727/32/16/312](https://doi.org/10.1088/0022-3727/32/16/312) (Accessed: 06/08/23).

Clapper, T.C. and Leighton, K. (2020) 'Incorporating the reflective pause in simulation: A practical guide', *Journal of Continuing Education in Nursing*, 51(1), pp. 32–38. Available at: <https://doi.org/10.3928/00220124-20191217-07> (Accessed:

28/08/23).

Clarke, C. *et al.* (2014) 'Role-emerging Placements: a Useful Model for Occupational Therapy Practice Education? A Review of the Literature', *International Journal of Practice-based Learning in Health and Social Care*, 2(2), pp. 14–26. Available at:

<https://doi.org/10.11120/pblh.2014.00020> (Accessed: 07/10/23).

<https://doi.org/10.11120/pblh.2014.00020> (Accessed: 07/10/23).

Coakley, N. and Bennett, D. (2020) 'Boundary learning environments in landscapes of practice', *Medical Education*, 54(6), pp. 495–497. Available at:

<https://doi.org/10.1111/medu.14169> (Accessed: 20/11/22).

Coleman, D. and McLaughlin, D. (2019) 'Using simulated patients as a learning strategy to support undergraduate nurses to develop patient-Teaching skills', *British Journal of Nursing*, 28(20), pp. 1300–1306. Available at:

<https://doi.org/10.12968/bjon.2019.28.20.1300> (Accessed: 18/01/20).

Colilli, P. (1997) *Idea of a Living Spirit: Poetic Logic as a Contemporary Theory*.

Available at:

https://books.google.co.uk/books?redir_esc=y&id=1USFAAAAIAAJ&focus=searchwithinvolume&q=philosophy+from+poetry (Accessed: 19/08/23).

College of Occupational Therapists (2014) *Learning and Development Standards for Pre-registration Education*. London.

College of Occupational Therapists (2015) *Code of Ethics and Professional Conduct*.

London. Available at:

<https://www.cot.co.uk/sites/default/files/publications/public/CODE-OF-ETHICS-2015.pdf> (Accessed: 20/04/17).

Cooke, M., Irby, D.M. and O'Brien, B.C. (2010a) *A Summary of Educating Physicians: A Call for Reform of Medical School and Residency*. Available at:

<http://archive.carnegiefoundation.org/publications/elibrary/educating-physicians-summary.html> (Accessed: 02/04/23).

Cooke, M., Irby, D.M. and O'Brien, B.C. (2010b) *Educating Physicians: A Call for Reform of Medical School and Residency*. John Wiley & Sons, Incorporated.

Corbin, J.M. and Strauss, A. (1990) "Grounded theory research: Procedures, canons, and evaluative criteria," *Qualitative Sociology*, 13(1), pp. 3–21.

doi:10.1007/BF00988593.

Corbin, J. and Strauss, A. (2008) *Basics of Qualitative Research*. 3rd edn. London: SAGE Publications, Ltd (UK).

Corbin, J. and Strauss, A. (2015) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. 4th Ed. London: SAGE Publications, Ltd (UK).

Coss, D., Chapman, D. and Fleming, J. (2021) 'Providing occupational and physical therapy services in a free community-based interprofessional primary care clinic', *Journal of Interprofessional Care*, 35(sup1), pp. 26–32. Available at: <https://doi.org/10.1080/13561820.2021.1981261> (Accessed: 06/04/23)..

Covan, E.K. (2007) 'The discovery of grounded theory in practice: the legacy of multiple mentors', in A. Bryant and K. Charmaz (eds) *The Sage Handbook of Grounded Theory*. London: SAGE Publications, Ltd (UK). pp. 58–74.

Creswell, J.W. and Creswell, J.D. (2018) *Research and Design Qualitative, Quantitative and Mixed Methods Approaches*, California Thousand Oaks.

Cutchin, M (2020) 'Habits of social enquiry and reconstruction: A Deweyan vision of democracy and social research' in J. Wills *et al.* *The power of pragmatism: Knowledge production and social inquiry*. Manchester: Manchester University Press pp 55-68.

Dancza, K., Copley, J. and Moran, M. (2019) 'Occupational therapy student learning on role-emerging placements in schools', *British Journal of Occupational Therapy*, 82(9), pp. 567–577. Available at: <https://doi.org/10.1177/0308022619840167> (Accessed: 07/12/19).

Dean, B.A. and Sykes, C. (2021) 'How Students Learn on Placement: Transitioning

Placement Practices in Work-Integrated Learning', *Vocations and Learning*, 14(1), pp. 147–164. Available at: <https://doi.org/10.1007/s12186-020-09257-x>

Department of Health and Social Care (2015) *Your rights and responsibilities in the NHS*. Available at: www.gov.uk/government/publications/the-nhs-constitution-for-england (Accessed: 04/06/23).

Department of Health and Social Care (2021) *NHS Constitution for England*. Available at: <https://www.gov.uk/government/publications/the-nhs-constitution-for-england> (Accessed: 04/06/23).

Dewey, J. (1922) *Human Nature and Conduct: An introduction to Social Psychology*. Reprint, Project Gutenberg, 2012.

Duncan, E.A.S. (2021) *Foundations for Practice in Occupational Therapy*. 6th edn. Edited by E.A.S. Duncan. Edinburgh: Elsevier Ltd.

Dyck, I. and Forwell, S. (1997) 'Occupational therapy students' first year fieldwork experiences: Discovering the complexity of culture', *Canadian Journal of Occupational Therapy*, 64(4), pp. 185–196. Available at: <https://doi.org/10.1177/000841749706400313> (Accessed: 05/04/22).

Entwistle, N.J. (1988) 'Approaches to learning and perceptions of the learning environment Introduction to the Special Issue', *Educational and Child Psychology*, 5(3), pp. 5–20.

Evans, L., Taubert, M. and Deanery, W. (2019) 'State of the science: the doll is dead: simulation in palliative care education Speciality Registrar in Palliative Medicine', *BMJ Supportive and Palliative Care*, 9, pp. 117–119. Available at: <https://doi.org/10.1136/bmjspcare-2018-001595> (Accessed: 08/02/20).

Fieldhouse, J. and Fedden, T. (2009) 'Exploring the learning process on a role-emerging practice placement: A qualitative study', *British Journal of Occupational Therapy*, 72(7), pp. 302–307. Available at:

<https://doi.org/10.1177/030802260907200705> (Accessed: 05/02/23).

Flanagan, O.L. and Cummings, K.M. (2023) 'Standardized Patients in Medical Education : A Review of the Literature Methods', *Cureus*, 15(7). Available at:

<https://doi.org/10.7759/cureus.42027> (Accessed: 28/08/23).

Flick, U. (2018) 'An introduction to qualitative research, sixth edition', *SAGE Publications Limited* [Preprint]. Available at: <https://doi.org/978-1-5264-4565-0>.

Flick, U. (2021) *Doing Interview Research*. London: SAGE Publications, Ltd. (UK).

Forsyth, K. *et al.* (2011) 'The measurement properties of the Model of Human Occupation Screening Tool and implications for practice', *New Zealand Journal of Occupational Therapy*, 58(2), pp. 5–14 (Accessed: 06/06/22).

Foster, C. *et al.* (2006) 'Educating clergy: Teaching practices and pastoral imagination (Preparation for the Professions)', *Theology Today*, pp. 535–539 (Accessed: 23/08/23).

Frenk, J. *et al.* (2022) 'Challenges and opportunities for educating health professionals after the COVID-19 pandemic', *The Lancet*, 400(10362), pp. 1539–1556. Available at: [https://doi.org/10.1016/S0140-6736\(22\)02092-X](https://doi.org/10.1016/S0140-6736(22)02092-X) (Accessed: 06/08/23).

Fry, H., Ketteridge, S. and Marshall, S. (2009) *A handbook for teaching and learning in higher education - enhancing academic practice*. New York: Routledge.

Fujimura, J.H. (1988) 'The Molecular Biological Bandwagon in Cancer Research:

Where Social Worlds Meet', *Social Problems*, 35(3), pp. 261–283. Available at: <https://doi.org/10.2307/800622> (Accessed: 14/11/20).

Fuller, A. *et al.* (2005) 'Learning as peripheral participation in communities of practice: A reassessment of key concepts in workplace learning', *British Educational Research Journal*, 31(1), pp. 49–68. Available at: <https://doi.org/10.1080/0141192052000310029> (Accessed: 01/11/22).

Fuller, A., Munro, A. and Rainbird, H. (2004) *Workplace Learning in Context*. 1st Ed. Edited by London. Routledge.

Gardner, H. (1993) *Frames of Mind: The theory of multiple intelligences*. Tenth-Anni. New York: Basic Books 2011.

Gee, B.M. *et al.* (2017) 'The development of a measurement tool evaluating knowledge related to sensory processing among graduate occupational therapy students: A process description', *Occupational Therapy International*, 2017. Available at: <https://doi.org/10.1155/2017/6713012> (Accessed: 17/01/23).

Gibbs, D.M., Dietrich, M. and Dagnan, E. (2017) 'Using high fidelity simulation to impact occupational therapy student knowledge, comfort, and confidence in acute care', *The Open Journal of Occupational Therapy*, 5, pp. 1–1. Available at: <https://doi.org/10.15453/2168-6408.1225> (Accessed: 14/08/19).

Gibson, B.J. and Hartman, J. (2014) *Rediscovering Grounded Theory, Qualitative Research in Organizations and Management: An International Journal*. Available at: <https://doi.org/10.1108/grom-07-2014-1242> (Accessed: 03/04/21).

Giles, A.K. *et al.* (2014) 'Use of simulated patients and reflective video analysis to assess occupational therapy students' preparedness for fieldwork', *American Journal*

of *Occupational Therapy*, 68, pp. S57–S66. Available at:

<https://doi.org/10.5014/ajot.2014.685S03> (Accessed: 13/10/19).

Glaser, B.G. (1992) “The basics of qualitative research: emergence vs forcing.”

Sociology Press

Glaser, B.G. (1999) “The future of grounded theory,” *Qualitative Health Research*, 9(6), pp. 836–845. doi:10.1177/104973299129122199.

Glaser, B.G. (2002) “Conceptualization: On Theory and Theorizing Using Grounded Theory,” *International Journal of Qualitative Methods*, 1(2), pp. 23–38.

doi:10.1177/160940690200100203.

Glaser, B. (2007) ‘Doing Formal Theory’, in A. Bryant and K. Charmaz (eds) *The Sage Handbook of Grounded Theory*. London: SAGE Publications, Ltd (UK)., pp. 97–113.

Glaser, B.G. (2010) ‘The Future of Grounded Theory’, *Grounded Theory Review*, 9(2), pp. 1–14.

Glaser, B.G. and Strauss, A.L. (1967) *The Discovery of Grounded Theory: strategies for qualitative research*. 2017 edn. Abingdon, Oxon: Routledge.

Glenn, E.K. and Gilbert-Hunt, S. (2012) ‘New graduate occupational therapists experience of showering assessments: A phenomenological study’, *Australian Occupational Therapy Journal*, 59(3), pp. 188–196. Available at:

<https://doi.org/10.1111/j.1440-1630.2012.01000.x> (Accessed: 18/07/20).

Goleman, D. (1995) *Emotional Intelligence*. London: Bloomsbury 2020.

Goleman, D. (2020) *Emotional Intelligence: why it can matter more than IQ*.

Bloomsbury.

Google Scholar (2023)

https://scholar.google.co.uk/scholar?hl=en&as_sdt=0%2C5&q=simulation+in+occupational+therapy+education&btnG=&oq=s (Accessed on: 31/10/23)

Gordon, J.A. *et al.* (2001) “Practicing” medicine without risk: Students’ and educators’ responses to high-fidelity patient simulation’, *Academic Medicine*, 76(5), pp. 469–472. Available at: <https://doi.org/10.1097/00001888-200105000-00019> (Accessed: 24/03/23).

Gover, A., Loukkola, T. and Peterbauer, H. (2019) ‘Student-centred learning : approaches to quality assurance’, *European University Association*, 1(9), pp. 1–22. Available at: https://eua.eu/downloads/publications/student-centred-learning_approaches_to_quality_assurance_report.pdf (Accessed: 28/08/23).

Grabe, M. (1986) ‘Attentional processes in education’, in G. Phye and T. D’Andre (eds) *Cognitive Classroom Learning: understanding, thinking and problem solving*. Orlando, Florida, pp. 49–82.

Grant, T. *et al.* (2021) ‘The use of simulation in occupational therapy education: A scoping review’, *Australian Occupational Therapy Journal* [Preprint], (March). Available at: <https://doi.org/10.1111/1440-1630.12726>.

Grant, T. *et al.* (2023) “I left feeling different about myself”: What students learn on their first practice placement’, *British Journal of Occupational Therapy*, 86(2), pp. 139–148. Available at: <https://doi.org/10.1177/03080226221125394>.

Greenhalgh, T., Thorne, S. and Malterud, K. (2018) ‘Time to challenge the spurious hierarchy of systematic over narrative reviews?’, *European Journal of Clinical Investigation*, 48(6), pp. 1–7. Available at: <https://doi.org/10.1111/eci.12931>

Gribble, N., Ladyshevsky, R.K. and Parsons, R. (2019) 'The impact of clinical placements on the emotional intelligence of occupational therapy, physiotherapy, speech pathology, and business students: A longitudinal study', *BMC Medical Education*, 19(1), pp. 1–10. Available at: <https://doi.org/10.1186/s12909-019-1520-3> (Accessed: 06/01/23).

Grimshaw, J. (2010) 'A knowledge synthesis chapter', *Canadian Institutes of Health Research*, pp. 1–56. Available at: <http://www.cihr-irsc.gc.ca/e/41382.html>

Haracz, K., Arrighi, G. and Joyce, B. (2015) 'Simulated patients in a mental health occupational therapy course: A pilot study', *British Journal of Occupational Therapy*, 78(12), pp. 757–766. Available at: <https://doi.org/10.1177/0308022614562792> (Accessed: 13/10/19).

Hardy, K. (2020) 'What are the stressors and coping strategies adopted by undergraduate healthcare students during placement?', *Fields: journal of Huddersfield student research*, 6(1). Available at: <https://doi.org/10.5920/fields.663> (Accessed: 10/10/23).

HCPC (2013) *Standards of proficiency - Occupational Therapists*. Available at: <https://www.hcpc-uk.org/globalassets/resources/standards/standards-of-proficiency--occupational-therapists.pdf> (Accessed: 23/08/19).

HCPC (2016) "Guidance on conduct and ethics for students," *Health and Care professions Council*.

HCPC (2017) *Standards of education and training*. Available at: <http://www.hpc-uk.org/assets/documents/1000295EStandardsofeducationandtraining-fromSeptember2009.pdf> (Accessed: 06/03/20).

Healey, J. (2017) 'Emotion management and occupational therapy student learning on placement: A post-structuralist exploration', *British Journal of Occupational Therapy*, 80(11), pp. 676–683. Available at:

<https://doi.org/10.1177/0308022617710117> (Accessed: 20/11/22).

HEE (2020a) *A description of simulation-based techniques relevant to education and practice in health and care professions*. Available at: www.hee.nhs.uk (Accessed: 23/03/23).

HEE (2020b) *Current placement expectations of AHP Regulators and Professional Bodies*. Available at: <https://www.hee.nhs.uk/our-work/allied-health-professions/increase-capacity/ahp-practice-based-learning/current-placement-expectations-ahp-regulators-professional-bodies>.

HEE (2020c) *Enhancing education, clinical practice and staff wellbeing. A national vision for the role of simulation and immersive learning technologies in health and care*.

Hellaby, M. (2013) *Healthcare Simulation in Practice*. Keswick: M&K Update Ltd.

Hesse-Bieber, S.N. (2007) "Teaching Grounded Theory," in *The Sage Handbook of Grounded Theory*, London: SAGE Publications, Ltd (UK). pp. 311–338.

Honey, A. and Penman, M. (2020) "“You actually see what occupational therapists do in real life”: Outcomes and critical features of first-year practice education placements', *British Journal of Occupational Therapy*, 83(10), pp. 607–658. Available at: <https://doi.org/10.1177/0308022620920535> (Accessed: 19/06/20).

Hooper, B. *et al.* (2018) 'Balancing Efficacy and Effectiveness with Philosophy, History, and Theory-Building in Occupational Therapy Education Research', *The*

Open Journal of Occupational Therapy, 6(1). Available at:

<https://doi.org/10.15453/2168-6408.1347> (Accessed: 20/11/22).

Howie, P. and Bagnall, R. (2013) 'A critique of the deep and surface approaches to learning model', *Teaching in Higher Education*, 18(4) pp389-400. Available at:

<https://doi.org/10.1080/13562517.2012.733689> (Accessed: 24/03/23).

Imms, C. *et al.* (2017) 'Effectiveness and cost-effectiveness of embedded simulation in occupational therapy clinical practice education: Study protocol for a randomised controlled trial', *Trials*, 18(1), pp. 17–29. Available at: <https://doi.org/10.1186/s13063-017-2087-0> (Accessed: 14/08/19).

Imms, C. *et al.* (2018) 'Simulated versus traditional occupational therapy placements: A randomised controlled trial', *Australian Occupational Therapy Journal*, 65(6), pp. 556–564. Available at: <https://doi.org/10.1111/1440-1630.12513> (Accessed: 13/10/19).

Jarvis, P. and Gibson, S. (1997) *The teacher, practitioner and mentor in nursing, midwifery, health visiting and the social sciences*. 2nd edn. Cheltenham: Nelson Thornes (2001).

Jung, N. *et al.* (2014) 'How emotions affect logical reasoning: evidence from experiments with mood-manipulated participants, spider phobics, and people with exam anxiety', *Frontiers in Psychology*, 5. Available at:

<https://doi.org/10.3389/fpsyg.2014.00570> (Accessed: 20/03/23).

Kahneman, D. (1973) *Attention and Effort*, *Journal of Experimental Social Psychology*. Englewood Cliffs, New Jersey: Prentice-Hall. Available at:

<https://doi.org/10.1006/jesp.1996.1309> (Accessed: 29/10/23).

- Kamenšek, T. (2022) 'The use of virtual simulation or virtual patients in nursing education: An integrative literature review.', *Obzornik Zdravstvene Nege*, 56(1), pp. 31–48. Available at: <https://search.ebscohost.com/login.aspx?direct=true&db=cul&AN=155972234&site=ehost-live> (Accessed: 12/08/23).
- Kantar, L.D., Ezzeddine, S. and Rizk, U. (2020) 'Rethinking clinical instruction through the zone of proximal development', *Nurse Education Today*, 95(September), p. 104595. Available at: <https://doi.org/10.1016/j.nedt.2020.104595> (Accessed: 30/11/22).
- Kaushik, V. and Walsh, C.A. (2019) 'Pragmatism as a research paradigm and its implications for Social Work research', *Social Sciences*, 8(9), pp. 1–17. Available at: <https://doi.org/10.3390/socsci8090255> (Accessed: 18/05/21).
- Kelle, U. (2007) "The development of categories: different approaches in grounded theory," in *The Sage Handbook of Grounded Theory*, London: SAGE Publications, Ltd (UK) pp. 191–293.
- Kelly, L.M. and Cordeiro, M. (2020) "Three principles of pragmatism for research on organizational processes," *Methodological Innovations*, 13(2), pp 1-10. doi:10.1177/2059799120937242.
- Kelly, M.A. *et al.* (2016) 'Simulation in Nursing Education-International Perspectives and Contemporary Scope of Practice', *Journal of Nursing Scholarship*, 48(3). Available at: <https://doi.org/10.1111/jnu.12208> (Accessed: 13/02/20).
- Kensinger, E.A. and Kark, S.M. (2013) 'Emotion and Memory', in J.T. Wixted, E.A. Phelps, and L. Davachi (eds) *Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience, Learning and Memory*. Wiley & Sons, p. 615.

Kent, F. and Keating, J. (2013) 'Patient outcomes from a student-led interprofessional clinic in primary care', *Journal of Interprofessional Care*, 27(4), pp. 336–338. Available at: <https://doi.org/10.3109/13561820.2013.767226> (Accessed: 06/04/23).

Knightbridge, L. (2014) 'Experiential learning on an alternative practice education placement: Student reflections on entry-level competency, personal growth, and future practice', *British Journal of Occupational Therapy*, 77(9), pp. 438–446. Available at: <https://doi.org/10.4276/030802214X14098207540956> (Accessed: 05/02/23).

Knowles, M., Holton, E.F. and Swanson, R.A. (2015) *The adult learner: the definitive classic in adult education and human resource development*. 8th edn. London: Routledge (Accessed: 07/11/22).

Kolb, D.A. (1984) *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, New Jersey: Prentice-Hall International.

Kolb, D.A. (2014) *Experiential Learning*. Pearson Education.

Konteh BA, F.H., Mannion, R.B. and O Davies BA MA, H.T. (2010) 'Understanding culture and culture management in the English NHS: a comparison of professional and patient perspectivesj ep_1376 111..117', *Journal of Evaluation in Clinical Practice*, 17, pp. 111–117. Available at: <https://doi.org/10.1111/j.1365-2753.2010.01376.x> (Accessed: 03/03/23).

Koukourikos, K. et al. (2021) 'Simulation in clinical nursing education', *Acta Informatica Medica*, 29(1), pp. 15–20. Available at: <https://doi.org/10.5455/AIM.2021.29.15-20> (Accessed: 28/08/23).

Krathwohl, D.R. (2002) 'A revision of Bloom's Taxonomy', *Theory into practice*, 41(4), pp. 212–219. Available at: <http://net.educause.edu/ir/library/pdf/eli08105a.pdf> (Accessed: 10/12/19).

Kuduvalli, P.M. *et al.* (2008) 'Unanticipated difficult airway management in anaesthetised patients: A prospective study of the effect of mannequin training on management strategies and skill retention', *Anaesthesia*, 63(4), pp. 364–369. Available at: <https://doi.org/10.1111/j.1365-2044.2007.05353.x> (Accessed: 08/02/20).

Lalor, A. *et al.* (2019) 'Occupational therapy international undergraduate students' perspectives on the purpose of practice education and what contributes to successful practice learning experiences', *British Journal of Occupational Therapy*, 82(6), pp. 367–375. Available at: <https://doi.org/10.1177/0308022618823659> (Accessed: 05/02/23).

Lave, J. and Wenger, E. (1991) *Situated learning: legitimate peripheral participation*. Cambridge: Cambridge University Press 2011.

Lavoie, P. *et al.* (2020) 'Beyond Technology: A Scoping Review of Features that Promote Fidelity and Authenticity in Simulation-Based Health Professional Education', *Clinical Simulation in Nursing*, 42, pp. 22–41. Available at: <https://doi.org/10.1016/j.ecns.2020.02.001> (Accessed: 28/08/23).

Law, C.P., Masterson-Ng, S. and Pollard, N. (2022) 'Occupational therapy practice education: A perspective from international students in the UK', *Scandinavian Journal of Occupational Therapy*, 29(1), pp. 33–45. Available at: <https://doi.org/10.1080/11038128.2020.1866069> (Accessed: 05/02/23).

Law, M. *et al.* (1996) 'The Person-Environment-Occupation Model: A transactive approach to occupational performance', *Canadian Journal of Occupational Therapy*,

63(1), pp. 9–23 (Accessed: 21/03/23).

Lempert, L.B. (2007) 'Asking Questions of the Data: Memo Writing in the Grounded Theory Tradition', in A. Bryant and K. Charmaz (eds) *The Sage Handbook of Grounded Theory*. London: SAGE Publications, Ltd (UK). pp. 245–264.

Levac, D., Colquhoun, H. and O'Brien, K.K. (2010) 'Scoping studies: Advancing the methodology', *Implementation Science*, 5(1), p. 69. Available at: <https://doi.org/10.1186/1748-5908-5-69> (Accessed: 15/08/20).

Lewis, A., Rudd, C.J. and Mills, B. (2018) 'Working with children with autism: an interprofessional simulation-based tutorial for speech pathology and occupational therapy students', *Journal of Interprofessional Care*, 32(2), pp. 242–244. Available at: <https://doi.org/10.1080/13561820.2017.1388221> (Accessed: 13/10/19).

Lewis, E. (2010) 'Emotional intelligence as a predictor of academic performance', *The Internet Journal of Allied Health Sciences and Practice*, 8(4), pp. 1–8. Available at: <https://doi.org/10.51379/kpj.2022.153.3.020> (Accessed: 06/01/23).

Loth, J. and Andersen, P. (2015) *Acting for Health : The preparation of drama students as simulated patients for learning events within nursing and midwifery and beyond: Final Report*. Available at: https://research.usc.edu.au/esploro/outputs/99451326502621/filesAndLinks?institution=61USC_INST&index=null (Accessed: 28/05/23).

MacKenzie, D. *et al.* (2017) 'Best practice interprofessional stroke care collaboration and simulation: The student perspective', *Journal of Interprofessional Care*, 31(6), pp. 793–796. Available at: <https://doi.org/10.1080/13561820.2017.1356272> (Accessed: 13/10/19).

MacKenzie, D. *et al.* (2018) 'Co-constructing Simulations with Learners: Roles, Responsibilities, and Impact', *The Open Journal of Occupational Therapy*, 6(1), pp. 1–1. Available at: <https://doi.org/10.15453/2168-6408.1335> (Accessed: 29/09/19).

Manning, J. (2017) "In Vivo Coding," *The International Encyclopedia of Communication Research Methods*, (July), pp. 1–2.
doi:10.1002/9781118901731.iecrm0270.

Marouchou, D.V. (2012) 'Can Students' Concept of Learning Influence Their Learning Outcomes?', *Higher Learning Research Communications*, 2(2), p. 18.
Available at: <https://doi.org/10.18870/hlrc.v2i2.23> (Accessed: 24/10/21).

Marton, F. and Säljö, R. (1976a) 'On qualitative differences in learning 1: Outcome and process', *British Journal of Educational Psychology*, 46, pp. 4–11 (Accessed: 09/01/23).

Marton, F. and Säljö, R. (1976b) 'On qualitative differences in learning 2: Outcome as a function of the learners conception of the task', *British Journal of Educational Psychology*, 46, pp. 115–127 (Accessed: 09/01/23).

Maslow, A.H. (1970) *Motivation and personality*. 3rd edn. New York: Harper Collins.

Mason, J. (2018) *Qualitative Researching* 3rd edn London: SAGE Publications Ltd (UK).

Mason, J., Hayden, C.L. and Causey-Upton, R. (2020) 'Fieldwork Educators' Expectations of Level II Occupational Therapy Students' Professional and Technical Skills', *The Open Journal of Occupational Therapy*, 8(3), pp. 1–16. Available at: <https://doi.org/10.15453/2168-6408.1649> (Accessed: 05/04/22).

Mattar, J. (2018) 'Constructivism and connectivism in education technology: Active,

situated, authentic, experiential, and anchored learning', *Revista iberoamericana de educación a distancia*, 21(2), p. 201. Available at:

<https://doi.org/10.5944/ried.21.2.20055> (Accessed: 16/03/23).

Mayer, R. (2005a) 'Cognitive Theory of Multimedia Learning The Case for Multimedia Learning', in *The Cambridge Handbook of Multimedia Learning*, pp. 31–48 (Accessed: 17/01/23)

Mayer, R. (2005b) *The Cambridge handbook of multimedia learning, second edition, The Cambridge Handbook of Multimedia Learning, Second Edition*. Available at:

<https://doi.org/10.1017/CBO9781139547369> (Accessed: 17/01/23).

Mcdougall, E.M. (2006) 'Simulation in education for health care professionals', *British Columbia Medical Journal*, 23(Supplement 1), pp. 99–102. Available at:

<https://doi.org/10.1093/fampra/cml939> (Accessed: 29/02/20).

McLean, K.C. (2014) *The Oxford Handbook of Identity Development*. Oxford University Press. Available at:

<https://doi.org/10.1093/OXFORDHB/9780199936564.001.0001> (Accessed: 20/03/23).

McRae, N. (2015) 'Exploring conditions for transformative learning in work-integrated education', *Asia-Pacific Journal of Cooperative Education*, 16(2), pp. 137–144

Mezirow, J. (1997) 'Transformative Learning: Theory to Practice', *New Directions for Adult and Continuing Education*, 1997(74), pp. 5–12. Available at:

<https://doi.org/10.1002/ace.7401> (Accessed: 01/11/22).

Michas, F. (2022a) *Annual number of nurses in the United Kingdom (UK) from 2010*

to 2021, *Statista.com*. Available at:

<https://www.statista.com/statistics/318922/number-of-nurses-in-the-uk/> (Accessed: 12/08/23).

Michas, F. (2022b) *Annual number of occupational therapists in the United Kingdom (UK) from 2010 to 2021*, *Statista.com*. Available at:

<https://www.statista.com/statistics/318909/numbers-of-occupational-therapists-in-the-uk/> (Accessed: 12/08/23).

Michas, F. (2022c) *Number of registered doctors in the United Kingdom (UK) in 2021, by gender and specialty*, *Statista.com*. Available at:

<https://www.statista.com/statistics/698260/registered-doctors-united-kingdom-uk-by-gender-and-specialty> (Accessed: 12/08/23).

Mills, B. *et al.* (2019) 'A pilot evaluation of simulation-based interprofessional education for occupational therapy , speech pathology and dietetic students : improvements in attitudes and confidence confidence', *Journal of Interprofessional Care*, 00(00), pp. 1–9. Available at: <https://doi.org/10.1080/13561820.2019.1659759> (Accessed: 13/10/19).

Mills, J., Bonner, A. and Francis, K. (2006) 'The Development of Constructivist Grounded Theory', *International Journal of Qualitative Methods*, 5(1), pp. 25–35. Available at: <https://doi.org/10.1177/160940690600500103> (Accessed: 28/08/21).

Millwood, R. (2021) *Learning Theory, HoTEL EU project*. Available at: <http://hotel-project.eu/sites/default/files/hotel/default/content-files/documentation/Learning-Theory.pdf%0Ahttps://classroom-aid.com/2014/02/05/holistic-approach-to-technology-enhanced-learning-hotel/> (Accessed: 01/11/22).

Minns Lowe, C. *et al.* (2022) *KNOWBEST: The KNOWledge, BEhaviours and Skills*

required of the modern physioTherapy graduate including the future role of practice based learning. Available at: https://www.csp.org.uk/system/files/documents/2022-06/FINAL_KNOWBEST_Project_Summary_and_Report_June_2022_%281%29.pdf (Accessed: 28/08/23).

Misiorek, A. and Janus, E. (2019) 'Spirituality in Occupational Therapy Practice According to New Graduates', *OTJR: Occupation, Participation and Health*, 39(4), pp. 197–203. Available at: <https://doi.org/10.1177/1539449218808278> (Accessed: 21/03/23).

Miyamoto, R. *et al.* (2019) 'Student Perceptions of Growth-Facilitating and Growth-Constraining Factors of Practice Placements : A Comparison between Japanese and United Kingdom Occupational Therapy Students', *Occupational Therapy International*, 2019 (Accessed: 09/12/19).

Morales, A. *et al.* (2022) 'OT Students' Perception of the Value of a Fieldwork Placement in a Role-Emerging Practice Setting', *The American Journal of Occupational Therapy*, 76(Supplement_1), pp. 7610510165p1-7610510165p1. Available at: <https://doi.org/10.5014/ajot.2022.76s1-po165> (Accessed: 05/02/23).

Morgan, D.L. (2014) 'Pragmatism as a Paradigm for Social Research', *Qualitative Inquiry*, 20(8), pp. 1045–1053. Available at: <https://doi.org/10.1177/1077800413513733> (Accessed: 03/04/21).

Morgan, D.L. (2020) 'Pragmatism as a basis for grounded theory', *Qualitative Report*, 25(1), pp. 64–73. Available at: <https://nsuworks.nova.edu/cgi/viewcontent.cgi?article=3993&context=tqr> (Accessed: 03/04/21).

Mosey, A. (1992) 'The Issue is: Partition of Occupational Science and Occupational

Therapy', *The American Journal of Occupational Therapy*, 46(9), pp. 851–853.

Available at: <https://doi.org/10.5840/monist20109317> (Accessed: 03/04/21).

Mulholland, S. and Derdall, M. (2007) 'An early fieldwork experience: Student and preceptor perspectives', *Canadian Journal of Occupational Therapy*, 74(3), pp. 161–171. Available at: <https://doi.org/10.1177/000841740707400304> (Accessed: 14/04/22).

Multi Health Systems (2012) *The EQi 2.0 Model of Emotional Intelligence*.

Nasreddine, Z.S. *et al.* (2005) 'The Montreal Cognitive Assessment, MoCA: A brief screening tool for mild cognitive impairment', *Journal of the American Geriatrics Society*, 53(4), pp. 695–699. Available at: <https://doi.org/10.1111/j.1532-5415.2005.53221.x> (Accessed: 06/06/22).

Nicola-Richmond, K., Butterworth, B. and Hitch, D. (2017) 'What factors contribute to failure of fieldwork placement? Perspectives of supervisors and university fieldwork educators', *World Federation of Occupational Therapists Bulletin*, 73(2), pp. 117–124. Available at: <https://doi.org/10.1080/14473828.2016.1149981> (Accessed: 28/08/23).

Nielsen, S. *et al.* (2017) 'Student Perceptions of Non-traditional Level I Fieldwork', *Journal of Occupational Therapy Education*, 1(2). Available at: <https://doi.org/10.26681/jote.2017.010206> (Accessed: 14/04/22).

Niu, Y. *et al.* (2021) 'Effectiveness of simulation debriefing methods in nursing education: A systematic review and meta-analysis', *Nurse Education Today*, 107(38), p. 105113. Available at: <https://doi.org/10.1016/j.nedt.2021.105113> (Accessed: 12/08/23).

Niwa, L. and Maclellan, C.L. (2021) 'Learning and satisfaction in a student-led clinic', *Clin Teach*, 18, pp. 391–397. Available at: <https://doi.org/10.1111/tct.13339> (Accessed: 02/04/23).

Nursing and Midwifery Council (2019) *Student empowerment SE1, Supporting information on standards for student supervision and assessment*. Available at: <https://doi.org/10.31826/9781463240134-toc> (Accessed: 10/10/23).

Nursing and Midwifery Council (2023) *Standards for pre-registration nursing programmes*. Available at: <https://www.nmc.org.uk/globalassets/sitedocuments/standards/2023-pre-reg-standards/new-vi/standards-for-pre-registration-nursing-programmes.pdf> (Accessed:29/08/23).

Occupational Therapy Council of Australia & New Zealand (2013) *Accreditation Standards for Entry-Level Occupational Therapy Education Programs*. Available at: <https://www.otcouncil.com.au/wp-content/uploads/Accred-Standards-December-2013.pdf> (Accessed: 22/09/19).

Office for Students (2023) *Teaching Excellence Framework (TEF) 2023, OfS 2023.41*. Available at: [https://www.psa.ac.uk/sites/default/files/TEF Bulletin.pdf](https://www.psa.ac.uk/sites/default/files/TEF%20Bulletin.pdf) (Accessed: 28/08/23).

Overton, T. (2010) *Writing learning outcomes: advice on defining courses using an outcomes-based approach*, Higher Education Academy.

Ozelie, R. *et al.* (2016) 'High-Fidelity Simulation in Occupational Therapy Curriculum: Impact on Level II Fieldwork Performance', *The Open Journal of Occupational Therapy*, 4(4). Available at: <https://doi.org/10.15453/2168-6408.1242> (Accessed: 13/10/19).

Patton, N., Higgs, J. and Smith, M. (2018) 'Clinical learning spaces: Crucibles for practice development in physiotherapy clinical education', *Physiotherapy Theory and Practice*, 34(8), pp. 589–599. Available at:

<https://doi.org/10.1080/09593985.2017.1423144>

Pitout, H. *et al.* (2016) 'Healthcare students' perceptions of a simulated interprofessional consultation in an outpatient clinic', *Innovations in Education and Teaching International*, 53(3), pp. 338–348. Available at:

<https://doi.org/10.1080/14703297.2014.993417> (Accessed: 13/10/19).

Pocock, T., Smith, M. and Wiles, J. (2021) "Recommendations for Virtual Qualitative Health Research During a Pandemic," *Qualitative Health Research* [Preprint].

doi:10.1177/10497323211036891.

Pouliou, A. (2019) *Defining , writing and applying learnign outcomes: a European handbook*. Available at: <https://doi.org/10.2801/566770> (Accessed: 17/01/22).

Pound, L. (2014) *How Children Learn*. Luton, Bedfordshire: Mark Allen Group.

Priambodo, A.P. *et al.* (2022) 'Simulation-based education promoting situation awareness in undergraduate nursing students: A scoping review', *Nurse Education in Practice*, 65(1), p. 103499. Available at:

<https://doi.org/10.1016/j.nepr.2022.103499> (Accessed: 12/08/23)

Price, R.A. (2023) 'A review of resilience in higher education: toward the emerging concept of designer resilience', *Studies in Higher Education*, 48(1), pp. 83–99.

Available at: <https://doi.org/10.1080/03075079.2022.2112027> (Accessed: 29/10/23)

Pritchard, A. (2018) *Ways of Learning: Learning Theories for the Classroom*. 4th edn. Abingdon, Oxon: Routledge.

PRISMA (2009) From Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and MetaAnalyses: The PRISMA Statement. PLoS Med 6(6): e1000097.

doi:10.1371/journal.pmed1000097

Prochaska, J.O., Diclemente, C.C. and Norcross, J.C. (1992) 'In Search of How People Change Applications to Addictive Behaviors', *American Psychologist*, (September), pp. 1102–1114 (Accessed: 24/03/23).

Professional Standards Authority (2016) 'Professional identities and regulation : a Literature Review', (December), pp. 1–21. Available at:

https://www.professionalstandards.org.uk/docs/default-source/publications/professional-identities-and-regulation---a-literature-review.pdf?sfvrsn=a7e7120_0 (Accessed: 23/08/23).

Punwar, A.J. and Peloquin, S.M. (2000) *Occupational Therapy Principles and Practice*. 3rd edn. Baltimore: Lippincott Williams & Wilkins. Available at:

[https://books.google.co.uk/books?id=_xCIZuXyFNIC&lpg=PA42&vq=therapeutic use of self&pg=PP1#v=snippet&q=therapeutic use of self&f=false](https://books.google.co.uk/books?id=_xCIZuXyFNIC&lpg=PA42&vq=therapeutic%20use%20of%20self&pg=PP1#v=snippet&q=therapeutic%20use%20of%20self&f=false) (Accessed: 19/02/23).

Purva, M. and Nicklin, J. (2018) 'ASPiH standards for simulation-based education:

Process of consultation, design and implementation', *BMJ Simulation and Technology Enhanced Learning*, 4(3), pp. 126–132. Available at:

<https://doi.org/10.1136/bmjstel-2017-000232> (Accessed: 16/10/23)

Quality Assurance Agency (2014) 'The Frameworks for Higher Education

Qualifications of UK Degree-Awarding Bodies', *The Frameworks for Higher*

Education Qualifications of UK Degree-Awarding Bodies, (October), pp. 27, 28.

Available at: <https://www.qaa.ac.uk/docs/qaa/quality-code/qualifications->

[frameworks.pdf](#) (Accessed: 03/03/23).

Quality Assurance Agency for Higher Education (2020) *Building a Taxonomy for Digital Learning*. Available at: <https://www.qaa.ac.uk/docs/qaa/guidance/building-a-taxonomy-for-digital-learning.pdf> (Accessed: 05/09/20).

Quirk, H. *et al.* (2018) 'Barriers and facilitators to implementing workplace health and wellbeing services in the NHS from the perspective of senior leaders and wellbeing practitioners: a qualitative study', *BMC Public Health*, 18(1362). Available at: <https://doi.org/10.1186/s12889-018-6283-y> (Accessed: 03/03/23).

RCOT (2015) *Supervision : guidance for occupational therapists and their managers*. Available at: <https://www.rcot.co.uk/sites/default/files/Supervision.pdf> (Accessed: 21/11/22).

RCOT (2016) 'Entry level occupational therapy core knowledge and practice skills', p. 12. Available at: www.COT.co.uk (Accessed: 19/06/20).

RCOT (2019a) *A review of RCOTs ' role supporting practice education Summary of Key Findings, Royal College of Occupational Therapists*.

RCOT (2019b) 'ANNUAL CONFERENCE AND EXHIBITION', in. Available at: www.rcot.co.uk/abstracts2019 (Accessed:14/08/19)

RCOT (2019c) *Learning and development standards for pre-registration education, Royal College of Occupational Therapists*.

RCOT (2020) *Scope of Occupational Therapy, Royal College of Occupational Therapists Document*. Available at: <https://www.rcot.co.uk/practice-resources/occupational-therapy-topics/scope-practice> (Accessed: 19/02/23)..

RCOT (2021a) 'Considerations for developing new and innovative practice-based

learning opportunities', *Professional Body Guidance*, pp. 1–6.

RCOT (2021b) *Professional Standards for Occupational Therapy Practice*.

RCOT (2022) *Annual Monitoring Report for academic year 2019/20*.

RCOT (2023) 'Evidence of shortage of Occupational Therapy academics: Private Correspondence'. RCOT.

Reichl, K. *et al.* (2019) 'Measuring and Describing Occupational Therapists' Perceptions of the Impact of High-Fidelity, High-Technology Simulation Experiences on Performance', *American Journal of Occupational Therapy*, 73(6), p. 7306205090p1. Available at: <https://doi.org/10.5014/ajot.2019.034694> (Accessed: 27/10/19).

Rodger, S. *et al.* (2011) 'What makes a quality occupational therapy practice placement? Students' and practice educators' perspectives', *Australian Occupational Therapy Journal*, 58(3), pp. 195–202. Available at: <https://doi.org/10.1111/j.1440-1630.2010.00903.x> (Accessed: 07/12/19).

Rosenthal, R. (2003) 'Covert Communication in Laboratories, Classrooms, and the Truly Real World', *Current Directions in Psychological Science*, 12(5), pp. 151–154. Available at: <https://doi.org/10.1111/1467-8721.t01-1-01250> (Accessed: 28/08/23).

Ross, J.G. *et al.* (2022) 'Multiple-Patient Simulations and Student Outcomes in Prelicensure Nursing Education: An Integrative Review', *Clinical Simulation in Nursing*, 64, pp. 31–45. Available at: <https://doi.org/10.1016/j.ecns.2021.11.007> (Accessed: 12/08/23).

Sabus, C., Sabata, D. and Antonacci, D. (2011) 'Use of a virtual environment to facilitate instruction of an interprofessional home assessment', *Journal of Allied*

Health, 40(4), pp. 199–205 (Accessed: 13/10/19).

Sah, L.K., Singh, D.R. and Sah, R.K. (2020) 'Conducting Qualitative Interviews using Virtual Communication Tools amid COVID-19 Pandemic: A Learning Opportunity for Future Research', *JNMA: Journal of the Nepal Medical Association*, 58(232), p. 1103. Available at: <https://doi.org/10.31729/JNMA.5738> (Accessed: 29/10/21).

Sambrook, S. (2009) 'Critical pedagogy in a health service management development programme Can "critically thinking" managers change the NHS management culture?', *Journal of Health Organisation and Management*, 23(6), pp. 656–671. Available at: <https://doi.org/10.1108/14777260911001662> (Accessed: 03/03/23).

Saunders, B. *et al.* (2018) 'Saturation in qualitative research: exploring its conceptualization and operationalization', *Quality and Quantity*, 52(4), pp. 1893–1907. Available at: <https://doi.org/10.1007/s11135-017-0574-8> (Accessed: 12/07/21).

Saunders, M., Lewis, P. and Thornhill, A. (2019) *Research methods for business students*. 8th edn. Harlow: Pearson Education.

Schaber, P. (2014) 'Keynote address: Searching for and identifying signature pedagogies in occupational therapy education', *American Journal of Occupational Therapy*, 68(October), pp. S40–S44. Available at: <https://doi.org/10.5014/ajot.2014.685S08> (Accessed: 07/02/20).

Schreiber, J., Delbert, T. and Huth, L. (2020) 'High Fidelity Simulation with Peer Debriefing: Influence of Student Observation and Participation Roles on Student Perception of Confidence with Learning and Feedback', *Journal of Occupational Therapy Education*, 4(2). Available at: <https://doi.org/10.26681/jote.2020.040208> (Accessed: 03/04/21).

Schunk, D.H. (2013) *Learning theories: an educational perspective*. International Edition. Pearson Education.

Sen, A. (1999) *Development as Freedom*. First Anchor Books. Available at: https://doi.org/10.9774/gleaf.978-1-907643-44-6_30 (Accessed: 20/03/23)

Shariff, F., Hatala, R. and Regehr, G. (2020) 'The nature of learning from simulation: Now I know it, now I'll do it, I'll work on that', *Medical Education*, 54(7), pp. 652–659. Available at: <https://doi.org/10.1111/medu.14153> (Accessed:01/11/22).

Shaw, K. and Timmons, S. (2010) 'Exploring how nursing uniforms influence self image and professional identity.', *Nursing times*, 106(10), pp. 21–23 (Accessed: 26/08/23)

Shea, C.-K. (2015) 'High-Fidelity Simulation: A Tool for Occupational Therapy Education', *The Open Journal of Occupational Therapy*, 3(4). Available at: <https://doi.org/10.15453/2168-6408.1155> (Accessed: 14/08/19).

Sheppard, S. *et al.* (2009) *Educating Engineers - Book Highlights*. The Carnegie Foundation for the Advancement of Teaching. Available at: https://doi.org/10.1007/978-3-030-91268-0_15 (Accessed: 23/08/23).

Shi, L. (2006) "Students as research participants or as learners?" *Journal of Academic Ethics*, 4(1–4), pp. 205–220. doi:10.1007/s10805-006-9028-y.

Shoemaker, M.J. *et al.* (2011) 'A Method for Providing High-Volume Interprofessional Simulation Encounters in Physical and Occupational Therapy Education Programs', *Journal of Allied Health*, Vol. 40(1), pp. e15-21. Available at: <https://www.ingentaconnect.com/content/asahp/jah/2011/00000040/00000001/art00012#> (Accessed: 25/06/19).

Shoemaker, M.J. *et al.* (2014) 'Virtual patient care: An interprofessional education approach for physician assistant, physical therapy and occupational therapy students', *Journal of Interprofessional Care*, 28(4), pp. 365–367. Available at: <https://doi.org/10.3109/13561820.2014.891978> (Accessed: 13/10/19).

Shulman, L.S. (2005) 'Signature pedagogies in the professions', *Dædalus*, pp. 52–59 (Accessed: 07/02/20).

Sim, J.J.M. *et al.* (2022) 'Virtual Simulation to Enhance Clinical Reasoning in Nursing: A Systematic Review and Meta-analysis', *Clinical Simulation in Nursing*, 69, pp. 26–39. Available at: <https://doi.org/10.1016/j.ecns.2022.05.006> (Accessed: 12/08/23).

Sole, G. *et al.* (2019) 'Developing a framework for teaching clinical reasoning skills to undergraduate physiotherapy students: A delphi study', *New Zealand Journal of Physiotherapy*, 47(1), pp. 49–58. Available at: <https://doi.org/10.15619/NZJP/47.1.06> (Accessed: 06/03/20).

Solman, B. and Clouston, T. (2016) 'Occupational therapy and the therapeutic use of self', *British Journal of Occupational Therapy*, 79(8), pp. 514–516. Available at: <https://doi.org/10.1177/0308022616638675> (Accessed: 19/02/23).

Sonn, I. and Vermeulen, N. (2018) 'Occupational therapy students' experiences and perceptions of culture during fieldwork education', *South African Journal of Occupational Therapy*, 48(1), pp. 34–39. Available at: <https://doi.org/10.17159/2310-3833/2017/vol48n1a7> (Accessed: 05/04/22).

Spouse, J. (1998) 'Scaffolding student learning in clinical practice', *Nurse Education Today*, 18(4), pp. 259–266. Available at: [https://doi.org/10.1016/S0260-6917\(98\)80042-7](https://doi.org/10.1016/S0260-6917(98)80042-7) (Accessed:30/11/22).

Springfield, E., Honnery, M. and Bennett, S. (2018) 'Evaluation of a simulation clinic for improving occupational therapy students' perceptions of interaction with parents and infants', *British Journal of Occupational Therapy*, 81(1), pp. 51–58. Available at: <https://doi.org/10.1177/0308022617736504> (Accessed: 13/10/19).

Strauss, A. (1987) *Qualitative Analysis for Social Scientists*. Cambridge: Cambridge University Press.

Strauss, A. and Corbin, J. (1997) *Grounded Theory in Practice*. London: SAGE Publications Ltd (UK).

Strauss, A. and Corbin, J. (1998) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. 2nd edn. SAGE Publications Ltd (UK).

Strübing, J. (2007) 'Research as pragmatic problem-solving: the pragmatist roots of empirically-grounded theorizing', in *The Sage Handbook of Grounded Theory*, London: SAGE Publications, Ltd (UK). pp. 580–601.

Sullivan, W.M. *et al.* (2007) *Educating Lawyers*. The Carnegie Foundation for the Advancement of Teaching.

Sumsion, T. (2006) *Client-centred practice in Occupational Therapy - a guide to implementation* Churchill Livingstone.

Sutherland, R. *et al.* (2012) 'Teaching a fishbowl tutorial : sink or swim?', *The Clinical Teacher*, 9, pp. 80–84.

Sweller, J. (2005) 'Implications of Cognitive Load Theory for Multimedia Learning', in *The Cambridge Handbook of Multimedia Learning*, pp. 19–30.

Sweller, J. (2011) 'Cognitive Load Theory', in *The psychology of learning and motivation : advances in research and theory*. New York: Academic Press, pp. 37–

76. Available at: <https://doi.org/10.1016/B978-0-12-387691-1.X0001-4> (Accessed: 07/11/22).

Symonds, E. (2020) 'Reframing power relationships between undergraduates and academics in the current university climate', *British Journal of Sociology of Education*, 42(1), pp. 127–142. Available at: <https://doi.org/10.1080/01425692.2020.1861929> (Accessed: 20/08/23).

The Workplace (Health, Safety and Welfare) Regulations (1992). UK Government. Available at: <https://www.legislation.gov.uk/uksi/1992/3004/regulation/25/made> (Accessed: 20/03/23).

Thomas, E.M. *et al.* (2017) 'An acute interprofessional simulation experience for occupational and physical therapy students: Key findings from a survey study', *Journal of Interprofessional Care*, 31(3), pp. 317–324. Available at: <https://doi.org/10.1080/13561820.2017.1280006> (Accessed: 13/10/19).

Thomas, Y. *et al.* (2023) 'Health professional graduate perspectives of practice education during the Covid-19 pandemic', *Journal of Practice Teaching and Learning*, 19(3)

Thomas, Y. and Penman, M. (2019) 'World Federation of Occupational Therapists (WFOT) standard for 1000 hours of practice placement: informed by tradition or evidence?', *British Journal of Occupational Therapy*, 82(1), pp. 3–4. Available at: <https://doi.org/10.1177/0308022618788785> (Accessed: 06/04/23).

Thomson, S.B. (2011) 'Sample size and grounded theory', *Journal of Administration & Governance*, 5(1), pp. 45–52 (Accessed: 25/09/21).

Thornberg, R. and Dunne, C. (2019) 'Literature Review in Grounded Theory', in A.

Bryant (ed.) *The Sage Handbook of Current Developments in Grounded Theory*. London: SAGE Publications, Ltd (UK).

Tolarba, J.E.L. (2021) 'Virtual Simulation in Nursing Education: A Systematic Review', *International Journal of Nursing Education*, 13(3), pp. 48–55. Available at: <https://doi.org/10.37506/ijone.v13i3.16310> (Accessed: 12/08/23).

Towns, E. and Ashby, S. (2014) 'The influence of practice educators on occupational therapy students' understanding of the practical applications of theoretical knowledge: A phenomenological study into student experiences of practice education', *Australian Occupational Therapy Journal*, 61(5), pp. 344–352. Available at: <https://doi.org/10.1111/1440-1630.12134> (Accessed: 05/09/20).

Townsend, E. and Polatajko, H. (2007) *Enabling Occupation II: Advancing an occupational therapy vision for health, well-being and justice through occupation*. Ottawa, ON. CAOT publications ACE p23 (Accessed: 03/10/20).

Treadwell, I. and Havenga, H.S. (2013) 'Ten key elements for implementing interprofessional learning in clinical simulations', *African Journal of Health Professions Education*, 5(2), p. 80. Available at: <https://doi.org/10.7196/ajhpe.233> (Accessed: 13/10/19).

Turner, A. and Alsop, A. (2015) 'Unique core skills: Exploring occupational therapists' hidden assets', *British Journal of Occupational Therapy*, 78(12), pp. 739–749. Available at: <https://doi.org/10.1177/0308022615601443/FORMAT/EPUB> (Accessed: 07/04/23).

UK Cabinet Office (2021) *COVID-19 Response – Spring 2021*, Web page. Available at: <https://www.gov.uk/government/publications/covid-19-response-spring-2021> (Accessed: 29/10/21).

UK Visas & Immigration (2021) *Skilled Worker visa: shortage occupations for healthcare and education*, Gov.UK. Available at:

<https://www.gov.uk/government/publications/skilled-worker-visa-shortage-occupations-for-health-and-education/skilled-worker-visa-shortage-occupations-for-healthcare-and-education> (Accessed: 24/03/23).

Unsworth, C.A. (2001) 'The clinical reasoning of novice and expert occupational therapists', *Scandinavian Journal of Occupational Therapy*, 8(4), pp. 163–173.

Available at: <https://doi.org/10.1080/110381201317166522> (Accessed: 28/08/23).

Urquhart, C. (2013) *Grounded Theory for Qualitative Research*. London: SAGE Publications, Ltd (UK).

Velde, B.P., Lane, H. and Clay, M. (2009) 'Hands on learning: The use of simulated clients in intervention cases', *Journal of Allied Health*, 38(1), pp. 17–22 (Accessed: 23/08/19).

Vuuren, S. van (2016) 'Reflections on simulated learning experiences of occupational therapy students in a clinical skills unit at an institution of higher learning', *South African Journal of Occupational Therapy*, 46(3), pp. 80–84. Available at: <http://www.sajot.co.za/index.php/sajot/article/view/335/253> (Accessed: 22/09/19).

Vygotsky, L. (1962) *Thought and Language*. Cambridge, Mass: MIT Press 2012.

Vygotsky, L.S. (1978) *Mind in Society: The Development of Higher Psychological Processes*. Edited by V. John-Steiner et al. Cambridge, MA: Harvard University Press.

Walls, D.J., Fletcher, T.S. and Brown, D.P. (2019) 'Occupational Therapy Students' Perceived Value of Simulated Learning Experiences', *Journal of allied health*, 48(1),

pp. e21–e25 (Accessed: 13/10/19).

Walpola, R.L. and Schneider, C.R. (2018) 'Longitudinal interprofessional student-led clinics – a formula for implementation', *International Journal of Pharmacy Practice*, 26(6), pp. 473–474. Available at: <https://doi.org/10.1111/ijpp.12495> (Accessed: 02/04/23).

Wass, R. and Golding, C. (2014) 'Sharpening a tool for teaching: The zone of proximal development', *Teaching in Higher Education*, 19(6), pp. 671–684. Available at: <https://doi.org/10.1080/13562517.2014.901958> (Accessed: 30/11/22).

Watchorn, V. *et al.* (2013) 'Strategies and effectiveness of teaching universal design in a cross-faculty setting', *Teaching in Higher Education*, 18(5), pp. 477–490. Available at: <https://doi.org/10.1080/13562517.2012.752730> (Accessed: 13/10/19).

Weale, S. (2020) 'Majority of UK employers have had to cancel work experience due to Covid-19', *The Guardian*, 29 July. Available at: <https://www.theguardian.com/money/2020/jul/29/majority-employers-cancel-work-experience-students-graduates-covid-19> (Accessed: 03/03/23).

Weaver, K. (2018) "Pragmatic Paradigm," in Frey, B.B. (ed.) *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. London: SAGE Publications, Ltd (UK) pp. 1287–1288.

Weiner, C. (2007) "Making teams work in conducting grounded theory," in *The Sage Handbook of Grounded Theory*, London: SAGE Publications, Ltd (UK) pp. 293–310.

WFOT (2016) 'Minimum Standards for the Education of Occupational Therapists. Unpublished quality standards document, WFOT.', pp. 1–79 (Accessed: 23/06/20).

WFOT (2018) *Definitions of Occupational Therapy from Member Organisations*.

Available at: <https://doi.org/10.1097/00002060-194002000-00007> (Accessed: 22/03/23).

WFOT (2023) *About Occupational Therapy*. Available at: <https://wfot.org/about/about-occupational-therapy> (Accessed: 29/05/23).

Wheeler, B. and Dippenaar, E. (2020) 'The use of simulation as a teaching modality for paramedic education: a scoping review', *British Paramedic Journal*, 5(3), pp. 31–43. Available at: <https://doi.org/10.29045/14784726.2020.12.5.3.31> (Accessed: 28/08/23).

WHO (2020) *Basic Documents: 49th edition*. Available at: https://apps.who.int/gb/bd/pdf_files/BD_49th-en.pdf (Accessed: 29/05/23).

Wilcock, A.A. (1999) 'Reflections on doing, being and becoming', *Australian Occupational Therapy Journal*, 46(1), pp. 1–11. Available at: <https://doi.org/10.1046/j.1440-1630.1999.00174.x> (Accessed: 13/08/21).

Wilcock, A.A. (2007) 'Occupation and health: Are they one and the same?', *Journal of Occupational Science*, 14(1), pp. 3–8. Available at: <https://doi.org/10.1080/14427591.2007.9686577> (Accessed: 26/08/23).

Wilcock, A.A. and Hocking, C. (2015) *An Occupational Perspective of Health*. 3rd edn. Thorofare, N.J.: SLACK Incorporated.

Wills, J. *et al.* (2020) *The power of pragmatism: Knowledge production and social inquiry*. Manchester: Manchester University Press.

Wise, J. (2018) 'NHS safety culture needs radical change, says CQC', *BMJ (Clinical research ed.)*, 363, p. k5359. Available at: <https://doi.org/10.1136/BMJ.K5359> (Accessed: 03/03/23).

Wood, W. (1995) "Weaving the Warp and Weft of Occupational Therapy: An Art and Science for All Times," *American Journal of Occupational Therapy*, 49(1), pp. 44–50. doi:10.1142/9789814313957_0001.

Wu, R. and Shea, C.-K. (2020) 'Examining Occupational Therapy Students' Responses to Integrative Seminars', *The Open Journal of Occupational Therapy*, 8(2), pp. 1–11. Available at: <https://doi.org/10.15453/2168-6408.1684> (Accessed: 30/08/20).

Wyk, R. van, Labuschagne, M.J. and Joubert, G. (2020) 'Simulation as an educational strategy to deliver interprofessional education', *African Journal of Health Professions Education*, 12(2), p. 74. Available at: <https://doi.org/10.7196/AJHPE.2020.v12i2.1213> (Accessed: 30/08/20).

Yeung, E., Dubrowski, A. and Carnahan, H. (2013) 'Simulation-augmented education in the rehabilitation professions: A scoping review', *International Journal of Therapy and Rehabilitation*, 20(5), pp. 228–236. Available at: <http://web.b.ebscohost.com.apollo.worc.ac.uk/ehost/pdfviewer/pdfviewer?vid=12&sid=21af7825-7e8d-417a-a3ad-fc2c7ea27529%40pdc-v-sessmgr06> (Accessed: 29 July 2019) (Accessed:29/07/19).

Yerxa, E.J. (1990) "An introduction to occupational science, a foundation for occupational therapy in the 21st century," *Occupational Therapy in Health Care*, 6(4), pp. 1–17.

Young, V. (2011) *The secret thoughts of successful women: why capable people suffer from the impostor syndrome and how to thrive in spite of it*. New York: Crown Publishing.

Zafran, H. (2020) 'A narrative phenomenological approach to transformative

learning: Lessons from occupational therapy reasoning in educational practice',
American Journal of Occupational Therapy, 74(1), pp. 1–7. Available at:
<https://doi.org/10.5014/ajot.2020.033100> (Accessed: 20/11/22).

Zamjahn, J.B. *et al.* (2018) 'Increasing awareness of the roles, knowledge, and skills
of respiratory therapists through an interprofessional education experience',
Respiratory Care, 63(5), p. 510. Available at: <https://doi.org/10.4187/respcare.05869>
Accessed: (13/10/19).

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Appendix A Career development profile 2019

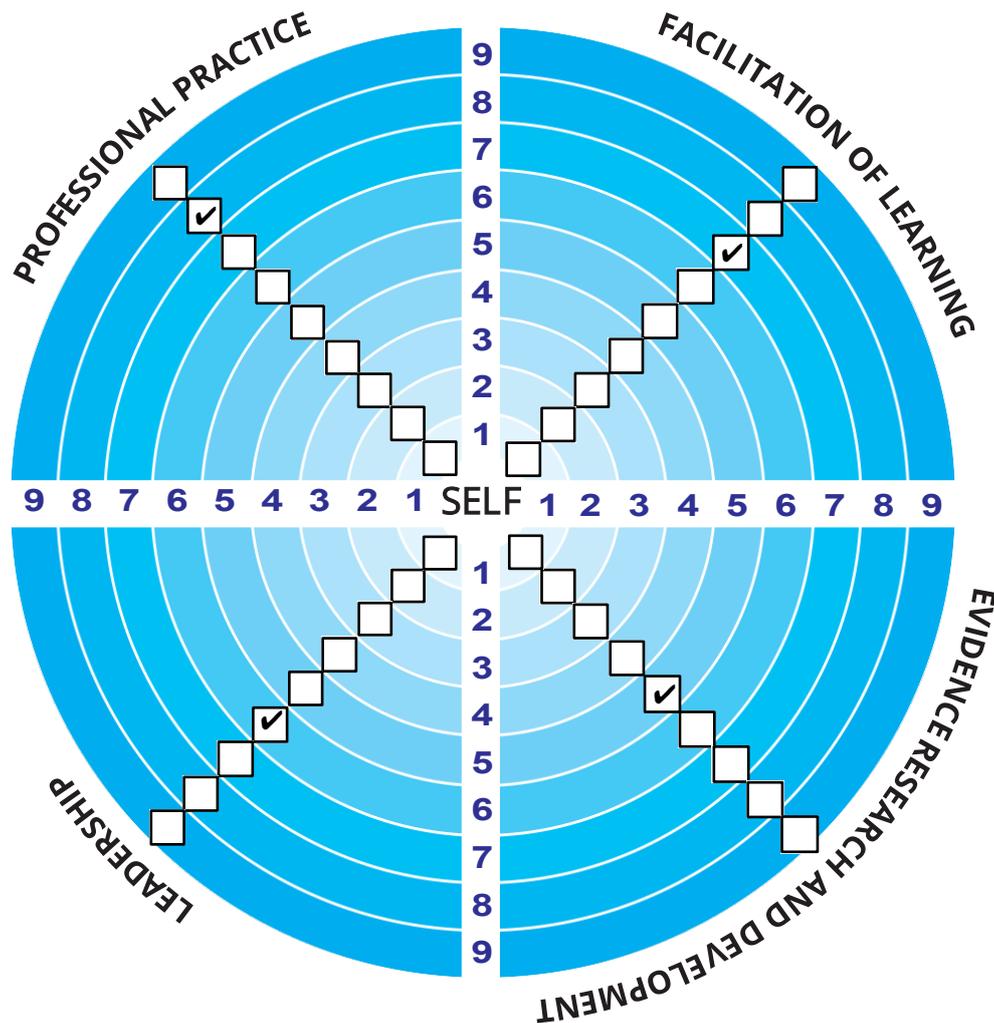
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My Career Profile:

To complete this profile, please read the mapping tips in the Implementation Guide and the Introduction section of the interactive Career Development Framework PDF, found at <https://www.rcot.co.uk/cpd-rcot>

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Appendix B Career development profile 2023

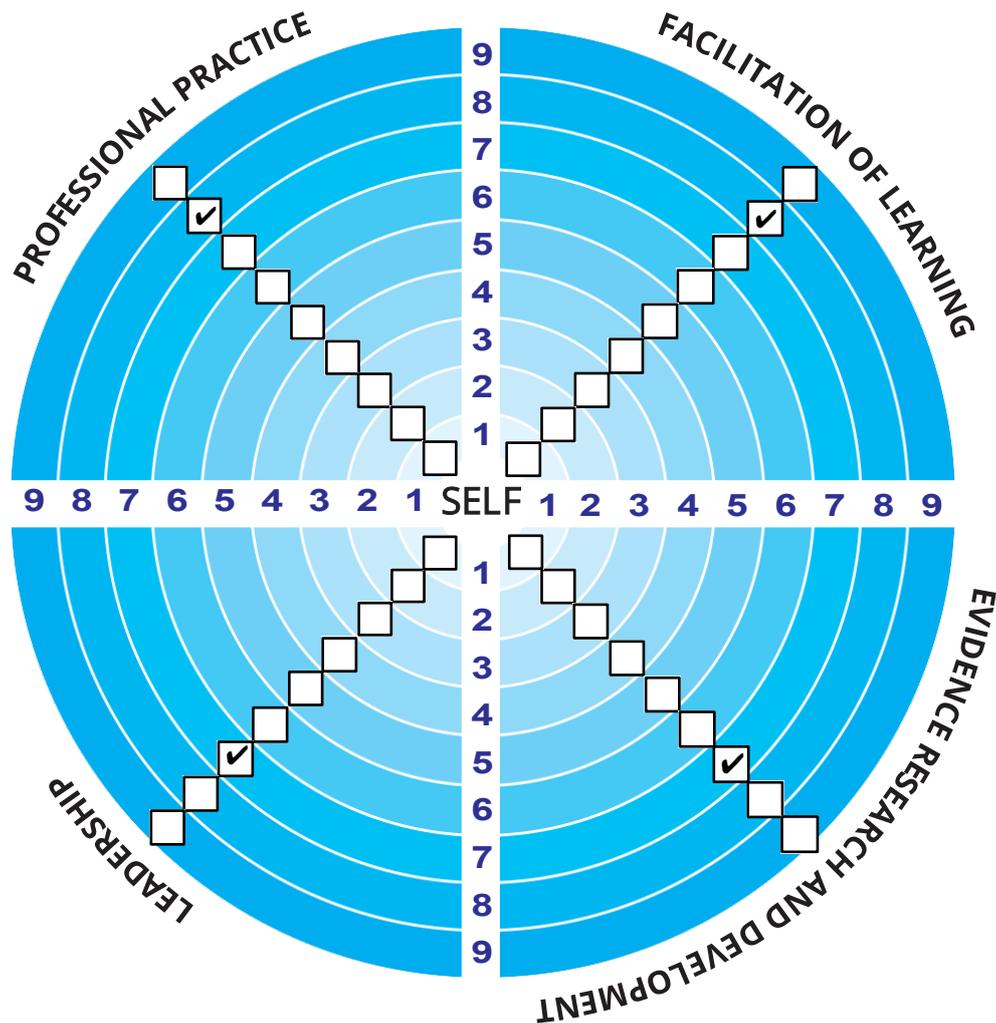
Career Development Framework: guiding principles for occupational therapy



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Appendix C The use of simulation in occupational therapy education: A scoping review

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REVIEW ARTICLE



The use of simulation in occupational therapy education: A scoping review

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Abstract

Introduction: Simulated learning experiences are a common feature of many health professions' pre-registration curricula. However, the use of simulation within occupational therapy is still largely undefined. This scoping review seeks to identify and summarise the available evidence exploring the use of simulation within occupational therapy pre-registration education.

Methods: A search was conducted in four databases for articles published between 2009 and 2020 to identify international literature relevant to the use of simulation within occupational therapy education. Articles were evaluated using the appropriate Critical Appraisal Skills Programme (CASP) tool and key features and benefits of current simulation education were identified using thematic analysis.

Results: A total of 32 papers were included within the review. Four themes were identified and explored: simulation methods, authenticity, global approaches to simulation, and relationship to practice education.

Conclusion: Simulation is taking place in many different forms within occupational therapy internationally. It is positively received by students and may provide an effective replacement for practice education if focussed on professional standards and competencies. Further research into the potential effectiveness of simulation in relation to practice learning is indicated.

1 | INTRODUCTION

The importance, effectiveness, and satisfaction of using simulation as an adjunct to teaching across the medical and allied health professions have been widely discussed (Hellaby, 2013). A variety of literature supports the benefits of simulation to undergraduate education in nursing, medicine, and physiotherapy, among other professions (Buckley et al., 2012). The links to social transaction in the formation of professional identity and situated learning, and the importance of contextual information in student learning has led nursing to consider simulation as a pedagogy in its own right

(Berragan, 2011). However, it is important to recognise that different health professions require different skill sets, as evidenced by variations in the standards of proficiency set forth by professional and regulatory bodies.

Occupational therapists whose only experience of simulation is the use of mannequins for the practice of cardiopulmonary resuscitation may question relevance to the profession. Defined as a hypothetical opportunity that incorporates an authentic representation of reality, facilitates active student engagement, and integrates the complexities of practical and theoretical learning with opportunity for repetition, feedback, evaluation, and reflection (Bland et al., 2011) simulated

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learning has much greater potential than mannequin use would suggest. However, the occupational therapy profession has not been forthcoming in integrating such methods into regular practice (Bennett et al., 2017).

The substitution of simulated learning for practice education in occupational therapy is also comparatively new, with Australian students permitted to undertake up to 20% of the required 1,000 hours of practice education with a “well-designed simulation experience” (OTC, 2013, p. 13) and British pre-registration education programmes able to replace up to 40 of their 1,000 hours (4%) with simulated practice. Although the precise design and delivery of simulated practice is not defined, Imms et al. (2017) suggest an experience offering high levels of authenticity and complexity which should directly replicate real placement interactions, and should be assessed in a similar manner.

Noting the absence of systematic reviews and the limited previous literature reviews (Bennett et al., 2017; Yeung et al., 2013), this scoping review seeks to explore the evidence base for simulated learning currently being used within the occupational therapy profession.

2 | METHODS

The scoping review was undertaken following the six-step methodological framework identified by Levac et al. (2010) as follows:

1. Identify the research question
2. Identify relevant studies
3. Select studies
4. Chart data
5. Collect, review, & summarise results
6. Consultation

In order to develop a clear picture of the current use of simulation within occupational therapy education, this review sought to include both an understanding of the types of simulation currently used in occupational therapy education and an exploration of the evidence base to support its use. The research question identified to guide the review was “What is the evidence that simulation is being used as an educational approach within pre-registration occupational therapy education?”

Searches for full-text articles using the terms Occupational Therap* AND simulation AND education were carried out using the Cumulative Index for Nursing and Allied Health Literature (CINAHL), MEDLINE, PsycINFO®, and Academic Search Complete for the period 2009–2019 yielding a total of 112 results, with a further five papers identified from reference searches. The 10-year search period was selected to ensure that current practice was being reviewed,

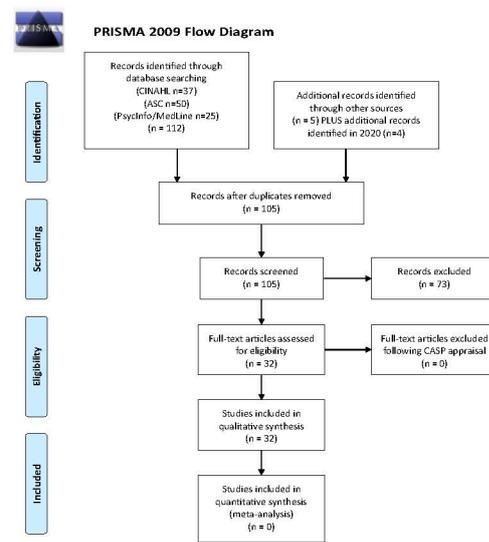


FIGURE 1 Search process

in recognition of this rapidly developing area of practice. A pre-publication update to include papers published in 2020 identified four additional papers bringing the total to 121.

Study titles and abstracts were reviewed by one author using the PICOT model (Aveyard & Sharp, 2013) to ensure relevance, leading to the removal of duplicates ($n = 16$), conference abstract ($n = 1$), and the elimination of a further 72 papers where the focus of study was not the pre-registration education of Occupational Therapy students. Excluded results included papers focussed on other allied health professions where Occupational Therapy students did not participate, studies in which the simulation was used as a client intervention, and studies where simulation was used to train qualified health professionals. The remaining papers ($n = 32$) stood up to scrutiny using the appropriate CASP checklist (CASP Checklists, 2019), although variation in relation to rigour was noted and reported on where appropriate. This meant that no further selection process was required (Figure 1).

Data charting took place in line with Arksey and O'Malley's (2005) narrative review. Key information regarding author geography, type of simulation, type of study, and results was extracted via an iterative process; re-reading papers on multiple occasions to ensure that all the relevant data were extracted. Use of CASP identified the methodology used by each study, evaluated its appropriateness for the topic, and ensured that analysis was sufficiently rigorous to warrant inclusion. Studies from a wide range of sources, including Occupational Therapy-specific journals, inter-professional education journals teaching publications, and health condition-specific publications, were included. An

inclusive approach was taken with respect to study methods, which are identified below.

The collation and summarising of results was completed by the primary author. Results are reported following Levac et al.'s (2010) recommendations of numerical summary, thematic analysis, and implications of findings.

Consultation took place with the additional authors throughout the process of reviewing literature, primarily during stages 4 and 5. All authors were instrumental in supporting the verification of the appropriateness of themes and findings in the context of the current simulation discussion within other health-care professions.

3 | STUDY METHODS

Of the 32 studies identified, 26 reported primary research, with seven using a solely quantitative methodology, including one randomised controlled trial, nine using a combination of quantitative and qualitative measures in various forms, and ten approaching the subject from a qualitative perspective only (see Table 1). A total of 24 studies carried out post-simulation evaluations, of which four also incorporated pre-test findings. Most studies were carried out with students immediately following the simulation experience, although one assessed students' views post-qualification. Twenty two of these studies focussed on student perceptions with ten attempting to quantify these perceptions and six also measuring outcomes using a variety of methods. One comparative cohort study did not include student evaluations and one study reported on the opinions of faculty members on the use of simulation.

Remaining literature included two literature reviews (Bennett et al., 2017; Yeung et al., 2013) and two descriptions or recommendations of simulation methods and processes without analysis (Shea, 2015; Treadwell & Havenga, 2013). One national survey of the use of simulation in practice (Bethea et al., 2014) and one protocol paper for a randomised controlled trial (Imms et al., 2017) were included.

Of the literature identified, 20 papers reported on simulation for occupational therapy students alone, whereas the remaining 10 included occupational therapy students as part of an inter-professional group with other students from medical, nursing, pharmacy, physiotherapy, speech and language therapy, dietetics or architecture courses.

4 | THEMATIC ANALYSIS

Thematic analysis of results followed Braun and Clarke's (2006) steps. Initial codes were collated and grouped into potential themes and further reviewed and refined

until the final themes of types of simulation, authenticity, global approaches, and relationship to practice education were defined to allow for synthesis of findings of student perception.

4.1 | THEME 1: SIMULATION METHODS

The review found that various methods of simulation have been used in pre-registration education, and an overview of different methods is provided in Table 2. Simulation methods were divided into interactive simulation, in which students engaged with simulated patients, mannequins, or virtual reality systems, and non-interactive simulation, where the student receives a video- or text-based case study.

4.1.1 | Interactive simulation

The most frequently reported method was that of standardised or simulated patients. This simulation modality takes the form of a patient or client being portrayed by an appropriately trained individual (Velde et al., 2009), often following a standardised script or protocol. Although these are frequently played by medical actors, there is some reference to lecturers (Bradley et al., 2013; Sabus et al., 2011) taking on these roles in order to reduce cost. Role play, in which the role of the patient is played by a classmate or staff member, was considered less authentic by students (Vuuren, 2016). The authenticity of interactive methods using standardised or simulated patients was identified as a key factor in the success of simulation (Cahill, 2015; Gibbs et al., 2017; Giles et al., 2014; Haracz et al., 2015; Vuuren, 2016).

One study explored the use of people with stable chronic medical conditions, known as expert patients, concluding that students' ability to practice in a client-centred way was enhanced following this activity (Cameron & McColl, 2015). However, the lack of structured learning strategies during the interactions with expert patients suggests they may not be characterised as simulated learning.

The use of mannequins, discussed in five papers, appears more common in North America, with no studies from other countries involving this form of simulation (Gibbs et al., 2017; Ozelie et al., 2016; Reichl et al., 2019; Thomas et al., 2017; Zamjahn et al., 2018). Mannequin simulation appears to be common practice within other healthcare professions (Evans et al., 2019) and comprises a range of equipment from, at its most basic, part-task models which allow students to practice one specific task, through to human simulators which take the form of full-body human mannequins equipped with sensors to simulate changes in homeostatic functions.

TABLE 1 Origin and type of study

Year	Country of publication	Author	Study design	Focus
2009	USA	Velde et al.	Post-sim evaluation	Student perception
2011	USA	Sabus et al.	Post-sim evaluation	Student perception
2011	USA	Shoemaker et al.	Post-sim evaluation	Student perception
2013	UK	Bradley et al.	Post-sim evaluation	Student perception
2013	Africa	Treadwell and Havenga	Recommendations for practice	N/A
2013	Aus	Watchorn et al.	Pre-post test	Student perception
2013	Canada	Yeung et al.	Literature review	N/A
2014	USA	Bethea et al.	National survey	Sim types used by HEIs
2014	USA	Giles et al.	Post-sim evaluation	Student perception
2014	USA	Shoemaker et al.	Post-sim evaluation	Student perception
2015	USA	Cahill	Post-sim evaluation	Student perception
2015	Aus	Haracz et al.	Post-sim evaluation	Student perception
2015	USA	Shea	Recommendations for practice	N/A
2016	USA	Ozelie et al.	Comparative cohort study	Measure of effectiveness
2016	Africa	Pitout et al.	Post-sim evaluation	Student perception
2016	Africa	Vuuren	Post-sim evaluation	Student perception
2017	Aus	Bennett et al.	Literature review	N/A
2017	Canada	Gee et al.	Post-sim evaluation	Student perception
2017	USA	Gibbs et al.	Post-sim evaluation	Student perception
2017	Aus	Imms et al.	Proposal	N/A
2017	Canada	MacKenzie et al.	Post-sim evaluation	Student perception AND effectiveness
2017	USA	Thomas et al.	Pre-post test	Student perception AND effectiveness
2018	Aus	Imms et al.	RCT	Measure of effectiveness
2018	Aus	Lewis et al.	Post-sim evaluation	Student perception AND effectiveness
2018	Canada	Mackenzie et al.	Post-sim evaluation	Student perception
2018	Aus	Springfield et al.	Pre-post test	Student perception
2018	USA	Zamjahnet al.	Pre-post test	Student perception
2019	Aus	Mills et al.	Post-sim evaluation	Student perception AND effectiveness
2019	USA	Reichl et al.	Post qualification reflection	Student perception
2019	USA	Walls et al.	Post-sim evaluation	Student perception AND effectiveness
2020	South Africa	Van Wyk et al.	Quantitative descriptive study	Faculty perception
2020	USA	Wu and Shea	Post-sim evaluation	Student perception

Virtual reality (VR) in which an entire virtual environment is created was also evaluated positively though less frequently used (Sabus et al., 2011; Watchorn et al., 2013). Sabus et al. (2011) built a training environment within the SecondLife® platform to enable students to carry out a virtual home assessment for a simulated patient who was played

by a staff member. Watchorn et al., (2013) utilised the same platform to enable students to practice principles of inclusive design. Both studies found that using the platform was not entirely intuitive and students needed time to learn to use it effectively before participating in the simulation. In addition, the single virtual environment described by Sabus

TABLE 2 (Continued)

Type of Simulation	Characteristics	Author(s)	Benefits	Limitations
Team simulations	Students use stimuli such as written case reports, client notes, video footage, virtual cases The simulation occurs in the form of an interprofessional meeting	Shoemaker et al. (2014) MacKenzie et al. (2017) Mills et al. (2019)	Minimal cost Prepared materials can be re-used No additional training required	Could be argued that this is not simulation at all but simply IPL Scheduling and curriculum alignment challenges
Role play	Students interview patients who are played by staff or other students	Bradley et al. (2013) Vuuren (2016) Lewis et al. (2018) Mills et al. (2019)	Minimal cost Enhance fidelity by making environment as realistic as possible Provides a role in the simulation experience for more students	Lack of fidelity/realism
Non-interactive simulation				
Computer based virtual case	Virtual patient based on case study information available electronically	Shoemaker et al. (2014)	Helps students from different programmes to collaborate Commercially available Similar findings to those of large IPE Sims Less resource-intensive	Software needs to be edited to provide appropriate information for OT assessment Reduced authenticity/fidelity
Video case studies or scenarios	Written or video resources are created to provide students with as much information as possible about the client	Lewis et al. (2018) Mills et al. (2019)	Students are able to make observational assessments rather than relying on others' interpretation Allows students to observe other professionals interacting with clients	Are case studies really simulation? What is being simulated here? There appears to be few or no links to simulation identity
Written case studies	Written resources are created to provide students with as much information as possible about the client	Identified in an extensive literature review by Bennett et al. (2017)	Low cost	Are case studies really simulation? What is being simulated here? There appears to be few or no links to simulation identity Low fidelity
Real-life simulation	Students simulate impairments in function on themselves (ie, wheelchair use, visual impairment, GERT suits)	Watchorn et al. (2013)	Students found helpful to make theoretical learning real Provided a social and emotional element to student learning	Unable to gain service user feedback or perception on activity

TABLE 2 (Continued)

Type of Simulation	Characteristics	Author(s)	Benefits	Limitations
Team simulations	Students use stimuli such as written case reports, client notes, video footage, virtual cases The simulation occurs in the form of an interprofessional meeting	Shoemaker et al. (2014) MacKenzie et al. (2017) Mills et al. (2019)	Minimal cost Prepared materials can be re-used No additional training required	Could be argued that this is not simulation at all but simply IPL Scheduling and curriculum alignment challenges
Role play	Students interview patients who are played by staff or other students	Bradley et al. (2013) Vuuren (2016) Lewis et al. (2018) Mills et al. (2019)	Minimal cost Enhance fidelity by making environment as realistic as possible Provides a role in the simulation experience for more students	Lack of fidelity/realism
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Written case studies	Written resources are created to provide students with as much information as possible about the client	Identified in an extensive literature review by Bennett et al. (2017)	Low cost	Are case studies really simulation? What is being simulated here? There appears to be few or no links to simulation identity Low fidelity
Real-life simulation	Students simulate impairments in function on themselves (ie, wheelchair use, visual impairment, GERT suits)	Watchorn et al. (2013)	Students found helpful to make theoretical learning real Provided a social and emotional element to student learning	Unable to gain service user feedback or perception on activity

et al. (2011) took a team of staff approximately 50 hours to develop, suggesting that the time and effort required to develop and use SecondLife® may make such a system impractical. Although only two included studies used VR, it was noted that several excluded papers used this modality when working directly with clients.

Results from all studies suggest that students find the use of simulated patients, along with mannequin simulation, to be a valuable addition to their learning.

4.1.2 | Non-interactive simulation

The review identified a number of common methods to convey information about a 'client' to students. Bennett et al.'s (2017) extensive literature review identified a number of papers using paper-based case studies, in which students read about a person's needs and challenges, and video-based case studies, in which students may observe the individual either talking about, or carrying out, occupations which they wish to develop. Case studies have been challenged as lacking the richness and challenges provided by interactive simulation (Bennett et al., 2017). Whether case studies in any format meet the definition of simulated learning is a debate that is wider than the scope of this report, and it is recognised that there exists a wide range of literature using these methods which is not identified as simulation and therefore not identified as part of this review. Nevertheless, studies defining case study methods as simulation were noted to provide valuable opportunities for inter-professional learning, enhanced communication, and team functioning (Gee et al., 2017; Lewis et al., 2018; Mackenzie et al., 2018; Mills et al., 2019).

4.2 | THEME 2: AUTHENTICITY

There is consistent agreement within the literature that for simulation to be effective, a high level of authenticity, described as fidelity, is required (Shea, 2015). Discrepancies exist between authors about what constitutes a high-fidelity learning environment, with realism being described by varying authors as being achieved by the use of technological equipment and by the use of simulated patients, although not within the same studies.

Gibbs et al. (2017) utilise the terminology 'high-fidelity' to describe computerised human simulators. The mannequin studies identified in this review utilise sophisticated technology-enhanced mannequins that reproduce physiological responses such as changes in heart rate, pulse, and oxygen saturation to enhance the realism of the situation. Students stated that they preferred the mannequin simulation to that of a classmate because the mannequin is unable to

unintentionally help them out, although no comparisons are drawn between mannequins and actors (Gibbs et al., 2017).

Psychological fidelity, the degree to which the simulation mimics the real task, is considered of greater importance than engineering fidelity, the degree to which the equipment reproduces physiological changes, by Bradley et al. (2013). Development of communication skills and empathy, which students identified as beneficial within simulated patient studies (Bennett et al., 2017; Giles et al., 2014; Pitout et al., 2016; Shoemaker et al., 2011), has not been explored in relation to fidelity and may not be supported by mannequin-based learning. Bradley et al. (2013) suggest that the mannequin simulations often referred to as 'high fidelity simulation' may lack relevance to the occupational therapy profession, although there is evidence that they are used successfully within North America (Ozelie et al., 2016; Thomas et al., 2017; Zamjahn et al., 2018).

4.3 | THEME 3: GLOBAL APPROACHES TO SIMULATION

North American authors were responsible for over half of the identified literature ($n = 18$), of which 14 were based in the United States and four in Canada. Eight papers by Australian authors were included, and small numbers of papers were found by African ($n = 3$) and British ($n = 1$) authors. Differences are noted between locations in both the types and purpose of simulation experiences which may be reflective of the different health-care systems.

Despite a national study of Higher Education Institutions in the United States reporting that the most frequently used simulation methodology is the standardised patient – a person trained to play the role of a patient or carer – (Betha et al., 2014), the literature suggests that occupational therapy education in America focusses on using simulation to expose students to medical emergencies and medically complex environments, using elements of mannequin simulation. Thomas et al. (2017) and Gibbs et al. (2017) simulated the intensive care unit experience with a combination of mannequin and human simulators, whereas Ozelie et al. (2016) included a mannequin-based medical emergency as one of four simulations. Results from Canadian authors identify only the use of a case-study approach to simulation (Gee et al., 2017; MacKenzie et al., 2017).

The African studies identified contribute to the evidence base from pre-post evaluative methodologies of simulated patient studies (Pitout et al., 2016; Vuuren, 2016) and considered faculty perceptions of similar simulations (Van Wyk et al., 2020), and the only British study included uninitiated a post-simulation evaluation of role play.

Australian literature spans a breadth of types of simulation ranging from non-interactive simulation using video

case studies (Lewis et al., 2018; Mills et al., 2019) through pre-post evaluation using both simulated patients and mannequins (Springfield, Honnery, & Bennett, 2018) to a simulated clinical placement (Imms et al., 2018). The most recent studies from Australia explore the relationship with practice learning (Chu et al., 2019; Imms et al., 2017, 2018), and include the only randomised controlled trial (Imms et al., 2018).

4.4 | THEME 4: RELATIONSHIP TO PRACTICE EDUCATION

The relevance of simulation to practice learning appears inherent, given the intention to replicate practice in a safe and controlled environment to facilitate the application of learning (Cant & Cooper, 2010). Despite this, the relevance of simulation to students' placement experience is only discussed explicitly in three papers. Giles et al. (2014) identify simulation as a well-received assessment tool to ensure students' readiness for practice, in line with a national requirement in the United States for examination before the commencement of 'Fieldwork II', the placement which US students undertake at the end of their academic programme. This study identified a desire by students to increase the amount of simulation available throughout the curriculum but noted the relative resource intensiveness. Ozelie et al. (2016) explore the impact of simulation on practice placement grades, again focussing on Fieldwork II, finding no benefit to grades.

Only one study directly comparing simulated learning with practice-based learning was identified (Imms et al., 2018), with this group of authors contributing significantly to the evidence base (Chu et al., 2019; Imms et al., 2017, 2018). This study concludes that the use of a clearly defined simulated placement, designed with attention to authenticity and complexity, in comparison with a traditional placement of the same 40-hour duration within the early years of a pre-registration occupational therapy programme is equally effective in enabling students to meet their prescribed learning outcomes. Chu et al. (2019) recognise that design of the placement in line with nationally agreed standards could provide reassurance to students, clinicians, and educators that simulation is effective in replacing practice education.

5 | FINDINGS

5.1 | Qualitative findings

The majority of identified papers ($n = 25$) investigate students' perceptions of the simulation experience. Results from these studies all identify a positive perception of the simulation experience by students and provide good evidence to suggest that simulation is of value within the Occupational

Therapy pre-registration curriculum. No studies identified a negative perception, and although feedback was given by students on ways to improve the experience in all studies, this tended to relate to timing of feedback (Vuuren, 2016), whether the students felt that their classroom learning prepared them for the simulation (Mills et al., 2019) and other issues specific to the study environment.

The key findings of these studies can be synthesised to enhance understanding of the ways in which simulation is perceived as beneficial. Based on these studies, simulation has been demonstrated to enhance professional identity and develop inter-professional knowledge, improve communication skills, increase critical thinking and decision making, and develop confidence, autonomy, and self-efficacy.

There is good evidence to support the value of simulation to enhance inter-professional learning with eight studies investigating student perceptions of different simulation methods for developing inter-professional practice skills. Within these studies, outcomes were focussed on developing knowledge of other professions rather than considering the specific impact of the simulation itself (MacKenzie et al., 2017; Mills et al., 2019; Pitout et al., 2016; Shoemaker et al., 2014; Thomas et al., 2017; Treadwell & Havenga, 2013; Van Wyk et al., 2020; Zamjahn et al., 2018). However, simulation appears to be a common method for enhancing inter-professional learning, and Pitout et al. (2016) note that the skills developed by inter-professional simulation are client-centred care, knowledge of other professions, and social and communication skills, all of which are considered to be central to the occupational therapy profession (WFOT 2010, cited by College of Occupational Therapists, 2015).

Communication skills with other professionals, rather than with clients, are highlighted in mannequin-based studies, with Reichl et al. (2019) finding limited impact on communication and one participant in Thomas et al.'s (2017) study commenting that working with a mannequin did not encourage appropriate communication. Although Ozelie et al. (2016), Thomas et al. (2017), and Zamjahn et al. (2018) acknowledge the importance of developing empathy, none of the studies report directly on development of this skill.

5.2 | Quantitative findings

Seven studies measure the effectiveness of simulation using quantitative methodologies, with five studies using post-simulation design to quantify the student experience. Findings reflect those of the qualitative studies, with all studies demonstrating positive changes in learning measured. The lack of control studies is identified by Bennett et al. (2017) with the recommendation that further studies of this nature are required, and this review found only two studies which measured the effectiveness of simulated learning against a

control group as described below (Imms et al., 2018; Ozelie et al., 2016).

Ozelie et al. (2016) retrospectively analysed the grades of students who received simulated learning prior to a placement experience and those who did not, finding no significant difference in the scores. In fact, in some areas of practice those who had participated in simulation achieved lower mean scores than those who had not. Results demonstrate a positive impact within the domain of communication for the students who had experienced simulation, although this did not reach the threshold for statistical significance.

Imms et al. (2018) carried out the largest trial to have taken place with regards to simulation within occupational therapy. They compared outcomes of a 40-hour simulated placement with those of a 40-hour traditional placement. This robust Australian multi-centre randomised controlled trial identified that students undertaking simulated placements achieved non-inferior outcomes to those undertaking traditional placements.

6 | DISCUSSION

This review of 32 publications on simulation in occupational therapy education demonstrates that despite differences with regards to the type of simulation studied, research design, and project aims, simulation is being used in a variety of ways within occupational therapy pre-registration education. Benefits to students appear to be demonstrated across all studies; however, there is a lack of rigorous studies and objective outcome measures for simulated learning in occupational therapy. The diversity of simulation methods and lack of objective outcome measures makes it difficult to draw any more specific conclusions, and the need for further research continues.

It is clear that within occupational therapy, the main type of simulation is the use of simulated patients rather than mannequins. The literature suggests that there may be a place for mannequin simulation to support practice of technical skills and inter-professional communication alongside the use of simulated patients (Gibbs et al., 2017; Thomas et al., 2017).

The preference towards the use of simulated patients may be indicative of the way in which the profession is practiced. To understand the central professional concept of a person's occupational identity, occupational therapists value the uniqueness of each individual, giving rise to the essential nature of person-centred practice (Sumsion, 2006). In direct contrast with professions which follow a process-driven approach, occupational therapists need to be able to access the clients' core beliefs, values, and wishes. To achieve this, interactive and conditional reasoning are used rather than formal strategies such as diagnostic or hypothetico-deductive reasoning that may be more common in other health professions (Sole et al., 2019). This leads therapists to use

techniques such as interviewing and observation as key assessment skills, which may present challenges to simulation by technology or mannequins but be more easily achieved by working with simulated patients.

Simulation designed to replicate human aspects of professional practice is considered valuable by students and educators. The ability to carry out skills such as taking an occupational history and interviewing to ascertain a person's valued occupations in a safe environment, combined with detailed debriefing, enables students to develop therapeutic communication skills which can be practiced and enhanced. The unique role of simulated patients can provide students with feedback from a client's perspective, enabling them the opportunity for reflection on and evaluation of these skills. Simulation can also provide a structured method for service user and carer involvement in all levels of education, as required by the regulator, by participating as simulated patients and carers (HCPC, 2017).

Using non-interactive simulation strategies for students to practice their skills has been taking place for some time within occupational therapy programmes without attracting the label of 'simulation'. Learning from case studies, practicing assessments on classmates and discussions with service users and expert patients are commonplace (Bennett et al., 2017; Bethea et al., 2014). Although it is possible that the lack of realism inherent in these activities causes programmes and individuals to refrain from calling such tasks simulation, their structured combination, together with attention to the details of the environment which enhance fidelity (Bennett et al., 2017; Bradley et al., 2013; Velde et al., 2009), may be key in their identification as simulation activities.

The identification of the benefits of simulation to enhance team skills such as communication and collaboration (MacKenzie et al., 2017; Shoemaker et al., 2014) bodes well for the future of simulation within occupational therapy, as these core skills underpin the ability to work in an occupation-focussed manner with clients. The interpretation of inter-professional simulation results could readily be applied to the profession to provide an appropriate evidence base to develop and identify the role of simulation within Occupational Therapy.

Enhancing fidelity, which may be achieved by addressing the environment in which the simulation takes place, should be easily achieved by occupational therapists who are experts in the impact of the environment on performance. Wearing uniform and carrying out activities with simulated clients within an authentic environment, such as a living room, bedroom, or simulated ward, may contribute to a high-fidelity occupational therapy simulation.

Literature included in this review which relates simulation directly to practice education is limited. However, the notion that simulation enables students to develop confidence, autonomy, and self-efficacy, as well as communication and professional skills, should be considered

in relation to practice performance. As the profession diversifies in relation to changes in health-care provision, placement experiences have become increasingly diverse (Glenn & Gilbert-Hunt, 2012) and student experiences can vary widely. In some settings, the student can be relegated to passive observer, unable to practice skills due to risk and regulatory restrictions and service user consent. It is possible that simulation could be used not only as preparation for practice but also to augment or replace placements in which students are unable to practice their skills. The purpose of undertaking placement learning in occupational therapy is widely understood to support integration of knowledge derived from formal education with practice in order to establish professional competence (Imms et al., 2018). Simulation provides a safe opportunity to practice these skills and to build confidence and could therefore enhance learning opportunities experienced in practice.

The literature suggests that occupational therapy educators should continue to seek to incorporate simulation activities within curricula, as these are well received as beneficial by students, who express a desire to undertake them both early on in their studies and frequently. However, the specific learning achieved remains poorly described and educators should take care to align the simulation constructively with intended learning outcomes (Boud & Falchikov, 2006) as they would with other learning activities.

6.1 | LIMITATIONS OF THE REVIEW

This scoping review highlights the current evidence for simulation in relation to occupational therapy education and may not be exhaustive. It is recognised that it is limited by one author reviewing all papers, which was nevertheless appropriate in the context of completing the review as part of PhD study. Reference searches may not be comprehensive as synonyms for the search terms “simulation” and “education” were absent. However, the 32 articles included represented a wide range of international simulation studies in occupational therapy education.

6.2 | FUTURE RESEARCH

The lack of studies measuring the outcomes of simulated learning as a replacement for practice education demonstrates a clear research gap, and the extrapolation of evidence gathered from inter-professional simulation experiences requires further attention. Although not identified as the specific intention of this review, it is also recognised that the effectiveness of simulation within occupational therapy education remains poorly evidenced, and there is an ongoing need for further control studies.

7 | CONCLUSION

The literature reviewed provides strong evidence that students find simulation to be a positive experience. Authors discuss simulation positively while recognising the need for further study and there is potential for simulation to be successfully used to replace a small number of practice learning hours. Occupational therapy educators are in an excellent position to develop the authentic environments required to create high fidelity simulations.

KEY POINTS FOR OCCUPATIONAL THERAPY

- A wide variety of simulation methods are currently in use within pre-registration Occupational Therapy education
- Students report simulation to be of benefit to the development of communication skills
- Simulation may have a direct relevance to practice education if focussed on professional competencies congruent with practice learning outcomes.

AUTHORSHIP STATEMENT

The first author named is lead and corresponding author. All other authors are listed according to contributions as defined using the CRediT taxonomy. Writing – Original Draft: TG. Writing – Review & Editing: TG, YT, PG.; Conceptualization: TG, YT, PG, LB.; Methodology: TG, YT, PG, LB; Formal Analysis: TG, YT

CONFLICT OF INTEREST

The author(s) confirm that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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REFERENCES

- Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology: Theory and Practice*, 8(1), 19–32. <https://doi.org/10.1080/1364557032000119616>
- Aveyard, H., & Sharp, P. (2013). How do I find relevant evidence to support my practice and learning? *A beginner's guide to evidence-based practice in health and social care* (pp. 86–108).
- Bennett, S., Rodger, S., Fitzgerald, C., & Gibson, L. (2017). Simulation in occupational therapy curricula: A literature review. *Australian Occupational Therapy Journal*, 64(4), 314–327. <https://doi.org/10.1111/1440-1630.12372>

- Berragan, L. (2011). Simulation: An effective pedagogical approach for nursing? *Nurse Education Today*, 31(7), 660–663. <https://doi.org/10.1016/j.nedt.2011.01.019>
- Bethea, D. P., Castillo, D. C., & Harvison, N. (2014). Use of simulation in occupational therapy education: Way of the future? *American Journal of Occupational Therapy*, 68(S2), S32–S39. <https://doi.org/10.5014/ajot.2014.012716>
- Bland, A. J., Topping, A., & Wood, B. (2011). A concept analysis of simulation as a learning strategy in the education of undergraduate nursing students. *Nurse Education Today*, 31(7), 664–670. <https://doi.org/10.1016/j.nedt.2010.10.013>
- Boud, D., & Falchikov, N. (2006). Aligning assessment with long term learning. *Assessment & Evaluation in Higher Education*, 31(4), 399–413. <https://doi.org/10.1080/02602930600679050>
- Bradley, G., Whittington, S., & Mottram, P. (2013). Enhancing occupational therapy education through simulation. *British Journal of Occupational Therapists*, 76(1), 43–46. <https://doi.org/10.4276/030802213X13576469254775>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1111/j.1460-2466.1978.tb01621.x>
- Buckley, S., Hensman, M., Thomas, S., Dudley, R., Nevin, G., & Coleman, J. (2012). Developing interprofessional simulation in the undergraduate setting: Experience with five different professional groups. *Journal of Interprofessional Care*, 26(5), 362–369. <https://doi.org/10.3109/13561820.2012.685993>
- Cameron, J. J., & McColl, M. A. (2015). Learning client-centred practice short report: Experience of OT students interacting with “expert patients”. *Scandinavian Journal of Occupational Therapy*, 22(4), 322–324. <https://doi.org/10.3109/11038128.2015.1011691>
- Cant, R. P., & Cooper, S. J. (2010). Simulation-based learning in nurse education: Systematic review. *Journal of Advanced Nursing*, 66(1), 3–15. <https://doi.org/10.1111/j.1365-2648.2009.05240.x>
- Cahill, S. M. (2015). Perspectives on the use of standardized parents to teach collaboration to graduate occupational therapy students. *American Journal of Occupational Therapy*, 69, <https://doi.org/10.5014/ajot.2015.017103>.
- CASP Checklists. (2019). CASP Checklists – CASP – Critical appraisal skills programme. 2018. <https://casp-uk.net/casp-tools-checklists/>
- Chu, E. M. Y., Sheppard, L., Guinea, S., & Imms, C. (2019). Placement replacement: A conceptual framework for designing simulated clinical placement in occupational therapy. *Nursing and Health Sciences*, 21(1), 4–13. <https://doi.org/10.1111/nhs.12551>
- College of Occupational Therapists. (2015). *Code of ethics and professional conduct*. <https://www.cot.co.uk/sites/default/files/publications/public/CODE-OF-ETHICS-2015.pdf>
- Evans, L., Taubert, M., & Deanery, W. (2019). State of the science: The doll is dead: Simulation in palliative care education Speciality Registrar in Palliative Medicine. *BMJ Supportive and Palliative Care*, 9, 117–119. <https://doi.org/10.1136/bmjspcare-2018-001595>
- Gee, B. M., Thompson, K., Strickland, J., & Miller, L. J. (2017). The development of a measurement tool evaluating knowledge related to sensory processing among graduate occupational therapy students: A process description. *Occupational Therapy International*, 2017, <https://doi.org/10.1155/2017/6713012>
- Gibbs, D. M., Dietrich, M., & Dagnan, E. (2017). Using high fidelity simulation to impact occupational therapy student knowledge, comfort, and confidence in acute care. *The Open Journal of Occupational Therapy*, 5, 1. <https://doi.org/10.15453/2168-6408.1225>
- Giles, A. K., Carson, N. E., Breland, H. L., Coker-Bolt, P., & Bowman, P. J. (2014). Use of simulated patients and reflective video analysis to assess occupational therapy students’ preparedness for fieldwork. *American Journal of Occupational Therapy*, 68, S57–S66. <https://doi.org/10.5014/ajot.2014.68S503>
- Glenn, E. K., & Gilbert-Hunt, S. (2012). New graduate occupational therapists experience of showering assessments: A phenomenological study. *Australian Occupational Therapy Journal*, 59(3), 188–196. <https://doi.org/10.1111/j.1440-1630.2012.01000.x>
- Haracz, K., Arrighi, G., & Joyce, B. (2015). Simulated patients in a mental health occupational therapy course: A pilot study. *British Journal of Occupational Therapy*, 78(12), 757–766. <https://doi.org/10.1177/0308022614562792>
- HCPC. (2017). *Standards of education and training*. <http://www.hpc-uk.org/assets/documents/1000295EStandardseducationandtraining-fromSeptember2009.pdf>
- Hellaby, M. (2013). *Healthcare simulation in practice*. M&K Update Ltd.
- Imms, C., Chu, E. M. Y., Guinea, S., Sheppard, L., Froude, E., Carter, R., Darzins, S., Ashby, S., Gilbert-Hunt, S., Gribble, N., Nicola-Richmond, K., Penman, M., Gospodarevskaya, E., Mathieu, E., & Symmons, M. (2017). Effectiveness and cost-effectiveness of embedded simulation in occupational therapy clinical practice education: Study protocol for a randomised controlled trial. *Trials*, 18(1), 17–29. <https://doi.org/10.1186/s13063-017-2087-0>
- Imms, C., Froude, E., Chu, E. M. Y., Sheppard, L., Darzins, S., Guinea, S., Gospodarevskaya, E., Carter, R., Symmons, M. A., Penman, M., Nicola-Richmond, K., Gilbert Hunt, S., Gribble, N., Ashby, S., & Mathieu, E. (2018). Simulated versus traditional occupational therapy placements: A randomised controlled trial. *Australian Occupational Therapy Journal*, 65(6), 556–564. <https://doi.org/10.1111/1440-1630.12513>
- Levac, D., Colquhoun, H., & O’Brien, K. K. (2010). Scoping studies: Advancing the methodology. *Implementation Science*, 5(1), 69. <https://doi.org/10.1186/1748-5908-5-69>
- Lewis, A., Rudd, C. J., & Mills, B. (2018). Working with children with autism: An interprofessional simulation-based tutorial for speech pathology and occupational therapy students. *Journal of Interprofessional Care*, 32(2), 242–244. <https://doi.org/10.1080/13561820.2017.1388221>
- Mackenzie, D. E., Collins, K. E., Guimond, M. J., Hunter, A. C., Jurcina, K. J., McDonald, J. L., Mackenzie, D. E., Collins, K. E., Guimond, M. J., Hunter, A. C., Jurcina, K. J., Richards, J. L., Sinclair, N. L., & Taylor, S. H. (2018). Co-constructing Simulations with Learners: Roles, Responsibilities, and Impact. *The Open Journal of Occupational Therapy*, 6(1), 1. <https://doi.org/10.15453/2168-6408.1335>
- MacKenzie, D., Creaser, G., Sponagle, K., Gubitza, G., MacDougall, P., Blacquiere, D., Miller, S., & Sarty, G. (2017). Best practice interprofessional stroke care collaboration and simulation: The student perspective. *Journal of Interprofessional Care*, 31(6), 793–796. <https://doi.org/10.1080/13561820.2017.1356272>
- Mills, B., Hansen, S., Nang, C., McDonald, H., Lyons-, P., Hunt, J., Sullivan, T. O., Mills, B., Hansen, S., Nang, C., McDonald, H., Lyons-wall, P., & Hunt, J. (2019). A pilot evaluation of simulation-based interprofessional education for occupational therapy, speech pathology and dietetic students: Improvements in attitudes and confidence confidence. *Journal of Interprofessional Care*, 00(00), 1–9. <https://doi.org/10.1080/13561820.2019.1659759>

- Ozelie, R., Both, C., Fricke, E., & Maddock, C. (2016). High-fidelity simulation in occupational therapy curriculum: Impact on level II fieldwork performance. *The Open Journal of Occupational Therapy, 4*(4). <https://doi.org/10.15453/2168-6408.1242>
- Pitout, H., Human, A., Treadwell, I., & Sobantu, N. A. (2016). Healthcare students' perceptions of a simulated interprofessional consultation in an outpatient clinic. *Innovations in Education and Teaching International, 53*(3), 338–348. <https://doi.org/10.1080/14703297.2014.993417>
- Reichl, K., Baird, J. M., Chisholm, D., & Terhorst, L. (2019). Measuring and describing occupational therapists' perceptions of the impact of high-fidelity, high-technology simulation experiences on performance. *American Journal of Occupational Therapy, 73*(6), 7306205090p1. <https://doi.org/10.5014/ajot.2019.034694>
- Sabus, C., Sabata, D., & Antonacci, D. (2011). Use of a virtual environment to facilitate instruction of an interprofessional home assessment. *Journal of Allied Health, 40*(4), 199–205.
- Shea, C.-K. (2015). High-fidelity simulation: A tool for occupational therapy education. *The Open Journal of Occupational Therapy, 3*. <https://doi.org/10.15453/2168-6408.1155>
- Shoemaker, M. J., Beasley, J., Cooper, M., Perkins, R., Smith, J., & Swank, C. (2011). A method for providing high-volume interprofessional simulation encounters in physical and occupational therapy education programs. *Journal of Allied Health, 40*(1), e15–e21. <https://www.ingentaconnect.com/content/asahp/jah/2011/00000040/00000001/art00012#>
- Shoemaker, M. J., Platko, C. M., Cleghorn, S. M., & Booth, A. (2014). Virtual patient care: An interprofessional education approach for physician assistant, physical therapy and occupational therapy students. *Journal of Interprofessional Care, 28*(4), 365–367. <https://doi.org/10.3109/13561820.2014.891978>
- Sole, G., Skinner, M., Hale, L., & Golding, C. (2019). Developing a framework for teaching clinical reasoning skills to undergraduate physiotherapy students: A Delphi study. *New Zealand Journal of Physiotherapy, 47*(1), 49–58. <https://doi.org/10.15619/NZIP/47.1.06>
- Springfield, E., Honnery, M., & Bennett, S. (2018). Evaluation of a simulation clinic for improving occupational therapy students' perceptions of interaction with parents and infants. *British Journal of Occupational Therapy, 81*(1), 51–58. <https://doi.org/10.1177/0308022617736504>
- Sumsion, T. (2006). *Client-centred practice in Occupational Therapy – A guide to implementation*. Elsevier Limited.
- Thomas, E. M., Rybski, M. F., Apke, T. L., Kegelmeyer, D. A., & Kloos, A. D. (2017). An acute interprofessional simulation experience for occupational and physical therapy students: Key findings from a survey study. *Journal of Interprofessional Care, 31*(3), 317–324. <https://doi.org/10.1080/13561820.2017.1280006>
- Treadwell, I., & Havenga, H. S. (2013). Ten key elements for implementing interprofessional learning in clinical simulations. *African Journal of Health Professions Education, 5*(2), 80. <https://doi.org/10.7196/ajhpe.233>
- van Vuuren, S. (2016). Reflections on simulated learning experiences of occupational therapy students in a clinical skills unit at an institution of higher learning. *South African Journal of Occupational Therapy, 46*(3), 80–84. <https://doi.org/10.17159/2310-3833/2016/v46n3/a13>
- Van Wyk, R., Labuschagne, M. J., & Joubert, G. (2020). Simulation as an educational strategy to deliver interprofessional education. *African Journal of Health Professions Education, 12*(2), 74. <https://doi.org/10.7196/AJHPE.2020.v12i2.1213>
- Velde, B. P., Lane, H., & Clay, M. (2009). Hands on learning: The use of simulated clients in intervention cases. *Journal of Allied Health, 38*(1), 17–22.
- Walls, D. J., Fletcher, T. S., & Brown, D. P. (2019). Occupational Therapy Students. Perceived Value of Simulated Learning Experiences'. *Journal of Allied Health, 48*(1), e21–e25.
- Watchorn, V., Larkin, H., Ang, S., & Hitch, D. (2013). Strategies and effectiveness of teaching universal design in a cross-faculty setting. *Teaching in Higher Education, 18*(5), 477–490. <https://doi.org/10.1080/13562517.2012.752730>
- Yeung, E., Dubrowski, A., & Carnahan, H. (2013). Simulation-augmented education in the rehabilitation professions: A scoping...: EBSCOhost. *International Journal of Therapy and Rehabilitation*. <http://web.b.ebscohost.com.apollo.worc.ac.uk/ehost/pdfviewer/pdfviewer?vid=12&sid=21af7825-7e8d-417a-a3ad-fc2c7ea27529%40pdc-v-sessmgr06>
- Zamjahn, J. B., Beyer, E. O., Alig, K. L., Mercante, D. E., Carter, K. L., & Gunaldo, T. P. (2018). Increasing awareness of the roles, knowledge, and skills of respiratory therapists through an interprofessional education experience. *Respiratory Care, 63*(5), 510. <https://doi.org/10.4187/respcare.05869>
- Occupational Therapy Council of Australia Ltd. (2013). *Accreditation standards for entry-level occupational therapy education programs*. <https://www.otcouncil.com.au/wp-content/uploads/Accred-Standards-December-2013.pdf>

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Appendix D Student recruitment email

From: Terri Grant (Student)
Sent: 20 February 2021 09:40
To: REDACTED
Subject: Simulating Practice Education: Identifying first year occupational therapy student learning during practice education
Attachments: PIS - Students.docx; Consent Form.docx

Dear Student,

I hope that you have, by now, had the opportunity to watch the presentation shared with you by REDACTED, course lead, regarding the opportunity to participate in my student research. I hope that the presentation answered any questions you might have had and that you are in a position to consider opting into this study.

As a reminder, I will be asking you to participate in a one-to-one interview with me, via MS Teams, about your placement experiences and specifically the learning that you felt you gained during your placement. The interview should last no longer than one hour (it is more likely to be approx 30 minutes) and can be arranged at a time to suit you.

Should you wish to participate, and I very much hope that you will, please could you read the participant information sheet enclosed and, if you are happy, reply to this email, returning the enclosed consent form. I will then contact you on an individual basis to set up the interview. Please do NOT use my staff email address for this purpose, but be sure to use my student email: REDACTED

Please be aware that at this point I am looking to begin interviews with those who were in cohort A and have therefore completed their placement. If you are in cohort B and would like to participate, please let me know this when you respond so that I do not schedule your interview until after placement has been completed. Equally, if you wish to wait and see how you feel after placement this is fine and I will send a reminder email to cohort B students in 5 weeks' time.

Thank you in advance for considering offering your support to this project.

Kind regards,

Terri
Terri Grant
BSc, MSc, PGCert HE, Fellow HEA, MRCOT

PhD Student

Appendix E Informed Consent Form

INFORMED CONSENT FORM (NON-NHS RESEARCH)

Title of Project: Simulating Practice Education: Identifying first year occupational therapy student learning during practice education

Name of Researcher: Terri Grant

I, the undersigned, confirm that (**please initial boxes as appropriate**):

1.	I have read and understood the information about the project, as provided in the Information Sheet dated _____ or it has been read to me.	
2.	I have been able to ask questions about the project and my participation and my questions have been answered to my satisfaction.	
3.	I understand that taking part in this study involves participating in an interview which will be audio recorded or may be video recorded if videoconferencing is used in place of face to face interviews. Audio / video recordings will be transcribed as text and the researcher will make written notes. Recordings will be securely destroyed following transcription.	
4.	I understand I can withdraw at any time until the interview is complete, including during the interview itself, without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn. Following the interview I understand that it will not be possible to withdraw my data.	
5.	I understand that the information I provide will be used for the purposes of dissemination (through research reports, a thesis / dissertation, conference papers, journal articles or other publications). Any information disseminated / published will be at a summary level and will be fully anonymised and there will be no way of identifying my individual personal information within the published results.	
6.	I agree that my information can be quoted in research outputs	
7.	The procedures regarding confidentiality have been clearly explained (e.g. use of names, pseudonyms, anonymisation of data, etc.) to me.	
8.	I understand that personal information collected about me that can identify me, such as my name, or where I live, will not be shared beyond the study team.	
9.	I consent to the audio/video recording.	
10.	I understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they agree to the terms I have specified in this form.	
11.	I voluntarily agree to participate in the project.	
12.	I know who to contact if I have any concerns about this research	

Name of Participant

Signature

Date

Name of Researcher

Signature

Date

Appendix F Participant Information Sheet

PARTICIPANT INFORMATION SHEET AND PRIVACY NOTICE

TITLE OF PROJECT: What do students learn during first year pre-registration Occupational Therapy placements and can this be replaced with simulated learning?

Invitation

The University of REDACTED engages in a wide range of research which seeks to provide greater understanding of the world around us, to contribute to improved human health and well-being and to provide answers to social, economic and environmental problems.

We would like to invite you to take part in one of our research projects. Before you decide whether to take part, it is important that you understand why the research is being done, what it will involve for you, what information we will ask from you, and what we will do with that information.

We will in the course of this project be collecting personal information. Under General Data Protection Regulation 2016, we are required to provide a justification (what is called a “legal basis”) in order to collect such information. The legal basis for this project is “task carried out in the public interest”.

You can find out more about our approach to dealing with your personal information at REDACTED

Please take time to read this document carefully. Feel free to ask the researcher any questions you may have and to talk to others about it if you wish.

What is the purpose of the research?

This study aims to understand what is learned by occupational therapy pre-registration students during their first assessed practice learning placement.

Who is undertaking the research?

Terri Grant

Lead Researcher / Senior Lecturer / PhD student

Who has oversight of the research?

The research has been approved by the Research Ethics Panel for the College of Health, Life and Environmental Sciences in line with the University's Research Ethics Policy. The University acts as the "Data Controller" for personal data collected through its research projects & is subject to the General Data Protection Regulation 2016. We are registered with the Information Commissioner's Office and our Data Protection Officer REDACTED. For more on our approach to Information Assurance and Security visit: REDACTED

Why have I been invited to take part?

You have received this invitation because you are a first-year pre-registration occupational therapy student about to embark on your first practice learning placement. We are hoping to recruit 15 students and 15 Practice Educators for this study.

Do I have to take part?

No. It is up to you to decide whether or not you want to take part in this study. Please take your time to decide. You can decide not to take part or to withdraw from the

study until your interview is completed. If you do decide to take part you will be asked to sign a consent form.

What will happen if I agree to take part?

If you agree to take part, you will

- Participate in a one to one interview
- Interviews will be carried out on the University of Worcester campus if possible, or via MS Teams videoconferencing software if necessary
- Interviews will last approximately 45 minutes
- Your perceptions and opinions on the learning you have experienced during your placement will be collected
- Data will be audio recorded (or video recorded if using MS Teams), transcribed and the audio or video recording deleted.

What are the benefits for me in taking part?

Your participation will enable you to contribute to a greater understanding of the student experience of first year practice learning placements. You may also find that reflecting on this learning helps you to gain insight and therefore be better prepared for your subsequent placement.

Are there any risks for me if I take part?

The research

- May be distressing if you have had challenging experiences during your placement that you are asked to recall.

Your Personal Academic Tutor and / or Student services will be able to support you if required.

There are no risks associated with COVID-19. Interviews will follow government guidelines at the time and will be carried out via MS Teams if face to face conversation is not advised.

What will you do with my information?

Your personal data / information will be treated confidentially at all times; that is, it will not be shared with anyone outside the research team or any third parties specified in the consent form unless it has been fully anonymised. The exception to this is where you tell us something that indicates that you or someone else is at risk of harm. In this instance, we may need to share this information with a relevant authority; however, we would inform you of this before doing so.

During the project, all data / information will be kept securely in line with the University's Policy for the Effective Management of Research Data and its Information Security Policy.

We will process your personal information for a range of purposes associated with the project primary of which are:

To use your information along with information gathered from other participants in the research project to seek new knowledge and understanding that can be derived from the information we have gathered.

To summarise this information in written form for the purposes of dissemination (through research reports, a thesis / dissertation, conference papers, journal articles or other publications). Any information disseminated / published will be at a summary level and will be fully anonymised and there will be no way of identifying your individual personal information within the published results.

To use the summary and conclusions arising from the research project for teaching and further research purposes. Any information used in this way will be at a summary level and will be fully anonymised. There will be no way of identifying your individual personal information from the summary information used in this way.

If you wish to receive a summary of the research findings or to be given access to any of the publications arising from the research, please contact the researcher.

How long will you keep my data for?

Your personal data will be retained until the project (including the dissemination period) has been completed.

At the completion of the project, we will retain your data only in anonymised form.

This anonymised data will be archived and shared in line with our Policy for the Effective Management of Research Data

How can I find out what information you hold about me?

You have certain rights in respect of the personal information the University holds about you. For more information about Individual Rights under GDPR and how you exercise them please visit: REDACTED

What happens next?

Please keep this information sheet. If you do decide to take part, please contact the researcher using the details below.

Thank you for taking the time to read this information.

If you decide you want to take part in our project, and we hope you do, or if you have any further questions then please contact:

Terri Grant (contact details redacted)

If you have any concerns about the project at this point or at any later date you may contact the researcher (contact as above) or you may contact the Director of Studies:

DoS contact information redacted

If you would like to speak to an independent person who is not a member of the research team, please contact REDACTED

Appendix G HRA decision tool

3/21/2020

Result - England

Go straight to content.



Do I need NHS REC approval?

1 To print your result with title and IRAS Project ID please enter your details below:

Title of your research:

The use of Simulation in Occupational Therapy education phase 1: What do students learn during first year pre-registration Occupational Therapy placements?

IRAS Project ID (if available):

Your answers to the following questions indicate that **you do not need NHS REC approval for sites in England**. However, **you may need other approvals**.

You have answered **'YES'** to: Is your study research?

You answered **'NO'** to all of these questions:

Question Set 1

- Is your study a clinical trial of an investigational medicinal product?
- Is your study one or more of the following: A non-CE marked medical device, or a device which has been modified or is being used outside of its CE mark intended purpose, and the study is conducted by or with the support of the manufacturer or another commercial company (including university spin-out company) to provide data for CE marking purposes?
- Does your study involve exposure to any ionising radiation?
- Does your study involve the processing of disclosable protected information on the Register of the Human Fertilisation and Embryology Authority by researchers, without consent?

Question Set 2

- Will your study involve potential research participants identified in the context of, or in connection with, their past or present use of services (adult and children's healthcare within the NHS and adult social care), including participants recruited through these services as healthy controls?
- Will your research involve collection of tissue or information from any users of these services (adult and children's healthcare within the NHS and adult social care)? This may include users who have died within the last 100 years.

www.hra-decisiontools.org.uk/ethics/EngresultN1.html

1/3

- Will your research involve the use of previously collected tissue or information from which the research team could identify individual past or present users of these services (adult and children's healthcare within the NHS and adult social care), either directly from that tissue or information, or from its combination with other tissue or information likely to come into their possession?
- Will your research involve potential research participants identified because of their status as relatives or carers of past or present users of these services (adult and children's healthcare within the NHS and adult social care)?

Question Set 3

- Will your research involve the storage of relevant material from the living or deceased on premises in the UK, but not Scotland, without an appropriate licence from the Human Tissue Authority (HTA)? This includes storage of imported material.
- Will your research involve storage or use of relevant material from the living, collected on or after 1st September 2006, and the research is not within the terms of consent from the donors, and the research does not come under another NHS REC approval?
- Will your research involve the analysis of DNA from bodily material, collected on or after 1st September 2006, and this analysis is not within the terms of consent for research from the donor? And/or: Will your research involve the analysis of DNA from materials that do not contain cells (for example: serum or processed bodily fluids such as plasma and semen) and this analysis is not within the terms of consent for research from the donor?

Question Set 4

- Will your research involve at any stage intrusive procedures with adults who lack capacity to consent for themselves, including participants retained in study following the loss of capacity?
- Is your research health-related and involving prisoners?
- Does your research involve xenotransplantation?
- Is your research a social care project funded by the Department of Health and Social Care (England)?

If your research extends beyond **England** find out if you need NHS REC approval by selecting the '**OTHER UK COUNTRIES**' button below.

OTHER UK COUNTRIES

If, after visiting all relevant UK countries, this decision tool suggests that you do not require NHS REC approval [follow this link for final confirmation and further information.](#)

Print This Page

NOTE: If using Internet Explorer please use browser print function.

[About this tool](#) [Feedback](#) [Contact](#) [Glossary](#)

Appendix H Site specific authority email

From: REDACTED
Sent: 28 April 2021 11:36
To: Terri Grant (Student)
Cc: REDACTED
Subject: Re: Site specific authority to carry out research interviews with staff

Hi Terri,

thanks for providing all your study documents, and for answering our queries.

Having reviewed your paperwork, we have concluded that your project does not constitute 'research' by the HRA definition (<http://www.hra-decisiontools.org.uk/research/question1.html>), and therefore approvals for you to undertake your project will not come from the R&D office. You should contact the departmental leads for OT at each of the three Trusts for permission to undertake your project in their department.

At REDACTED NHS Trust this REDACTED (I'm sorry, I don't have an email address for her)
At REDACTED NHS Trust the number for the OT Manager is REDACTED(I don't have a name or email address)
REDACTED will provide you with contact information for the REDACTED OT team.

Please don't hesitate to ask if you have any queries at all.

Kind regards

Appendix I Authorisation to approach Practice Educators

Trust A

From: REDACTED

Sent: 04 May 2021 20:03

To: Terri Grant (Student)

Subject: RE: Request to carry out research interviews with staff

Happy to assist Terri

REDACTED

Occupational Therapy Manager

Trust B

From: REDACTED

Sent: 28 April 2021 15:08

To: Terri Grant (Student)

Subject: RE: Request to carry out research interviews with staff

Hi Terri,

Yes happy for you to contact practice educators in the Trust who have had first year students. I can see that R&D have overseen this from their point of view, so happy to support as a Trust.

Good luck with the PhD, I look forward to hearing how it goes.

REDACTED

Trust C

From: REDACTED Sent: 28 April 2021 15:38

To: Terri Grant (Student)

Subject: RE: Request to carry out research interviews with staff

Hi Terri

I don't have any issue at all with you contacting the practice educators for OT at REDACTED :)

Many thanks

REDACTED

Appendix J Practice Educator recruitment email

From: Terri Grant (Student)
Sent: 29 April 2021 14:23
To: Terri Grant (Student)
Subject: First year occupational therapy learning on placement
Attachments: Consent Form.docx; CHLES20210003-R_PIS - Practice Educators.docx

Dear Practice Educators,

I am currently studying the learning which is achieved by first year students during their first assessed placement as part of my PhD in Occupational Therapy, which seeks to explore the use of simulation for practice learning. It is hoped that this project will ultimately contribute to the ways in which we manage practice learning for our students here at University REDACTED.

As part of the project I would like to talk to Practice Educators about what you feel that your students have learned during their placement with you.

I am contacting you because you have recently completed a first year placement with a student from the University of REDACTED and would like to invite you to participate in a one-to-one interview with me, via MS Teams, about your recent placements and specifically the learning that you feel your student(s) gained during their placement. The interview should last no longer than one hour and can be arranged at a time to suit you, including the working day, evenings or weekends. Interviews will commence in April and be completed before the end of August.

Should you wish to participate, and I very much hope that you will, please could you read the participant information sheet enclosed and, if you are happy, reply to this email, returning the enclosed consent form. I will then contact you on an individual basis to set up the interview. Please do NOT use my staff email address or the therapy placements email for this purpose, but be sure to use my student email: REDACTED

I hope that the enclosed information will be sufficient for you to understand what I am trying to achieve and what would be asked of you as a participant, but if you have any additional questions you are most welcome to get in touch for more information. I hope that you will see this as an interesting CPD opportunity, and the chance to influence research in your local area

Kind regards,

Terri
Terri Grant
BSc, MSc, PGCert HE, Fellow HEA, MRCOT

PhD Student

Appendix K Ethics approval

HEALTH, LIFE & ENVIRONMENTAL SCIENCES RESEARCH ETHICS PANEL
CONFIRMATION OF APPROVAL

19 November 2020

REP CODE: CHLES20210003-R

**SIMULATING PRACTICE EDUCATION: IDENTIFYING FIRST YEAR OCCUPATIONAL THERAPY
STUDENT LEARNING DURING PRACTICE EDUCATION**

Dear Terri

Thank you for your revised application for proportionate review ethical approval to the Health, Life & Environmental Sciences Research Ethics Panel on the 16 November 2020.

Your application has been reviewed in accordance with the University of Worcester Ethics Policy and in compliance with the Standard Operating Procedures for proportionate ethical review.

The outcome of the review is that the Committee is now happy to grant this project ethical approval to proceed.

Your research must be undertaken as set out in the approved application for the approval to be valid. You must review your answers to the checklist on an ongoing basis and resubmit for approval where you intend to deviate from the approved research. Any major deviation from the approved application will require a new application for approval.

As part of the University Ethic Policy, the University undertakes an audit of a random sample of approved research. You may be required to complete a questionnaire about your research.

Yours sincerely

Appendix L Ethics approval – amendment

4 October 2021

REP CODE: CHLES20210003-R

SIMULATING PRACTICE EDUCATION: IDENTIFYING FIRST YEAR OCCUPATIONAL THERAPY STUDENT LEARNING DURING PRACTICE EDUCATION

Dear Terri

Thank you for your amendment submitted for ethical approval to the Health, Life & Environmental Sciences (CHLES REP) Research Ethics Panel on the 25 September 2021.

Your amendment application has been reviewed in accordance with the University of Worcester Ethics Policy and in compliance with the Standard Operating Procedures for ethical review.

The outcome of the review is that I am happy to grant the amendment to this project ethical approval to proceed.

Please note your research must be undertaken as set out in the approved documents for the approval to be valid. Please ensure you review your answers to the checklist on an ongoing basis and contact the Research Ethics Panel again if you intend to make any further amendments to the approved research.

Yours sincerely

Appendix M Interview Schedules

Interview Schedule - Students

Research Question: What skills, knowledge and behaviours are learned during Student Occupational Therapists' early exposure to practice in the course of their first assessed placement, and can these be effectively replaced with simulated learning?

- Tell me about yourself – what experience did you have before you started your Occupational Therapy course? **[Context]**
- Tell me about your placement setting – what did the service do, who were the service users... **[Context]**
- I'm interested to understand what you did day to day on placement – what did a typical day look like? What did you do / your Practice Educator do? **[Details of experience]**
-
- Did you find it easy or difficult to meet the Learning Outcomes? Which ones were the hardest to meet? **[Reflection]**
- What did you feel that you learned on placement? **[Reflection]**
- What was the most important thing that you learned? **[Reflection]**
- Did you learn any specific skills during your placement? What were they? Did you learn any other skills? **[Reflection]**
- Was there any particular knowledge that you learned during your placement? **[Reflection]**
- **How did you apply your knowledge? What does this mean?**
- How about behaviours? Did you learn anything about how to behave or what was expected of you? **[Reflection]**
- What was the most difficult thing for you to learn on placement? **[Reflection]**
-
- Was there anything that you would have liked the opportunity to practice before you went on placement? How do you think practicing beforehand would have helped? **[Reflection]**
- Was there anything that you didn't get to do for yourself on placement that you would have liked to have tried? What skills would you have needed to have to have been able to do this? **[Reflection]**

Interview Schedule – Practice Educators

Research Question: What skills, knowledge and behaviours are learned during Student Occupational Therapists' early exposure to practice in the course of their first assessed placement, and can these be effectively replaced with simulated learning?

- Tell me about yourself – how long have you been an Occupational Therapist / Practice Educator? **[Context]**
- Tell me about your setting – what does your service do, who are your service users... **[Context]**
- I'm interested to understand the day to day placement experience – what did a typical day look like for you and for your student? Were there times when your student wasn't with you and if so, what were they doing then? **[Details of experience]**
- Do you think it was easy or difficult for your student to meet their Learning Outcomes? Which ones were the hardest to meet? **[Reflection]**
- What did you feel that your student learned on placement? **[Reflection]**
- What do you think was their greatest learning? **[Reflection]**
- Do you think that your student learned any specific skills during your placement? What were they? Did they learn any other skills? **[Reflection]**
- Did you try to teach them any skills that they weren't able to grasp? **[Reflection]**
- Was there any particular knowledge that you feel your student learned during their placement? **[Reflection]**
- How about behaviours? Do you think they learned anything about how to behave or what was expected of them? **[Reflection]**
- What did you feel was the most difficult thing for your student to learn on placement? What did they struggle with most? **[Reflection]**
- Was there anything that you feel your students should / could / would have benefited from having practiced before they came into your setting? How do you think practicing beforehand would have helped them? **[Reflection]**
- Was there anything that you felt your student couldn't have a go at on placement? What prevented you from allowing them to do this? What skills would they have needed to have to have been able to do this? **[Reflection]**

Appendix N Follow-up email to students

From: Terri Grant (Student)

Sent: 22 May 2021 09:41

To: Terri Grant (Student)

Subject: FW: Learning on placement research

Dear Students,

Thank you to those of you who have offered, or who have already been interviewed, for my research. I've had some excellent conversations so far and I hope that those of you who participated in the interviews found it helpful to reflect back on your placements as well.

I am getting to the point in my research where I need to check out some of the concepts that I have been developing, and in order to do this I am really keen to speak to any student who found placement particularly difficult. This might be because you were very nervous, or because you didn't like the setting you were in, or because you've never worked with people in this way before, or because you didn't pass your placement, or for no particular reason it was just hard. Whatever the reason, if you found placement especially difficult, I'd really like to talk to you.

As a reminder the interviews are confidential and held between you & me only. No-one else knows who I am talking to or the content of the interview. Recordings will be transcribed and the recording subsequently destroyed.

If you think you can help, please let me know as soon as possible. There is no urgency to carry out the interview, I am currently booking people in over the next few weeks so if now's not a good time that's fine, we can plan ahead. I look forward to hearing from a few more of you!

Kind regards,

Terri

Terri Grant

BSc, MSc, PGCert HE, Fellow HEA, MRCOT

PhD Student

Appendix O “I left feeling different about myself” What students learn on their first practice placement.

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Research Article

‘I left feeling different about myself’: What students learn on their first practice placement

British Journal of Occupational Therapy

1–10

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Terri Grant¹, Peter Gossman¹, Yvonne Thomas²,
Liz Berragan³ and Helen Frank¹

Abstract

Introduction: With the inclusion of 40 hours of simulated practice education for UK occupational therapy students and the subsequent impact of the COVID-19 pandemic, universities have been exploring simulated placement opportunities. However, the evidence available to guide the development of such placements is sparse. This article presents the first stage of a grounded theory study that seeks to understand what students learn during the course of their first practice placement, with the intention of informing simulated placement development.

Method: Grounded theory methodology was used to guide semi-structured individual interviews with 15 participants – seven undergraduate students, three practice educators and five postgraduate pre-registration students. Interviews occurred close to the end of the first practice placement. Concurrent data collection and analysis led to the development of categories of learning.

Findings: Four core categories of learning were identified: learning about oneself, learning about the occupational therapy profession, learning about practices and learning about service users.

Conclusion: Understanding of these four categories of learning may enable educators to consider learning which occurs that may not be anticipated, particularly in regard to personal development. This can enable educators to consider how learning can be targeted within simulation for an authentic simulated placement.

Keywords

Simulated learning, practice education, placement, simulated placement

Received 14 April 2022, accepted 24 August 2022

Introduction and context

With the increased focus on alternative methods of delivering practice education necessitated by the COVID-19 pandemic, higher education institutions are giving fresh consideration to university-based placements including simulated placements. Prior to 2019, the Royal College of Occupational Therapists did not permit any simulated learning to be counted towards placement hours due to a lack of evidence supporting this practice (College of Occupational Therapists, 2014). Simulation has since been demonstrated to deliver comparable results for students on placement (Imms et al., 2018) and can now make up a maximum of 40 hours of the required 1000 hours of occupational therapy practice learning in the United Kingdom (RCOT, 2019). A scoping review of the use of simulation in occupational therapy practice was carried out to provide context for this study and has been published separately (Grant et al., 2021). This review established that a variety of modalities including simulated patients, mannequin activities, case

studies and virtual reality are used to simulate occupational therapy practice internationally, but there remains a paucity of evidence as to how these may be used to simulate a placement. Only one article provides any guidance in terms of how to construct a simulated placement (Chu et al., 2019). For any setting to appropriately develop simulated placement experiences, it is necessary to understand the learning that students currently experience during their traditional, non-simulated placements.

Interchangeably referred to in the literature as practice placements, practice learning and sometimes fieldwork, occupational therapy students worldwide are expected to

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Email: t.grant@worc.ac.uk

undertake 1000 hours of learning on placement (WFOT, 2016). Whilst organisation of these hours varies across courses even within nations, there exists some consistency of understanding about what makes a quality placement experience (Rodger et al., 2011). Within the United Kingdom (UK), the intended learning outcomes for placements are guided by the regulatory body standards of proficiency (HCPC, 2013) and by the professional body in terms of entry-level knowledge and skills (RCOT, 2016). Little, however, has been previously documented about what students feel they learn on placement.

Healey (2017) described emotional labour and management, suggesting that students experience emotional challenges and learning throughout their placement. Honey and Penman (2020) identified two overarching outcomes from interviews with Australian occupational therapy students across year groups when recalling their first placements. These were described as ‘confirmation of occupational therapy as a career choice’ and ‘experience to draw on for future learning and practice’ (p5) as ways of meeting the prescribed learning outcomes. However, in informal discussions with students and educators, it has become apparent that learning may not be fully captured by the intended learning outcomes, which can only reflect what students are assessed against, rather than what they actually learn. This could be perceived as part of the hidden curriculum, which describes all of the things that are learned which fall outside of a formal curriculum and may be unarticulated (Gardeshi et al., 2018). The concept of the hidden curriculum is considered to be particularly relevant to professional education, as students are exposed to the predominant culture of the profession (Lempp and Seale, 2004).

This article therefore seeks to respond to the research question ‘What do occupational therapy students learn during their first practice placement?’

This study was undertaken with both undergraduate and postgraduate pre-registration occupational therapy students at a university in the UK. Practice educators for undergraduate students were also included in the research interview data gathering. Undergraduate students undertook a 10-week part-time placement in semester two (January–May) of their first year, and postgraduate students undertook a 6-week full-time placement between semesters one and two (November–December). Due to the timing of data collection and the impact of the COVID-19 pandemic on placement capacity, the first-year undergraduate students included in this cohort experienced a slightly altered placement structure which comprised part clinical and part project placement.

Method

This article describes the initial phase of a grounded theory study (Glaser and Strauss, 1967) which used qualitative individual interviews to explore the learning that students and

practice educators feel is gained during a first practice placement. Grounded theory was selected as the most appropriate methodology to be able to capture the heterogeneities of participants’ experience. As part of a grounded theory study, no formal literature review was undertaken before data collection (Thornberg and Dunne, 2019), although a scoping review to support development of the study has already been published (Grant et al., 2021). Findings have been reviewed in relation to existing literature in Discussion. Further theory development will be reported separately, with this article focusing on students’ and educators’ understanding of what was learned during a first placement. The study focused on skills, knowledge and behaviours, as these are expressed by the World Federation of Occupational Therapists as the focus of practice learning (WFOT, 2016), with a view to considering which of these could be replicated via simulated placements. In this study, techniques of concurrent data collection and analysis, along with constant comparative analysis (Chun Tie et al., 2019) were used to develop an understanding of student learning.

Ethical approval for the study was obtained from the institution where it took place (CHLES20210003-R). Due consideration was given to the researcher’s dual role as researcher and lecturer, and the inherent power relationship between participants and researcher. Written informed consent was collected from all participants prior to interview.

Sampling and recruitment

All students were introduced to the study by another member of the teaching team and shown a video presentation from the researcher. Care was taken to mitigate the risks of perceived coercion (BERA, 2018; University of Worcester, 2019, 2020) by inviting students to opt into the study via email to the researcher’s student address, and by rearranging workload so that the researcher did not engage in marking of any placement-related student work during the semester of the study. Practice educators were recruited via a direct email from the researcher to all clinicians who had provided a placement for undergraduate students during the relevant placement period, with an invitation to opt into the study. A total of 53 undergraduate students, 19 postgraduate students and 27 practice educators were invited to participate.

Data collection

In all, 15 participants took part in this study (Table 1). They were interviewed individually via Microsoft Teams after the first practice placement had taken place and, in the case of students, before they commenced the second placement. First-year occupational therapy students and practice educators are far from a homogeneous group, with differences in age, gender, ethnicity, previous experience and placement type, all of which can be expected to generate different learning

Table 1. Table of participants.

Type of participant	Number of participants	Phase of study
BSc (Hons) occupational therapy students	7	First round of interviews – initial coding phase including some theoretical sampling of individuals
Practice educators for students from BSc cohort	3	First round of interviews – initial coding phase
MSc (pre-registration) occupational therapy students	5	Second round of interviews – confirmation of properties of initial categories

experiences. Selecting one-to-one interviews enabled the researcher to hear the perspectives of a variety of individuals and to probe for depth of information (Flick, 2021). Whilst recognising the challenges of the virtual environment and associated technological issues that may arise (Sah et al., 2020), recent evidence suggests that using video-conferencing software such as Microsoft Teams is received favourably by participants and researchers alike with some specific benefits in terms of scheduling and efficiency (Pocock et al., 2021; Sah et al., 2020). The semi-structured nature of the interviews ensured that all participants had the opportunity to express their views about learning. Students were asked questions such as ‘what do you think was your biggest learning on placement’ along with questions that directed them to specifically consider knowledge, skills and behaviours learned. Practice educators were asked to consider the same questions in relation to the student who had most recently been on placement with them from the same cohort.

Data analysis

Interview data were analysed using constant comparative analysis, which is a key feature of grounded theory methodology (GTM) (Chun Tie et al., 2019) and occurred concurrently with data collection. Interview transcripts initially underwent line-by-line coding which generated a wide range of initial codes. For each subsequent interview, this process was repeated, and new codes were compared with the existing ones. This constant comparison enabled relationships between codes to be explored, thus allowing the codes to be organised into initial categories. No new codes emerged after completion of the first round of interviews in which seven undergraduate students and three practice educators participated. In line with the grounded theory method of theoretical sampling (Corbin and Strauss, 2008), further practice educator interviews were not pursued and the five postgraduate student interviews were used to confirm that the properties of the four main categories had been fully established. These postgraduate interviews were therefore used to clarify that data saturation for the purposes of this study had been achieved.

Through the iterative process of data collection, coding and comparison common to grounded theory (Birks and Mills, 2012), the four initial categories developed were further refined to include subcategories (Table 2). Coding for this study was carried out solely by the lead author. Sharing

of transcripts and coding processes, along with regular discussion of emerging categories with the remaining authors sought to enhance credibility.

Findings

Data analysis revealed four core categories of learning that were expressed by all participants. These core categories are as follows: *learning about oneself*, *learning about the occupational therapy profession*, *learning about practices and learning about service users*. Examples of quotes from participants about each of the core and subcategories are shown in Table 2. An overview of the core categories and subcategories is shown in Figure 1.

Learning about oneself

The category of learning about oneself explained the individual learning each student experienced that was not necessarily related to the profession or the service users they were supporting. Instead, this learning described the self-development that students recognised.

I learned not to be hard on myself; I was proud of myself because I did things I didn't think I was going to do. I left feeling. . .different about myself (P7)

This category was the largest of the four and was further expressed in six subcategories which express the different learning about themselves that students experienced as: *learning about the learning process*, *achievement*, *ways of learning*, *feelings*, *feeling like a therapist* and *self-knowledge*. For example, participant 7 explained how they became aware that the placement might not always meet their learning preference:

I learned that I couldn't always participate when I wanted to. So I couldn't always practically learn (P7)

Achievement was expressed in both positive and negative terms. One participant highlighted their desire to achieve success with patients in the same way they perceived that their educator did:

I saw, like, how the patients responded to her. I wanted them to respond like that with me as well (P5)

Table 2. Coding process expressed as in vivo quotation, initial code, subcategory and core category.

Quote	Initial code	Subcategory	Core category
I had to kind of really be aware of what I wouldn't have done automatically (P5)	Awareness of learning	Learning about the learning process	Oneself
. . . this is what I think. I could be wrong. And I'm a student, so if I'm wrong, good, I'll learn something, that's fine (P9)	Failing	Achievement	Oneself
. . . if I kind of copy this behaviour it will then increase my skills and my confidence (P5)	Modelling	Ways of learning	Oneself
actually it's almost a little bit intimidating, 'cause you just don't know what to expect really' (P2)	Intimidating	Feelings	Oneself
. . . and then I was sort of talking to them, but I didn't want to lead them too much because I just I knew the answers, I'd seen it, had sort of observed it, but when I was talking to them they said to me, mate, you sound like an OT (P2)	Sound like an OT	Feeling like a therapist	Oneself
that was a really big kind of learning curve for me . . . it was like, you know it's OK not to be perfect all the time (P5)	Learning about myself	Self-knowledge	Oneself
but my expectation would be that you would have then that understanding of how physio role is quite different because it really is quite different (P11 – PE)	Understanding professional identity	Professional identity	Profession
I think, with the first year, you don't even know what you're assessing. You know, you don't think like a therapist you don't observe like a therapist (P6 – PE)	Thinking like a therapist	Thinking like a therapist	Profession
it was writing about stuff that I, you know I hadn't experienced myself and then going into placement, I think . . . It just really made a link where I was like. . . I would think back to my assignment had written. I'd be like, yeah, I understand that (P4)	Making sense of theory	Linking theory and practice	Profession
it's really the fundamentals of being an occupational therapist, it's the holistic approach, it's understanding how you would apply the biopsychosocial model and things like that (P1)	Holism	Occupational therapy skills	Profession
there's a reason I've just instantly gone and stood on that side of the bed, knelt down . . . spoke louder and it's putting all the little things that blend together (P5)	Understanding own skills	Personal abilities	Practices
Assessments . . . PADLs and DADLs (P2)	Assessment	Specific skills	Practices
Range of movement, feeling muscle tone (P5)			
So the, the whole environment was unfamiliar, so I was looking at. . . I was actually spending a lot of my time looking around, you know, clocking what was going on. Sights, sounds how it was organized (P3)	Culture of placement setting	Culture	Practices
Successful manual handling skills (P3)	Moving and handling	Relevant skills	Practices
consider their social network, consider their environment, consider what their interests might be outside of the home environment, you know where they might want to go and access hobbies and things like that (P1)	Learning about people	Working with service users	Service user
Difficult to interact with people who were unpredictable & aggressive – when I first started, I wouldn't even approach them (P7)	Interacting with people with dementia	Learning about health conditions	Service user

Others recognised that they were comfortable that they would not always be successful:

. . . this is what I think. I could be wrong. And I'm a student, so if I'm wrong, good, I'll learn something, that's fine (P9)

Participants identified a variety of methods of learning on placement, such as the learning that occurred from

students copying, or modelling, behaviours of their practice educator:

if I kind of copy this behaviour it will then increase my skills and my confidence (P5)

The emotionally challenging nature of placement was also highlighted.

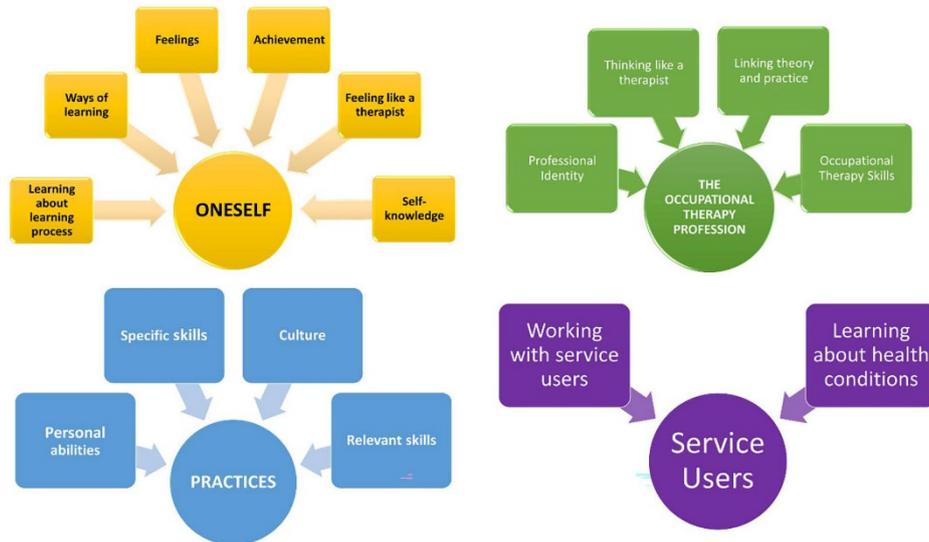


Figure 1. Core categories and subcategories.

I think I found it emotionally challenging. . . you know they [service users with dementia] were so scared, and it was about me trying to find a way to sort of help them not be scared, you know, and it. . . I think I found it quite challenging, 'cause you know they didn't know where they were, they were asking where's their home, when am I going home, and they were getting really upset and I found it quite. . . yeah. . . I think emotionally challenging trying to deal with that situation professionally (P4)

Learning about the occupational therapy profession

All students discussed occupational therapy-specific learning during their placement. Subcategories that participants expressed were *developing professional identity*, *thinking like a therapist*, *linking theory and practice* and *becoming aware of occupational therapy-specific skills*. One participant summarised the impact that placement had in terms of their learning about the profession as they began to make sense of the theory they had learned:

Going into placement was when it all clicked into place and I was like, that's this, that's that . . . and so I could understand what was assessment, was intervention, was part of the OT process . . . I think the . . . like the placement was definitely where it clicked for me (P5)

Learning to carry out practices

Distinct from learning about the occupational therapy profession, participants described practical learning in terms

of the skills they developed and the tasks and activities they practiced during their placements. This category included four subcategories in which students variously described *learning about their personal or individual abilities*, *skills which were specific to occupational therapy within that practice area* (such as the ability to complete an occupational therapy assessment, or the ability to position a hemiplegic arm), *the culture or subculture of health and social care* and the practices they observed or learned about within that culture (such as ward rounds and documentation) and *other relevant or associated skills and practices* which were relevant to all health and social care practice learning (such as communication skills and moving and handling skills).

Participant 4 described the ways in which they developed and practiced communication skills with the multidisciplinary team:

every week, so we would communicate with the staff. So with a sort of chat about the patients would be like developing their care plans and stuff. So I'd be communicating about the patients to them. So yeah, I guess like in terms of being in a multidisciplinary team meeting like yeah, communicating professionally with them (P4)

Participant 3 described their developing understanding of assessment and intervention in their placement setting:

So all of the initial assessment is verbal, verbal discussion. There might be further information gathered from family and relatives generally over the phone. Um, there might

be further referrals, but the main, interventions were, were provision of small equipment (P3)

Participant 4 explained the way in which they learned to observe function in detail:

I think what I learned was to like, really, you know, watch in detail and see what kind of movements they did, whether they were like you know, pushing up with their arms or just getting up on their own and working out what level of mobility they were at, whether they're gonna need maybe a stick or a walker to support them. Yeah, so analyzing then what I've observed. And yeah, basing the support then on what we've observed within mobility (P4)

The concept of the 'hidden curriculum' was best outlined by one practice educator participant who explained all the aspects of conducting an assessment that their student had learned that had not been specifically planned for:

She got an opportunity to experience . . . being unprepared for, or under-prepared for an assessment that she was going to do . . . that was a big learning experience for her . . . we'd run through how you do it. She hadn't. . . I don't think she'd practiced doing it actually with . . . with anybody, and she'd sort of . . . she hadn't even taken it away with her to go through, so she sort of came back, came in on a Tuesday morning and sort of, you know, we . . . let's go and do this this assessment. She knew she was doing it, she was happy to do it. But then when she did it, she discovered that it wasn't quite as straightforward as she was expecting it to be . . . so that was a big learning experience for her (P6 PE)

The student had learned the importance of planning, which would not be part of the formal curriculum but is an important part of managing the workload.

Learning about service users

Unsurprisingly, all participants discussed the different elements of learning that occurred when working with service users, including their individual features and the lived experience of their health conditions.

Participants 2 and 4 expressed the way they developed understanding of service users on a deeper level than afforded to them in the classroom:

I mean I knew a little bit about stroke, but I've learned a lot I did find that no stroke patient is the same (P2)

It was more like get to know the patients. You know, ask them questions, get to know about their past (P4)

Participant 7 talked about their developing understanding of the impact on the service users' health conditions on their behaviours and abilities.

I had a . . . a basic knowledge of dementia. But I didn't really know how it can affect different people, so . . . obviously there's more forms of it as well. I think there's vascular dementia and things like that . . . Some people act differently because they've got a different type of dementia (P7)

Discussion

This study aimed to gain an understanding of the learning that students gather during their first practice learning placement, regardless of whether that learning is explicitly evident in the intended learning outcomes. In fact, neither student nor practice educator participants referred to the overt learning outcomes in their responses. However, it is fair to conclude that some of the learning experience is already captured in the placement's intended learning outcomes (Table 3), which map directly to the required entry-level occupational therapy skills provided by the professional body (RCOT, 2016). These entry-level skills are identified by the Royal College of Occupational Therapists as 'core professional reasoning skills that make up the occupational therapy process' and include assessment, identification, analysis and prioritisation of occupational needs; facilitating occupational performance and engagement and evaluation of occupational outcomes.

The categories of learning about the profession and practices are both logical and anticipated as they are reflected in the entry-level occupational therapy core knowledge and practice skills (Brzykcy et al., 2016; RCOT, 2016).

In addition, in reporting on their own practice education curricula, other authors have also identified learning about the profession and about practices as part of the student experience. Mulholland and Derald (2007) found that students learned how to apply principles of professionalism during their first placement, whilst Leclair et al. (2013) reported that students learned to apply theory to practice and Nielsen et al. (2017) reported learning communication skills and learning to think like an occupational therapist as frequently reported outcomes of Fieldwork 1, which includes the first placement undertaken by students in the United States (AOTA, 2017).

More tacit learning about the profession, such as understanding the role of the occupational therapist in a particular setting (Britton and Rehmel, 2019; Honey and Penman, 2020; Mulholland and Derald, 2007) and learning in the domain of cultural competency (Dyck and Forwell, 1997; Nielsen et al., 2017; Sonn and Vermeulen, 2018) have also previously been reported.

Table 3. Summary of learning outcomes.

BSc student learning outcomes – placement 1	MSc student learning outcomes – placement 1
With structured support, demonstrate professional behaviours which strengthen the core values of occupational therapy practice	Demonstrate professional behaviours and core values of occupational therapy practice with a diverse range of clients, and awareness of your own limitations and learning needs
With structured support, reflect on the development of self-leadership skills	With support, demonstrate effective communication with a diverse range of service users, carers and professionals, including team working skills
With structured support, demonstrate appropriate communication skills with both service users and their carers and other professionals	With support, demonstrate the ability to assess service users, using developing professional reasoning
With structured support practice appropriate assessment techniques	With support justify and implement a range of safe and effective intervention skills under supervision
With structured support demonstrate appropriate decision-making and participate in safe and effective intervention skills	With support identify appropriate outcome measures to monitor progress of interventions and begin to evaluate their effectiveness
With support, demonstrate knowledge of underpinning theoretical and philosophical concepts in occupational therapy practice	Apply knowledge of underpinning theoretical and philosophical concepts in safe and effective occupational therapy practice

Practice educators expect students to develop a range of professional and technical skills during early placement experiences, with communication and planning, implementing and grading interventions identified as the most important (Mason et al., 2020). Students expressed a variety of different practices depending on their placement setting, with assessments covering such tasks as hemiparetic limb assessment, interest checklists and personal activities of daily living assessments, and interventions variously being expressed as equipment provision, group work and identifying care needs. This range of practices highlighted by students reflects the contextual dependence of practice skills, listed as entry-level skills in terms of activities, participation and environmental factors (RCOT, 2016).

Learning about service users could also be argued as identified within existing learning outcomes, although participants identified more nuanced learning than can reasonably be captured in this way. This could be suggested to be part of the development of professional knowledge identity as students learn to understand and develop a professional relationship with people as occupational beings. It is also recognised as an entry-level skill to be able to understand the lived experience of each individual and practice in a person-centred and collaborative way (RCOT, 2016). Little has been written about this learning in the literature, perhaps reflecting it as an obvious and expected outcome, although learning from exposure to clients with certain conditions can be inferred from positive changes in the attitudes of occupational therapy students towards these clients (Beltran et al., 2007).

The fact that the learning identified by students themselves includes that which is covered in the intended learning outcomes serves to validate the importance of the first placement experience. It not only can confirm the choice of profession, as identified by Honey and Penman (2020), but also

can lay the foundations for progression towards the required graduate entry-level skills (RCOT, 2016). This is significant in any discussions about the relevance of early placements and the associated expectations placed on students.

The area identified by students that is not reflected in existing learning outcomes is the learning about oneself. It is clear that all participants identified the personal journey that they underwent during their first placement. Grenier (2015) found that students identified themselves as facilitators or barriers to their own learning, reflecting their journey of self-discovery. Honey and Penman (2020) also identified the importance of this type of learning, while Healey (2017) explored the emotional management that is necessitated during placement. This personal journey is perhaps not something that can be planned for or scheduled. However, it is important that it enables students to develop a sense of themselves as occupational therapists and may influence not only future learning, but also the manner in which they interact with service users. Honey and Penman (2020) identified that this learning feeds into future placement experiences and enables students to progress their learning journey.

It is impractical, and potentially not possible, to create a measurable learning outcome that reflects personal development and growth, given the differing rates at which this is likely to happen for students. However, recognition of the experience of this learning by educators could be supportive for students who are struggling to meet their placement requirements. Identifying the placement as having not only practical and academic value, but also personal value, places the student as an individual back at the centre of their learning experience.

Honey and Penman's Australian study (2020) followed a similar GTM. They sought to understand students' views about the values and characteristics of a first placement,

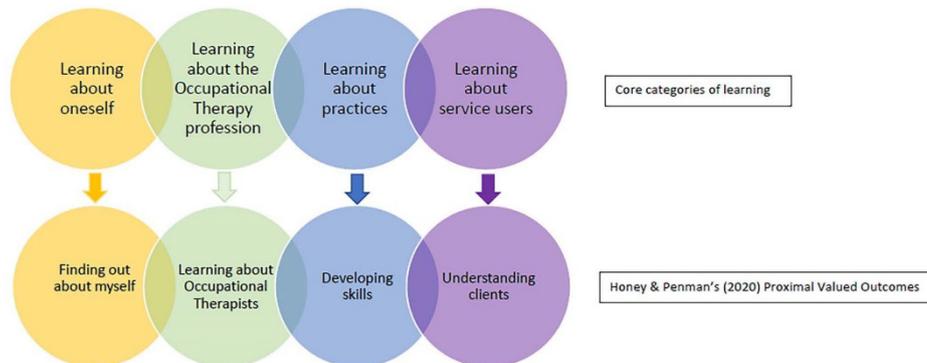


Figure 2. Comparison of categories of learning with Honey and Penman's (2020) proximal valued outcomes.

and conducted focus groups with students at all stages of their studies, reflecting back on their first placement. Despite significant differences between the participants in this study and those in Honey and Penman's study, including nation, length of time since first placement and duration of first placement, the four core categories identified in this study align closely with the proximal valued outcomes identified by Honey and Penman (2020), as demonstrated in Figure 2. This would suggest that the four categories of learning, including the unexpected category of learning about oneself, are shared between students on opposite sides of the globe, with very different placement durations and expectations.

Implications for practice

This study, which unintentionally resembled a recent exploration of first-year practice learning in Australia, has a number of implications for education and practice. Two similarities are noted.

First, the similarity of categories of learning between the two studies suggests that the outcomes of first occupational therapy placements may be broadly universally experienced. This makes qualitative information about placement learning relevant to students despite differences in courses and placement types.

The shared learning experiences of students may also be useful in providing reassurance to students that, although their placement might not look like that of their peers in terms of setting, duration or structure, they are likely to be undergoing similar learning experiences. Understanding that some degree of personal development can also be expected may help students to cope with the daunting prospect of perceiving themselves as future occupational therapists, by helping them to realise that they will undergo change in themselves as well as learning new skills and knowledge. This could be particularly helpful in supporting students to develop resilience and cope with the challenges of practice learning.

Second, the categories identified in this study sought to describe the types of learning that students on placement experience to be able to consider such learning when designing and creating a simulation curriculum. Rather than identifying specific skills, knowledge and behaviours, which may be different for each placement area, a broader understanding of different types of and approaches to learning has been gained. Some aspects of the learning derived, such as learning about practices, lend themselves more easily to simulation than others. The identification of the importance of learning about oneself during the placement experience could also be considered within simulation planning and seen as a necessary part of any simulated placement.

Limitations

This study forms a part of the lead author's doctoral research and was by necessity carried out by one researcher. While steps were taken to mitigate the impact of this on the study, this could be considered a limitation both in terms of ethical recruitment of students and data analysis. Consideration should be given to the power dynamic between students and researcher which may have limited student participation, therefore limiting the pool of respondents and/or influencing the data collected. In terms of data analysis, it is recognised that the development of codes by one researcher does not allow for cross-checking, and the results generated will therefore be influenced by researcher positioning. The memoing process which forms a part of GTM was used extensively in an attempt to minimise the impact of this on the findings, along with regular discussions with the other authors to help to generate the categories.

Recommendations

Awareness of the learning that students experience in their first practice education placement, particularly the impact of the placement on the student's personal knowledge and

development, should be considered when designing simulated placement experiences.

Conclusion

The learning that students experience on their first placement encompasses not only skills and knowledge of the profession and of service users, but also brings an element of personal development that could be more widely recognised to help students better understand their placement experience. These different types of learning can be considered when designing simulated placement experiences to ensure that such placements provide similar and complementary benefits to traditional settings.

Key findings

- Students on placement undergo personal development and learn about themselves, as well as learning about the occupational therapy profession and the individuals they serve.
- Four categories of placement learning – learning about oneself, learning about occupational therapy, learning practices and learning about service users – are experienced by students in Australia and the UK.
- All aspects of student learning should be considered when designing simulated placements.

What the study has added

This study has provided a breakdown of four main types of learning that students experience during their first placement.

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Research ethics

Ethical approval granted by University of Worcester Health, Life & Environmental Sciences research ethics panel on 16 November 2020 (REP CODE: CHLES20210003-R). Amendment to ethical approval granted on 4 October 2021 (same REP code).

Patient and public involvement data

During the development, progress and reporting of the submitted research, Patient and Public Involvement in the research was not included at any stage of the research.

Consent statement

Written informed consent was collected from all participants prior to interview.

Declaration of conflicting interests

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Contributorship

TG conceived the study and carried out recruitment, data collection and data analysis. YT, PG and LB were involved in protocol development and YT and PG in gaining ethical approval. TG wrote the first draft of the manuscript. All authors reviewed and edited the manuscript and approved the final version of the manuscript.

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References

- AOTA (2017) *Level I fieldwork competency evaluation for OT and OTA students*. Available at: [https://www.aota.org/~media/Corporate/Files/EducationCareers/Educators/Fieldwork/LevelI/Level-I-Fieldwork-Competency-Evaluation-for-ot-and-ota-students.pdf](https://www.aota.org/~/media/Corporate/Files/EducationCareers/Educators/Fieldwork/LevelI/Level-I-Fieldwork-Competency-Evaluation-for-ot-and-ota-students.pdf)
- Beltran RO, Scanlan JN, Hancock N, et al. (2007) The effect of first year mental health fieldwork on attitudes of occupational therapy students towards people with mental illness. *Australian Occupational Therapy Journal* 54: 42–48.
- BERA (2018) *Ethical guidelines for educational research*. British Educational Research Association, 4th edn. DOI: 10.4135/9781506326139.n236.
- Birks M and Mills J (2012) *Grounded Theory – A Practical Guide*. London: SAGE Publications.
- Britton E and Rehmel E (2019) *Occupational Therapy Students' Perceived Preparedness for Applying Mental Health Interventions in Practice*. https://www.researchgate.net/publication/350567593_Occupational_Therapy_Students%27_Perceived_Preparedness_for_Applying_Mental_Health_Interventions_in_Practice
- Brzykcy D, Brzykcy D, Geraci J, et al. (2016) Occupational therapy fieldwork education: Value and purpose. *American Journal of Occupational Therapy* 70: 821–823.
- Chu EMY, Sheppard L, Guinea S, et al. (2019) Placement replacement: A conceptual framework for designing simulated clinical placement in occupational therapy. *Nursing and Health Sciences* 21: 4–13.
- Chun Tie Y, Birks M and Francis K (2019) Grounded theory research: A design framework for novice researchers. *SAGE Open Medicine*. Epub ahead of print 2 January 2019. DOI: 10.1177/2050312118822927.
- College of Occupational Therapists (2014) *College of Occupational Therapists Learning and Development Standards for Pre-registration Education*. London: College of Occupational Therapists.
- Corbin J and Strauss A (2008) *Basics of Qualitative Research*, 3rd edn. London: SAGE Publications.
- Dyck I and Forwell S (1997) Occupational therapy students' first year fieldwork experiences: Discovering the complexity of culture. *Canadian Journal of Occupational Therapy* 64: 185–196.
- Flick U (2021) *Doing Interview Research*. London, UK: SAGE Publications, Ltd.
- Gardeshi Z, Amini M and Nabeiei P (2018) The perception of hidden curriculum among undergraduate medical students: A qualitative study. *BMC Research Notes* 11: 271.

- Glaser BG and Strauss AL (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*, 2017th edn. Abingdon, Oxon: Routledge.
- Grant T, Thomas Y, Gossman P, et al. (2021) The use of simulation in occupational therapy education: A scoping review. *Australian Occupational Therapy Journal*. Epub ahead of print 9 March 2021. DOI: 10.1111/1440-1630.12726.
- Grenier ML (2015) Facilitators and barriers to learning in occupational therapy fieldwork education: Student perspectives. *American Journal of Occupational Therapy* 69: 6912185080p1.
- HCPC (2013) *Standards of Proficiency – Occupational Therapists*. Available at: <https://www.hcpc-uk.org/globalassets/resources/standards/standards-of-proficiency—occupational-therapists.pdf> (accessed 23 August 2019).
- Healey J (2017) Emotion management and occupational therapy student learning on placement: A post-structuralist exploration. *British Journal of Occupational Therapy* 80: 676–683.
- Honey A and Penman M (2020) “You actually see what occupational therapists do in real life”: Outcomes and critical features of first-year practice education placements. *British Journal of Occupational Therapy* 83: 638–647.
- Imms C, Froude E, Mang Yee Chu E, et al. (2018) Simulated versus traditional occupational therapy placements: A randomised controlled trial. *Australian Occupational Therapy Journal* 65: 556–564.
- Leclair LL, Ripat JD, Wener PF, et al. (2013) Advancing the use of theory in occupational therapy: A collaborative process. *Canadian Journal of Occupational Therapy* 80: 181–193.
- Lempp H and Seale C (2004) The hidden curriculum in undergraduate medical education: Qualitative study of medical students’ perceptions of teaching. *The BMJ* 329: 770.
- Mason J, Hayden CL and Causey-Upton R (2020) Fieldwork Educators’ expectations of level II occupational therapy students’ professional and technical skills. *The Open Journal of Occupational Therapy* 8: 1–16.
- Mulholland S and Derald M (2007) An early fieldwork experience: Student and preceptor perspectives. *Canadian Journal of Occupational Therapy* 74: 161–171.
- Nielsen S, Jedlicka JS, Hanson D, et al. (2017) Student perceptions of non-traditional level I fieldwork. *Journal of Occupational Therapy Education* 1: 1–23.
- Pocock T, Smith M and Wiles J (2021) Recommendations for virtual qualitative health research during a pandemic. *Qualitative Health Research* 31: 2403–2413.
- RCOT (2016) Entry level occupational therapy core knowledge and practice skills, p. 12. Available at: www.COT.co.uk (accessed 19 June 2021).
- RCOT (2019) *Learning and Development Standards for Pre-registration Education*. London: Royal College of Occupational Therapists.
- Rodger S, Fitzgerald C, Davila W, et al. (2011) What makes a quality occupational therapy practice placement? Students’ and practice educators’ perspectives. *Australian Occupational Therapy Journal* 58: 195–202.
- Sah LK, Singh DR and Sah RK (2020) Conducting qualitative interviews using virtual communication tools amid COVID-19 pandemic: A learning opportunity for future research. *JNMA: Journal of the Nepal Medical Association* 58: 1103.
- Sonn I and Vermeulen N (2018) Occupational therapy students’ experiences and perceptions of culture during fieldwork education. *South African Journal of Occupational Therapy* 48: 34–39.
- Thornberg R and Dunne C (2019) Literature review in Grounded Theory In: Bryant A (ed.) *The Sage Handbook of Current Developments in Grounded Theory*. London, UK: SAGE Publications, Ltd.
- University of Worcester (2019) *Research Ethics Policy v5*, pp. 1–12. Available at: <https://www.worcester.ac.uk/documents/Ethics-Policy-version-5.0-Oct-2018.pdf>
- University of Worcester (2020) *Students as Research Participants*. DOI: 10.1007/s10805-006-9028-y.
- WFOT (2016) *Minimum Standards for the Education of Occupational Therapists*, pp. 1–79. Unpublished Quality Standards Document. WFOT. Available at: <https://www.wfot.org/resources/new-minimum-standards-for-the-education-of-occupational-therapists-2016-e-copy>

Appendix P Education theory timeline

Author	Dates	Philosophy / theory	Novel Ideas
Plato	428/427 or 424/423 – 348/347 BC	Rationalism	Knowledge derives from reflecting on / thinking about information that is processed by the senses
Descartes	1596 - 1650	Rationalism	I think, therefore I am
Kant	1724 - 1804	(Rationalism) Critique of pure reason	The world can never be known as it exists but only as it is perceived
Aristotle	384 - 322 BC	Empiricism	Experience is the only source of knowledge - ideas do not exist independently of the outside world
John Locke	1632 - 1704	Essay concerning human understanding	At birth the mind is a tabula rasa. All knowledge comes from sensory impressions and personal awareness. Nothing can be in the mind that doesn't originate in the senses. Complex ideas are collections of simple ones.
John Dewey	1859 - 1952	Experience and education	Education had been too concerned with pre-ordained knowledge & insufficiently focused on the experience
Max Wertheimer	1880-1943	Gestalt Psychology	Looks at the human mind and behaviour as a whole (the whole is different than the sum of its parts)
Pedagogic Theory			
John Comenius	1592 - 1670	Pansophism - knowledge or learning, spirituality and emotional development were inseparable	Education begins in early childhood and should continue throughout life. Recommended sensory experiences rather than rote learning and was in favour of formal educational opportunities for women. Learning through observation
Jean-Jacques Rousseau	1712 - 1778	Noble savages.	3 broad stages of development. - up to 12 years of age children are animal like, from 12 to 16 years of age represents the beginning of rational thought, while from 16 onwards adulthood begins. We are born essentially good and are part of nature -

Author	Dates	Philosophy / theory	Novel Ideas
			children should be children & revere childhood
Johann Pestalozzi	1746 - 1827	Regarded as the starting point of modern educational theory and practice. Social interaction & learning by doing (give real experiences, engage with real things)	Security as the foundation of happiness and therefore the foundation for learning. All children have an equal right to education and the capacity to profit from it. Children should be given real experiences and encouraged to engage with real things. Progress from the familiar to the new should be in a loving and secure environment.
Robert Owen	1771 - 1858	Children are shaped by BOTH genetics AND experiences, which impact their development in life	If working class children could be protected and given a decent life during childhood, then their future would be assured
Friedrich Froebel	1782 - 1852	Play is a child's work - child-centred approaches to learning	Education as a science - developed philosophy of education and was the first to articulate theory of how children learn. Emphasis on learning by doing. First to use singing & dancing
Sigmund Freud	1856 - 1939	Psychoanalysis (id, ego, superego). Also, other psychoanalytic theorists. The central tenet of many psychoanalytic theories is that children (adults??) must be supported in working through their emotional or psychological crises in order to develop a sense of emotional wellbeing and mental health.	(Relevant to care of children (? & adults) rather than educational theories.

Author	Dates	Philosophy / theory	Novel Ideas
John Dewey	1859 - 1952	Pragmatism, but cognitivist learning theory = theory of intelligent action	Children learn by doing and by being active (a view developed by Froebel); education should be based on real-life situations including interaction with others (as advocated by Vygotsky); experimentation and independent thinking should be fostered. He saw children as being characterised by curiosity, similarly to scientists.
Margaret McMillan	1860 - 1931	Nursery education (nursery schools)	Health essential to education, mixture of care and education
Rudolf Steiner	1861 - 1925	Steiner schools - arts & sciences equally valued. Importance of imitation & imagination; rhythm, repetition & reverence	Education which gives children clarity of thought, sensitivity of feeling and strength of will. Steiner's theory centred on all aspects of growth and development including spirituality. He aimed for all children to experience both arts and sciences and a balanced experience of what he described as 'thinking, feeling and willing'. Steiner's philosophy sprang from the idea that there are three seven-year cycles of development. Education needs to work with the unfolding abilities and changing needs of the child at each stage.
Maria Montessori	1870 - 1952	Montessori method (first to be based in scientific methods) - "the absorbent mind"	Children: learn through movement, particularly the movement of the hand (believed linked to the development of intelligence); enjoy learning in an environment designed to meet their needs; learn best through the senses, (believed lay the foundations for intellectual understanding); reveal a spontaneous self-discipline within a prepared environment; respond best to educational opportunities in an environment which is prepared to meet their special sensitivities for learning. She claimed that children have 'sensitive periods' when their senses are optimally ready to learn new ideas which she believed included movement coordination; the development of language; and social development.

Author	Dates	Philosophy / theory	Novel Ideas
Edward Thorndike	1874 - 1949	First pure behaviourist (but term coined much later)	Teacher stimulates learner by rewarding success; stimulus-reward connections can be linked together; intelligence is a function of the number of connections learned. Connections strengthened with practice & weakened with lack of use
John Watson	1878 - 1958	Founder & champion of modern behaviourism	Emphasis on the importance of the environment. Influenced Skinner's work
Ivan Pavlov	1849 - 1936	Classical conditioning	Used today to help students create positive associations & remove negative associations by repeating success - e.g., exams
Alexander Sutherland Neill	1883 - 1973	Summerhill School - freedom to learn	Appears to apply andragogy theory to children. Allowed learners to opt out of lessons that had no meaning or relevance to them, no reliance on reward or punishment
Susan Isaacs	1885 - 1948	Based on learning by doing (Froebel) and social interaction (Dewey) Emphasise success, minimise failure	'Quiet, positive encouragement, showing the child what to do and how to do it, is far more effective than scolding or punishment, or emphasis on what he (sic) should not do. Successes should be emphasised; failures should be minimised; and above all any feeling of shame or hostility should be avoided.'
Edward Tolman	1886 - 1959	Latent learning - straddled behaviourist / cognitivist divide	Latent learning is learning that has been developed from previous experiences but laid dormant - people don't always apply their learning unless they have a reason to do so
Wolfgang Kohler	1887 - 1967	Founder of Gestalt movement Insight theory- "ping" moment or flash of inspiration when solving problem	Perception, learning, understanding and thinking are all interacting and not separate entities

Author	Dates	Philosophy / theory	Novel Ideas
Jean Piaget	1896 - 1980	Constructivism	First to focus on HOW children learn rather than what & when. 5 stages of intellectual development must be in the right stage to learn new concepts. Reality constantly constructed & reconstructed, integrating the simple with the complex at each stage. Sensorimotor stage, Preoperational stage, concrete operational stage, formal operations stage. New ideas and knowledge should be presented at a level and style consistent with the child's current mode of thought. Teaching should be matched to the needs of individuals. Children should be presented with moderately novel situations or experiences to trigger assimilation and accommodation, using open-ended questions to support. Learning is supported by action. Children need to experiment actively with materials and to experience things in the real world to develop thought. Children need to have control over their learning – learning how to find out and constructing knowledge for themselves. Children require long, uninterrupted periods of play and exploration. Observation of what children do and say can and should inform understanding of children's intellectual development – this will tell adults where support is needed.
Lev Vygotsky	1896 - 1934	Social learning theory. Psycholinguistics. Cultural & social context influences development. Zone of Proximal development	Child not egocentric but social, not logical / illogical but trying to make sense of the world through communication. Focus of theory on 3 key elements - play, language, socio-cultural aspects.

Author	Dates	Philosophy / theory	Novel Ideas
Carl Rogers	1902 - 1987	Facilitation	Emphasis towards the learner - role of the teacher is to facilitate learning, not to teach
Donald Hebb	1904 - 1985	Associative learning	Learning either creates new synaptic pathways (in children) or rearranges existing ones (in adults)
Burrhus Skinner	1904 - 1990	Behaviourism (operant conditioning)	Learning doesn't depend on thinking - but on behaviour shaped by punishment & reward
John Bowlby	1907 - 1990	Theory of attachment	Child's emotional bond to their familial caregiver is a biological response that ensures survival. The quality of attachment influences the child's capacity to form trusting relationships throughout life
Abraham Maslow	1908 - 1970	Hierarchy of needs	Learning will be dominated at any given moment by whichever of the individual's needs has priority.
Malcolm Knowles	1913 - 1997	Andragogy	Adult learners take control of / responsibility for own learning. They have a view of themselves & their needs and set themselves goals to achieve this. They bring life experience that they can use as a valuable resource, are task-focused (what do I need to know to achieve x) rather than learning for learning's sake and need to be valued & respected
Jerome Bruner	1915 - 2016	Culture of learning. Brought together work of Vygotsky & Piaget. Spiral curriculum. Discovery learning.	Child as an active learner & problem-solver, struggling to make sense of the world.
Robert Gagne	1916 - 2002	Neo-behaviourism	Learning hierarchical - must master lower levels to move up. Order = engagement -> deliver -> assessment
David Ausubel	1918 - 2008	Reception learning (subsumption theory)	In order to learn complex concepts, you need to build up from simple concepts, linked to previous experiences Tell them what you're going to teach, teach, tell them what you taught

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Lean Festinger	1919 - 1989	Cognitive dissonance	People are sensitive to inconsistencies between action & belief - these can be aligned by changing belief, changing action or changing others' perceptions of the action
Loris Malaguzzi	1920 - 1994	Based on Dewey, Piaget, Vygotsky & Erikson	All children have potential, they are connected (to community, society etc), they demonstrate reciprocity, are communicators and educators are partners, nurturers and guides
George Armitage Miller	1920 - 2012	Working memory & information processing capacity	Chunking - 7 +/-2
Paolo Friere	1921 - 1997	Transformation; social change.?? First coining of term "hidden curriculum"	Education should seek to make the individual a morally, intellectually & politically engaged activist so that society and its values can be transformed to extend the possibility of justice to all
Jack Mezirow	1923 - 2014	Transformational / transformative learning	Meaning perspectives (world view) changes as a result of responses to life experiences. Experience of life, critical reflection and rational discourse combine to allow (support?) transformation in one's world view. Often applied to unacceptable behaviours / views (sexism, racism) but imo could be equally applicable to understanding of occupational therapy, transforming our view of people as occupational beings and developing knowledge of the application of the profession to practice
Chris Athey	1924 - 2011	Schema theory	Children (2-5) use schema to arrive at categories & classifications

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Albert Bandura	1925 - 2021	Social cognitive theory Learning through observation	Learning occurs via observation, imitation and modelling. Independent cognition, as well as emotion, attention and environmental influences will impact such behaviours. We anticipate consequences by observation and act according to how successful we think we will be at this imitation (efficacy expectations). Includes self regulation & evaluation, also role modelling (important for PEs) Behaviours shaped by personal determinants and social determinants, which are interdependent.
Donald Broadbent	1926 - 1993	Artificial Intelligence	Sensory register receives all input, however selective filter is applied which enables individuals to then work with information that is most relevant. Unfortunately, "most relevant" could mean loudest, or most confident, not necessarily most relevant
David Weikart	1931 - 2003	HighScope. "Wheel of learning"	Influenced by Piaget (philosophy of active learning). High aspirations. Children encouraged to become decision-makers and problem solvers, so they develop skills and traits to help them be successful students. Well-organised, routines, plan-do-review incorporates reflection
Margaret Donaldson	1926 - 2020	Embedded and disembedded thinking	Errors occur because children seek to understand meaning of the task / request. When embedded in context it makes "human sense" and so is open to reason. When asked to think outside the limits of human sense (abstract, unrealistic context) thinking is disembedded & doesn't make sense

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Howard Gardner	1943 -	Multiple intelligence theory	<p>"We must figure out how intelligence and morality can work together to create a world in which a great variety will want to live" Piaget placed too little emphasis on the importance of the emotions & of motivation in learning. Considers how people are intelligent rather than how much intelligence people have.</p> <p>Identified 7 intelligences: linguistic, musical, logical-mathematical, visual-spatial, bodily-kinaesthetic, interpersonal, intrapersonal. Then added 2 more - naturalist & suggested that inter/intra-personal intelligences permeated all the others. Considered & rejected spiritual intelligence but proposed existential intelligence (not defined as fully as other areas)</p>
Mayer	1947 -	Multimedia learning theory	3 metaphors of learning - learning as response strengthening, learning as information processing, learning as knowledge constructing
Te Whāriki	developed 1991 - 1996	NZ early years curriculum	Draws on Vygotskian socio-cultural approach. Combines learning in following ways: humanly, nationally, culturally, developmentally, individually and educationally. Underlying principles of empowerment, holistic development, family & community and relationships.

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Renata Caine & Geoffrey Caine	Published 2005	12 principles of brain-based learning	<ol style="list-style-type: none"> 1. Brain is a living system where thoughts, emotions & imagination interact with other systems such as health, well-being, socialism 2. Learning is as natural a function as breathing 3. The search for meaning is innate - we cannot stop it but can channel it 4. The brain accepts relevant patterns and rejects irrelevant patterns in its search for meaning 5. Emotions influence patterning and are crucial to memory & long-term recall 6. The brain simultaneously receives (information) and creates parts and wholes 7. Both focused attention and peripheral perception are used in learning, therefore it responds to the entire sensory cortex in which learning occurs * 8. Learning involves conscious and unconscious processes 9. There are at least 2 ways of organising memory (*what are they?) 10. Experiences change the physiological structure and operation of the brain (*by creating / rearranging synaptic pathways) 11. Learning is enhanced by challenge and inhibited by threat 12. Each brain is uniquely organised
Noel Burch		Competency and conscious-unconscious model http://www.businessballs.com/consciouscompetencelearningmodel.htm	In order to develop competence in a new skill (* does this apply to knowledge as well?) One moves through four stages - unconscious incompetence; conscious incompetence; conscious competence; unconscious competence
Clayton Alderfer	Published 1972	The existence, relatedness and growth (ERG) model	Builds on Maslow's - Alderfer stresses importance of addressing all needs simultaneously and accepts that regression to a lower level might not be a bad thing

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Victor Vroom	Published 1994	Expectancy theory	Motivation = expectation (subjective measure of learner's self-belief) x valence (value the learner attaches to the given reward) x instrumentality (extent to which the learner believes the promised rewards will be delivered) Motivation = how much I think I can do this x how important it is x how much I believe my PE will pass me
Benjamin Bloom	Published 1956	Blooms Taxonomy	3 learning domains - cognitive, psychomotor and affective. Bloom most effectively contributed to the cognitive domain, Ravindrakumar Dave (1970) to the psychomotor domain and Bloom & Krathwohl (1956) to the affective domain. Also, instigator of Johari windows
Urie Bronfenbrenner	1917 - 2005	Ecological systems theory	Micro, meso, exo, macro, chrono systems
Donald Schön	1930 - 1997	Reflection and learning	Reflection in action & reflection on action
David Kolb	b.1939	Experiential learning theory	Kolb's learning cycle - concrete experience -> reflective observation -> abstract conceptualism -> active experimentation
Jean Lave & Etienne Wenger	Published 1991	Socially situated learning & communities of practice	Tacit learning - legitimate peripheral practice (ie, the stuff that gets learned just by being in the situation)
Guy Claxton	Published 1980s	Learning Power	Considers that today's education system is not equipped for today's learners - school-centric but with some interesting ideas on purpose of failure & apprenticeship
John Sweller	pub 1988	Cognitive load theory	
Daniel Goleman	pub 1995ish	Emotional Intelligence	